VOLUME II
BUYING TIME: FINAL REPORT
INSTITUTIONAL AND POLITICAL ISSUES OF CONGESTION PRICING

STATE AND LOCAL POLICY PROGRAM
HUBERT H. HUMPHREY INSTITUTE OF PUBLIC AFFAIRS
UNIVERSITY OF MINNESOTA

DECEMBER 1996

THIS REPORT WAS PREPARED FOR THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.
ACKNOWLEDGMENTS

The State and Local Policy Program of the Hubert H. Humphrey Institute of Public Affairs wishes to gratefully acknowledge the contributions of a number of people and organizations to this effort.

Our research project was designated for funding by the U.S. Congress through the Federal Highway Administration (FHWA). Several people from the FHWA have contributed to this project, including staff members from the Office of Policy, John Beatty, Ralph Fricker, Charles Goodman, Maritime Mizer, Robert Strickland, and Thomas Keane. Support was also provided by Susan Lueker and Wayne Berman from the Office of Traffic Management and ITS Applications. The funding and leadership of the FHWA, the Minnesota Department of Transportation, the Twin Cities Metropolitan Council, and the University of Minnesota’s Center for Transportation Studies were instrumental in furthering the congestion pricing research and discussions at numerous policy levels.

The project steering committee met three times during the project. Individual steering committee members also made significant contributions to staff during the course of the project. In particular we would like to thank Thomas Horan and the Claremont Graduate School for hosting the Claremont regional conference. The members of our national steering committee were:

- Al Sieger
  Division Administrator
  Federal Highway Administration

- John Berg
  Team Leader
  Pricing and Finance
  Federal Highway Administration

- Wayne Berman
  Transportation Specialist
  Federal Highway Administration

- Karen Frick
  Transportation Planner
  Metropolitan Transportation Commission

- Charles Goodman
  Transportation Specialist
  Federal Highway Administration

- Dave Hensing
  Executive Deputy Director
  American Association of State Highway and Transportation Officials

- Julie Hoover
  Senior Vice President
  Parsons Brinckerhoff

- Tom Horan
  Director
  Clinic for Applied Social and Policy Research
  Claremont Graduate School

- Robert Johns
  Associate Director
  Center for Transportation Studies
  University of Minnesota

- Arthur Morris
  Research Executive
  Public Technology, Inc.

- Mark Norman
  Deputy Executive Director
  Institute of Transportation Engineers

- Gene Ofshe
  Assistant Commissioner
  Minnesota Department of Transportation

- Carl Oster
  Principal Planner
  Twin Cities Metropolitan Council

- Robert Owens
  Senior Transportation Engineer
  The SN Company

- William Roach
  Market Development, Transit Department
  King County Metro
In addition to the State and Local Policy Program staff members listed on the title page, we would also like to recognize Matt Emerson who skillfully managed the administrative responsibilities, including conference and workshop planning and coordination. She was assisted during the course of the project by Josh Nasvik, Linda Gogleye, and Teresa Becker.

University of Minnesota faculty members also contributed significantly to the project. Herbert Mohring, Professor Emeritus in the University of Minnesota’s Department of Economics, has advanced the research on identifying and quantifying the costs of congestion in the Twin Cities area. Humphrey Institute faculty involved with research on land use and equity concerns were Richard S. Bolin, professor and director of the planning program; Barbara L. Lekermann, senior fellow; Samuel L. Myers, Jr., professor and Roy Wilkins Chair; and Thomas J. Luce, Jr., assistant professor.

We would also like to acknowledge the Jefferson Center for New Democratic Process for their invaluable assistance with the Citizens Jury® project. Additional thanks to the jurors and witnesses involved in the process for sharing their time and recommendations. This study drew extensively on the research presented in the Transportation Research Board’s Special Report 242, Dealing Gridlock: Peak-Period Fees to Relieve Traffic Congestion, Volumes 1 and 2, and the existing academic work on congestion pricing in the United States and abroad. Such contributions have greatly enhanced the current national discussion regarding congestion pricing.

Finally, we are indebted to the many people who helped our research efforts by participating in the focus groups held in Minneapolis, Portland, Houston, Philadelphia, Phoenix, and Chicago, and in phone interviews with other localities. The contributions of transportation planners, elected officials, and involved citizens representing the pilot project sites were instrumental in developing a clearer picture of the political and institutional obstacles being faced in the development of congestion pricing.
DISCLAIMER

The material in this report was compiled through a combination of literature reviews, focus groups, and a series of conversations with representatives from planning agencies, state departments of transportation, and other interested groups. In our attempt to be objective, our findings and recommendations may differ from the viewpoints expressed by some individuals familiar with a specific project. The material reported is current as of July 31, 1996. Due to the dynamic nature of the political process involved, projects may have changed since our research was conducted. Contact names are provided in Appendix A to allow readers to verify information presented in this report and to receive current information on the status of projects.
INTRODUCTION

Congestion pricing, which is a policy of charging a variable fee for the use of the most heavily traveled roads, is being analyzed and implemented throughout the industrialized world. Historically, Singapore has been referenced as the model of congestion pricing implementation. Now, congestion pricing of roadways is also taking place in France, Norway, and southern California, and it has been closely examined by policymakers in England, the European Union, South Africa, the Netherlands, and Hong Kong.

Congestion pricing is designed to reduce travel demand during peak periods. The cost of congestion in terms of wasted time and wasted fuel is estimated to be forty-three billion dollars per year (Shrank, Turner, and Lonax 1995, 16). Additional costs related to air and water pollution, accidents, and delayed freight movements are estimated to approach one hundred billion dollars annually (U.S. Department of Transportation 1992).

Congestion pricing was actually considered as an alternative approach to addressing the congestion problem during passage of the Interstate Highway Act of 1956 and received additional attention following passage of the Clean Air Act in 1970 and the energy crises of 1973.

Transportation professionals and elected officials in this country are again turning to congestion pricing as a means of responding to increasing congestion and as an alternative to costly and politically difficult new road construction. Congestion pricing is seen by many as a way of optimizing the use of existing road and transit infrastructure, reducing future capital requirements, and providing a cost-effective solution to congestion and air quality problems. It does this by changing drivers based on their contribution to congestion. As a result, some peak-period users shift to off-peak periods, to high-occupancy modes, to less congested routes, and/or to making more efficient trip decisions. In many local studies, congestion pricing has been found to be the most cost-effective congestion mitigation and emissions reduction strategy.

Recent changes in national transportation policy resulting from passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and the Clean Air Act Amendments (CAA) in 1990 indicate a new direction for transportation planning. Together, the ISTECA and the CAAA require that transportation investments also address the impacts on land use, air quality, and energy consumption.

An important feature of ISTECA is greater attention to system management, particularly through demand management strategies. Responding to growing interest in congestion pricing, the ISTECA established the Congestion Pricing Pilot Program to support state and local efforts to explore the potential of congestion pricing. This program provided up to twenty-five million dollars annually from 1992 to 1997 to support state and local congestion pricing projects.

The pilot program now has ten projects underway. Two of the projects—one in San Diego, California, and the other in Lee County, Florida—are pricing programs that are scheduled to be implemented in 1996 or 1997. Another project is a monitoring and evaluation study of a private sector congestion pricing project on State Route 91 (SR-91) in Orange County, California. The other seven projects supported under the pilot program are "preproject" studies designed to lay the groundwork for potential future applications of pricing. Appendix A illustrates the different applications and objectives associated with each of the pilot project sites.

For budgetary reasons, Congress withdrew funding for the pilot program in late 1995. This means that, unless further congressional action is taken, only the projects currently underway can be funded out of the pilot program. Other sources of transportation funds, however, may be available to states and localities wishing to pursue congestion pricing initiatives.

The introduction of electronic tolling makes congestion pricing a much more practical proposition than it has been in the past, but political opposition remains the major roadblock to implementers. The key political and institutional barriers to implementing pricing scenarios include public opposition to paying for road use that it perceives should be "free," impacts on social and geographical equity, diversion of traffic to local streets, and the unknown impacts on urban sprawl and the economic vitality of central cities.

This report examines the political and institutional issues involved with congestion pricing. Research techniques have included literature reviews, focus groups with key transportation stakeholders, a Citizens Jury®, phone interviews, and regional conferences. The results are presented in five sections.

SECTION I—CASE STUDIES

Case studies were undertaken in Minneapolis—St. Paul, Houston, Portland, Philadelphia, Phoenix, and Chicago. In each of these cities, focus groups were conducted with transportation professionals, business leaders, community interest groups, and elected officials. Due to the political context and timing, all four focus groups were not conducted in some of the cities.
FINDINGS

KEY STRATEGIES AND COMPONENTS OF A SCENARIO FOR IMPLEMENTATION

KEY STRATEGIES

RECOMMENDATION 1—DEFINE THE GAINS UPFRONT

The goal of any new endeavor is to identify the goals that are to be achieved with congestion pricing. Different goals to consider include optimizing the return on infrastructure investments, generating revenues for transit or roadways, reducing emissions, shifting travel to off-peak periods or alternative travel modes, and creating a more equitable transportation financing system.

Congestion pricing represents a unique transportation policy in that it addresses both the supply side (by generating revenues) and the demand side (by providing a disincentive for traveling alone during peak periods) of providing transportation service.

Very different goals can be advanced depending on how the scope and application of the congestion pricing scheme is designed. Congestion pricing has become an umbrella term for applying variable pricing on both existing and new facilities and at different geographic levels. Introducing congestion pricing on new facilities represents different goals and drastically different political and institutional barriers than "pure" congestion pricing, in which congested portions of existing roads are tolled in order to alter travel behavior. The motivation for congestion pricing, on new or existing routes, is to increase the efficient use of road capacity.

Support for the SR-91 project in Orange County, California, resulted from the ability of the private sector to build the project sooner than could the public sector, and at a potentially lower cost. Support for the San Diego HOV buy-in resulted from the public’s perception of a wasted resource (i.e., "empty" HOV lanes). Both projects benefited from providing drivers with the option to either continue traveling their existing routes without paying a fee or to pay for a faster route.

Pricing on existing facilities, on the other hand, provides a direct incentive for changes in the mode, route, or time of travel since the driver faces the cost of his or her contribution to congestion. A major motivation for

1 There is a need to be precise in what we mean by HOV buy-in. Sometimes it is loosely used for new facilities in which HOVs would be priced and HOVs would not. In this report, however, we use it to refer exclusively to projects in which HOVs can buy into existing HOV lanes.
phones and compact disc sound systems, in order to make work more bearable, or by choosing to relocate where they live or work, in order to escape having to deal with the congestion.

When congestion pricing is contrasted with the alternative approaches described above, the common criticisms are not nearly so daunting. First, in the public’s eye, expanding the supply represents new taxes; taxes that are no less irksome than congestion relief tolls. The cost-effectiveness of these options is also in question. Expanding transit, without politically unpopular land use restrictions, is not likely to be a cost-effective route to decreasing peak period trips and congestion. Expanding roads decreases congestion, but at what cost, given current levels of local political opposition for how long, given concerns with induced demand for travel and with what impact on local costs? ITS technologies offer a great deal of latitude in diverting traffic to currently uncongested routes, which is an uncertain benefit, and the ability of these technologies to promote mode shifts also remains uncertain.

Second, reducing the demand through command and control regulations has been rejected by employers across the country due to employees’ unwillingness to intervene in their employees lives.

Third, making individual adjustments, which is the default option, is already taking place in most cities as funding for new infrastructure cannot keep pace with increased travel. As a result, congestion, which is projected to increase significantly in the future, is then listed as one of the top concerns of residents. A strategy that relies on individual adjustments translates into huge losses in productive time for businesses and individuals; increased costs in moving goods, which ultimately increases our economic costs; and generates frustration for individuals who would prefer to be somewhere else than stuck in a traffic jam.

This approach is also apt to lead to a level of traffic diversion onto local streets similar to that which occurs with congestion pricing. Once roads reach capacity, drivers will choose to divert either because of the cost of delay or the direct cost of congestion toll (Wilbur Smith Associates 1990a). In addition, the impacts on urban sprawl are likely to equal or exceed that of a carefully designed congestion relief tolling system. Recent research by Humphrey Foundation Professor Thomas F. Luce, Jr. (Luce and Lukemann 1996), suggests that under a competitive pricing scenario, urban areas may be advantaged over suburban areas due to their multiplicity of routes and modes of access.

By contrasting congestion pricing with other possible options, its pros and cons can be assessed more accurately. It is only within the context of such an analysis that congestion pricing is likely to be given a fair hearing by policymakers and the general public. In Minnesota, a public opinion survey conducted after institutionalizing the consideration of market-based strategies for reducing parking ratios has been successful in promoting HOV trips in Minneapolis. Cross-subsidy policies, which increase the cost of driving relative to public transit, have been effective at the University of Washington campus in Seattle and have also been used by the New York Port Authority. This approach was supported by the Twin Cities Citizens Jury #5, which recommended increasing the number of HOV lanes in the Twin Cities and dedicating the majority of revenues to transit.

Other incremental steps, which have been referred to as "peak period pricing," include separate lanes, ramp meter bypasses, and preferential parking for HOVs. An important steppingstone to congestion pricing is the requirement that agencies consider congestion pricing as an alternative when conducting the major investment study for proposed new highways. This is now being done in the Twin Cities.

RECOMMENDATION 5 - STREET CONGESTION PRICING

DEMONSTRATION IN LIGHT OF IMPENDING CONGESTION

It is important not to oversell congestion pricing, but rather, to convey the extraordinarily useful information that could be obtained from a demonstration project. Proponents of congestion pricing should be humble and upfront that they do not have all the answers, which is, in fact, why demonstration projects are so critical. The public will either learn to live with the experience or refuse to be browbeaten by it is clear that a program can be terminated at any time.

KEY COMPONENTS

Based on our focus group research and the extensive public participation in pricing studies around the country, we have identified six key components of an implementation strategy for congestion pricing: the leadership coalition, elected officials leadership and support, attention to equity impacts, citizen understanding and involvement, marketing and media strategy, and a technology plan.

THE LEADERSHIP COALITION

Support for congestion pricing depends on engaging a range of stakeholders. Coalition building provides the opportunity to build arguments, to connect congestion pricing to existing issues and projects, and to identify proponents from the general public or elected bodies. The importance of a leadership coalition was strongly considered in Bay Area congestion pricing proposal (Dittmar, Frick, and Tannhill 1993). In this example, the key participants in the leadership coalition included transportation professionals and representatives of business and environmental organizations.

Transportation professionals have become interested in congestion pricing as its unique contribution to system management in a financially constrained environment and, in those cities with severe air quality problems, on its ability to reduce peak period trips. In building coalitions it is important to build internal support first. Boulder, Colorado, and the state of California offer excellent models. Staff of Boulder’s Congestion Relief Study have used an approach of establishing consensus circles to identify key stakeholders within city agencies, within the various transportation agencies in the region, and within local and regional agencies significantly impacted by transportation systems. The California Air Resources Board, Market Incentives Task Force, includes twenty-one representatives from local, regional, state, and federal agencies involved in all aspects of transportation. Some transportation professionals perceive that congestion pricing is being advanced as a panacea. Thus, there is a need to make the connections between pricing and other aspects of a regional transportation strategy, including land use regulations, other transportation demand strategies, intelligent transportation systems technologies, and in particular, transit. It is essential that transit providers are actively involved. Congestion pricing has the potential to greatly increase transit ridership and the solvency of transit agencies. Transit providers could become key proponents of congestion pricing as they become more familiar with its likely impacts Participants in focus groups conducted by the Humphrey Institute (see the six case studies presented in Section 1 of this report) directed the most money to transit when asked to allocate hypothetical revenues from a congestion pricing project. In building the coalition, groups that are likely to feel threatened by congestion pricing should be contacted first.

Environmental and community groups in the Twin Cities and elsewhere have other agendas such as urban growth management, transit promotion, or low-income advocacy. These groups were open to the pricing concept so long as it is incorporated into a broader framework that
addresses overall quality of life concerns, social equity, and land use impacts. An opportunity exists to engage these groups after they become more familiar with how congestion pricing could advance their causes.

The business sector has an interest in efficient transportation systems, but their motivation to engage in discussions about congestion pricing strategies was a direct result of the onerous command and control regulations to reduce mobile source emissions imposed by the Environmental Protection Agency. The suspension of the Employee Commute Options (ECO) program and the postponement of requirements for urban areas to define emission budgets have dampened business's interest in pursuing new emissions reduction strategies.

Nevertheless, in many cases, business involvement continues. Concerns with congestion's impact on clean air remains a powerful motivator behind business's consideration of congestion pricing in southern California. Business groups are well represented on the REACH task force, exploring market-based strategies. They believe that concerns with air quality will not go away, and that major employers will be asked to do their share in reducing emissions in the future. With congestion levels predicted to soar over the next twenty years in many metropolitan areas, and funding for important transportation investments uncertain, there remains a strong motivation for business to consider pricing options.

2. ELECTED OFFICIALS LEADERSHIP AND SUPPORT

Although some elected officials have become familiar with congestion pricing, most have not. Many are attracted to its revenue potential, but do not appreciate the efficiency gains and demand management potential.

It is politically dangerous to assume that the public supports the need for increased revenues. In some cases, congestion pricing should be structured in a revenue-neutral format; that is, returning all or part of the new revenues back to citizens in the form of tax relief. If a congestion pricing proposal involves an increase in total financial outlays, this should be made explicit. California's experience with local transportation taxes demonstrates that support is possible when clearly identified projects are funded.

One of the biggest difficulties in gaining the support of elected officials is their allegiance to small segments of the regional congestion problem. The experience of Washington State's car pooling initiatives highlights the dangers of expecting elected officials and the communities they represent to go it alone in moving to user-based financing. An area-wide application of congestion pricing offers the advantage of geographic equity, but an area-wide scheme also presents the greatest political and institutional challenges. Congestion does not neatly adhere to any political jurisdictional boundaries. As a result, there is a need for strong regional authority, but governmental fragmentation has long been recognized as inhibiting regional governance. Existing authorities can be expected to resist centralized power and to intensify interjurisdictional competition in reaction to any congestion pricing proposal.

Support for congestion pricing is greatest in highly congested corridors and when revenues are directed to specific, tangible projects. Any equity, however, that is responsible for overcharging those impacted under a pricing scheme faces the threat of raids by other municipal, county, or state governments. The dedication of gas tax revenues offers an appealing precedent, but dedicating revenues from congestion pricing raises several issues. For example, does the public support allocating revenues raised from automobile travel to transit and other alternatives like, can governments effectively allocate revenues to equitably provide alternatives to priced facilities, particularly given the difficulty in predicting the impacts of pricing on travel demand?

The support of elected officials is further clouded due to the uncertainty regarding which level of political jurisdiction should be engaged in the decision to price a particular corridor. Because transportation facilities have important but not well understood impacts on the regional and state economy, it remains an open question whether community, regional, or state support is most appropriate.

The public's current distaste of government and the lack of political leadership is a concern. With regard to congestion pricing, this lack of trust leads to concerns about government's ability to effectively collect and allocate revenues and to administer complex technological systems. It is imperative that the institutional capacity necessary to ensure that revenues are efficiently allocated to promised purposes is put in place. Politicians, along with other factors such as changes in the overall global economic landscape, has led to a devolution of government responsibility. This governmental devolution creates an opportunity for congestion pricing, since this policy moves finance and revenue allocation decisions closer to the people impacted by them.

To gain the support of elected officials, it is necessary to stress tangible, financial benefits and to connect the policy to existing legislative concerns. A cost-benefit analysis that includes a quantification of the benefits of reduced traffic delays will be critical. An analysis that conveys the cost savings in avoided road building is even better, as there is strong opposition in most communities to building new roads. It is important that congestion pricing proposals be linked to legislative agendas. In responding to the congestion pricing study, many members of the Minnesota Senate Transportation Committee saw congestion pricing as "tickling at the edges" when, in their opinion, the real issue was reaching an urban-rural consensus on a gas tax increase or providing adequate transit funding.

3. ATTENTION TO EQUITY ISSUES

Equity impacts can take many forms. They include the impact on low-income individuals (social equity) and on groups that have limited alternatives to paying the toll (geographic equity). The impacts on low-income individuals tend to be exaggerated. In fact, peak-period congestion is composed primarily of middle- and upper-income users. In addition, the existing financing measures tend to be even more regressive than is pricing. Also, the social equity impacts of congestion pricing can be mitigated through the use of lifeline tolls (similar to the guaranteed service programs of gas and electric utilities) and by directing revenues to travel alternatives.

Geographic equity impacts are addressed in how the boundaries of the pricing system are set, by using revenues to expand alternatives to peak SOV travel, and by encouraging business participation in a workable solution.

Equity impacts need to be carefully and thoroughly addressed. Concerns about equity could provide a bridge to public support. Participants in the focus groups and the Citizens Jury project responded strongly to arguments supporting congestion pricing that emphasize fairness. As people become more familiar with the mismatch between what they pay and what they get from the transportation system, market-based strategies may become a more logical choice.

4. CITIZEN UNDERSTANDING AND INVOLVEMENT

Citizen input should be gathered throughout the process of analyzing and implementing a market-based strategy. It is important, however, that citizen support is dependent on a greater understanding of how transportation is currently financed and what social costs go unaccounted. Work underway by the Boulder Congestion Relief Study and the Puget Sound Regional Council offer excellent models of an attempt to quantify and explain the full range of costs associated with different transportation systems.

The fundamental features of congestion pricing must be conveyed in everyday language. Concepts such as value of time, marginal costs, and price elasticity are not easily grasped. In addition, although most people are keenly familiar with toll booths, many have never heard of electronic tolling. (California's Transportation Future: a brochure produced by the Metropolitan Transportation Commission, Oakland, California and California Air Resources Board, is an excellent example of using everyday language to explain the complexities of congestion pricing.)

The biggest stumbling block to congestion pricing is a people's perception that it would not change their personal travel behavior. This reaction becomes their barrier of support, despite the fact that a change by a small percentage of drivers could relieve congestion. An education campaign should include graphics and analogs from other sectors. A good visual image could get across the marginal change in peak-period trips needed to mitigate congestion. It could also demonstrate how congestion pricing would enable more effective use of the greatest transit usage. The University Transportation has begun creating a video depiction of the congestion phenomenon and how congestion pricing would impact travel, mode choice, and infrastructure costs.

After a week of expert testimony and dialogue, eleven of the twenty-four jurors in the 2016 Citizens Jury project rejected congestion pricing because they did not think it would change travel behavior. Although this may seem irrational at first glance to congestion pricing proponents, it makes sense, given the dearth of transit and HOV alternatives and the rigid work hours typically required by employers. An education campaign must make the connection between the pricing tool and the use of revenues to provide adequate alternatives to peak-period SOV trips.

5. MARKETING AND MEDIA STRATEGY

Marketing strategies are an attempt to identify market demand. There is little demand for the abstract, academic-sounding congestion pricing concept. There may, however, be demand for increased convenience and reliability, reduced pollution, or more efficient government spending on transportation infrastructure.

In marketing a new idea, timing is critical. Thus, it is crucial to recognize the political, economic, and social context of a congestion pricing proposal. The marketing of congestion pricing should not "demoritize" car drivers. Rather, it should acknowledge that driving is a legitimate choice and stress the fairness of having consumers pay the appropriate costs for the public provision of roadways.

The media should be engaged early and often. This is another key time to make sure that congestion pricing is not considered in isolation but, rather, in concert to possible alternatives. As the media becomes educated on the subject, they can become allies in a public outreach campaign. As a result of media briefings in the Twin Cities, the press provided the Governor's project and the toll road proposals in an objective, informative manner, and both major newspapers wrote editorials supporting congestion pricing.

6. TECHNOLOGY PLAN

Although the electronic toll collection technology currently exists for congestion pricing, there are a number of technology-related issues that must be addressed before implementation can take place. These include the public's
 awareness of the technology as well as concerns about cost, privacy, and reliability. Any new technology requires an adjustment period for users to come to understand and accept it. Most people’s image of toll roads remains that of the manual toll booth. Like other transformative innovations, such as the personal computer or cellular phone, public support cannot be expected until people have gained a better understanding of the new technology and its benefits. Perhaps electronic fee collection could be demonstrated first in other applications such as parking fees. In addition, those areas where the introduction of electronic tolling is planned may offer a less hostile environment in which to propose variable tolls. Since users are getting a major benefit with the new technology, they may be more open to a new toll rate structure.

The Twin Cities Citizens Jury® project raised serious concerns about the costs of electronic tolling technology. To build public support, these costs will have to be conveyed as a small fraction of the financial benefits of a congestion pricing scheme.

Some congestion pricing proponents incorrectly dismiss the privacy issue. Although new anonymous collection systems address this concern, it remains a potent political issue. The experience of the FHWA’s operational tests of intelligent transportation systems (ITS) demonstrated that privacy is a major institutional barrier to deployment of new technologies. Elected officials in the Twin Cities and transportation professionals in Chicago believe that privacy is an important concern of the driving public. There are also concerns that information on individual’s travel habits will be sold to product marketers.

The privacy issue, though, is not a fatal flaw. As the public becomes more familiar with electronic tolling, they become more supportive. Anonymous identification systems eliminate much of the concern. Also, privacy is much less of a concern when tolling is voluntary (e.g., on HOV buy-in lanes or on new facilities).

Reliability of the technology must be assured. If the technology does not work right the first time, there may not be a second chance for congestion pricing in an area. The technology should also be customizable to the needs of the users. The private firm that designed the SR-91 project opted for fixed tolls at different times rather than a truly dynamic toll structure based on customer desires to know the toll level before leaving home in the morning.
# SELECTED CHARACTERISTICS OF FOCUS GROUP CITIES

<table>
<thead>
<tr>
<th>City Characteristics</th>
<th>Chicago CMSA</th>
<th>Houston CMSA</th>
<th>Twin Cities MSA</th>
<th>Philadelphia CMSA</th>
<th>Phoenix MSA</th>
<th>Portland PMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990 Population Percentage</td>
<td>8,005,655</td>
<td>3,711,043</td>
<td>2,464,124</td>
<td>5,899,345</td>
<td>2,122,100</td>
<td>1,477,895</td>
</tr>
<tr>
<td>Population Growth 1980-1990</td>
<td>1.6</td>
<td>19.7</td>
<td>15.5</td>
<td>3.9</td>
<td>40.6</td>
<td>33.9</td>
</tr>
<tr>
<td>Daily VMT per Capita</td>
<td>16.9</td>
<td>25.5</td>
<td>21.0</td>
<td>15.5</td>
<td>20.6</td>
<td>18.7</td>
</tr>
<tr>
<td>How Large?</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Carpoolers (percent of total workers)</td>
<td>12.0</td>
<td>14.6</td>
<td>11.2</td>
<td>11.9</td>
<td>14.4</td>
<td>12.5</td>
</tr>
<tr>
<td>Public Transit Riders (percent of total workers)</td>
<td>17.1</td>
<td>4.1</td>
<td>5.3</td>
<td>11.6</td>
<td>2.1</td>
<td>6.0</td>
</tr>
<tr>
<td>Air Quality Status (nonattainment)</td>
<td>Ozone-severe</td>
<td>Ozone-severe</td>
<td>Ozone-severe CO-moderate</td>
<td>Ozone-severe CO-moderate</td>
<td>Ozone-severe CO-moderate</td>
<td>Ozone-marginal CO-moderate</td>
</tr>
<tr>
<td>Roadway Congestion Index *</td>
<td>1.26</td>
<td>1.12</td>
<td>0.99</td>
<td>1.95</td>
<td>1.08</td>
<td>1.10</td>
</tr>
<tr>
<td>National Congestion Index (1 - worst)</td>
<td>5</td>
<td>12</td>
<td>27</td>
<td>21</td>
<td>16</td>
<td>13</td>
</tr>
<tr>
<td>Average Travel Time to Work (minutes)</td>
<td>29.1</td>
<td>26.4</td>
<td>22.2</td>
<td>24.8</td>
<td>23.0</td>
<td>21.8</td>
</tr>
<tr>
<td>Land Use Density (people per square mile)</td>
<td>1,435.5</td>
<td>522.1</td>
<td>487.8</td>
<td>1,103.6</td>
<td>250.6</td>
<td>558.7</td>
</tr>
<tr>
<td>Highway Miles</td>
<td>19,806</td>
<td>17,001</td>
<td>8,951</td>
<td>18,815</td>
<td>9,396</td>
<td>4,514</td>
</tr>
</tbody>
</table>

*See glossary for definition and equations used to derive the congestion index.

*Portland’s PMSA includes both Oregon and Washington State urban areas, as well as one of the nation’s largest natural parks, located only within the Portland urban growth boundary (not including the park or Washington urban area). Land use density is much higher—2,960 people per square mile (as per phone conversation with Portland Memo).

METHODOLOGY

Our goal was to hold focus groups in each city with four target audiences: (1) transportation professionals, including representatives from the state department of transportation (DOT), the metropolitan planning organization (MPO), the state pollution control agency, and transit agencies; (2) business representatives, including major employers, transportation-sensitive industries, and the trucking/delivery sector; (3) community leaders, including representatives from automobile clubs, environmental interest groups, government watchdogs, social equity advocates, neighborhood organizations, etc.; and (4) elected officials (in many cases we had elected officials’ staff or representatives of city and county government).

Due to the controversial and speculative nature of the congestion pricing topic (and inclement weather), we were unable to conduct focus groups with all four audiences in some of the cities. Also, due to the differing context of congestion pricing discussions in each city, the makeup of the groups varied considerably. As a result, comparisons between the results of groups across different locations are speculative at best. In assessing the information reported, the reader should take note of the makeup of each group. A list of participating organizations is provided at the end of each of the case study focus group summaries.

The focus group process was conducted in the following manner. First, an invite list was compiled, based on conversations with the MPO and/or DOT staff, and other contacts in each city. Approximately twenty individuals in each group were sent a letter of invitation and a survey (a sample letter of invitation is shown in Appendix B; the survey questions and results are presented in the six case studies in Section 1). The focus groups ranged in size from two to fifteen participants. Each focus group lasted approximately two hours and was facilitated by staff from the State and Local Policy Program at the Humphrey Institute of Public Affairs, University of Minnesota. The focus group began with a short description of congestion pricing and reference to any congestion pricing projects or studies in the area. This was followed by a discussion of the survey questions, with a summary of the written survey responses serving to guide the discussions. As is standard with focus groups, participant remarks remained anonymous.
MINNEAPOLIS-ST. PAUL CASE STUDY

Three activities related to congestion pricing are currently underway in the Twin Cities metropolitan area:

1. A study of congestion pricing.
2. A study of a statewide mile-based tax.

These initiatives are overseen by the Office of Alternative Transportation Financing (ATF), which was created expressly for this purpose by the Minnesota Department of Transportation (Mn/DOT) in 1994.

Each of these activities is the result of Minnesota state legislation enacted in response to a shortage of state funds for transportation projects, and ISTEA requirements to consider alternative financing, improve systems management, and engage public participation in transportation project development.

In 1993, the Minnesota Legislature authorized Mn/DOT to solicit private sector proposals for the development and operation of toll facilities. This legislation allows variable toll rates based on the level of demand.

In 1994, the legislature authorized Mn/DOT and the Metropolitan Council (the region's metropolitan planning organization) to assess the feasibility of congestion pricing and the feasibility of road pricing in the form of a mileage-based tax. Mn/DOT received $600,000 from the Federal Highway Administration (FHWA) Congestion Pricing Pilot Program toward this study. A preliminary report, summarized on page 27 of this report, was made to the Minnesota Legislature in January 1996.

In 1995, legislation was passed requiring the commissioner of Mn/DOT to consider the feasibility of alternative financing, including congestion pricing, tolls, mileage-based taxes, to fund highway projects in excess of ten million dollars. The Metropolitan Council will also require that an analysis of congestion pricing be included in the investment study required of major projects. The 1995 legislation also authorized the demonstration of congestion pricing on Minnesota roads.

Road pricing is used in Minnesota as an umbrella term to describe attempts to introduce more market-like mechanisms into the provision of surface transportation services. Examples of potential Minnesota road pricing scenarios include toll roads, mileage-based taxes, and congestion pricing. Toll roads involve motorists paying a uniform fee to use a particular facility. Fees collected are used to pay off the debt incurred in constructing and operating the road. Mileage-based tax (MBT) is a tax based on how many miles are driven and is often seen as a replacement for the existing highway user fees on gas and motor vehicle registration fees. It is suggested that the MBT could be more effective in decreasing travel demand and more equitable than an increase in the gas tax. Congestion pricing refers to charging tolls that vary according to demand on typically congested routes. In contrast to toll roads, congestion pricing is usually perceived to be a traffic demand management strategy. It is also suggested, however, as a component of new toll roads. In these cases, congestion pricing is referred to as variable pricing.

TWIN CITIES DATA

POPULATION

In 1995, the populations within the city limits of Minneapolis and St. Paul were 395,889 and 271,128, respectively, and the population of the Twin Cities metropolitan statistical area (MSA) was 2,642,286 (Minnesota State Demographers Office 1996). The region's rate of growth exceeded the national rate between 1980 and 1990, increasing by 15 percent. During the 1990s, the suburban counties surrounding the older metropolitan core grew at a rate well above that of Minneapolis and St. Paul, reflecting a pattern of out-migration. Despite out-migration, Hennepin and Ramsey counties, which contain the cities of Minneapolis and St. Paul, still accounted for 70 percent of the jobs in the metro area in 1990. Future projections for the Twin Cities metro area predict continuing growth at a rate slightly faster than the rest of the state with the urban counties of Hennepin and Ramsey experiencing much slower growth than the counties to their immediate west and southwest.

The Twin Cities metropolitan area is ranked by low-density settlement, ranking twenty-third among the nation's twenty-five largest metropolitan areas in urban population density (U.S. Dept. of Commerce 1990a). The
TRANSPORTATION FINANCE

Highways are financed through a combination of motor fuel taxes and motor vehicle registration fees (79 percent), federal aid (16 percent), and driver’s license and other fees (5 percent). A 1996 amendment to the state constitution dedicated gas tax revenues to “highway purposes.” Operating funds for transit come from local sources, including the farebox (25 percent), state property tax (39 percent), the state general fund (23 percent), federal aid (5 percent), and miscellaneous (7 percent).

Although the miles of highways built in the state increased steadily over the past forty years, this level of growth is unlikely to continue due to funding reductions. The state gas tax of twenty cents per gallon has not been increased since 1988 and is not indexed for inflationary increases. In addition, the introduction of more fuel-efficient vehicles has created a major gap between revenues raised and demands on the roadway system. Transit, on the other hand, has seen only modest investments from the onset and the annual miles of service have decreased since 1980. Although light rail transit (LRT) has regularly been considered, the Twin Cities is likely to remain one of the largest metropolitan areas in the country without a fixed rail system for some time.

A funding impasse currently exists as rural legislators support a gas tax increase and urban legislators demand reliable funding for transit through a sales tax increase or other mechanisms. Given expected funding shortfalls and ISTEA’s requirement of fiscally constrained planning, the Metropolitan Council recently cut two billion dollars in planned projects from the regional policy plan. The major projects to be cut include LRT and several highways. The most heavily traveled in the metro area, and the addition of LRT along this corridor: reconstruction of I-94 between the airport and western suburbs; and construction of LRT between downtown Minneapolis and downtown N. Paul.

The Metropolitan Council has identified close to five billion dollars in planned, but unfunded, road projects. Also, many interest groups and elected officials believe that transit is woefully underfunded. The Metropolitan Council voted in April 1996 to increase bus fares by an average of twenty-five cents in order to continue existing service. Within the metropolitan area, the first full year of service is expected this year.

CONGESTION TRENDS

An article published in the Saint Paul Pioneer Press (Chin 1993), stated that regional traffic demand in the Twin Cities metropolitan area is growing at a rate rarely seen in four times the growth in population. A study by the Texas Transportation Institute (TTI) ranked Minneapolis-St. Paul twenty-sixth among fifty major urban areas in level of congestion, but also showed a steady increase. This study estimated the cost of congestion in 1991 at 460 million dollars (270 dollars per registered vehicle), double that of only five years earlier. Congestion is a contributor to the Twin Cities nonattainment status for carbon monoxide as regulated by the 1990 Clean Air Act Amendments.

The number of miles of severely congested roadways in the Twin Cities metropolitan area increased from twenty-four miles in 1972 to 106 miles in 1992. This trend is expected to continue, with seventy severely congested roadways totaling two hundred twelve miles by 2015, or 21 percent of total VMT during peak periods. As a result, over the next twenty years, average freeway speeds are expected to decrease by 30 percent and travel times are projected to increase by 40 percent to 50 percent. Most of the congested miles will be in the western and southwestern portions of the metro area.

Wait times at ramp meters are an important manifestation of congestion in the region. Average wait times currently vary from two minutes to twelve minutes and are expected to double over the next twenty years (Willmar Smith Associates 1996a).

HISTORY OF CONGESTION PRICING ACTIVITIES

INSTITUTIONAL AND RELATED ACTIVITIES

Market-based congestion pricing strategies have been examined in the Twin Cities metropolitan area for many years. In 1990, MnDOT hired Apogee Research to conduct a market research study of toll financing. This study included an assessment of the willingness of residents to pay to eliminate congestion delays. Also in 1990, the Metropolitan Council funded the Improve 494 Commission to examine the incentives and disincentives that could be used to encourage more high-occupancy vehicle travel in the I-494 corridor. Focus groups were conducted with major employers and their employees in the area. According to Clarence Mullbett (1996), Metropolitan Council staff served as the staff to the commission.

Participants were carefully selected across different types of parking pricing, but saw some merit in the introduction of tolls (Mullbett 1995). A preliminary study of congestion pricing was commissioned by MnDOT and the Metropolitan Council. A broad-based steering committee identified objectives for congestion pricing. The consulting team of Wilbur Smith Associates, Inc., and SRF Consulting Group, Inc. conducted the study. They estimated traffic and revenue impacts for several hypothetical pricing scenarios. Other issues such as financial feasibility, social and economic considerations, technology, and public and political acceptance were also considered (Willmar Smith Associates, SRF Consulting Group, Inc., and K.T. Analytic, Inc.).

In 1994, the Minnesota Legislature created the State Advisory Council on Major Transportation Projects. This fifteen-member council met to consider a public benefits statement, the number of toll projects, and public participation. The council recommended that the year 2000 road pricing be used to fund major transportation projects. Although congestion pricing was not specifically identified, the council suggested that road pricing be considered to both encourage HOV travel and fund HOV infrastructure. Four southwestern communities formed a joint-planning agreement to study the feasibility of a proposed toll facility on Minnesota Highway 212. This study was completed in 1995 and the project is currently being reviewed for support by the local political officials of the impacted communities.

Extensive research on the impacts of congestion pricing on traffic and travel behavior and revenue generation has been completed by Professor Herb Mofling of the University of Minnesota’s Department of Economics. In addition, Barbara Kaminen of the University of Minnesota’s Humphrey Institute of Public Affairs completed a study for MnDOT and the Regional Transit Board of the distributive effects of three pricing policies: a congestion fee, a gas tax increase, and a major reduction in transit fares (Kaminen 1995). Also, a 1995 report by a task force of the Citizens League of Minnesota, a well-regarded public organization that had recently changed its political position to favor the use of congestion and road pricing for the metropolitan region.

RELATED ACTIVITIES

In considering the institutional context of the introduction of congestion pricing, it is useful to examine related attempts to introduce market-based approaches. These related activities include discounting of parking downtown parking rates for users of the HOV lanes entering downtown, a study of an air toxics fee conducted by the Minnesota Pollution Control Agency (1996), consideration of fiscal reform programs, green taxes, a study of regional sewer financing, consideration of regional parking fees, and a property tax break for industries that locate close to transit facilities. The Minnesota Pollution Control Agency has added consideration of a fee specific to mobile source emissions.

The Metropolitan Council defined transit as both fixed route transit and carpool or vanpool. Ridesharing accounts for 15 percent of all work trips and fixed route transit accounts for an additional 5 percent (Metropolitan Council 1995). Like most other urban areas in the country, transit ridership is declining. Transit is being encouraged, however, by the Metropolitan Council through a strategy of reducing travel time relative to SOV travel. For example, 40 percent of commuters in the state had been installed, the shoulders on 175 miles of highway have been designated bus lanes during congested periods, and ramp and signal preemption are being explored.
to their broader study of air toxics fees. A recent sensitivity analysis of economic impacts found that "mobile source fees, based on the environmental damage cost estimate, do not appear to cause significant economic impacts" (McEwen 1996).

The closest analogy to congestion pricing is a study of wastewater treatment fees completed for the Metropolitan Waste Control Commission (MWCC). Professor Thomas Luce of the University of Minnesota’s Humphrey Institute found the uniform fee structure to be inefficient and inequitable. Communities farthest from the treatment centers pay the same as those located closest. Luce concluded that “average, the MWCC’s uniform fee clearly subsidizes higher income consumers in the outer parts of the region at the expense of lower income consumers in the urban core” (Lakemier, Luce, and Mohring 1995).

HUMPHREY INSTITUTE FOCUS GROUP DISCUSSIONS

In the fall of 1995, prior to the MnDOT-Metropolitan Council transportation planning effort, the Humphrey Institute, State and Local Policy Program conducted focus groups in the Twin Cities metropolitan area with four audiences: (1) transportation professionals, (2) elected officials, (3) business representatives, and (4) community interest group leaders.

The participants were intrigued by the concept of congestion pricing, but not all favored the idea. Although feelings for and against the concept were expressed in every group, the transportation professionals were most in favor and the business representatives were most opposed.

All groups felt that congestion pricing would not be easily implemented in the Twin Cities, but for different reasons. The transportation professionals and elected officials felt that the public saw congestion as a critical problem in the area. The transportation professionals pointed out that no political leader had built any support around the issue of congestion and that much of the public may still believe we can build our way out of congestion.

The business representatives generally opposed congestion pricing, even after some participants reminded them that congestion pricing involved market mechanisms into the provision of transportation infrastructure. Most representatives did not believe that their businesses would benefit. Those who did support congestion pricing, however, came from downtown Minneapolis businesses where congestion is the greatest, indicating that the problem may be a matter of understanding the theory, rather than the theory itself.

The community leaders demonstrated ambivalence to the concept, mostly because they felt that it did not address the most critical problems in the Twin Cities. A common response was that they would support congestion pricing if it was part of a comprehensive strategy to reduce urban sprawl or improve inner cities.

As a result of these differing motivations, there was little consensus between the groups on how congestion pricing would be successfully implemented. Although all participants would measure success according to changes in travel modes or traffic speeds (see question 8 below), use of the revenues from congestion pricing would probably be a hotly contested issue. When asked how to allocate the revenue (see question 6 below), the transportation officials overwhelmingly supported mass transit. The elected officials also supported mass transit, but with less enthusiasm. The business representatives felt that revenues should be put back into the highway system. The community leaders were more concerned with compensating those who might be economically penalized by the tolls.

TWIN CITIES CONGESTION PRICING SURVEY

Prior to the focus group meetings, each participant was asked to respond to nine questions concerning congestion and congestion pricing in the Twin Cities metropolitan area. These questions were asked again at the meeting, using their previous, unattributed responses as a method of generating further discussion. A summary of the survey results is presented below.

1. Among the surface transportation problems in the Twin Cities, how important is traffic congestion? How is it being dealt with?

The feeling of the focus group participants was that, relative to other urban areas, congestion was not a major problem in the Twin Cities metropolitan area at the present time. The business representatives were particularly proud of the fact that the Twin Cities were not as bad as Houston or Los Angeles. Most of the participants in all groups felt that congestion could become a real problem in the future, however, and there was general interest in discussing how to prevent this from occurring.

The most commonly cited methods of currently dealing with congestion involved behavioral changes such as changing travel time or route or taking advantage of

HOW lanes. Many participants also mentioned the Intelligent Transportation System (ITS) technologies in use in the Twin Cities, especially the ramp meters and the Traffic Management Center. The groups also mentioned building new highways as a method of addressing congestion, especially when discussing urban sprawl. None of the participants, however, endorsed this method as an effective or popular option.

2. How familiar are you with the concept of congestion pricing?

Familiarity with the concept of congestion pricing varied depending on the group. As could be expected, the transportation professionals were very familiar with the concept and how it might be applied to the Twin Cities. The business representatives had the most questions about how congestion pricing might be applied, for example, who would be charged and how much. The community leaders were most interested in the overall impact of congestion pricing and the results of its application in other urban areas. The elected officials were most concerned with how revenues would be collected and allocated.

3. What would motivate you (your organization) to pursue or oppose congestion pricing?

Purposes: No one factor stood out. The transportation professionals were most interested in the potential of congestion pricing as a tool for demand management and promoting mode shift. The business representatives were motivated by arguments of reduced taxes and transportation efficiency. The community leaders were motivated by the opportunity to improve transit services. The elected officials were intrigued by all of the above reasons, but transportation professionals were the most enthusiastic. The business community felt that congestion pricing may have an impact on land and energy use.

Oppose: All groups expressed concern with the prospect that congestion pricing might hurt the downtown areas of Minneapolis and St. Paul. Other concerns included the perception that (1) it is not right to charge for roads that are "already paid for" by gasoline and other taxes, (2) pricing the freeways could slow the movement of emergency vehicles, (3) congestion pricing might benefit car travel rather than improve transit services, and (4) no revenue would be raised if congestion pricing succeeded in reducing travel.

4. Who do you see as the beneficiaries of congestion pricing?

Who do you see as the losers?

Transit and transit users were perceived as the biggest winners. The transportation professionals pointed out that congestion pricing could possibly gain supporters in the state legislature if revenues were used to offset the yearly transit deficit. Ironically, lower-income people, most of whom are transit users, and the central cities, where transit use is highest, were named as possibly the biggest losers. Other beneficiaries included people who could afford to pay the tolls, suburban interests, the government agency or agencies that receive the revenue, and, possibly, road and transit construction industries, if the revenues are used in this fashion. Other losers included commuters, travelers from out of state, workers who could not vary their schedule around the peak period, owners of downtown parking ramps, and corner soda delivery services.

5. What are the major barriers to congestion pricing in the Twin Cities?

Political considerations were perceived as a major barrier. The transportation professionals pointed out that no dynamic leader has seized congestion pricing, or even traffic congestion, as a major issue in the Twin Cities; consequently, there is no popular support for the concept. Also, since there are currently no toll roads in the metro area, there is a considerable lack of experience and familiarity with road pricing, and any benefits that may come with it. The name itself—congestion pricing—may be a barrier. A transportation professional felt that the term “transportation system pricing” might have less negative connotations.

The community leaders and transportation professionals were also concerned about the Humphrey Institute’s proposed potential for congestion pricing to exacerbate suburban development at the expense of the Minneapolis and St. Paul downtowns. They felt that unless congestion pricing was part of an integrated plan for transportation and development of the entire metropolitan area, congestion pricing might have unacceptable negative consequences for the inner cities.

Understanding the impact of possible pricing schemes on economic development and different geographical and socioeconomic groups, however, would take a great deal of study, adding yet another barrier.

The transportation professionals felt there would be fewer barriers if congestion pricing were implemented on a new facility, such as a bridge or road on the suburban perimeter or a new I-94 lane. Further, if growing suburbs were forced to pay directly for new facilities, congestion pricing would likely be received greater consideration.
8. If implemented, how would you measure the success or failure of congestion pricing?

Each participant was asked to rank the alternatives from 1 to 5, with 1 being the highest and 5 being the lowest. The table below presents a summary of the results.

<table>
<thead>
<tr>
<th>Transportation Professionals</th>
<th>Business Reps.</th>
<th>Community Leaders</th>
<th>Officials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve, expand, or maintain highways</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Fund mass transit</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Reduce taxes</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Compensate those who might be economically penalized by congestion tolls</td>
<td>4</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Other*</td>
<td>5</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Number of Participants</td>
<td>10</td>
<td>6</td>
<td>10</td>
</tr>
</tbody>
</table>

* Specific suggestions were not given.

9. What is your experience with public education campaigns? What type of public participation processes have you used, particularly for controversial projects?

The community leaders contributed the most to this discussion. They mentioned that a properly targeted campaign can change people’s behavior and cited recycling as an example of a successful campaign. The transportation professionals pointed out that the public must be made aware of the problem. The elected officials added that the public must also be involved in developing the solution. Finally, all agreed that tangible, positive results would be necessary to successfully sell congestion pricing.

FOCUS GROUP PARTICIPATING ORGANIZATIONS

<table>
<thead>
<tr>
<th>TRANSPORTATION PROFESSIONALS (ONE PARTICIPANT FROM EACH EXCEPT AS NOTED)</th>
<th>OFFICIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Highway Administration Metropolitan Council (5), 1 from planning, 2 from transit</td>
<td>Metropolitan Department of Transportation (2)</td>
</tr>
<tr>
<td>Minneapolis Pollution Control Agency</td>
<td>Traffic Management Center</td>
</tr>
</tbody>
</table>

BETTER REPRESENTING ONE PARTICIPANT FROM EACH:

<table>
<thead>
<tr>
<th>City of Blaine</th>
<th>City of Burnsville</th>
<th>City of Minneapolis (responded to survey, did not attend meeting)</th>
<th>City of Roseville</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of St. Paul</td>
<td>Minnesota House</td>
<td>Minnesota Senate</td>
<td>United States House of Representatives, staff</td>
</tr>
</tbody>
</table>

MIN/DOT-METROPOLITAN COUNCIL CONGESTION PRICING STUDY

The Metropolitan Council and Mn/DOT are jointly undertaking the study of congestion pricing. They selected a consultant team headed by Wilbur Smith Associates (WSA) and SRF Consulting Group, Inc. to complete an assessment of traffic impacts and public opinion regarding congestion pricing. Mn/DOT and the Metropolitan Council appointed a Pricing Policy Advisory Committee (PPAC) and a Pricing Technical Advisory Committee (PTAC). The PPAC is made up of thirty-two key policymakers and representatives from stakeholder groups, including elected officials and agency personnel from federal, state, regional, and local government; developers, and representatives from Mn/DOT divisions, businesses, academia, and organizations representing the driving public, road builders, truckers, taxpayers, and citizens. The PTAC is made up of fifteen members representing Mn/DOT, the Metropolitan Council, transit agencies, academia, and the legislative house research office.

At the request of Minnesota Representative Bonnie Liedey, the Mn/DOT-Metropolitan Council study considered a statewide mileage-based tax in addition to congestion pricing. The mileage-based tax was viewed as an attractive substitute for the gas tax, given the decreased gas tax revenues resulting from more fuel-efficient vehicles, the purchase of gas out of the state, and the introduction, in the future, of alternatively fueled vehicles that would not be subject to the gas tax. The market research on the mileage-based tax, however, found overwhelming opposition. Respondents did not see any benefit from the introduction of an expensive mileage-based tax versus an increase in the gas tax. A mileage-based tax would not be cost-effective, given the need to equip virtually every vehicle in the state. Out-of-state vehicles would also have to be equipped or go through complicated alternatives, which are impractical at this time. The study concluded that, although technically feasible, a mileage-based tax should not be pursued at this time.

PUBLIC OPINION ON CONGESTION PRICING

Public opinion market research included a Citizens Jury, focus groups, interviews with opinion leaders, and interactive video surveys. These research methods were done in an iterative fashion, with results from the first activity shaping the second and so on. Related public outreach activities included refinement of a public education campaign and legislative strategies, media briefings, and presentations to professional and civic organizations.

CITIZENS JURY PROJECT (SEE PAGE 29)

FOCUS GROUPS

Nine focus groups were conducted with randomly selected residents in the metropolitan area. The makeup of the groups was designed to be representative of income, congestion experience, commute patterns, geographic location, and mode choice within the region. The focus groups began with a discussion of the funding shortages and increasing congestion in the metro area. Focus group respondents generally agreed that there was inadequate funding for transportation and felt that a gas tax increase was the most appropriate response. Regarding the congestion problem, they felt that greater investment in transit and encouraging employers to allow more flexible schedules should be pursued. They generally rejected congestion pricing because they did not believe it would effectively change travel behavior since sufficient...
transportation alternatives do not exist. 'We tend to support users' uses' rather than "sticks" (imposing user costs) to change travel behavior and view the main beneficiaries of congestion pricing to be bureaucrats. Although there was some support for the user fees concept, it failed to hold. It was unclear what the rationale for congestion tolls and believed that a gas tax increase would be just as effective in reducing congestion and at a fraction of the cost.

Last summer, independent of the broader study of congestion pricing, Mn/DOT's metro division considered a demonstration of the HOV-bus in concept on I-394. Separately, focus groups were conducted with HOV users of the I-394 corridor as well as randomly selected residents of the area. The HOV users were strongly opposed to a buy-in proposal and felt that any additional traffic would lessen the value of their home and their incentive to carpool. The randomly selected group, although more supportive, had major concerns with the feasibility and the expense of the technology involved.

**Opinion Leader Interviews**

Personal interviews were conducted with forty-one key respondents from Mn/DOT, the Metropolitan Council, and the consultant team. The opinion leader represented business, industry, government, and social, community, and environmental organizations. Prior to the interview, the opinion leaders were given background information on congestion and road pricing. During the interview, they were asked to consider potential benefits, potential alternatives to congestion relief and finance, general reactions to pricing approaches, and strategies to reach their constituents.

Believing that congestion pricing would result primarily in a change in travel modes rather than a change in travel times or the time of day people would travel, the opinion leaders questioned its effectiveness. They saw congestion pricing as a regressive tax. They were also concerned about the diversion of traffic onto local streets, the administrative costs, the reliability of the technology, and the loss of privacy. The opinion leaders were not categorically opposed, but stressed the need for a strong public education campaign in order to build support for congestion pricing.

A specific area of inquiry during the interviews was the impact on land-use. Although the opinion leaders, in general, felt that congestion pricing would have a small impact on land-use decisions, they did believe it would encourage more telecommuting and some narrowing of the divided and depressed locations. They also believed that congestion pricing would cause retail businesses to seek more local locations as opposed to regional markets.

The opinion leader interviews included conversations with thirteen elected officials. These interviews were conducted by Richard Braum, former state transportation commissioner. Attitudes toward congestion pricing varied among this group depending on their level of involvement with transportation issues. Most of the group understood the need for congestion tolls and believed that a gas tax increase would be just as effective in reducing congestion and at a fraction of the cost.

Last summer, independent of the broader study of congestion pricing, Mn/DOT's metro division considered a demonstration of the HOV-bus in concept on I-394. Separately, focus groups were conducted with HOV users of the I-394 corridor as well as randomly selected residents of the area. The HOV users were strongly opposed to a buy-in proposal and felt that any additional traffic would lessen the value of their home and their incentive to carpool. The randomly selected group, although more supportive, had major concerns with the feasibility and the expense of the technology involved.

**Interactive Video Surveys**

Surveys were conducted using an innovative technique referred to as Interactive Video Interview Station (IVIS®). IVIS®, a product of the Resource Systems Group, Inc. in White River Junction, Vermont, makes use of multimedia computer stations. Respondents view a series of picture screens comparing travel options and costs (time and direct outlays) and select their preference by touching the screen. Audio is used to pose questions and to record general comments. IVIS® allows for complex questions to be asked in a self-administered and easily understood format and the for the travel data to be customized to the participants real life experiences.

One thousand surveys were conducted with individuals who had recently completed a peak-period trip. These surveys took place at major employment centers, government centers, and shopping malls around the metro area.

The IVIS® survey collected data on people's willingness to switch to an alternative mode, adjust their travel time, or pay a congestion toll on both existing or new facilities. The results demonstrated the highest level of support for congestion pricing of all the market research techniques employed. Nearly 50 percent of respondents supported congestion pricing when asked to choose among a array of options. Since a response of indifference was included, opposition was often considerably less than 50 percent. Radically different results were converse, however, by the general comments recorded at the end of the interview. These comments expressed concern and strong opposition to congestion pricing and tolls in general. IVIS® was also used to consider how support for congestion pricing varied under different applications and revenue allocation scenarios. Contrary to the collective wisdom in the pricing field, support for congestion pricing was greater when applied to existing facilities than when applied to new roads. This result may reflect strong community opposition to building new freeways and or a negative reaction to Mn/DOT's recently announced plans to include private toll facility proposals.

The greatest support occurred when revenues were directed to maintenance of the tolled corridor, maintenance of all roads, public transportation, or reducing property taxes (in that order). Support was lowest when it was assumed that revenues would go to provide low-income tax credits. A drawback of IVIS® appears to be the failure to convey the advantage of congestion pricing would be if tolls were spread over an implementation strategy. Most favored demonstration on a single corridor first, but some thought it should be area wide or not at all. Some saw flat tolls on bridges or off ramps as a more effective approach. Some saw the public perception of empty HOV lanes as an opportunity for a new approach.

Overall, support for congestion pricing was greatest for this solution. Mn/DOT's Braum commented that the elected officials were very receptive to the concept, given their familiarity with the lack of other effective approaches. He also said that the elected officials would wait for greater public understanding and support before advocating a specific application of congestion pricing.

**Public Opinion Research**

Attitudes toward congestion pricing are changing. A study conducted by Mn/DOT in 1990 found that the number one reason people opposed tolls was the need to stop at toll booths. This study also reported a below average willingness to pay to avoid congestion, most likely the result of relatively low cost rates.

As congestion pricing becomes more common, Hovland and Wadhwani recommend that the latest wave of market research continue to be in the area of market-based approaches. As evidenced by the IVIS® results, however, respondents demonstrated a willingness to pay to avoid congestion despite tolls being fully communicated. Thus, the resistance to congestion pricing stems primarily from the perception that pricing will not effectively change travel behavior and will not solve the problem it is designed to address. Since sufficient alternatives do not presently exist to SOV peak travel, respondents recommend that the gas tax be raised to pay for more transit service and that employers be encouraged to allow more flexible schedules.

The focus group respondents support spending congestion pricing revenues on transportation—and in the areas where they were raised—rather than putting the revenues in the general fund. They are also highly concerned with geographic equity as reflected in their preference for all-day tolling over peak tolling and for arrears pricing over simple toll pricing. This reaction also stems from their concerns with diversion of traffic onto local streets. In contrast, the IVIS® respondents showed less resistance to peak period tolls than to all-day tolls.

A shortcoming of the focus group was the reluctance on the part of the moderator to convey to the participants that the operational Alternatives 2 and 3 are expected not to "sell" the idea, congestion pricing will not get a fair hearing from the public if certain basic information is not communicated.

Recognizing that the future problem of congestion in the metropolitan area, all respondents supported continued study of the use of financial incentives and, possibly, disincentives to change travel behavior.
PUBLIC EDUCATION AND LEGISLATIVE STRATEGY

Mn/DOT’s Office of Alternative Financing has begun to design educational materials, including a short video describing congestion pricing, mileage-based taxes, and the public-private toll facilities. This video and other materials are being tested with internal audiences first. A full-blown public education campaign will be undertaken later in the project. Mn/DOT and the Metropolitan Council are also refining a legislative strategy.

MEDIA COVERAGE

The press in the Twin Cities metropolitan area have focused on possible gas tax increases and proposals to allow gas tax receipts to pay for transit. The toll road proposals have also received significant coverage, although the variable pricing element has not. Although both the Minneapolis Star Tribune and St. Paul Pioneer Press covered the Citizens Jury project and their editors solidly supported congestion pricing at that time, they essentially neglected the topic during the legislative debate over gas taxes this past session. For the most part, media coverage of congestion pricing and such related activities as toll roads has been factual and informative. The fact that congestion pricing is only being studied at this time may account for the lack of coverage of this issue.

CTS INNOVATIVE FINANCE FORUM

The University of Minnesota’s Center for Transportation Studies sponsored a Transportation Policymakers’ Forum on November 27, 1995. The forum included key transportation policymakers from the Minnesota House and Senate, transportation consultants, city and county elected officials, and representatives from Mn/DOT, the Metropolitan Council, regional development commissions, academia, the private sector, and interest groups. The discussion was structured around presentations by experts. Congestion pricing was discussed in the larger context of innovative finance schemes such as public-private toll facilities, shadow tolls, stamp infrastructure banks, and changes to the existing gas tax.

Results from exit surveys show that 70 percent of the participants believed that in the year 2010, funding sources for transportation will be different from the past, 75 percent believed that projects with a higher level of local funding should get a higher priority for federal funding, and 83 percent said that the federal government should provide more incentives and opportunities for privatization of transportation facilities and services.

Participant questions relating to congestion pricing centered around equity impacts, appropriate public and private sector roles, and enforcement.

QUANTITATIVE ASSESSMENT OF TRAFFIC IMPACTS

Over the past year, the consulting team completed transportation network modeling of the traffic impacts of a wide range of congestion pricing options. Originally, four different categories—spot, facility, HOV-buy-in, and ancillary—and twenty-five applications were examined. The Pricing Technical Advisory Committee (PTAC) and the Pricing Policy Advisory Committee (PPAC) recommended a more refined analysis of possible ancillary applications which led to an in-depth consideration of five variations.

The option endorsed by the PPAC and PTAC is peak-period fees on all congested freeways and expressways (principal arterials with somewhat limited access) in the seven-county metropolitan area. The toll rate was estimated to be fifteen cents per mile, which was arrived at through modeling the transportation network to ensure an average freeway speed of 45 mph. Since mode shifts from SOV to HOV trips are greatly enhanced with increased transit frequencies, the PPAC and PTAC recommended that an expansion of transit occur in conjunction with the introduction of congestion tolls.

Between the 1996 and 1997 legislative sessions, Mn/DOT, the Metropolitan Council, the consultant team, and PPAC and PTAC members will define the criteria and characteristics of a pilot project.

PPAC-PTAC DELIBERATIONS

At the first meeting of the PPAC, questions were raised regarding the way congestion is defined and Mn/DOT’s capacity to address congestion in the future. A key theme was the need for public education to set the stage for market-based approaches. PPAC members commented that support for congestion pricing will depend on the public’s understanding of the need. Support for point approaches to congestion mitigation, impeding congestion, and the environmental impacts of increased trip-making and congestion. They emphasized that information be conveyed in layperson’s terms, with pictures where possible and that the emphasis be on accountability and getting what you pay for rather than on social engineering.

Congestion pricing’s impact on land use and the economic viability of the central cities was a dominant concern raised by a county commissioner and a representative of the Metropolitan Council. These concerns led to plans for a research symposium on the land use and equity impacts of congestion pricing (see page 105).

At the next PPAC meeting, members were asked to rank their most important concerns relating to congestion pricing. These concerns are listed below with the total number of votes for each given in parentheses.

- Land use/economic impacts (19)
- Public acceptance (19)
- Geographic equity (8)
- Mode shift potential (6)
- Diffusion to local streets (4)
- Social equity (3)
- Congestion relief (2)
- Air quality (1)

At subsequent meetings of the PPAC and PTAC, members identified a few additional concerns. Trucking industry representatives were concerned about different electronic tolling technologies being used across the country. Elected officials had specific concerns with administrative costs and privacy. There was a general concern with the level of public trust, particularly since “dedicated” gas taxes had been diverted in the past.

REPORT TO THE SENATE TRANSPORTATION COMMITTEE

In January 1996, a report entitled Congestion Pricing and Mileage-Based Taxes—Findings and Conclusions was prepared by the PTAC and the consultant team and approved by the PPAC for presentation to the Minnesota Legislature. A summary of the report follows.

FININGS AND CONCLUSIONS

Congestion pricing using electronic detection is technically feasible and cost-effective when applied on freeways and expressways. Before it is implemented, however, the following political concerns must be addressed:

- For adverse impacts on some low-income and disadvantaged groups,
- The impact of traffic diversion onto local streets,
- The actual and perceived lack of convenient options to tolled areas,
- The opposition by some commercial interests,
- The concern that revenues will not be used for the purposes described and in the area where they are collected,
- The lack of understanding of new tolling technology, and
- The lack of confidence in government.

Since potential benefits exceed the cost of implementation, and some support is already accepted, it can be used to mitigate the concerns cited above. Congestion pricing should be pursued and should be applied on an area-wide basis. In the medium term, congestion pricing should be implemented on all congested freeways and expressways during peak and shoulder-of-peak periods. As congestion spreads to it, it is infeasible to continue implementing congestion pricing should be implemented on the entire freeway and expressway system.

Due to unavoidable complexities, initial implementation should accept the political project on a selected corridor in order to obtain information on the technology, enforcement, operational and management issues, and changes in travel behavior. A staged approach to implementation will allow for additional public outreach and education and refinement of the project.

PRESENTATION TO THE SENATE TRANSPORTATION COMMITTEE

Adel Lari, director of Mn/DOT’s Office of Alternative Transportation Financing, and Carl Ohm, planning analyst with the Metropolitan Council, presented the findings and conclusions listed above to the Senate Transportation Committee on January 26, 1996. They stressed the ability of congestion pricing to eliminate the need to build large, new, expensive highways. Although the case for congestion pricing was well presented, it was diluted by discussion of the mileage-based tax and toll road proposals. The senate’s frame of reference is the ongoing attempts to raise the gas tax to reach a compromise between rural legislators interested in highway funding and urban legislators interested in transit funding.

More than one senator saw congestion pricing as “killing the golden goose” when, in their opinion, the real issues were getting agreement on a gas tax increase and allowing revenues to be used for transit. Like many other audiences, the committee was not aware of the differential impacts of a gas tax increase and congestion tolls on congestion levels. The senators were leery of public support for such a policy, particularly one who interpreted the Citizens Jury’s verdict as a complete rejection of the idea. On the other hand, Senator Sandra Pappas, who represents St. Paul and is a strong transit supporter, was successful in articulating congestion pricing’s unique impact on travel behavior.

Tangential issues dominated the senators’ reactions. For example, when the transit enhancement issue was conveyed, committee members questioned why the Metropolitan Council was considering an increase in bus fares, particularly for youth who need so be encouraged to be future transit patrons. Another questioned the ramp metering system, which is an advantage for those who live farthest out and make the long trips.

The senate committee supported continued study of congestion pricing. Between the 1996 and 1997 legislative sessions, Mn/DOT and the Metropolitan Council will analyze possible implementation scenarios and Mn/DOT should be pursued and should be applied on an area-wide basis. In the medium term, congestion pricing should be implemented on all congested freeways and expressways during peak and shoulder-of-peak periods. As congestion spreads to it, it is infeasible to continue implementing congestion pricing should be implemented on the entire freeway and expressway system. Due to unavoidable complexities, initial implementation should accept the political project on a selected corridor in order to obtain information on the technology, enforcement, operational and management issues, and changes in travel behavior. A staged approach to implementation will allow for additional public outreach and education and refinement of the project.
will negotiate with the private toll proposers to include a congestion pricing element in their projects.

**TRANSMART TOLL ROAD PROJECTS**

In July 1995, Mn/DOT issued a request for proposals that began a year and a half process to assess and possibly implement privately operated toll road facilities. In November of that year, the TRANSMART program received five proposals, four of which call for toll facilities in the metro area with the possibility of a congestion pricing element. (The fifth project involves the creation of a truck highway between Duluth, Minnesota, and Winnipeg, Canada.)

A critical component of the proposals is a demonstration of community support. Although no public vote on a project is required, any community that physically borders the project can veto the entire project. Information from the Mn/DOT Metropolitan Council congestion pricing study concerning both the traffic impacts and market research has been shared with the private proposers throughout the process.

Proposers were required to submit documentation of community support in February 1996. In the spring of 1996, the commissioner of transportation selected projects for negotiation. Only T.H. 212 Highway was selected. During the summer, local governmental bodies of the affected communities held public forums to discuss both sides of the tolling issue and gauge public support. Each affected community has a thirty-day period to veto the entire project.

The initial private toll facilities proposed were:
- Southcross Expressway (I-494)—Proposer: Minnesota Transportation Group (MTG)
- North Cross-Town Parkway (I-494)—Proposer: Minnesota Transportation Group (MTG)
- Dakota Gateway—Proposer: Minnesota Transportation Group (MTG)
- T.H. 212 Highway—Proposer: Intermesh Management/DLR Group Infrastructure Corporation and the 212 Community Highway Association (CHA)

**SOUTHWEST EXPRESSWAY, NORTH CROSS-TOWN PARKWAY, AND WAKOTA GATEWAY**

The Minnesota Transportation Group (MTG) is a team of transportation and technical firms led by Hughes Transportation Management Systems (HTMS). MTG has been active in promoting toll roads in Minnesota since 1993. They have hosted conferences attended by elected officials and other opinion leaders where they highlighted the electronic tolling technology manufactured by HTMS.

MTG was a key player in convincing the Minnesota Legislature to authorize public-private partnerships.

**SOUTHWEST EXPRESSWAY (I-494)**

This project would have added two lanes in each direction (one as an HOV lane) on a four-mile stretch of I-494 between Eden Prairie and Edina. The cost of the project was $206 million. Tolls were estimated to average sixty-five cents for a one-way trip in the year 2000.

**NORTH CROSS-TOWN PARKWAY (I-494)**

This project would have completed Highway 610, connecting I-35W and I-494 in the northern suburbs, and would have included a new bridge over the Mississippi River. The project would also have included fee-based ramp meter bypasses. The cost of the project was $201 million, nearly 30 percent of which had been secured from the federal government. Tolls were estimated to average $1.65 for a one-way trip in the year 2000.

**WAKOTA GATEWAY**

This project would have constructed a new bridge over the Mississippi River on I-494 in South St. Paul and Newport. The cost of the project was $181 million. Tolls were estimated to average ninety cents in the year 2000.

**T.H. 212 HIGHWAY**

Intermesh/DLR and the 212 Community Highway Association (CHA) jointly proposed a 10-mile toll facility connecting Cologne, Minnesota, a far western community, with I-494 in Eden Prairie. Intermesh/DLR is a Phoenix-based firm active nationally in privatization projects. They will plan, design, finance, and complete the facility. The 212 CHA is a not-for-profit corporation made up of representatives from the affected communities. They would own and operate the toll facility. The project also includes expansion of 2.1 miles of existing freeway that will not be tolled. The cost of the project is $220 million. Tolls are estimated to be twenty-five cents to one dollar for a complete trip.

**TOLL ROAD COMMUNITY SUPPORT REPORTS**

Proposers were asked to submit reports presenting (1) the opinions of the affected communities regarding the feasibility and desirability of the proposed project and its conformity with transportation goals, (2) evidence of public support and opposition, (3) proposals for any revisions to accommodate public opinion, and (4) plans for follow-up community involvement.

**MINNESOTA TRANSPORTATION GROUP**

MTG's approach to assessing and building public support included media relations in the form of advertisements, meetings with editorial boards, press releases, and radio and television interviews. To communicate their plans, they have used information kits, written updates, a 1,800 information number, meetings with mayors, city council members, and business and neighborhood associations, as well as to major employers and open houses.

Public opinion polls were also conducted. These polls found that almost three-quarters of residents in communities bordering the planned Southwest Expressway and the North Cross-Town Parkway recognize a need for new highway construction in their area, but do not perceive that transportation funding is inadequate. Approximately 50 percent of residents bordering the Wakota Gateway project also do not perceive a crisis in transportation funding. Overall, respondents preferred electronic toll roads over a gas tax increase of ten cents, a 7.5 percent sales tax, or a property tax increase.

Regarding the question of who should build and operate toll roads, polling conducted for the Southwest Expressway project found that the public's trust in private firms versus the government is about equal and that they prefer a public/private partnership. The polling firm concludes that area residents favor the project despite the fact that a majority believe that the funding was inadequate and support for congestion pricing barely exceeded 50 percent when benefits such as removing ramp meters and increased safety were weighted.

City planners, engineers, and community leaders in the Southwest Expressway area questioned why the proposed expansion did not go farther since major concerns were also found outside of the corridor. Like other areas, these people did not want to go it alone.

In response to a community concern that the northern suburbs have missed out on their share of highway investments in the past, MTG has requested that the state match the monies secured from the federal government. MTG highlighted the support of the Minnesota building trades for the Wakota Gateway project.

MTG cited the low level of media attention as a sign of neutrality toward the projects. Not surprisingly, they emphasized the positive coverage. A prominent editorial in the Star Tribune (November 30, 1995) that questioned the wisdom of privately financed and operated toll roads did not receive mention. In assessing the support of elected officials, MTG notes that the past history of policymakers making poverty-specific cuts for public projects is an institutional barrier that must be overcome.

**INTERMESH/DLR GROUP INFRASTRUCTURE CORPORATION**

Intermesh/DLR's strategy for assessing and building community support included telephone surveys, focus groups, formal presentations to elected leaders, civic groups, and service organizations; media relations, including articles, interviews, and meetings with editorial boards, educational booklets, and open houses.

The telephone surveys showed that a strong majority of residents (71 percent) rate the ability of current roads to handle projected demand as "poor" or "very bad." Also, support for the project increased as a result of public education activities undertaken during January and February of 1996. Seventy percent of respondents believe that new highways should be paired with tolls if the alternative is to not build any new highways for the next ten to twenty years. A similar level of support was conveyed in exit questionnaires completed at the open houses. Intermesh believes that the open house format presents a better opportunity for answering questions and hearing all voices. It is unclear, however, whether this format is successful in involving those who might oppose the project.

Interestingly, support for the project was much greater in the communities furthest from the urban center, which raises concern that the project will exacerbate urban sprawl. In fact, recent letters to the editor of the major newspapers conveyed precisely this concern. An additional concern expressed by the respondents is that "the public did not understand" why Mn/DOT did not have sufficient funds to complete the project through traditional funding methods.

Opposition by elected officials dropped significantly when it became clear that all tips on existing parallel routes would not be tolled. Specific opposition was raised by residents of Eden Prairie who recently bought homes near the corridor with the belief that no road would be constructed for at least twenty years. Mn/DOT hopes to finalize negotiations on the T.H. 212 project this summer. In the meantime, city council elected officials are working with constituents through public forums to gather information and determine whether or not they will choose to veto the project. Participation at the Eden Prairie town meeting surprised 250 residents, with a majority of the attendees voicing opposition.

**ANALYSIS**

The biggest problem with all of the proposed projects was one of collective action. Although poll respondents support the hypothetical use of toller, implementation is inherently difficult. Residents and elected officials in each of the locations fear being shorn of a gas tax allocation and if user fees are unilaterally imposed. Although Mn/DOT now requires an analysis of alternative financing for major projects, there is no clear policy from either Mn/DOT or the legislature signaling a transformation to user-based tolling.
financing. Thus, residents of the affected communities fear being double taxed.

Three of the four projects specifically identified the use of variable tolling, but this feature was not used as a selling point. Instead, the emphasis has been on toll roads as a substitute for gas tax financing and dwindling federal financial support.

The community support proposals are useful summaries of the public outreach undertaken by the private firms. Not surprisingly, though, both teams tend to downplay any public opposition, believing that it reflects a lack of information rather than any inherent flaw in the concept.

A key factor in why the T.H. 212 project moved forward was the proposal’s unique feature of having a nonprofit organization oversee operation of the facility once it was constructed. Creating the nonprofit/highway-authority at the very beginning of the project required building initial public support. At this stage, ten cities and counties have endorsed the toll facility. There also seems to be greater support in the legislative transportation committee for a project that is managed as a nonprofit as opposed to a private firm.

The proposed Minneapolis Transportation Group projects failed to garner much political support. As a Minneapolis Star Tribune article (Adams andBlake 1996) reported, the mayor of Bloomington stated, “We cannot imagine a mode of transportation to toll-funded improvements on I-494 which would gain the Bloomington City Council’s approval,” and specifically questioned the use of tolls to pay for only part of the regional highway system. A letter signed by seven mayors in communities affected by the Highway 610 project emphatically rejected private industry taking over a project that has been a long-term piece of the regional transportation system. The mayor of South St. Paul was quoted as saying “we are not finding any support for a toll bridge.”

**KEY ISSUES**

**The Region Appeals Committee to Market-Baced Approaches**

Throughout this decade, market-based strategies have received increased attention in DOT and the Metropolitan Council have a cooperative relationship in pursuing market-based strategies. The funding impasse sets the stage for innovative strategies. MnDOT and the Metropolitan Council have added a policy to ensure that congestion pricing receives attention in the analysis of specific highway projects. MnDOT has also been very successful in making the congestion pricing component in their outreach to the media. Clearly, as people become more familiar with the intricacies of congestion pricing, support increases.

**The Metropolitan Area Has Modes to Build From**

Antecedents to more widespread market-like strategies are in place. These include highly discounted downtown parking rates for HOVs, HOV bypasses at ramp meters, and a tax break for businesses that locate near transit corridors.

**Simultaneously Pursuing Toll Roads, a Mileage-Based Tax, and Congestion Pricing: A Strategy for a Balanced Approach**

The combination of toll road proposals, a legislatively mandated study of congestion and road pricing, consideration of parking pricing, and so forth, has cultivated a high level of interest and awareness by agency personnel, the legislature, and the public.

Both the mileage-based tax and the toll road proposals are driven by concerns with the inadequacy of present funding mechanisms. Although they introduce more direct user fees, they fail to convey the marginal cost and demand management features of congestion pricing. The mileage-based tax was considerably delayed and expected in all of the public opinion research (Wiltab Smith Associates 1995). Rather than providing a steppingstone to understanding and accepting congestion pricing, consideration of a mileage-based tax diluted the distinctiveness of congestion pricing in changing behavior. It should be noted that MnDOT and the Metropolitan Council were directed by the legislature to study both congestion pricing and the mileage-based tax, and limited financial and staff resources prevented them from conducting two separate studies.

The toll road proposals presented similar problems. A key message in promoting congestion pricing is the advantages of demand management relative to road building, but toll roads generate a very different message.

The tension between different approaches and objectives is likely to manifest itself in discussions regarding revenue allocation. MnDOT’s interest in alternative financing and, more specifically, congestion pricing, is highly motivated by the funding crisis. It will be interesting to see how much support MnDOT, the elected officials, and the public have for a congestion pricing proposal in which the vast majority of revenues are to be allocated to transit alternatives, as is the case with the preferred alternative.

**Concession Pricing Needs to Be Contrasted with Alternative Financing and Congestion Mitigation Strategies**

The IVS™ study demonstrated that the public is actually fairly receptive to congestion pricing when it is presented in a concrete fashion and its costs and benefits are contrasted with other hypothetical travel options. Legislators wanted a see-a-cost-benefit estimate of congestion pricing. Originally, the net revenue of different congestion pricing options was presented. This figure, however, which was based on revenues raised minus the cost of implementation, failed to capture the tremendous financial benefit to the public in terms of time savings. Later reports addressed this oversight. Such a calculation can provide the basis for a relative cost-benefit analysis of congestion pricing versus expanding either highways or transit.

**Statewide Impacts and Hidden Subsidies Are a Major Concern**

These impacts and a vision of urban form for the region have become a major policy issue. Greater land use regulations and a complementary transit system is being advanced by a consortium of public interest organizations in the area. At the same time, passage of the Minnesota Durable Communities Act, which provides money for transit-related development to communities that provide adequate low-income housing, and numerous policy forums are suggesting a new path for managing urban growth and addressing inequalities between urban and suburban-exurban people. Land use impacts were a major concern of the PPAC and TPAC. Congestion pricing needs to be linked to a regional strategy for full cost financing of public infrastructure. In a study of sewage treatment fees, Humphrey Institute Professor Thomas Luce found that the small subsidies provided to suburban households are unlikely to affect land use (Luce 1992). In order for more efficient infrastructure pricing approaches to be adopted, there is a need to recognize the cumulative effect of numerous subsidies in encouraging suburban growth.

**The Expansion Shift May Be Perception More Than Reality**

According to the consultant team, diversion to arteries resulting from congestion pricing may be no greater than what would occur in a doubleshift scenario. The diversion phenomenon requires further study and discussion.

**Congestion Pricing Needs Not be a Regressive Tax**

In the Twin Cities, the assumption of regressivity is not well supported. Only 3 percent of peak SOV travelers are low-income. Furthermore, the transit enhancement element would disproportionately benefit low-income people. Also, other funding methods are apt to be more or equally regressive.

**Public Education is a Key Component in Building Support**

Elected officials and focus group participants had difficulty understanding congestion pricing’s ability to simultaneously change behavior and raise revenue. Early in the process, MnDOT and the PPAC identified the importance of an urban education campaign. To date, this has taken the form of educating key stakeholders. It remains unclear what key messages MnDOT will choose to convey to the broader public. Since support for congestion pricing depends on a high degree of public understanding of the congestion phenomenon and possible mitigation strategies, public education will remain a critical component.

**There Is No Free Lunch**

The revenue-raising potential of congestion pricing is both an advantage and a disadvantage. Certainly the large revenue potential is attractive to legislators in the presently constrained fiscal environment. On the other hand, the prospect of raising new revenue has already suggested political battles. Several opinion leaders from rural areas saw congestion pricing as a way to free up existing revenue for rural transportation needs, thus raising the collective action problem.

**Ramp Metering Hinders Congestion**

Congestion pricing could significantly reduce future ramp metering delays, which would provide an important benefit to travelers. It would not replace ramp metering, however, which is used to eliminate platooning of vehicles. Consequently, the benefit to the public is not easily conveyed.

**Partnerships Are Important to Success**

The study of congestion pricing in the Twin Cities metropolitan area is a partnership involving legislators, MnDOT, the Metropolitan Council, private interest groups, and academics. Important technical work underlies promotion of congestion pricing. Cities considering congestion pricing should look to forming partnerships with academics in the economics, policy analysis, and business disciplines who have historically supported this policy, and with public interest groups active on related topics.

**There Is a Need for Common Terminology and Concise Policy Implications**

The discussion of congestion pricing by the PTAC and PPAC was hampered by the absence of a common understanding of terms related to congestion pricing. In addition to the term congestion pricing, other terms such as revenue neutral, diversion and HOV by-in had different meanings to different participants. It is crucial that sufficient time be allotted so that participants reach a common understanding of these fundamental terms early in the process.

Elected officials and focus group participants had difficulty understanding congestion pricing’s ability to simultaneously change behavior and raise revenue. Early in the process, MnDOT and the PPAC identified the importance of a public education campaign. To date, this has taken the form of educating key stakeholders. It remains unclear what key messages MnDOT will choose to convey to the broader public. Since support for congestion pricing depends on a high degree of public understanding of the congestion phenomenon and possible mitigation strategies, public education will remain a critical component.

**There Is No Free Lunch**

The revenue-raising potential of congestion pricing is both an advantage and a disadvantage. Certainly the large revenue potential is attractive to legislators in the presently constrained fiscal environment. On the other hand, the prospect of raising new revenue has already suggested political battles. Several opinion leaders from rural areas saw congestion pricing as a way to free up existing revenue for rural transportation needs, thus raising the collective action problem.

**Ramp Metering Hinders Congestion**

Congestion pricing could significantly reduce future ramp metering delays, which would provide an important benefit to travelers. It would not replace ramp metering, however, which is used to eliminate platooning of vehicles. Consequently, the benefit to the public is not easily conveyed.

**Partnerships Are Important to Success**

The study of congestion pricing in the Twin Cities metropolitan area is a partnership involving legislators, MnDOT, the Metropolitan Council, private interest groups, and academics. Important technical work underlies promotion of congestion pricing. Cities considering congestion pricing should look to forming partnerships with academics in the economics, policy analysis, and business disciplines who have historically supported this policy, and with public interest groups active on related topics.

**There Is a Need for Common Terminology and Concise Policy Implications**

The discussion of congestion pricing by the PTAC and PPAC was hampered by the absence of a common understanding of terms related to congestion pricing. In addition to the term congestion pricing, other terms such as revenue neutral, diversion and HOV by-in had different meanings to different participants. It is crucial that sufficient time be allotted so that participants reach a common understanding of these fundamental terms early in the process.

Elected officials and focus group participants had difficulty understanding congestion pricing’s ability to simultaneously change behavior and raise revenue. Early in the process, MnDOT and the PPAC identified the importance of a public education campaign. To date, this has taken the form of educating key stakeholders. It remains unclear what key messages MnDOT will choose to convey to the broader public. Since support for congestion pricing depends on a high degree of public understanding of the congestion phenomenon and possible mitigation strategies, public education will remain a critical component.
GREATER HOUSTON CASE STUDY

HOUSTON DATA

POPULATION
Houston is the fourth largest city in the United States, with approximately 1.8 million residents. The metropolitan area ranks tenth in the nation with 4 million residents. In 1982, as a result of depressed global oil prices, Houston suffered a major recession. Since then, the city has diversified its economy, and ranks as the eighth largest port in the world in terms of shipping tonnage (City of Houston 1995). This economic growth has been accompanied by growth in population.

TRANSPORTATION
Houston has emphasized traditional bus transit, high occupancy vehicle (HOV) lanes, and intelligent transportation systems (ITS) programs. The bus system, operated by the Metropolitan Transit Authority (METRO), includes more than one thousand buses providing more than 120 routes. With a ridership of 250,000 passengers per day, the metro area ranks ninth in the United States. There are roughly fifty-seven miles of HOV lanes in the Houston area located on I-45, I-10, US-90, and US-59 that are operated by METRO and the Texas Department of Transportation (TxDOT). The I-10 facility requires three occupants per vehicle during the morning and afternoon peaks; the other facilities require only two occupants per vehicle. The ITS program includes a variety of components. The Smart Commuter demonstration project provides seven hundred Houston commuters with handheld computers providing real-time traffic information (McLennan 1990). For the TransStar project, volunteers were selected and their vehicles were equipped with transponder tags. The tags are read at intervals of one to five miles along freeways and HOV lanes in order to monitor travel times for specific trips. This information is then conveyed to the public through local TV and radio programs and the World Wide Web Texas Transportation Institute (1995). ITS technology has been employed in the Smartbus project, where electronic fare boxes are used and system times are relayed to the public.

Despite these programs, Houston still has a significant congestion problem. As a result, Houston’s transportation leaders have initiated a study of the applicability of congestion pricing for managing HOV demand in the metropolitan area. The Texas Transportation Institute (TTI), TxDOT, and METRO have signed a contract with the Federal Highway Administration (FHWA) to study the feasibility of changing the HOV lane on the western section of I-10 (Katy Expressway) into a high occupancy toll (HOT) lane. This proposal would examine the operational feasibility and public acceptance of changing two-occupant cars to toll use the HOT lane.

The demand patterns on the I-10 HOV lane have led Houston’s planners to believe that a HOT lane would work. The practical capacity of the lane is fifteen hundred vehicles per hour. During peak periods, however, demand had been as high as eighteen hundred vehicles per hour when the HOV minimum was two passengers per vehicle. When the minimum number of occupants was raised to three, demand dropped to only six hundred vehicles per hour. The proposed solution to balancing this demand and excess-capacity situation is to charge cars with two passengers a toll, three-passenger vehicles would still drive for free. The toll will be set at the level that will yield an additional eight hundred to nine hundred vehicles per hour.

Given the current direction of the project, the HOT lane proposal would not harm current users and would simply provide another option to commuters. Further, the HOT lane could lead to the creation of more two-person carpools and better transit service through targeted expenditures of newly raised revenues, thus reducing the number of single-occupant vehicles (SOVs). If this plan succeeds, Houston’s average person-per-vehicle rate could rise. Also, the reduced number of SOVs on the roads could help the city achieve attainment levels set forth in the 1990 Clean Air Act Amendments.

Several key factors are currently being targeted by the project team. First and foremost is the development of public education to ensure that the general public and politically influential groups do not dismiss or dismantle pricing without a fair and objective trial. Fostering a positive working relationship with the media is a key component of meeting this objective. Second, the project
CONGESTION PRICING SURVEY

Prior to the focus groups held with transportation professionals, community leaders, and business representatives, each invitee was asked to respond in writing to the following questions. These questions were presented again at the focus groups, and the participants' previous, unattributed responses were used as a method of generating further discussion. A summary of the discussion generated by each question is presented below.

1. Among the surface transportation problems in Houston, how important is traffic congestion? How is congestion being dealt with?

Most participants felt that congestion was a problem in Houston, although they did not agree on the magnitude of the problem. The community leaders covered the widest spectrum, with some respondents describing congestion as the most important problem and others expressing the view that congestion was not nearly as bad as it had been ten years ago and, thus, was no longer a major concern. The transportation professionals believed that the need for transit was also a major transportation problem and that, in terms of issue importance, crime had also become more important. Although business representatives believed that congestion was still a problem, they were primarily concerned with meeting the Employer Trip Reduction (ETR) requirements of the 1990 Clean Air Act Amendments, which they believed would make Houston less able to attract and retain major employers.

2. How familiar are you with the concept of congestion pricing?

Familiarity varied within each group. Some of the community members and business representatives, and elected officials were as, or more, familiar than some of the transportation professionals. On the other hand, some participants were so unfamiliar with the concept that they felt uncomfortable discussing the issue until specific applications and proposals were explained.

3. What would motivate you (your organization) to pursue or oppose congestion pricing?

Pursue: The primary motivator to pursue congestion pricing was the potential to make travel easier in Houston.

The business representatives were especially eager to support a program that would increase vehicle occupancy without requiring them to force their employees into carpools. Other motivating factors included the opportunity to reduce transportation's burden on general revenues and to make a positive impact on Houston's air quality.

Oppose: The strongest concern expressed by participants was about potential negative economic effects on downtown Houston. If congestion pricing served to promote suburban sprawl, most participants would not favor it. Many participants also expressed concern about the possibility that congestion pricing would reduce mobility, especially for lower-income people.

4. Who do you see as the beneficiaries of congestion pricing? Who do you see as the losers?

All focus groups identified many potential beneficiaries. Transit companies were mentioned most often, but drivers with higher incomes were also cited. Other beneficiaries included the environment (air quality) and the suburbs. Several participants argued that congestion pricing had the potential to benefit everyone, reflecting a generally positive attitude toward pricing.

Downtown Houston and low-income travelers were thought to be the most likely to lose from congestion pricing. People who provided for their families pricing as a means of reducing the price paid by the taxpayers had already paid were cited as potential losers, as was the whole economy if fewer trips meant less commerce.

5. What are the major barriers to congestion pricing in Houston?

Political acceptance was suggested to be the greatest obstacle. Every group mentioned that Houstonians believe they already have paid for the roads. Therefore, placing tolls on these roads would not be a popular option. The transportation professionals were most sensitive to this barrier. Some participants pointed out, however, that the San Antonio and Hardy Toll roads were reasonably successful, despite having non通行 access roads running alongside. Consequently, they felt that the public's acceptance of tolled facilities may be increasing, if such tolls allow them to travel faster. Other barriers that were mentioned included the technical problems and costs associated with the implementation of congestion pricing and the possible negative effects on the inner city of Houston.

6. Studies of congestion pricing suggest that it would yield substantial revenues. How would you advocate using them?

Each participant was asked to allot twenty-five points among five possible categories. The following table presents a ranked summary of the results, with 1 being the highest and 5 being the lowest.

<table>
<thead>
<tr>
<th>Transportation Professionals</th>
<th>Business Reps</th>
<th>Community Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve expands or maintain highways</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Fund mass transit</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Reduce taxes</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Compensate those who might be economically penalized by congestion tolls</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Other*</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

* Specific suggestions were not given.

The discussion among elected officials suggested that transit should receive most of the congestion pricing revenues and that the distribution among modes should reflect the number of new transit riders created by each (i.e., the first revenues should go to HOV lanes, then to dedicated busways, and eventually to rail).

7. If implemented, who should administer congestion pricing in Houston?

The Harris County Toll Road Authority and the new Transportation and Emergency Management Center were among the ideas. Another popular answer was placing congestion pricing administration under a committee made up of all of these entities. Although the creation of such a new agency was viewed uneasily by some participants, the transportation professionals pointed out that they already conduct regular interagency meetings and have a tradition of coordinating agency efforts.

NOTE: Only the transportation professionals received the following two questions prior to the focus group meeting since they were the group that would have a direct stake
in implementing congestion pricing and, consequently, may have developed ideas in greater depth about these issues. The questions were asked of the participants in the other three focus groups at the time of the meetings.

8 If implemented, how would you measure the success or failure of congestion pricing?
Each participant was asked to allow twenty-five points among five possible categories. The table below presents a ranked summary of the results, with 1 being the highest and 5 being the lowest.

<table>
<thead>
<tr>
<th>Transportation Professionals</th>
<th>Business Execs.</th>
<th>Community Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease in traffic times</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Modo shift</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Air quality improvement</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Public perceptions</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Other*</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Number of Participants</td>
<td>11</td>
<td>12</td>
</tr>
</tbody>
</table>

* Specific suggestions were not given.

The elected officials indicated that they were most interested in mode shift, followed by increased mobility as demonstrated by an increase in traffic speed.

9 What is your experience with public education campaigns? What type of public participation processes have you used, particularly for controversial projects?
Although many participants admitted that they had little experience with public education campaigns, most agreed that such a program would be necessary for congestion pricing. The key, they felt, was convincing the public that the congestion in Houston warranted changing “free” roads to toll roads. They advocated a phased approach of using HOT lanes and toll roads to demonstrate that priced roads operate more efficiently and, therefore, produce a better level of service. Once the public accepted this concept, wider application of tolls and transit were seen as a possibility.

FOCUS GROUP PARTICIPATING ORGANIZATIONS

<table>
<thead>
<tr>
<th>TRANSPORTATION PROFESSIONALS</th>
<th>ONE PARTICIPANT FROM EACH</th>
<th>EXCEPT AS NOTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harris County</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Houston-Galveston Area Council</td>
<td>(2)</td>
<td></td>
</tr>
<tr>
<td>Metropolitan Transit Authority of Harris County (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Texas Department of Transportation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Texas Transportation Institute, Texas A&amp;M University</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BUSINESS REPRESENTATIVES</th>
<th>ONE PARTICIPANT FROM EACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation Alternatives—Texas Computer Corporation</td>
<td></td>
</tr>
<tr>
<td>Exxon Company USA</td>
<td></td>
</tr>
<tr>
<td>Texas Medical Center</td>
<td></td>
</tr>
<tr>
<td>TREC—Apache Corporation</td>
<td></td>
</tr>
<tr>
<td>Turner Guiblo and Braden, Consultants</td>
<td></td>
</tr>
<tr>
<td>Houston Metropolitan Association</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMMUNITY LEADERS</th>
<th>ONE PARTICIPANT FROM EACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Automobile Association (responded to survey, did not attend focus group)</td>
<td></td>
</tr>
<tr>
<td>Houston Area Bicycle Alliance</td>
<td></td>
</tr>
<tr>
<td>Houston Homeowners Association, Inc.</td>
<td></td>
</tr>
<tr>
<td>Houston Neighborhoods to Standards Committee</td>
<td></td>
</tr>
<tr>
<td>ICC Consulting Services</td>
<td></td>
</tr>
<tr>
<td>Low Income Housing Task Force, American Institute of Architects</td>
<td></td>
</tr>
<tr>
<td>Private Citizen</td>
<td></td>
</tr>
<tr>
<td>Retire &amp; Reiner Consultants</td>
<td></td>
</tr>
<tr>
<td>Sierra Club</td>
<td></td>
</tr>
<tr>
<td>Texas Bicycle Coalition</td>
<td></td>
</tr>
<tr>
<td>University of Houston, Center for Public Policy</td>
<td></td>
</tr>
<tr>
<td>University of Houston, Department of Economics</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ELECTED OFFICIALS</th>
<th>ONE PARTICIPANT FROM EACH</th>
<th>EXCEPT AS NOTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater Houston Transportation and Emergency Management Center</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harris County Commission</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Houston City Council</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metropolitan Transit Authority of Harris County (1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FOR MORE INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Jack Foster</td>
</tr>
<tr>
<td>Texas Department of Transportation</td>
</tr>
<tr>
<td>• Bill Stockton</td>
</tr>
<tr>
<td>Texas Transportation Institute</td>
</tr>
<tr>
<td>e-mail: <a href="mailto:Bill.Stockton@tamu.edu">Bill.Stockton@tamu.edu</a></td>
</tr>
</tbody>
</table>

PORTLAND CASE STUDY

PORTLAND BACKGROUND

Portland, the region's metropolitan planning organization (MPO), began a two-year study of the technical and politicial feasibility of congestion pricing in 1995. The project, called the Traffic Relief Options Study, will examine the most appropriate location(s) for congestion pricing and the development of alternatives (i.e., other modes such as buses and light rail transit) to travel on priced facilities. The study will include an extensive public education campaign on the congestion phenomenon and the ways in which congestion pricing might address regional goals of congestion relief and improved air quality. It will be integrated with Metro's update of its regional transportation plan, thereby allowing the congestion pricing concept to reach a wide audience and to be connected with other key transportation strategies being advanced in the Portland metropolitan area.

PORTLAND FOCUS GROUP DISCUSSIONS

Focus groups were held with transportation professionals on December 9, 1994, and with community leaders on December 12, 1994. Due to a snowstorm, the highlight of the focus groups was the business representatives and the identified officials were canceled. Written responses were received in advance, however, from these two groups.

Congestion was not seen as a major regional problem in Portland by participants. The impending threat of widespread congestion due to growth, however, and its impact on air quality, urban sprawl, and the general quality of life were important concerns raised in the focus groups and in survey responses. The Portland area has invested heavily in promoting public transit and compact communities in which many different transportation modes (e.g., bicycling, walking, bus) are attractive options.

Congestion pricing is being considered from several perspectives. It is advanced by some environmental groups as a demand management strategy to encourage people to use alternative modes. A transportation consulting firm and many transportation planners view it as an efficient way to address current price imbalances. And some elected officials and Oregon Department of Transportation (ODOT) staff see it as a new revenue source. An ambitious goal of reducing travel per capita has been set in the state land use plan, and many transportation professionals see congestion pricing or some other market-based mechanisms as an efficient way to achieve this goal.

Many barriers to congestion pricing in the Portland area were identified. Strong opposition from the business community is likely. One business group, representing downtown employers, refused to even consider congestion pricing as an option. Their opposition is based on the fear that congestion pricing would further disadvantage downtown business relative to suburban competition. The transportation professionals and community leaders were very concerned about diversion of traffic into neighborhoods under a congestion pricing scheme. In addition, many participants pointed to the state constitution, which prohibits money raised on highways from going to nonhighway uses, as a major barrier. Many in the community leaders group believed that other strategies to assign the full costs of different transportation choices, such as gas tax increases or emissions fees, were better candidates for addressing congestion and related problems.

In a hypothetical allocation of congestion pricing revenues, transportation professionals and community leaders allocated the greatest revenue to transit. They also supported public education about the congestion problem and existing subsidies as a possible steppingstone to market-based strategies.
CONGESTION PRICING SURVEY

1. Among the surface transportation problems in Portland, how important is traffic congestion? How is it being dealt with?

Presently, there are pockets of severe congestion on bridges and some approaches to the downtown area, but it is generally not considered a regional problem. Air quality and other environmental concerns play as important part in transportation planning for the region. Traffic congestion is seen as a key barrier in the public debate over growth management. The transportation professionals expressed strong concern about the possibility of severe congestion in the future. Air quality and increased traffic in residential areas are important concerns related to congestion. Some believe that congestion, which is clearly visible, can be an easy way to reach the public about air quality problems, which are, for the most part, invisible.

2. Have you seen any improvement in traffic congestion in the recent past?

The study will use modeling and case studies to answer questions about the availability of mass transit and political feasibility of changes in parking prices.

- Portland Metro has completed a travel activity survey, which has been used to estimate mode choice under congestion pricing, road pricing, fuel prices changes, and parking pricing.
- Local environmental groups, particularly the Oregon Environmental Council, have been promoting congestion pricing and emissions fees, which has led the state legislature to seek data on the possible impacts of these concepts.
- Most cities, MPOs, and state planning documents support the concept of congestion and/or road pricing.

3. What would motivate you (your organization) to pursue or oppose congestion pricing?

Pursue: Environmental groups advanced congestion pricing as a demand management strategy. It was also promoted by transportation consulting firms, which are concerned with existing price imbalances rather than environmental mandates. The transportation professionals believed that generating public support would be possible if congestion pricing were seen as a more efficient use of resources and a technique to avoid adding road capacity. The need to raise revenues is becoming more important. A study completed for ODOT examined the potential environmental and economic advantages of gas tax revenues and suggested the need for some new financing mechanisms. Several participants in the transportation professionals group saw congestion pricing as one of the few realistic ways to reach the goal of reducing VMT per capita, which is a target listed in the state land use plan.

Oppose: Survey responses from the business representatives stressed potentially negative impacts on the downtown area as a major concern. For example, a business organization representing downtown employers and retailers, which tried to equate congestion pricing with the cordon application, singled out congestion pricing as the one congestion mitigation strategy they refuse to consider. This organization perceives the downtown area as presently disadvantaged by parking pricing arrangements and believed that congestion pricing would exacerbate its relative unattractiveness for business, as compared with the suburbs. Both the transportation professionals and the community leaders raised traffic diversion onto neighborhood streets as an important concern.

The transportation professionals cited the lack of any single facility that is well priced. It would be difficult to design a regional approach that did not disadvantage any particular geographical area. Respondents also saw the state’s position as a major barrier to alternative uses of revenue generated from congestion pricing. Several participants pointed out that language in the constitution strictly and unequivocally prohibits spending money assessed on highway travel on anything other than roads and bridges. Furthermore, any attempt to reinterpret the constitution to amend it would require a standard voting format under congestion pricing, road pricing, fuel prices changes, and parking pricing.

Twelve attempts to change the constitutional provision that requires that money raised on roads be allowed to roads have been rejected, each by an overwhelming majority. It was pointed out that each amendment also included a gas tax increase.

The community leaders saw the cost of implementing the necessary technology and administering the policy as a major issue, although they were generally not familiar with the technology that would be used. A common theme heard from this group was the preference for low-cost, low-technology approaches, including behaviorally oriented solutions such as a gas tax increase.

4. Who do you see as the beneficiaries of congestion pricing? Who do you see as the losers?

Beneficiaries: Some participants believed that the beneficiaries would be those who could afford to pay the toll. Among the community leaders, some saw benefits resulting from congestion pricing if adequate alternatives to SOV travel were put into place first. Interestingly, this group easily reached consensus on what would constitute sufficient levels of service for transit in the region equalized that of the city of Portland and when the transit system operated on a grid rather than hub and spoke configuration.

Losers: The transportation professionals felt the losers would be defined by the ability of individuals to shift to transit. A study of existing and potential alternatives, however, indicated that it noted that Portland’s large investment in LRT has resulted in less use for the bus system, which could provide a flexible alternative to SOV travel under a congestion pricing scenario. Many community leaders expressed concern with the impact of congestion pricing on the working poor, given the present imbalance between the location of jobs and housing. They strongly recommended that congestion pricing be connected to local strategies to redevelop urban centers.

5. What are the major barriers to congestion pricing in Portland?

Transportation professionals cited a lack of understanding among legislators despite a number of benefits. They viewed the economic impact of congestion pricing on the entire region as not being well understood.

They asserted that the best opportunity to implement congestion pricing might be on new facilities or by creating a high occupancy toll (HOT) lane. Few new facilities are planned, however, and some environmental groups strongly oppose the HOT lane concept. Privacy was cited as likely to be a major issue with legislators.

The community leaders felt that requiring users to pay the full costs of using automobiles—costs including air pollution and the provision of emergency vehicles, for example—was a more pressing need than implementing congestion pricing. They felt that educating the public on the present subsidies to automobile use was the place to begin. Congestion pricing would then be included as part of a broader strategy of full-cost pricing. Participants in the community group gave greater support to increasing gas taxes or vehicle registration fees, or to changing the price of parking, than to congestion pricing, believing that regressive effects could more easily be mitigated with the former policies. They also thought that promoting more flexible work schedules should be made a priority. There was some support for HOT lanes if they were implemented on existing lanes and if the revenue collected was allocated to SOV alternatives.

Participants in the community leaders focus group were also concerned with (1) congestion pricing becoming a boon for bureaucrats, (2) class divisions being created by the privatization of roads, (3) possible lobbying efforts by commercial vehicle operators to avoid paying tolls, and (4) the ability to entice congestion tolls in a reliable and unobtrusive manner.

6. Studies of congestion pricing suggest it could yield substantial revenues. If implemented, how would you advocate using them?

Each participant was asked to select one of five categories. The table below presents a ranked summary of the results, with 1 being the highest and 5 being the lowest:

<table>
<thead>
<tr>
<th>Transportation Professionals</th>
<th>Community Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve, expand, or maintain highways</td>
<td>2 (4)</td>
</tr>
<tr>
<td>Fund mass transit</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Reduce taxes</td>
<td>2 (6)</td>
</tr>
<tr>
<td>Compensate those who might be economically penalized by congestion tolls</td>
<td>4 (4)</td>
</tr>
<tr>
<td>Other</td>
<td>5 (5)</td>
</tr>
</tbody>
</table>

Number of Participants: 12 (10)

• Bicycle/pedestrian improvements
• Traffic calming
• Bicycle/pedestrian improvements

**Note:** The asterisks indicate alternative rankings for specific participants or groups.
The transportation professionals were surprised by the number of votes in support of offsetting existing taxes. Participants felt, however, that this use of revenues would be difficult to accomplish. One participant pointed out that congestion pricing would provide a more rational funding structure because it would enable a movement toward self-sufficient corridors rather than irrational cross-subsidies supported by the existing gas tax and other taxes that fund transportation. Although there was general agreement with this statement, many saw the political and institutional issues as daunting.

7. If implemented, who should administrate congestion pricing in Portland?

Portland Metro was suggested as the most likely candidate, but two drawbacks were cited: the fact that Portland Metro is not an operating agency and is not directly concerned with increased travel outside the urban growth boundary.

8. If implemented, how would you measure the success or failure of congestion pricing?

Each participant was asked to rank the alternatives from 1 to 5, with 1 being the highest and 5 being the lowest. The table below presents a summary of the results.

<table>
<thead>
<tr>
<th></th>
<th>Transportation Professionals</th>
<th>Community Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease in traffic taxes</td>
<td>1</td>
<td>2 (tie)</td>
</tr>
<tr>
<td>Mode shift</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Air quality improvement</td>
<td>4</td>
<td>2 (tie)</td>
</tr>
<tr>
<td>Public perception</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>5*</td>
<td>5**</td>
</tr>
</tbody>
</table>

* Reduced demand for new roads.
* Public acceptance.
** Greater transit use.

9. What recommendations would you suggest for public participation strategies related to the consideration of congestion pricing in Portland?

The transportation professionals emphasized the need to spend time to reach a clear, common definition of congestion pricing. They recommended that the definition focus on properly pricing a scarce good rather than trying to change behavior, which is likely to be perceived as social engineering.

They also discussed the need to bring the public along step by step to educate first, before conducting attitudinal polls, and to provide objective information rather than slick marketing. The development of the Oregon Energy Code was presented as a model for reaching agreement on the methodology for analyzing results as a first step to building consensus.

Participants in both the transportation professionals and community leaders groups cited the need to provide better information to the public about existing subsidies, particularly since people perceive that they pay fully for roads through gas taxes.

Both groups also expected that the public would want to know the impact of congestion pricing on air quality. A participant in the transportation professionals group noted, however, that this is difficult to predict. Congestion pricing could have some negative effects given that NOx emissions rise as speeds increase. Another participant suggested that a key issue with public participation in transportation planning is determining how to move from local responses—opposing specific projects (the NIMBY—Not in My Backyard—phenomenon) to consensus on a broad regional plan for alternatives to the automobile.

The community leaders suggested that it is important to gain a better understanding of how people view public transportation and to learn from the experience of peak-period pricing in the transit sector. They also suggested that business leaders should help to get the message about congestion pricing out to the public.

**FOCUS GROUP PARTICIPATING ORGANIZATIONS**

**TRANSPORTATION PROFESSIONALS (ONE PARTICIPANT FROM EACH)**

EXCEPT AS NOTED:
City of Portland (2)
FHWA - Salem office
Oregon Department of Energy
Oregon Department of Transportation
Portland Metro (2)
Portland State University
Regional Transportation Council of Southwestern Washington
Transportation consulting firm

**COMMUNITY LEADERS (ONE PARTICIPANT FROM EACH, EXCEPT AS NOTED)**

American Automobile Association - State Chapter
Beaverton Neighborhood Association
Bicycle Transportation Alliance
Citizen transit lobbyists (2)
Economical Ministries
Gresham Neighborhood Association
Northeast Neighborhood Coalition
Portland Alliance for Sustainable Urban Neighborhoods
Sensible Transportation Options for People
Southside United Methodist Church
GREATER PHILADELPHIA AREA CASE STUDY

PHILADELPHIA DATA

With a metropolitan area population of 5.2 million residents, Philadelphia is among the five largest urban areas in the country. Population is forecasted to grow by 11 percent between 1990 and 2020 (Delaware Valley Regional Planning Commission 1994, 4–5). Philadelphia’s ability to accommodate this growth without further encouraging suburban sprawl is uncertain given its current density. Furthermore, this growth will be accompanied by a projected addition of one million registered automobiles, with a 50 percent increase in automobiles expected in the New Jersey counties (Delaware Valley Regional Planning Commission 1995, 2–3).

The growth in auto ownership in the region will likely outpace the growth in population. If trends continue, it is likely that transit ridership will decrease and automobile usage will increase. Currently, transit ridership penetrates the transportation market extensively due to the efforts of the Southeastern Pennsylvania Transportation Authority (SEPTA). According to the Delaware Valley Regional Planning Commission (DVRPC), a multi-county, multi-state governmental organization that is the region’s metropolitan planning organization (MPO), “Perhaps the most telling statistical change in travel conditions is the anticipated 44 percent growth of trips into the region. This not only reflects the continuation of the historic growth rate of interurban travel but also anticipates an increase in commuter trips into the region as employment sites continue to increase in outlying areas” (Delaware Valley Regional Planning Commission 1995, 3).

CONGESTION TRENDS

Philadelphia is considering congestion pricing for several reasons, the first of which is the growth pressures mentioned above. A second reason is that DVRPC recently completed long-range plan calls for almost no growth in new highway construction. The plan notes that current funding will only support the existing transportation system. To avoid the need for new taxes, travel behavior will need to change or transportation agencies will need to find new revenue sources.

Additionally, the plan calls for parking pricing, a variant of congestion pricing, as one of ten tools for enhancing travel options in the metropolitan area. The DVRPC and the Pennsylvania Department of Transportation (PennDOT) have taken advantage of ISTEA’s flexible funding provision to direct an additional one hundred million dollars of ISTEA funds to the region’s transit services. The mayor of Philadelphia wants improved access to downtown and is supportive of these transit improvements.

Another reason for the interest in congestion pricing is the region’s severe nonattainment status for ozone. Recently, the region had to address the Employer Trip Reduction (ETR) program mandated by the Clean Air Act Amendments of 1990. Although political outcry led to a decision not to implement the ETR program, congestion pricing was discussed as an alternative to mandates. It is unlikely that mandates will occur, but use of congestion pricing as a more “voluntary” method of increasing vehicle occupancy is still a possibility.

Lastly, DVRPC staff feel that congestion pricing should be tried in the Philadelphia area. Since some highways have taken more than twenty years to move from planning to construction, the region still has relatively compact development and a high level of transit use. Further, the transit system is quite mature and would provide a ready alternative mode for those who would rather not pay congestion tolls. Drivers in the area are also familiar with tolls, given the presence of tolls on the Pennsylvania and New Jersey turnpikes and on bridges crossing the Delaware River. In addition, the region is beginning to make use of intelligent transportation systems (ITS), and DVRPC staff believe that if congestion pricing is implemented, ITS would provide useful information to travelers about alternative fees and routes.
PHILADELPHIA FOCUS GROUP DISCUSSIONS

The Philadelphia participants were resigned, rather than skeptical, by the idea of congestion pricing. Before deciding to support it or oppose it, they wanted specific information about how it would work in Philadelphia. Nearly all of the participants felt that congestion was a problem in the greater Philadelphia area, but they disagreed about its magnitude. Some reported that congestion was the major surface transportation problem; others thought that congestion was a less significant problem. In addition, many participants noted that the worst congestion was in the suburbs, not on the routes into and out of central Philadelphia.

The participants’ desire to see a more specific congestion pricing proposal reflected the results of the congestion pricing survey. Rather than advocating a scheme to dramatically change travel behavior, participants favored improving the existing system. When asked how they would spend the revenues from congestion pricing, members of all four groups advocated, as their first or second choice, either reinvesting the money in the highway system or improving the mass transit system. In considering strategies to implement congestion pricing, the business group felt that it would build consensus, revenues should be reinvested in highways.

As asked how they would use it. The success of congestion pricing, all groups except the elected officials said they would use it on whether travel times were reduced; the elected officials would base it on whether fewer people were driving single occupancy vehicles (SOVs).

CONGESTION PRICING SURVEY

Prior to the meetings of each group, interviewees were asked to respond in writing to the following questions. The questions were asked at each meeting, using the unstructured written responses as a method of generating further discussion. A summary of the discussion generated by each question follows.

1. Among the surface transportation problems in the greater Philadelphia area, which is the most important traffic congestion? How is it being dealt with?

All groups felt that congestion was at least somewhat of a problem in the greater Philadelphia area. Many participants claimed it was the most important surface transportation problem. Other participants, however, pointed out that congestion in Philadelphia was not as severe as that of other urban areas, such as New York, or as bad as other cities of similar size. Some participants pointed out that because Philadelphia is an old city and has a history of taking up to twenty years to plan and construct new highways (e.g., I-76), some congestion had to be expected. Others mentioned, and many agreed, that the congestion problems in the area were primarily in the suburbs, not in the central city.

Participants generally believed that congestion was not being dealt with effectively, but attributed the problem to institutional barriers rather than to a failure on the part of any particular agency. The community leaders indicated that with hundreds of local jurisdictions in the area, many were affected by any proposed project. For example, when I-76 was being planned, each community wanted to have its say, largely in the hopes of minimizing the impact on its own 'backyard.' The transportation professionals also pointed out that these same communities now want the highway expanded.

At the suggestion of one of the participants in the transportation professionals group, members voted on whether it would be possible for the region to build its way out of congestion. Although some felt that it was physically possible, almost no one felt that it was possible from a practical standpoint. Finally, another participant pointed out that effective congestion mitigation would not be possible without a better-educated public because surveys have revealed many contradictory desires among the general public.

2. How familiar are you with the concept of congestion pricing?

Because of the recent debate over the Employer Trip Reduction (ETR) program, nearly all participants were familiar with some form of congestion pricing or with the need for transportation demand management. Many participants, however, were curious as to whether congestion pricing in the greater Philadelphia area would include parking rates and the nature of its effects on area traffic patterns.

3. What would motivate you (your organization) to pursue or oppose congestion pricing?

Pursue: Some business professionals felt that a simple finding that the benefits of congestion pricing exceed its costs would be sufficient. Most participants argued, however, that they would support congestion pricing if it improved transit, reduced congestion, or provided for new capacity. Some indicated they would support pricing if they were offered as a voluntary method of increasing vehicle occupancy, as opposed to a mandatory scheme like the ETR program.

Oppose: The most common reason mentioned for opposing congestion pricing was the perception that it is a punishment to those who drive on congested roads. One participant in the elected officials group suggested that congestion pricing would never work without well-trained and well-meaning local authorities. Similarly, members of the transportation professionals and community leaders groups said that they would not support a method that was a "positive tax." Others indicated they would oppose the plan if it hurt downtown Philadelphia or the general quality of life in the greater Philadelphia area.

4. Who do you see as the beneficiaries of congestion pricing? Who do you see as the losers?

Some participants mentioned that everyone in the area would benefit from improved air quality and reduced congestion. More commonly, the groups mentioned transit users, commuters who could afford the congestion toll, and freight haulers as the likely beneficiaries.

Participants identified many potential losers. Nearly every group pointed out that there would be a group of people priced out of highway travel and that they might not have a reasonable alternative. Some also expressed the concern that, depending on how congestion pricing was implemented, the central city might be put at a disadvantage. Many participants contradicted the belief expressed by some that freight haulers would benefit by citing evidence of how truckers had acted to avoid increased tolls in the past. Members of the transportation professionals and business representatives groups pointed out that any politician who advocates or implements congestion pricing might lose the next election.

5. What are the major barriers to congestion pricing in the greater Philadelphia area?

The public's lack of familiarity with the concept was most frequently cited as a key barrier. Many participants were concerned about the public's ability to understand the benefits of congestion pricing. They also expressed concern about the many possible ways in which congestion pricing could be implemented. This reaction seemed to suggest that the general concept of congestion pricing was difficult for the participants to grasp and that a more specific policy proposal might garner more public support.

Other barriers mentioned by the participants included the need for transportation demand management, the lack of consensus among those in the rush hour, and the jury public that is accustomed to free roads and the possibility that congestion pricing may make the area less competitive.

6. Studies of congestion pricing suggest that it would yield substantial revenues. How would you allocate these?

Each participant was asked to allot twenty-five points among five possible categories. The table presents a ranked summary of the results, with 1 being the highest and 5 being the lowest.

<table>
<thead>
<tr>
<th>Transportation Business Professionals</th>
<th>Reps.</th>
<th>Community Elected Leaders</th>
<th>Officials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve, expand, or maintain highways</td>
<td>1 (2/1)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Fund mass transit</td>
<td>2 (1/2)</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Reduce taxes</td>
<td>3 (3/3)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Compensate those who might be economically penalized by congestion tolls</td>
<td>4 (1/4)</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Other*</td>
<td>5 (1/5)</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Number of Participants</td>
<td>14</td>
<td>8</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: The business representatives took two votes. The first indicated how they would vote personally and the second (shown in parentheses) indicated how they thought the revenues would have to be distributed to successfully implement congestion pricing.

* Specific suggestions were not given.

7. If implemented, who should administer congestion pricing in the greater Philadelphia area?

Among existing agencies, participants mentioned the DVRPC most often, along with local bridge authorities and PennDOT. The most frequently cited answer, however, was the need for a new agency to administer congestion pricing. The transportation professionals voiced this opinion most strongly. The community leaders fell at the other end of the scale, preferring that DVRPC could effectively implement and administer congestion pricing as long as a charismatic leader was available to champion the cause. Members of all groups indicated that the administering agency should have representative local jurisdiction so that congestion pricing would not become bogged down in local disputes.
8. If implemented, how would you measure the success or failure of congestion pricing?

Each participant was asked to rank the alternatives from 1 to 5, with 1 being the highest and 5 being the lowest. The table below presents a summary of the results.

<table>
<thead>
<tr>
<th>Transportation Professionals</th>
<th>Business Leadership</th>
<th>Community Leaders</th>
<th>Electric Officials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease in traffic times</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Mode shift</td>
<td>2</td>
<td>5</td>
<td>2 (tie)</td>
</tr>
<tr>
<td>Air quality improvement</td>
<td>4 (tie)</td>
<td>4 (tie)</td>
<td>2 (tie)</td>
</tr>
<tr>
<td>Public perception</td>
<td>5</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Other*</td>
<td>5</td>
<td>4 (tie)</td>
<td>5</td>
</tr>
<tr>
<td>Number of Participants</td>
<td>14</td>
<td>8</td>
<td>5</td>
</tr>
</tbody>
</table>

* Specific suggestions were not given.

9. What type of public participation and outreach processes should be used or designed, particularly for new concepts such as congestion pricing?

Although the measures suggested varied from group to group, all agreed that public outreach would be necessary for any congestion pricing scheme to be successful. The transportation professionals advocated the most proactive measures, including focus groups, advisory panels representing a broad cross-section of all residents, and public education on the economics of surface transportation. Members of the elected officials group argued that a series of public service announcements and other appeals through the mass media would be the most effective way of getting the public to accept congestion pricing.

All groups pointed out that recycling represented another program that had needed a similar degree of public education to obtain desired behavioral changes. Some of the elected officials pointed out that recycling has not been successful in some parts of the greater Philadelphia area. They contended that congestion pricing must be conducted with simple and measurable goals in mind if behavioral changes were to occur. With recycling, the measurable goal was conserving landfill space. On the other hand, the ETR program failed because most members of the public did not notice the small improvements in air quality. With congestion pricing, therefore, the champions must be careful to decide and communicate whether they are pursuing congestion-relief, increased revenues, or another perceivable benefit.

**FOCUS GROUP PARTICIPATING ORGANIZATIONS**

- **TRANSPORTATION PROFESSIONALS (ONE PARTICIPANT FROM EACH, EXCEPT AS NOTED)**
  - Chester County Planning Commission
  - Delaware County Planning Commission
  - Delaware Department of Transportation
  - Delaware Regional Planning Commission
  - Montgomery County Planning Commission
  - New Jersey Department of Transportation
  - Pennsylvania Department of Transportation (2)
  - Southeastern Pennsylvania Transportation Authority
  - Trenton, New Jersey, Planning Department

- **BUSINESS REPRESENTATIVES (ONE PARTICIPANT FROM EACH, EXCEPT AS NOTED)**
  - Central Philadelphia Development Corporation
  - Cross County Transportation Management Association
  - Delaware Valley Regional Planning Commission (2)
  - Greater Philadelphia Chamber of Commerce
  - Independent consultant
  - Sun Company Incorporated
  - Ware Associates

- **COMMUNITY LEADERS (ONE PARTICIPANT FROM EACH)**
  - American Automobile Association
  - Delaware Valley Association of Railroad Passengers
  - League of Women Voters
  - Middlesex Sommerset Mercer Regional Council, Inc.
  - Pennsylvania Environmental Council

- **ELECTED OFFICIALS (ONE PARTICIPANT FROM EACH)**
  - Burlington County Freeholders
  - Camden County Freeholders
  - Chester County Board of Commissioners
  - City of Camden
  - City of Philadelphia, Philadelphia City Planning Commission

**FOR MORE INFORMATION**

- Don Shans
  - Delaware Valley Regional Planning Commission (215) 562-1800

---

**PHOENIX VALLEY CASE STUDY**

**PHOENIX DATA**

**POPULATION**

The Phoenix Valley has recorded phenomenal growth rates in the past two decades. The Chamber of Commerce expects population trends to continue, with 52,000 new residents added to the Valley each year (Phoenix Chamber of Commerce 1996, 1). Statwide, the Arizona Department of Transportation (ADOT) expects that the population will grow from 4.18 million in 1995 to 6.21 million in 2015 (Arizona Department of Transportation 1994, 2). The 1990 population of the metropolitan area, which lies entirely within Maricopa County, was 2,112,100. In addition, more than ten million people visit the Valley every year.

**TRANSPORTATION SYSTEM**

The rapid population growth of the Phoenix Valley has placed an increasing strain on the area’s transportation system. In 1980, partly in response to this strain, Maricopa County voters supported a sales tax initiative to fund the construction of new capacity in the northern, western, and eastern sides of the Valley. This new construction, to be completed by 2006, will yield a total of one hundred seven miles of freeway within the metropolitan area.

ADOT has also considered constructing a southern loop to the metropolitan area as a toll road. The South Mountain tollway would connect I-10 on the southern side of the Valley (by the Gila River Indian Reservation) with I-17 on the northern side (near Tolleson). This proposed project has received tremendous opposition, however, from the residents of communities immediately adjacent to South Mountain. Additionally, it is unclear whether variable pricing would be a component of this tollway or other stretches of congested highway in the Phoenix area.

HOV lanes on I-10 and I-17, which are separated by a distance (not physical barrier), are used to combat congestion on those two heavily traveled freeways. ADOT has also pursued the implementation of a viable traffic management center. Using intelligent transportation systems (ITS) technology for traffic operations, ADOT has started to develop a system of ramp metering, incident control, and driver information. The area’s transit system, however, is not seen as a viable congestion relief transport. Incomplete in many aspects, transit has not been supported by the public, either politically or financially. Pressure from the environmental front has persuaded the state to begin considering a variety of policies. Phoenix recently received a commuter environment status from the EPA. Carbon monoxide levels are also severe. Currently, the governor is examining recommendations from a mayoral task force to address the state’s environmental problems. Congestion relief strategies are among the recommendations.

**HISTORY OF CONGESTION PRICING ACTIVITIES**

Two recent studies have introduced congestion pricing to the Phoenix Valley. First, the Maricopa Association of Governments (MAG) examined transportation finance options for the full funding of its long-range transportation plan. Part of that study investigated the use of congestion pricing and new tollways as a means of financing new highways and transit services. In order to fully fund the plan, an average toll of 4.1 cents per mile for fiscal years 1994-2006 will be necessary. After 2006 and the expiration of the special highway sales tax, an average toll of 5.8 cents per mile will be required. MAG concluded, however, that the use of congestion pricing for revenue generation would likely elicit considerable public opposition (Maricopa Association of Governments 1994).

The second study was proposed by ADOT, in cooperation with MAG and transportation consultants Kimley-Horn and Associates, the Federal Highway Administration (FHWA) Congestion Pricing Pilot Program in 1993. Emphasizing the HOV buy-in concept of congestion pricing, ADOT would convert existing HOV lanes on the Maricopa (I-10) and East Papago freeways to priced HOV lanes. Additional HOV/express lanes would be constructed on the Maricopa, Black Canyon (I-17), Superstition (US-60), and Squaw Peak (AZ-51) freeways. This study was not awarded funding by the FHWA.
Phoenix Valley Focus Group Discussions

Based on the results of four focus group discussions held throughout the Phoenix Valley, it appears unlikely that congestion pricing will be implemented in the Phoenix metropolitan area at this time. Participants were anxious to share their opposition, their support, and their concern over the region's future transportation needs. Social and institutional barriers to congestion pricing are formidable.

Participants voiced concern over the region's rapidly expanding population and the lack of land use or transportation planning to accommodate and shape this growth. Major issues include the need for (1) more specific information regarding the cost of implementing congestion pricing, (2) reliable figures on potential revenues generated from the project, and (3) a well-articulated and agreed upon understanding of how funds will be used. The current lack of mass transportation alternatives, combined with the perceived inadequacy of the existing bus and rail systems, makes it harder to be optimistic.

Unique to Phoenix, in relation to the other case study cities, is the enormous population growth and seasonal travel. Participants in every focus group expressed concern over the off-peak growth. Even with the planned expansion of the freeway and expressway system, more highways, especially in congested areas of the city, are being demanded. Participants view solving Phoenix's congestion problem not so much as a matter of managing traffic flow and changing travel behavior, but as increasing and enhancing people's ability to use their cars. This is where the issue is very strong in the southwest. Some participants viewed this as an extension of the attachment between the cowboy and his horse. A primary issue among business representatives was how to avoid "Mr. and Mrs. Average Citizen" in terms of increased congestion on arterials, a lack of viable alternatives, and potentially increasing actual trip times. In the Phoenix Valley, many people are employed in small service-oriented businesses that require frequent automobile travel as part of their occupation. For these workers, the costs of congestion pricing may outweigh the benefits. Equity concerns were raised for low-income drivers, and some transportation-dependent employers who may not be able to compensate their workers for increased travel costs. If congestion fees are added to overhead costs, this may negatively impact businesses and consumers.

Business representatives and community leaders supported private ownership and administration of congestion pricing over public administration. This sentiment reflects the distrust and animosity many feel toward ADOT as a lingering bad image continues to plague the department. Unfriendly media coverage has blanched several legitimate development projects. The public appears uncomfortable with having ADOT or other governmental agencies operating congestion pricing and fear that bureaucratic inefficiencies could bog down the transportation projects rather than alleviate them.

Elected officials said they would be unwilling to support pricing initiatives until public support exists. Although they are concerned about urban sprawl and do not want to become another Los Angeles, regional land use and transportation planning efforts are minimal. Members of all groups voiced the opinion that roads in Phoenix have already been paid for and increasing public funds to pursue congestion pricing would meet with stiff opposition.

Congestion Pricing Survey

Prior to the focus group meetings, each participant was asked to respond to the following questions. These questions were presented again at the meeting, using the participants' previous, unstratified responses as a method of generating further discussion at which everyone was to be encouraged to participate. Unique to Phoenix, in relation to the other case study cities, is the enormous population growth and seasonal travel. Participants in every focus group expressed concern over the off-peak growth. Even with the planned expansion of the freeway and expressway system, more highways, especially in congested areas of the city, are being demanded. Participants view solving Phoenix's congestion problem not so much as a matter of managing traffic flow and changing travel behavior, but as increasing and enhancing people's ability to use their cars. This is where the issue is very strong in the southwest. Some participants viewed this as an extension of the attachment between the cowboy and his horse. A primary issue among business representatives was how to avoid "Mr. and Mrs. Average Citizen" in terms of increased congestion on arterials, a lack of viable alternatives, and potentially increasing actual trip times. In the Phoenix Valley, many people are employed in small service-oriented businesses that require frequent automobile travel as part of their occupation. For these workers, the costs of congestion pricing may outweigh the benefits. Equity concerns were raised for low-income drivers, and some transportation-dependent employers who may not be able to compensate their workers for increased travel costs. If congestion fees are added to overhead costs, this may negatively impact businesses and consumers.

Business representatives and community leaders supported private ownership and administration of congestion pricing over public administration. This sentiment reflects the distrust and animosity many feel toward ADOT as a lingering bad image continues to plague the department. Unfriendly media coverage has blanched several legitimate development projects. The public appears uncomfortable with having ADOT or other governmental agencies operating congestion pricing and fear that bureaucratic inefficiencies could bog down the transportation projects rather than alleviate them.

Elected officials said they would be unwilling to support pricing initiatives until public support exists. Although they are concerned about urban sprawl and do not want to become another Los Angeles, regional land use and transportation planning efforts are minimal. Members of all groups voiced the opinion that roads in Phoenix have already been paid for and increasing public funds to pursue congestion pricing would meet with stiff opposition.

Congestion Pricing Survey

Prior to the focus group meetings, each participant was asked to respond to the following questions. These questions were presented again at the meeting, using the participants' previous, unstratified responses as a method of generating further discussion at which everyone was to be encouraged to participate. Unique to Phoenix, in relation to the other case study cities, is the enormous population growth and seasonal travel. Participants in every focus group expressed concern over the off-peak growth. Even with the planned expansion of the freeway and expressway system, more highways, especially in congested areas of the city, are being demanded. Participants view solving Phoenix's congestion problem not so much as a matter of managing traffic flow and changing travel behavior, but as increasing and enhancing people's ability to use their cars. This is where the issue is very strong in the southwest. Some participants viewed this as an extension of the attachment between the cowboy and his horse. A primary issue among business representatives was how to avoid "Mr. and Mrs. Average Citizen" in terms of increased congestion on arterials, a lack of viable alternatives, and potentially increasing actual trip times. In the Phoenix Valley, many people are employed in small service-oriented businesses that require frequent automobile travel as part of their occupation. For these workers, the costs of congestion pricing may outweigh the benefits. Equity concerns were raised for low-income drivers, and some transportation-dependent employers who may not be able to compensate their workers for increased travel costs. If congestion fees are added to overhead costs, this may negatively impact businesses and consumers.

Business representatives and community leaders supported private ownership and administration of congestion pricing over public administration. This sentiment reflects the distrust and animosity many feel toward ADOT as a lingering bad image continues to plague the department. Unfriendly media coverage has blanched several legitimate development projects. The public appears uncomfortable with having ADOT or other governmental agencies operating congestion pricing and fear that bureaucratic inefficiencies could bog down the transportation projects rather than alleviate them.

Elected officials said they would be unwilling to support pricing initiatives until public support exists. Although they are concerned about urban sprawl and do not want to become another Los Angeles, regional land use and transportation planning efforts are minimal. Members of all groups voiced the opinion that roads in Phoenix have already been paid for and increasing public funds to pursue congestion pricing would meet with stiff opposition.

1. Among the surface transportation problems in the Phoenix area, how important is traffic congestion? How is it being dealt with?

Most participants in all groups identified traffic congestion as a serious problem that was getting worse. Most believed congestion to be an important issue because it caused lost private and leisure time, lost earnings, more accidents, and substantial pollution. Phoenix's population expansion was seen as the root cause of the problem, and participants noted that population growth exceeded the growth of new highway capacity. The lack of adequate public transportation was also a major concern for many focus group participants. They noted that the transit system in Phoenix is somewhat limited with relatively few routes being served, infrequent service, greatly reduced service on Saturdays, and no service on Sunday. Additional opinions held by some participants included the perspective that congestion was a perceptual problem that was exacerbated in certain geographic areas of the Valley (i.e., relative to other urban areas, traffic in Phoenix may not be alarming) and that the situation was improving with the construction of new highway capacity.

The most commonly cited efforts currently in place to deal with congestion were the building of new freeways, demand management (ram metering, traffic signalization), finding alternatives for employer-based trip reduction, and HOV lanes. Most participants viewed the transportation situation negatively, however, emphasizing future areas of study and action. All groups contended that the HOV lanes and transit systems have been ineffective in winning over patrons. Elected officials extolled the unwillingness of Arizonans to support new highways; the hope is that "if you don't build it, they won't come." Community leaders suggested giving greater credence to economically efficient solutions and to the environmental impacts of new highways. Transportation officials agreed that Phoenix has found its solution: building new highways and widening arterials. They also contend, however, that the situation would be improved if the Arizona Legislature would dedicate more funding for alternative mode development and transit services.

2. How familiar are you with the concept of congestion pricing?

Familiarity with the concept of congestion pricing varied, depending on the group. As could be expected, the transportation professionals were very familiar with the concept of pricing from a theoretical, economic analysis perspective, but were rather unfamiliar with the implementation of congestion pricing, including the techniques and pitfalls. Community leaders and transportation professionals were the only groups that had participated with a preconceived opinion of congestion pricing. Interestingly, community leaders who entered the focus group opposing congestion pricing left the meeting with a more favorable impression about its application and implementation.

3. What strategies would you recommend to ensure the benefits of congestion pricing are realized?

Participants were asked to recommend strategies to ensure the benefits of congestion pricing are realized. Most participants agreed that the benefits of congestion pricing could be maximized if the benefits were distributed fairly among all users. Others recommended that congestion pricing be used to fund transit improvements, transportation improvements, and other transportation programs. A few participants suggested that congestion pricing be used to fund transportation improvements that would benefit the entire community, including low-income individuals and businesses.

4. What would you do to ensure the success of congestion pricing?

Participants were asked how they would ensure the success of congestion pricing. Most participants agreed that the success of congestion pricing could be ensured if the benefits were distributed fairly among all users. Others recommended that congestion pricing be used to fund transit improvements, transportation improvements, and other transportation programs. A few participants suggested that congestion pricing be used to fund transportation improvements that would benefit the entire community, including low-income individuals and businesses.

5. What would motivate you to support congestion pricing?

Participants were asked what would motivate them to support congestion pricing. Most participants agreed that the benefits of congestion pricing could be maximized if the benefits were distributed fairly among all users. Others recommended that congestion pricing be used to fund transit improvements, transportation improvements, and other transportation programs. A few participants suggested that congestion pricing be used to fund transportation improvements that would benefit the entire community, including low-income individuals and businesses.

6. What would cause you to oppose congestion pricing?

Participants were asked what would cause them to oppose congestion pricing. Most participants agreed that the benefits of congestion pricing could be maximized if the benefits were distributed fairly among all users. Others recommended that congestion pricing be used to fund transit improvements, transportation improvements, and other transportation programs. A few participants suggested that congestion pricing be used to fund transportation improvements that would benefit the entire community, including low-income individuals and businesses.
and have a higher value of time as being the primary beneficiaries of congestion pricing.

Two groups were identified by the participants as potential losers of congestion pricing. Lower-income individuals, or those otherwise unable to pay the tolls would lose because their mobility options would be restricted, and HOV users would lose if an HOV buy-in program were included. Many participants believed that the sudden influx of SOL users in HOV lanes would create a perceptual disincentive for prospective HOV users to switch modes. The transportation professionals indicated, however, that tolls could be controlled so that HOV users would not be inconvenienced by the introduction of SOL automobiles. The transportation professionals said that no one would lose because the reduction of congestion and its spillover effects would overwhelm any negative effects. The community leaders suggested that high-travel industries (such as trucking, delivery services, etc.) would be particularly disadvantaged by higher transportation costs.

5. What are the major barriers to congestion pricing in Phoenix?

All groups identified political concerns as barriers to the implementation of congestion pricing. As the Phoenix Valley has not had any experience with toll roads, residents are unaware of how electronic tolling works and what might be its real costs and possible benefits. Indeed, one community leader entered the focus group in opposition to congestion pricing for this reason alone. When the operation of electronic tolling collection technology was later explained, this participant's perspective changed from one of opposition to one of support. Furthermore, the elected officials believed that new residents of Phoenix may bring experience with tolling from elsewhere, such as Chicago, New York, or Boston. All groups also identified competition with other taxes as a barrier against congestion pricing. Pricing was seen as an "unfair, double tax," as one participant stated, who placed in relation to the 1986 sales tax increase for the Valley’s freeway expansion.

The elected officials cited several barriers to congestion pricing, including strong opposition to government intervention and taxation, no public perception of the difference between congestion pricing and tolling, a lack of knowledge as to how congestion pricing may actually benefit drivers, and the absence of a viable alternative mode to driving. They also indicated that there was greater opposition to areawide pricing than to an HOV buy-in program. The transportation professionals and community leaders identified the lack of political leadership as an impediment to the implementation of congestion pricing. Furthermore, the transportation professionals and community leaders identified the lack of political leadership as an impediment to the implementation of congestion pricing. The community leaders specifically required effective controls against urban sprawl and a detailed accounting of the costs and benefits of congestion pricing before it was to be implemented.

The business representatives and community leaders also raised a few of the political issues discussed above, but they emphasized ways that barriers may be overcome, provided congestion pricing is guaranteed to work. They believed that opposition to tolling is more a cultural barrier than a political barrier, in that taxation politics can be overcome. Ways of getting beyond this cultural barrier include pricing only new facilities (such as SR-91 in California) and having services provided by the private sector. The business representatives and community leaders also felt that if congestion pricing were undertaken by a private firm, antigovernment sentiments may actually be an advantage, rather than a disadvantage, to its implementation.

6. Studies of congestion pricing suggest that it would yield substantial revenues. How would you advocate using these revenues?

Each participant was asked to rank the alternatives from 1 to 5, with 1 being the highest and 5 the lowest. This question was asked again on evaluation forms offered at the conclusion of each focus group. The table below presents a summary of the results.

<table>
<thead>
<tr>
<th>Transportation Professionals</th>
<th>Before</th>
<th>After</th>
<th>Business Leaders</th>
<th>Before</th>
<th>After</th>
<th>Community Leaders</th>
<th>Before</th>
<th>After</th>
<th>Elected Officials</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve, expand, or maintain highways</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Fund mass transit</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Reduce taxes</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Compensate those who might be economically penalized by congestion tolls</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Other*</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

* Specific suggestions were not given.

7. If implemented, who should administer congestion pricing in the Phoenix Valley?

No agency was clearly identified as being the most appropriate to administer the program. The transportation professionals were immediately concerned with whether the agency that "spends the money" also needs to be the agency that administers the overall project. To them, the most significant factor was the cost of implementation and the need for public-private partnerships. The community leaders supported a private company overseen by ADOT, but they were concerned about the possible misallocation of funds, bureaucratic troubles, and the overall inefficiency that many people believe ADOT embodies.

Some members of the community leaders focus group supported either Maricopa County or the Maricopa Association of Governments as the administrator. The transportation professionals suggested that a new tolling authority be established by the state government. None of the groups, however, came to a consensus on administration responsibility.

NOTE: Only the transportation professionals received the following two questions prior to the focus group meeting since they were the group that would have a direct stake in implementing congestion pricing and, consequently, may have developed ideas in greater depth about these issues.

8. If implemented, how would you measure the success or failure of congestion pricing?

The transportation professionals believed that a change in travel mode would be the best indicator of success or failure. Additional measures identified by the participants included a change in traffic speed, improvement in air quality, enhanced public perception, and changes in VMT by time of day. The long-term participants agreed that changes in commuting patterns, land use, and long-term temporal shifts should be used as criteria in judging the success or failure of congestion pricing.

9. What is your experience with public education campaigns? What type of public participation processes have you used, particularly for controversial projects?

The transportation professionals identified many strategic planning techniques for dealing with controversial issues like congestion pricing. Some of the specific suggestions they advocated were to use anecdotal "success stories" from other areas, enhance business community participation and support, and work with representatives of strategic groups to demonstrate what the impacts of congestion pricing will most likely be on their activities.
CHICAGO CASE STUDY

CHICAGO DATA

POPULATION
The population of the six-county region containing Chicago was slightly over seven million in 1990. The population of this region is projected to increase by 15 percent between 1990 and 2010, a gain of approximately one million new residents. Employment is projected to grow by 23 percent over the same period. The greatest population growth is projected for the five suburban counties surrounding Chicago. Although employment in the city of Chicago will increase, growth will only occur in the central business district, which is projected to grow dramatically (Chicago Area Transportation Study and Northeastern Illinois Planning Commission 1994).

TRANSPORTATION SYSTEM AND FINANCE
The Chicago region's road system includes 23,500 miles, 27% of which are toll highways. Federal, state, and local sources provide approximately $2.58 billion dollars per year to build, maintain, and support the road infrastructure. This figure includes the expenditures of the Illinois State Toll Highway Authority. Each year, $1.9 billion dollars are collected through user fees, including the federal and state gas tax ($1.15 billion), vehicle registration and license fees ($67 billion), tolls ($24 billion), and traffic fines and other fees ($0.11 billion). The remaining $0.63 billion dollars come from indirect sources such as property and sales taxes and other general revenues. The state gas tax of nineteen cents per gallon is among the highest in the nation. A portion of the gas tax is dedicated to transit.

Approximately five hundred million dollars in federal, state, and local funds are directed to transit infrastructure and services per year. The Regional Transit Authority (RTA) oversees the budgets of the three transit service providers— Pace, Metra, and the Chicago Transit Authority (CTA)—and has legislative authority to impose a regional sales tax.

AIR QUALITY
The six-county Chicago region is designated as a nonattainment area for ozone by the U.S. Environmental Protection Agency (EPA). Transportation sources are estimated to contribute 50 percent of the ozone precursors. Chicago's severe nonattainment status has had a major impact on transportation planning, which is conducted for the region by the Chicago Area Transportation Study (CATS). Under regulations of the 1990 Clean Air Act Amendments (CAA), the area is required to demonstrate reductions in mobile source contributions to air emissions. A fall 1994 deadline requiring a 15 percent reduction in volatile organic compound (VOC) emissions has been extended to 1997 and the previously required Employee Commute Options (ECO) program has been suspended. Meanwhile, the region continues to develop and analyze transportation control measures (TCMs) that will decrease emissions from mobile sources.

The planned adoption of an enhanced inspection and maintenance program and the use of reformulated gas are expected to make the major contribution to reducing emissions in the area. In addition, CATS recently submitted to the U.S. EPA a list of 111 TCMs that have been implemented. These "traditional" TCMs take three forms: (1) improved public transportation, (2) park and ride facilities, and (3) traffic flow improvements such as traffic signalization. Other projects submitted to the EPA include pedestrian, bicycle, and land use changes that improve transit access.

In 1995, CATS commissioned a series of workshops with the area's Council of Mayors to explore their knowledge of TCMs and their preferences for implementation. In general, participants were supportive of voluntary measures and opposed to both market-based and command-and-control regulatory schemes (Corness Corporation, Gamittos LTD., and Gary Hawthorn Associates 1995).
The Wisconsin Central Commuter Rail Line, which will provide the corridor for a new CTA line, is scheduled to open in August 1996. It is funded through the Congestion Mitigation and Air Quality (CMAQ) program, Federal Transit Administration grants, and the Regional Transportation Authority (RTA) authority.

Chicagocar Focus Group Discussions

On April 5, 1996, a focus group was held with fifteen members of the CMAQ task force. The makeup of the group was similar to that of the transportation professionals groups held in other case study cities. The focus group included representatives from CTA, IDOT, the toll authority, the Illinois EPA, city and county government offices, AAA Chicago Motor Club, the CTA, and the RTA. A summary of the participants concerns and comments follows.

- The interest in market-based strategies is driven by air quality concerns and federally mandated attainment schedules.
- Chicago residents have become accustomed to congestion and do not see it as an urgent problem. Participants questioned whether the public was as concerned about congestion (e.g., the point of considering radical measures) as they were.
- Congestion was viewed by many as self-regulating. Settler patterns, both away from congestion and toward more proximate locations in the central city, and the future provision of specialized services, such as vanpooling and running errands by private entrepreneurs, were viewed as likely responses to congestion. Many participants questioned the value-time assumption that underlie congestion pricing, pointing to new in-car accommodations, such as cellular phones, CD players, and plush interiors, that make the car a more attractive and productive place to be.
- The benefits of congestion pricing were viewed as intangible and uncertain. As one participant put it, "These are fuzzy benefits. The savings in lost productivity are fuzzy, but the cost you pay is very tangible." Time saved was not viewed as a benefit easily communicated to the general public or to politicians.
- Chicago's high level of transit infrastructure was not necessarily seen as a step up to congestion pricing. Instead, many believe that the availability of viable, fixed route transit alternatives makes congestion a less threatening future prospect for commuters and the city.
- There are few, if any, obvious spots to implement congestion pricing given Chicago's extensive road network. Many feared that congestion pricing would merely shift traffic to arterials, as occurred during recent construction on the two main freeways.
- An area wide application is the most logical, but public support is highly unlikely given the cost of technology and the level of government fragmentation.

Chicago Focus Group Discussions

On April 5, 1996, a focus group was held with fifteen members of the CMAQ task force. The makeup of the group was similar to that of the transportation professionals groups held in other case study cities. The focus group included representatives from CTA, IDOT, the toll authority, the Illinois EPA, city and county government offices, AAA Chicago Motor Club, the CTA, and the RTA. A summary of the participants concerns and comments follows.

- The interest in market-based strategies is driven by air quality concerns and federally mandated attainment schedules.
- Chicago residents have become accustomed to congestion and do not see it as an urgent problem. Participants questioned whether the public was as concerned about congestion (e.g., the point of considering radical measures) as they were.
- Congestion was viewed by many as self-regulating. Settler patterns, both away from congestion and toward more proximate locations in the central city, and the future provision of specialized services, such as vanpooling and running errands by private entrepreneurs, were viewed as likely responses to congestion. Many participants questioned the value-time assumption that underlie congestion pricing, pointing to new in-car accommodations, such as cellular phones, CD players, and plush interiors, that make the car a more attractive and productive place to be.
- The benefits of congestion pricing were viewed as intangible and uncertain. As one participant put it, "These are fuzzy benefits. The savings in lost productivity are fuzzy, but the cost you pay is very tangible." Time saved was not viewed as a benefit easily communicated to the general public or to politicians.
- Chicago's high level of transit infrastructure was not necessarily seen as a step up to congestion pricing. Instead, many believe that the availability of viable, fixed route transit alternatives makes congestion a less threatening future prospect for commuters and the city.
- There are few, if any, obvious spots to implement congestion pricing given Chicago's extensive road network. Many feared that congestion pricing would merely shift traffic to arterials, as occurred during recent construction on the two main freeways.
- An area wide application is the most logical, but public support is highly unlikely given the cost of technology and the level of government fragmentation.

CONGESTION PRICING SURVEY

1. Among the surface transportation problems in Chicago, how important is traffic congestion? How is it being dealt with?

Most participants felt that congestion was a major concern for transportation officials, but that Chicago area residents had become accustomed to congestion and did not see small yearly increases as anything more than a problem. Congestion has been growing not only on highways, but also along arterials, with both the number of congested routes and the peak hours of congestion increasing. Some routes are congested for most of the day. One participant commented that traffic congestion was a price people paid for automobile travel and their decisions about where to live and work. Since people had not made individual choices to avoid congestion—for example, to carpool, take the bus, or live close to their places of work—it must not be that important a problem.

Another participant wrote that economic competitiveness and equity issues between the central city and suburbs were of greater concern and that, in some locations, congestion was a bigger problem for travel during the weekend than during the business week. The group’s consensus was that congestion will become a more severe problem in the future, especially as suburbs continue to expand and do not provide sufficient alternatives to using the automobile.

The primary methods of dealing with congestion have been to increase the capacity of transit and rail lines and to increase road capacity through new facilities and system management. Other approaches include advertising and providing incentives for transit, park and ride facilities, carpooling and vanpooling, and an exploration of transit-oriented development.

Participants agreed that the current methods for dealing with congestion were merely temporary fixes aimed at treating the symptoms rather than the causes of congestion. The current transit system has been designed to move traffic into downtown Chicago and around the city. Convenient inner- and inter-suburban transit have not been available. People have been adapting to congestion through new in-car technologies such as cellular phones and CD players. Some participants felt that a survey measuring the public’s perceptions of Chicago’s congestion, the value of time, etc. would be a useful planning tool.

2. How familiar are you with the concept of congestion pricing?

All participants reported a familiarity with the concept and some reported a high level of knowledge. As the discussion progressed, however, there appeared to be confusion over how implementation of congestion pricing would work, how it differs from traditional tolling, and what its benefits might be.

3. What would motivate you (your organization) to pursue or oppose congestion pricing?

Educatr the public about the social costs of congestion was viewed by participants as crucial to gaining the needed public support for pursuing congestion pricing. Participants felt changes in land use were critical to addressing congestion but believed land use changes should precede congestion pricing. Many participants felt that urban sprawl encouraged vehicle use and made providing transit alternatives too costly.

The support of the toll authority was also seen as necessary to pursuing congestion pricing. Two other considerations were designated as important: ensuring that the economic competitiveness of downtown Chicago would be maintained and proving that congestion pricing was cost effective and beneficial to transit.

4. Who do you see as the beneficiaries of congestion pricing? Who do you see as the losers?

Participants thought that the biggest winners of congestion pricing would be the travelers with the highest value of time, transit agencies and riders, suburban commuters benefiting from faster travel times, and transportation agencies receiving surplus revenues. Increases in travel speeds and increases in transit ridership would also be expected to improve air quality and thus benefit the entire population.

Losers would include people unable to afford congestion tolls and other travelers with no viable alternatives available to them. Depending on the impacts of pricing, Chicago could lose business sites to the suburbs where congestion pricing may not be applied. Other potential losers include liberal and small businesses along improved routes that might experience increased congestion. The general public might also be adversely affected by an increase in the cost of living if higher transportation costs for businesses were passed on to the public.

5. What are the major barriers to congestion pricing in Chicago?

The political structure of the Chicago area was seen as a major barrier. Gaining the support of the approximately 270 local government officials—which many of which have conflicting goals depending on their location and socio-economic needs—was perceived as a major obstacle. These local governments compete with each other for tax base, thus reducing the inclination for a regional solution. Many participants believed that cities surrounding Chicago would benefit if Chicago were to introduce congestion pricing.

Air quality concerns also provide a strong momentum for pursuing pricing approaches. The loosening of attainment deadlines resulting from uncertainties surrounding the ozone issue, and the governor’s suspension of the RTO program, have made politically unpopular approaches such as congestion pricing less likely to be implemented.

Privacy issues were also raised as a concern. Participants also expressed awareness of how anonymous collection systems operate. In addition, the automobile was viewed as offering consumers a lot of choices that they might be unwilling to give up.

Participants raised the issue of the unequal advantages (disadvantages) that congestion pricing would confer on localities. Due to the ubiquitous nature of Chicago’s transportation network, congestion pricing would have to be implemented everywhere simultaneously in order to create a regionally equitable system. The cost of such a large scale system was viewed as a serious barrier, particularly in the process of switching to partial electronic toll collection, estimated its costs for the switch to be approximately thirty million to forty million dollars.

Several reasons were given why existing and planned toll roads were unlikely candidates for congestion pricing. First, there is a general lack of public trust, and support for, the toll authority. When the tolls were introduced in the 1930s, the public was promised that once the new roads were paid for, the tolls would be removed. The fact that this never happened has led to a high level of skepticism by the public. In addition, the authority has recently faced charges of mismanagement. Second, the toll authority is constrained by bond indentures that require a uniform price. Third, survey research conducted by the toll authority found that travelers were most concerned with having to stop at the toll booth, not the delays experienced during the rest of their trip. Fourth, concern was raised that imposing high peak-period tolls might cause drivers to choose alternate roads, leading to a loss of revenues for the toll authority. Fifth, it would be hard to implement congestion pricing on the new facilities, which are not expected to be highly congested, when peak-period tolls are not expected to be implemented on other significantly more congested routes.

Off-peak discounts were seen as a possibility, but one participant doubted whether there would be sufficient capacity during off-peak hours as the system currently has high levels of demand throughout the day.

6. Studies of congestion pricing suggest that it could yield substantial revenues. If implemented, how would you advocate using them?

Each participant was asked to rank the alternatives from 1 to 5, with 1 being the highest and 5 being the lowest. The table below presents a summary of the results.

<table>
<thead>
<tr>
<th>Transportation Professionals</th>
<th>Improve, expand, or maintain highways</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fund mass transit</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Reduce taxes</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Compensate those who might be economically penalized by congestion tolls</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Other*</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Number of Participants</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

* Specific suggestions were:
  - Require congestion pricing to be revenue neutral.
  - Reduce funding bonds.
  - Establish truck inspection centers requiring emissions and mechanical safety checks.
7. If implemented, who should administer congestion pricing in Chicago?

Two agencies were suggested as possible administrators of congestion pricing: the RTA, which was viewed as a neutral agency capable of representing the concerns of suburban and city users, and the toll authority, which already engages in toll collection and is in the process of implementing electronic toll collection.

8. If implemented, how would you measure the success or failure of congestion pricing?

Each participant was asked to rank the alternatives from 1 to 5, with 1 being the highest and 5 being the lowest. The table below presents a summary of the results.

<table>
<thead>
<tr>
<th>Transportation Professionals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease in traffic times</td>
</tr>
<tr>
<td>Mode shift</td>
</tr>
<tr>
<td>Air quality improvement</td>
</tr>
<tr>
<td>Public perception</td>
</tr>
<tr>
<td>Other*</td>
</tr>
<tr>
<td>Number of Participants</td>
</tr>
</tbody>
</table>

* Specific suggestions were:
- Long-term trip and VMT reductions.
- Revenue generation.
- Long-term shaping of regional urban form.

FOCUS GROUP PARTICIPATING ORGANIZATIONS

TRANSPORTATION PROFESSIONALS (ONE PARTICIPANT FROM EACH, EXCEPT AS NOTED)
- Air Quality Planning Section of the Illinois Environmental Protection Agency (2)
- American Automobile Association-Chicago Motor Club
- Chicago Area Transportation Study (CATS) (2)
- Chicago Transit Authority
- City of Chicago
- City of Elk Grove Village
- DuPage County Development Department
- Illinois Department of Transportation (2)
- Illinois State Toll Highway Authority
- Lake County Division of Transportation
- McDonough Associates, Incorporated
- Regional Transportation Authority

FOR MORE INFORMATION

- David Zavattaro
  Chicago Area Transportation Study
  (312) 793-0560
BOULDER CONGESTION RELIEF STUDY

Boulder, a city of 90,000 residents, is located in the northwestern corner of the Denver metropolitan area. After twenty-five years of aggressive open space preservation, Boulder is the most densely populated urban municipality in the state of Colorado. Although it forms part of the Denver area, Boulder is a regional magnet in itself. More commuters come into the city for employment than go out of it.

The 1989 Transportation Master Plan (TMP) called for a 15 percent reduction in SOV travel. Although the city has been successful in reducing SOV travel by 3 percent in the past four years, the increase in employment and population within the city has offset these achievements. As a result, Boulder is currently studying congestion pricing mechanisms in order to comply with the TMP requirements. The project is entitled the Boulder Congestion Relief Study.

To date, the city has initiated the development of short-term congestion relief strategies to augment congestion pricing, initiated a public discourse over the true costs of travel in Boulder, conducted in-house interviews with other city of Boulder staff as a component to a strategic plan, conducted nine citizens focus groups throughout Boulder County, and initiated the broad-based citizen polling and marketing plan. The technical analysis includes linkages to other transportation projects that would be inherent to the congestion pricing program. These include partnerships with other transportation efforts, enhancing the physical system for alternative modes, reducing demand through market and nonmarket incentives and disincentives, and increasing community awareness and education.

PUBLIC OPINION MARKET RESEARCH

Citizen focus groups were conducted in January and again in May of 1996, and interviews with city of Boulder staff were conducted in November 1995. The focus groups involved a representative sample of people residing within the study area and were based on traffic sheds for that area. These meetings led to the development of the following potential strategies for congestion pricing marketing to increase acceptance: conduct "household budget exercises" whereby participants will be asked to find ways to reduce their overall transportation expenditures and then offer input on potential congestion pricing scenarios; raise the visibility of home deliveries and telecommuting; develop and use a mobile kiosk to convey information about the Congestion Relief Study at community events; enhance congestion pricing acceptability by pursuing nontransportation market-based initiatives in other city activities; and explore the possibility of neighborhoods "selling" their excess on-street supply of parking to short-term parkers and return a part of the revenues back to neighborhoods to fund free transit programs.

LESSONS LEARNED FROM THE BOULDER EXPERIENCE

As the study is in its early stages, the verdict is still out on the success of the Boulder project. Overall, Boulder seems to emphasize an innovative approach to dealing with the political issues surrounding congestion pricing. Some key differences that make Boulder stand out include the following:

- Public education experiences go beyond the simple "town meeting" technique for gauging public response. Fun, innovative techniques like the household budget exercise may enhance the acceptance of congestion pricing within the community.
- The city has made sure, through staff interviews, that its in-house perception of the project is understood. Through these interviews, it was found that many departments viewed congestion pricing as being detrimental to their own pursuits. The interviews have allowed Boulder to plan for a strategic study of congestion pricing.
- Initial emphasis on allowing the public direct input into the design of congestion pricing applications may help avoid political disputes over behavior modification. This may be indicative that Boulder, which recently passed an initiative banning smoking in the city, is perhaps more willing to support behavior modification in pursuit of community goals.

FOR MORE INFORMATION

- Debra Baskett
  Project Coordinator
  GO Boulder
  (303) 414-498
  e-mail: BaskettD@GO_boulder.co.us

- Myron Swisher
  Colorado Department of Transportation
  (303) 757-9604
LOS ANGELES CONGESTION PRICING STUDY

The Southern California Association of Governments (SCAG) and Caltrans (the state department of transportation) began a two-year, preproject feasibility study of congestion pricing applications in 1995. The study will address market-based strategies to manage transportation demand, raise revenues, and help meet air quality goals. It will also incorporate the results of ongoing projects in the region such as SB601. Focus groups and major public polling began in the fall of 1995. Results from these activities will provide the foundation for a public education campaign.

SCAG formed the Reduce Emissions and Congestion on Highways (REACH) Task Force to guide the study. The task force includes representatives from SCAG, local government, Caltrans, the South Coast Air Quality Management District, public interest organizations, labor organizations, academia, and the private sector. The task force functions through an eighty-person advisory committee and a twenty-person steering committee.

The private sector is particularly well represented on the task force. The Coalition for Local Environmental Solutions and a Competitive Economy (COALESCE) represents major employers, many of which are major stationary sources for air emissions and are thus motivated to find alternatives to command and control regulations of the Clean Air Amendments of 1990. (Although command and control measures have been greatly reduced, the business sector sees them as inevitable in the long term unless other effective mechanisms are put into place.) In addition to COALESCE, developers and representatives from energy utilities and the construction/real estate sector regularly participate in the work of the task force.

The task force is considering three market-based strategies: congestion pricing, a VMT-emissions fee, and a combination of the two. Congestion pricing options being considered include pricing on all congested freeways, pricing on selected segments of existing facilities, HOV buy-in on existing HOV lanes, and HOV buy-in on a new facility. The VMT-emissions fee would be calculated based on the number of miles traveled and the emissions characteristics of the vehicle. The miles traveled would be assessed either through manual odometer readings or through an electronic chip. The emissions characteristics would be computed either through use of standard emissions data for the make, model, and year of the vehicle, or through measurements from the existing emissions inspection and maintenance program.

A unique feature of the VMT-emissions fee would be the rebates received by all drivers. Individuals who drive a small number of miles in relatively nonpolluting vehicles would receive a financial incentive, and individuals who drive a large number of miles in vehicles with high emissions would be rebated a portion of the fee assessed. The universal rebate feature is designed to provide a multiformed opportunity to educate drivers on their contribution to poor air quality and on possible remedies. Rebates could be used for transit passes, mechanical repairs to their vehicle, and possibly other not-yet identified purposes. Both the congestion and the VMT-emissions fee incentive proposal include a clause designed to address concerns about geographical equity. At the start of the program, residents would receive an exemption based on the length of their present work commute. The exemption would be phased out over a six-year period to allow sufficient time for people to make long-term changes such as purchasing less-polluting vehicles, moving closer to their workplaces, using transit, or making carpools arrangements. Lifeline rates are being considered to address social equity concerns.

KEY FINDINGS

• An important issue faced by the VMT/emissions fee program is determining how it will fit with the enhanced inspection and maintenance program of the California Air Quality Board scheduled to go into effect in the fall of 1997. Since the enhanced I&M program is designed to remove gross-emitting vehicles from the road, the motivation to implement the emissions portion of the emissions fee incentive program would be greatly reduced.

• The interest in congestion pricing is driven both by concern about deteriorating freeway and transit service and by the need for additional revenues. Interest in the VMT-emissions concept is driven primarily by a concern with meeting air quality standards.

• The HOV buy-in, which was initially favored by few, emerged as a possible option after studying the reactions of the focus groups. Caltrans, which has made major financial and institutional investments in developing and implementing an HOV strategy, may question selling so-called excess capacity on the HOV lanes, given the infancy of its HOV program. Certain HOV segments, however, may prove suitable for HOV options.

• The task force has identified the necessity of coupling the introduction of congestion pricing with major investments in transit alternatives. No task force member, including AAA, has strongly opposed using a significant portion of the revenues to fund transit enhancements.

• There has been little outreach to the media and little coverage of the work of the REACH Task Force thus far.
An upcoming story will focus on the range of new options made possible by technological advances. Some task force members are planning to submit opinion pieces to major newspapers in the area in order to build support for considering new funding mechanisms and pollution prevention strategies.

- The modeling analysis decided upon by the task force compares congestion pricing directly with the existing gas tax.

LESSONS LEARNED

- It is advantageous to be forthright about plans to use congestion pricing or VMT/emissions fees as a way to raise revenues. This ensures that questions of governmental accountability are addressed early in the process and promises better success with the general public in the long run.
- Media outreach should take place early in the process. It is an important component in building the local area's case for the necessity of alternative approaches to reducing congestion and emissions.

FOR MORE INFORMATION

- Deborah Redman
  Southern California Association of Governments
  (213) 236-1928
  Fax: (213) 236-1962

- Zahi Faraanah
  Caltrans District 7
  (213) 897-4279
  Fax: (213) 897-1337

STATE ROUTE 91 VARIABLE TOLL EXPRESS LANE™ FACILITY

BACKGROUND

California Assembly Bill 680, passed in 1989, authorized privately financed transportation projects. Four projects were selected to explore the potential of privately financed toll roads: State Route 91 and State Route 57, both in Orange County, a project in San Diego, and another in the Bay Area. State Route 91 (SR-91) is the first of the four projects to begin operations.

The California Private Transportation Company (CPTC) signed a thirty-five-year franchise agreement with Caltrans to build and operate the SR-91 Express Lane™. At the end of that period, the road reverts back to state ownership.

Groundbreaking for the Express Lane™ began on July 27, 1993, and the facility opened for business during December 1995. The 125-million-dollar, privately financed project added two toll lanes in each direction to the Riverside (91) Freeway linking Orange and Riverside Counties in southern California. (California Private Transportation Company 1995). The SR-91 Express Lane™ is the world's first completely automated toll road. It is also the country's first toll road to use variable pricing to help eliminate congestion and offer motorists a choice between waiting in gridlock and choosing to buy out of congestion.

THE PROJECT

The SR-91 Express Lane™ is a ten-mile variable toll facility built into the median of SR-91 between the Riverside County line and the Costa Mesa (55) Freeway, southeast of Los Angeles. SR-91 carries more than 255,000 vehicles per day, with peak-hour traffic exceeding designed capacity. CPTC, a consortium of engineering, finance, and construction firms, built and operates the Express Lane™. The consortium has contracted with Caltrans and the California Highway Patrol for maintenance and police services.

Prior to the opening of the Express Lane™, commuters on SR-91 typically experienced congestion delays of twenty to forty minutes. Since the opening, the 50 percent capacity increase has greatly mitigated congestion.

Tolls on the Express Lane™ vary according to the time of day, reflecting expected travel savings over the adjacent non-tolled freeway lanes. The "value price" tolls for the Express Lane™ currently range between twenty-five cents and $2.50, depending on the time of day. The tolls are set to ensure free flow, and are collected using automated vehicle identification (AVI).

Drivers are required to purchase a windshield transponder unit that allows them to use the Express Lane™ without stopping at toll booths. The system, called FastTrak™, uses overhead radar readers that electronically bill drivers the value price. The toll-listed transponder can easily be moved from car to car. The FastTrak™ system can handle more than twenty-five hundred vehicles per hour per lane, and can recognize vehicles at over 100 mph.

To date, over thirty thousand transponders have been purchased, a number well beyond predicted sales.

CPTC is promoting triptime savings of at least twenty minutes with the guarantee that it will refund transponder deposits, account balances, and the five most recently paid tolls to dissatisfied customers. Vehicles that do not have AVI equipment are prohibited from using the Express Lane™, with enforcement being provided by the state highway patrol.

HOW use is also encouraged on the Express Lane™. Vehicles with three or more people (HOV 3+) currently travel free. If future use continues to grow, HOV 3+ vehicles may pay a discounted fee. To encourage ridesharing, the rate-of-return ceiling will increase with higher average occupancy levels, allowing CPTC to keep a larger share of its profits. Currently, the system operates with an established rate-of-return ceiling. Half of any excess profits beyond the base rate of return will be split equally between Riverside and Orange counties. (Much of the information cited in this, and the two preceding, paragraphs is from Reinhart 1995.)

RESEARCH AND FINDINGS

The FHWA, FTA, and Caltrans are funding a monitoring and evaluation project of SR-91. California Polytechnic State University is conducting the research. Key elements of the study address the public's changing attitudes toward tolls, especially those tied with congestion relief. The study will look at shifts in travel behavior within the corridor, including trip generation and distribution, and on choices of travel mode, time, and day of travel for different market segments. It will also look at the impacts on the use and traffic performance of adjacent transportation facilities in and near the SR-91 corridor (Sullivan 1996).

The data analysis for the study began one year prior to the opening of the Express Lane™ and is continuing throughout 1996. Data is also being collected on State Routes 57 and 60, which are possible alternative corridors for SR-91 users. Traffic counts, travel speeds, public transport patronage, park and ride usage, toll levels, accidents, origin and destination data, and survey research are all being used to evaluate the project.
The San Diego congestion pricing program stems from the regional air quality transportation control measures (TCMO) adopted in April 1991. In October 1992, as part of a joint congestion pricing pilot project and transit development program on the I-15 corridor, the Federal Transit Administration (FTA) awarded the San Diego Association of Governments (SANDAG) a grant for a project study. California legislative approval followed in October 1993, and the Federal Highway Administration (FHWA) provided $7,196,000 for implementation funding in March 1995. The I-15 express lane facility is an eight-mile stretch of a two-lane reversible high occupancy vehicle (HOV) lanes located in the northeast portion of San Diego.

The two-phase congestion pricing project will allow SOV drivers to buy access onto these HOV lanes. The first phase includes two parts: implementation planning and interim implementation. Implementation planning, which will focus on project implementation design, includes developing baseline data on travel behavior, planning public marketing and education programs, and examining electronic toll collection technologies. Initially scheduled to be completed in February 1996, this portion was delayed slightly by inadequate staffing resources in early 1996 and is now scheduled to be completed by early 1997. The second part of the first phase is interim implementation, which will allow a limited number of users (approximately one thousand per hour) to purchase a permit to operate a vehicle on the express lanes to help simulate electronic toll operations. This portion is scheduled to begin in the fall of 1996.

The second phase, which is full implementation, will begin when the electronic toll collection technologies have been installed and tested. Scheduled to begin in the summer of 1997, full implementation will open the I-15 express lanes to all travelers on a market-price, space-available basis.

POLITICAL ACTIVITY

San Diego's congestion pricing project has an interesting and unique political history. One particular elected official, Jan Goldsmith, provided substantial leadership that resulted in the success of this program. Goldsmith, who serves in the California Assembly, is a former mayor of Poway and a member of both the SANDAG Board of directors and the Poway City Council. His support for the congestion pricing project derives from his interest in having greater transit services along the I-15 corridor, similar to those recently added along the I-5 corridor. The congestion pricing project was a means of obtaining funding for transit. As a result of his being the legislator from the I-15 district, San Diego's congestion pricing program received strong support from both local and the California Legislature.

PUBLIC EDUCATION AND MARKET RESEARCH

As of this writing, the congestion pricing project did not have a public education or marketing plan designed. SANDAG intended to remain out of the public eye until a consultant could be hired to guide the project on public involvement and process. The project's second phase could potentially provide an innovative approach to congestion pricing marketing and education. By not opening the HOV buy-in immediately, unlike what occurred with the SR-91 project in southeastern Los Angeles, San Diego will be able to hone its message and educational efforts to target metropolitan users. Unfortunately, phase two has been temporarily delayed. The request for proposals (RFP) was released in April 1996 and a consultant was chosen to begin work the end of July 1996.

LESSONS LEARNED FROM THE SAN DIEGO EXPERIENCE

San Diego's experience emphasizes the administrative side to congestion pricing and includes the following lessons:

- Identify a political "white knight." The San Diego project has benefited greatly from the leadership and support of Jan Goldsmith, California Assemblyman and former mayor of Poway. Goldsmith offered support for the HOV buy-in proposal among elected officials and key stakeholders by trumpeting the congestion pricing program at both the local and state level. As a result, San Diego has been able to avoid many of the political concerns that other communities have had to deal with in promoting congestion pricing.

- Avoid confusion among transportation projects. Confusion currently exists among the public regarding transportation projects on the I-15 corridor. In addition to congestion pricing and electronic toll collection, an automated highway system demonstration project is also being conducted on the same facility.

- Cooperative agreements: take time. Part of the reason for the delay in this project involved the pursuit of interagency cooperative agreements. As could be expected, these agreements take time to develop. SANDAG advises that...
The San Francisco Bay Bridge remains one of the nation's most congested corridors. It is 8.4 miles in length and connects San Francisco with the East Bay. The toll bridge consists of an upper deck for westbound traffic and a lower deck for eastbound traffic, each with five mixed-flow lanes. More than 250,000 vehicles cross the bridge every day. Only vehicle-hours of delay for westbound traffic have increased by 133 percent between 1981 and 1991, and are projected to grow increasingly worse over time.

The California Department of Transportation (Caltrans) operates and maintains the state-owned bridge, but the Metropolitan Transportation Commission (MTC) has the authority to set the toll within the maximum rate allowed by the state legislature. Currently, a one-dollar toll is levied on commuters in the westbound direction only. HOV vehicles with three or more occupants are not charged. The Bay Area Congestion Pricing Task Force, a coalition of government, business, environmental, and public interest groups, was formed to address the congestion problem and was awarded a grant in August 1993 to develop a congestion pricing demonstration program. In December 1994, a draft pricing strategy was approved by the MTC. The strategy called for a three-dollar change on westbound SOV traffic during peak periods. Revenues would be dedicated toward transit and other alternative modes along the corridor. Modeling of the price change predicted a 40 percent reduction in morning delay and a 47 percent reduction in afternoon delay. Despite involving several different local public and private organizations and conducting focus groups with stakeholders and commuters, media coverage of the project has been antagonistic. The legislative environment in California has also presented a barrier for implementation.

**PUBLIC OUTREACH AND EDUCATION**

During the time the proposal for a flat toll increase on the Bay Bridge was being made, the following public concerns were identified: roads should be free; voters should decide on fees; toll increases disproportionately benefit wealthy; linkages between revenue use and those passing the toll need to be clear; adequate alternatives to SOV travel do not exist, and tension among geographic communities needs to be resolved (Ditzmarr, Frick, and Tannehill 1993). The MTC designed future public outreach to resemble a political campaign. Focus groups were conducted with the general public (i.e., commuters on the Bay Bridge) and with stakeholder groups, including elected officials and staff, business leaders, community activists, and representatives of public agencies, the environmental community, and labor interests.

Initially, the focus group participants expressed skepticism that pricing would actually work to reduce traffic. They believed that tolls would be too high and were concerned about how tolls would financially impact those unable to switch modes, route, or time. They also expressed a lack of trust in government’s ability to use revenues. After further discussion, most focus groups felt that revenue neutrality would not be the right answer, as new alternative transportation services were needed for those commuters especially impacted by the congestion tolls. It was decided that these services should include enhanced Bay Area Rapid Transit (BART) service; transit security, transit fare reductions, and ridesharing assistance. The input gathered from these focus groups will help shape future efforts.

**LESSONS LEARNED FROM THE SAN FRANCISCO EXPERIENCE**

As the project with the most public outreach experience, San Francisco offers a unique array of lessons for other communities pursuing congestion pricing. These are summarized below. (For a more complete discussion, see Frick, Heminger, and Ditzmarr 1996: 53)

- Individual reactions to congestion pricing are dependent on how revenues are used. Congestion pricing was originally seen as a means of raising new revenues for transit and ridesharing programs, leading to skepticism from the public who viewed congestion pricing simply as a tax increase. By relaying all or part of the net funds generated by the program, the MTC may neutralize such objections.

- All other alternatives should be considered first. Staff at the MTC believe the public will accept pricing only when convinced that there are no other reasonable alternatives.
for congestion relief. Unless this is done, transportation and elected officials run the risk of being hindered by “what they should have done” critiques from the public and the media.

- Spend time cultivating partnerships. Successful strategic planning will involve a coalition of political interests, ranging across all spectrums. Coalitions reduce the rhetorical damage any particular interest group can have.
- The pricing policy should reflect the multiple interests that are involved in the partnership.
- Different public stakeholders will have different reactions. MTC staff advocate the importance of understanding the reaction of different “publics” to congestion pricing. Bay Bridge commuters have very different responses to variable tolling than the larger public.
- The equity issue is not a fatal flaw. Consideration of economically disadvantaged drivers is important in building public support. MTC is considering the application of a one-time toll similar to the billing system used by public utilities. Low-income motorists, identified in the pricing collection database, would be electronically charged a lower fee when using the Bay Bridge (Metropolitan Transportation Commission 1996).

FOR MORE INFORMATION

- Karen Frick
  Metropolitan Transportation Commission
  (510) 464-7704
  e-mail: KFRICK@mtc.dot.ca.us

- Phil Jang
  Caltrans-Headquarters
  (916) 654-7138
  e-mail: PJang@trans.dot.ca.gov

WASHINGTON DEPARTMENT OF TRANSPORTATION
PUBLIC-PRIVATE INITIATIVES PROGRAM

In 1993, the Washington State Legislature unanimously approved a bill establishing the Public-Private Initiatives in Transportation Program (PPI). This legislation allowed the Washington Department of Transportation (WSDOT) to enter into agreements with private entities to develop transportation projects and to recover some or all of the costs through tolls or other user fees. Projects could include the design, financing, construction, and operation of highways, roads, bridges, vehicles, park and ride lots, or transportation management systems.

The secretary of transportation was given broad authority to select up to six projects for implementation. WSDOT was responsible for negotiating reasonable maximum rates of return for the private firms and for including incentives to meet public goals such as safety, performance, and travel demand management. Eleven projects, representing over 4.8 billion dollars in potential investment, were submitted. In 1994, six projects, all located in the Seattle metropolitan area and totaling 2.1 billion dollars in cost, were selected. The six included three separate projects to expand existing highways to four lanes, a new highway bridge, new park and ride facilities, and a staged, areawide congestion pricing plan. In addition to the congestion pricing proposal, all of the projects except the park and ride facilities included the possibility of a variable pricing component.

The staged congestion pricing plan was proposed by United Infrastructure, a consortium of private firms. The project proposed to begin by selling excess capacity on existing high occupancy vehicle (HOV) lanes to drivers of single occupancy vehicles (SOVs). Revenues from this phase would be used to build almost two hundred miles of planned, but currently unfunded HOV lanes, with the new lanes to be priced in a similar fashion. After the public became familiar with paying for uncongested travel, pricing would be expanded to all general purpose freeways in the area.

Extensive surveying by WSDOT, done prior to solicitation of private proposals, revealed support for private sector involvement in providing transportation and equal support for toll financing and increases in the gas tax. Early in the PPI program, WSDOT conducted public outreach through press kits, meetings, and briefings. There was little public reaction until the specifics of the six projects were made public, at which point intense opposition arose. This highly localized opposition was expressed as a dislike of certain corridors being singled out for tolls as well as the more common "not in my backyard" response to new construction.

In 1995, a strong anti-toll climate emerged and was reflected in a sea change in the state legislature, which shifted from a Democratic to a Republican majority. Although Republicans and Democrats alike supported the enabling legislation for private proposals, the newly elected legislature amended the PPI program to require an advisory vote by "affected areas" on the imposition of tolls to pay for a proposed project. Toll revenues are to be used to reimburse the state for the costs of the advisory vote. In 1996, the program was amended to require WSDOT to conduct an environmental review of projects to determine a preferred alternative solution before an advisory vote.

The fundamental change directed by the amendment is the requirement to formalize a determination of public support through an advisor vote. A public-private local involvement committee must be formed to provide guidance to WSDOT in the selection of the affected area and the administration of the advisory vote. The affected area eligible to vote on a project is to be determined based on the geographic profile of individuals who use the facility as well as the communities that would feel the social and economic impacts. The outcome of the advisory vote, however, does not bind WSDOT. WSDOT's legal counsel has interpreted the state constitution to mean that a truly binding vote would necessitate a statewide vote because the projects concern a state interest. The amendment also called for a program and financial audit of the PPI program, suggesting an attempt by the legislature to lift any future controversy concerning insufficient public involvement or behind-the-scenes deals.

Two of the six projects originally selected for negotiations are now moving forward: improvement to mitigate congestion on the Tacoma Narrows Bridge, possibly including a new or expanded bridge, and a park and ride capacity enhancement project in King County. This year the legislature appropriated eleven million dollars to fund the environmental review and advisory vote for the Tacoma Narrows Bridge project. The legislature also authorized two million-dollar feasibility study of the park and ride facilities to be conducted by the private proposer.
WSDOT selected the Tacoma Narrows project because it is a critical component of the regional transportation system and a highly congested bottleneck. Furthermore, due to its significant cost ($5 billion) and the millennial rider bridge is not slated in the state's twenty-year transportation plan and would not be built in the foreseeable future without toll financing. Variable pricing is an option for this bridge. The environmental review will include an analysis of the cost and effects of different toll rates, and this information will be conveyed to the public prior to the advisory vote.

With regard to the staged congestion pricing project, the amendment calls for a detailed analysis of the possible impacts on the integrity of an HOV program, the cost-effectiveness of goods movement in the area, the traffic diversion to arterials and other highways, and the financial hardships for commuters. The amendment also calls for specific legislative authority before public-private agreements are signed. At present, WSDOT has no immediate plans to begin the impact analysis.

Although the legislature directed WSDOT to conduct a public involvement process to identify future projects, the agency may still solicit private proposals. WSDOT, however, has no immediate plans to solicit new private proposals. Legislation passed in 1995 dictates that if tolls are imposed to finance a PPP project they must be removed if the proposal is not approved. The legislation means that WSDOT will eventually be responsible for costly maintenance of any project built under the PPP program.

INSTITUTIONAL AND POLITICAL ISSUES

Given the recent rapid population growth of the Seattle region and the projected future growth, WSDOT foresees the need for major new transportation investments. With the increasingly anti-nuclear, megagrowth campaigns in the state, however, WSDOT was unable to count on traditional revenue sources and turned to privately financed toll facilities. Extensive national attention given to WSDOT's ambitious PPP program and the opposition it generated. As with most innovations, WSDOT learned the hard way about weaknesses in the program's design, and the timeline for projects had to be significantly extended.

Those designing the program did not foresee the strength of the public's negative reaction. Program Manager Rhonda Brooks believes that soliciting projects to an advisory process is a wise move (Brooks 1996). She believes that the extensive requirements for public comment built into the permitting process of the National Environmental Policy Act (NEPA) and State Environmental Protection Act (SEPA), as well as the required adherence to state growth management and environmental goals, would ensure that any project selected by WSDOT would have sufficient opportunities for public approval.

Robert Farris, who worked for the private consortium proposing several of the projects, summarized the key problems associated with WSDOT's original approach to public-private initiatives in a paper given at the 1996 Transportation Research Board annual conference (Farris 1996). First, despite the fact the PPP program was premised on a lack of traditional funding sources to complete planned projects, neither the transportation commissioner, the governor, nor senior WSDOT officials ever stated categorically that certain projects would be ineligible for gas tax or other state revenues. In fact, a state gas tax increase was proposed (although defeated) during the negotiations with the private sector. Some state legislators, representing areas in which private proposals had been made, announced that they would try to secure funding through the traditional allocation process. Not surprisingly, residents of the affected areas began to wonder why they were singled out to face tolls, and petition drives easily collected thousands of signatures in opposition to the tolls. Farris contends that the legislature compounded the problem by never aggressively making the case for the program once public opposition arose.

A second set of problems arose that are related to the six-project limit and the negotiation process. The six-project limit set by state law was perceived as an arbitrary ceiling, thereby suggesting to proposers that the selection process had been highly subjective. In addition, the proposers chose not to reveal contract language or continue public information efforts until they signed a franchise agreement with the state, thus leaving the public without a clear understanding of the projects and perpetuating the perception that shady, behind-the-scenes deals were being cut.

Farris believes WSDOT's missteps have seriously dampered the private sector's interest in public-private initiatives in the transportation sector. He contends that the financial risk incurred by the private sector in developing and carrying forward proposals, with no guarantee of whether or when the projects would come to fruition, will cause private firms to think twice before engaging in this type of partnership again.

CONCLUSION

An inherent tension exists between identifying fundable projects (given traffic congestion, the project's willingness to pay) and projects that serve regional, state, and national goals related to economic competitiveness, equitable access, and environmental protection. This tension makes it imperative that clear and appropriate criteria be applied to public and private sector be articulated at the outset.

But what should these roles be? By soliciting private proposals, WSDOT acknowledged that the public sector may be more efficient in getting highway and related projects completed. At the same time, the experience in Washington State demonstrates that the public sector is best suited to determining the level of public support for particular projects. Transportation projects have typically been selected on elaborate public processes of assessment and prioritization. Since the public sector in Washington neither identified particular projects as candidates for private development, nor clearly articulated that all future projects of a certain nature would be financed through user fees, the private sector was doomed in its attempts to demonstrate public support.

The setbacks experienced in WSDOT's PPP program have often been attributed to the shift to Republican control of the state legislature. Rather than clarifying the cases in which public-private partnerships were appropriate, the new administration left the guidelines vague. The absence of political leadership, however, goes deeper than blaming one party. In fact, the Republicans might have been expected to support privatization efforts such as the PPP. The legislature's response transmutes political affiliation and reflects an increasing caution on the part of elected officials given the political risks presented by government. Once a segment of the public voiced its opposition, legislators from both parties stood away from publicly supporting what seemed like such a good a idea short time before.

The setbacks simply reflect a gap between the public's expectations for new transportation facilities and its willingness to pay for these facilities through direct user charges or through gas tax increases. PPP Program Manager Brooks contends that in the future, the government will provide a basic level of many services, such as garbage collection, parks, schools, and transportation; any superior service will be paid for through direct user fees. In the transportation sector, the government will be expected to be more efficient. In the country as a whole are experiencing an evolutionary shift in thought about the provision of public goods. Brooks believes that in the future, the government will provide a basic level of many services, such as garbage collection, parks, schools, and transportation; any superior service will be paid for through direct user fees. In the transportation sector, the government will be expected to be more efficient. The setbacks should be expected in times of evolutionary change.

PIGUET SOUND REGIONAL COUNCIL ACTIVITIES RELATED TO CONGESTION PRICING

The Puget Sound Regional Council (PSRC), which is the metropolitan planning organization (MPO) for the region, adopted its Metropolitan Transportation Plan (MTP) in May 1995. The MTP specifically calls on the region "to develop a public dialogue and seek broad public support for implementation of transportation pricing strategies which can reduce congestion and free up travel and manage travel demand" (Puget Sound Regional Council 1995). Pricing strategies are viewed in the MTP as a means of assisting the region to achieve its growth management and economic goals while also addressing objectives for energy conservation, air quality improvement, and congestion management. In response to this policy, the PSRC's Transportation Policy Board has created a task force to study the full costs of transportation in the region for all modes and identify appropriate policies and methods to promote efficiency.

The task force's initial work will be completed during the fall of 1996. The task force firmly believes that public support for any transportation pricing strategies, including congestion pricing, will not be forthcoming until there is greater public awareness regarding what individual households actually spend for transportation, what they receive for that expenditure, and what needs cannot be met by the market currently in place. Much of the task force's current work is focused on transportation finance reform and the potential opportunities to simultaneously address finance reform and growing travel demand. The PSRC, through the task force and its policy boards, intends to actively seek the participation of the business, academic, environmental and communities in its efforts aimed at enhancing public dialogue and seeking broad public support for transportation finance reform that is more user-based in its structure.

LESSONS LEARNED FROM THE EXPERIENCE OF WSDOT AND THE PSRC

• Public and private roles in partnerships must be clearly articulated. Identifying public support for projects is not merely the domain of the public sector. Private sector proposals should only be solicited after this step has been completed.

• Public-private partnerships advanced by the state department of transportation should be carefully coordinated with related efforts by the metropolitan planning organization to advance market-based strategies.

• The speed with which successful innovation proceeds is linked to the understanding of stakeholders and the public of the problem to be solved. It will also be dependent on the degree to which the private sector to tolls can be expected to perceive the tolls as being fairly taxed. The opposition to tolls expressed in the Seattle area was particularly intense because in many cases the tolls
were designed to pay for the maintenance and future operation of a facility, costs not well understood by the public.

- Incremental steps, such as the PSRC’s attempt to identify more clearly the full costs associated with different transportation modes, are needed, but will likely remain controversial.
- The message must be consistent from start to finish. The staged congestion pricing proposed by the private sector consortium in Seattle presents an intriguing approach to building public support. The ultimate goal of managing demand was obscured, however, by the initial emphasis on making life easier for SOV drivers through an HOV buy-in project. The incompatibility of these multiple goals created a situation in which there was something for everyone to dislike.

MORE INFORMATION

- Ralph Caprani
  Puget Sound Regional Council
  (206)461-7122

- Rhonda Brooks
  Washington Department of Transportation
  (360)966-2911

CONGESTION PRICING ON EXISTING TOLLWAYS

The Federal Highway Administration (FHWA) is attracted to implementing congestion pricing projects on existing tollways because tollway users are accustomed to paying for the use of the road; thus, one of the common barriers to congestion pricing implementation should be reduced. In reality, however, toll authorities that have examined congestion pricing as a means of managing traffic on toll roads commonly find that users are often critical of any attempt to raise the toll on roads or bridges.

Four proposals involving congestion pricing on existing tolled facilities are in progress. One, the San Francisco project, was analyzed separately (see page 69) because of the extent to which political and institutional issues have been addressed there. The other three—in Maine, New York, and Florida—are discussed in this section. The Maine project is unusual because the state received no assistance from the FHWA for its congestion pricing demonstration program. The Maine and Lee County, Florida, projects are further distinguished by their use of off-peak discounts in response to the political pressures associated with any attempt to raise toll rates.

MAINE TURNPIKE CONGESTION PRICING PROGRAM

The congestion problem on the Maine Turnpike is unlike that of most areas that are considering variable or congestion pricing. Congestion occurs primarily on summer weekends when tourists from Canada and neighboring states flock to the state, as opposed to the traditional "rush-hour" work commutes. The 1991 Sensible Transportation Act, a referendum authorized by Maine voters, prohibited the widening of the Maine Turnpike from four lanes to six lanes without a thorough consideration of all other alternatives. Currently, there are no viable alternative routes to the turnpike. Thus, alternative programs to be considered by transportation professionals need to emphasize demand management. One of these alternatives is congestion pricing.

In early 1995, the Maine Turnpike Authority proposed a ten-week congestion pricing demonstration program to take place on Fridays and Sundays beginning in July and going through Labor Day. A two-dollar surcharge would be charged during the peak period and seventy-five cents during the off-peak period (off-peak discount). The Maine Legislature and businesses that cater to tourists were opposed to the peak-hour tolls. On June 29, 1995, the first day of the Fourth of July weekend and the day before the program was supposed to begin, the legislature prohibited the implementation of congestion pricing on the turnpike.

The discount program for the off-peak period was still permitted to go into effect, however, but was postponed until August. Discount toll coupons, issued in newspapers and on the turnpike itself, offered free passage on the turnpike during the off-peak. The coupons were targeted to the New England tourist market and were advertised in the Boston Globe.

The Edmund Muskie Institute of Public Affairs studied the program and concluded: "Analysis of changes in the time vehicles exited the turnpike during the periods when discounts were in effect compared with comparable periods when discounts were not in effect shows that people were willing to change their time of travel in response to the price incentives, but the effects were not consistent at all times and dates" (Colgan et al. 1996).

Although results from the 1995 summer study indicate that shifts in the time of travel by tourists were modest, the turnpike authority plans to conduct a similar program during the 1996 tourist season, with more aggressive marketing of the program and modifications to the peak/off-peak periods. Despite the legislature's fears, the turnpike users have apparently received the concept well. When the authority asked drivers for their thoughts on the off-peak discount experiment, most out-of-state tourists thought the concept was a good approach to encourage tourists to travel when traffic was lighter (and roadway capacity was readily available).

PUBLIC OPINION MARKET RESEARCH

On the last weekend of August, the Muskie Institute surveyed over five thousand peak-period weekend travelers regarding their opinions of the discount program and prospective variable pricing on the turnpike. Results showed support for peak-period tolls as a means of offsetting the revenue shortfall from off-peak discounts. The survey also asked participants whether, at different hypothetical toll rates, they would change their route, time, or trip itself. At a toll of $1.50, there was a relative indifference between travel time and route. At tolls higher than $2.00, however, respondents indicated a greater willingness to alter travel behavior.

MORE INFORMATION

- Paul Violette
  Executive Director
  Maine Turnpike Authority
  (207) 871-7715
TAPPAN ZEE BRIDGE CONGESTION PRICING PROJECT

In early 1995, Westchester and Rockland Counties requested that the New York State Thruway Authority study possible long-term congestion relief strategies for the Tappan Zee Bridge, which connects the two counties. Congestion on the bridge is severe, with morning peak hours typically experiencing travel speeds less than 30 mph. The peak period is concentrated over a two-hour period in the morning. Afternoon travel is less severely congested. Currently, the toll is $2.50 per crossing. If a driver crosses the bridge more than seventeen times per month, however, the toll is $1.00 per crossing. In response to this problem, the state authorities solicited Federal Highway Administration Congestion Pricing Pilot Program funds to facilitate a congestion pricing study for the bridge. It is hoped that this program will develop a capacity improvement lane on the Cross-Westchester Expressway (I-287). The preferred alternative being considered is a barrier-separated HOV lane.

Management changes at the thruway authority slowed efforts to initiate a pricing proposal. During June 1996, a newly appointed board approved conducting a study of congestion pricing on the bridge. The thruway authority is concerned about how congestion pricing would be implemented, given the restraints placed or revenue use by the bridge’s bond indenture and the New York State law, which states that congestion pricing revenues cannot be used for alternative modes of transportation.

The initial proposal submitted by the thruway authority for the Tappan Zee Bridge was turned down by FHWA because the study proposal did not indicate a commitment to implement any kind of congestion pricing option (Tri-State Transportation Campaign 1995). Plans for public outreach and consensus building were also missing from the proposal. The thruway authority reviewed the FHWA’s responses and proposed a resolution to those concerns that includes conducting focus groups following the approval of the new thruway authority mandate.

LEE COUNTY, FLORIDA, CONGESTION PRICING PROJECT

The Lee County demonstration project is the most recently funded congestion pricing study. It includes the county’s two existing toll bridges and a third one that is under construction. Prior to FHWA funding, the toll on the bridges was raised from seventy-five cents to one dollar. Lee County officials made a promise to constituents that the implementation of variable tolling would not include additional toll increases. Given this commitment, the officials elected to pursue off-peak discounts in the demonstration project.

The largest factor making it difficult to measure the off-peak discounts, however, was the existing user fee tolling schedules. Currently, annual passes are available to frequent users. For drivers who purchase a thirty-five-dollar annual sticker, the fee is fifty cents each way. For drivers who purchase a three-hundred-thirty-dollar annual sticker, crossings on all bridges are free. Approximately 25 percent of users purchased the thirty-five-dollar sticker, and another 16 percent purchased the three-hundred-thirty-dollar sticker. Consequently, it was a challenge for Lee County to develop an off-peak pricing policy that would not result in a large revenue shortfall. Funding from FHWA was channeled into a revenue guarantee fund to make up for any revenue lost through off-peak discounts.

The first phase of the project, which included environmental reviews, a pricing strategy investigation, and preliminary traffic and revenue studies, was completed in September 1996. As a part of Phase I, the Lee County Transportation Department circled a survey to bridge users, exploring their views of travel costs, congestion tolls, and tollway technologies. The second phase of the project—implementation—will begin in 1997. As part of implementing off-peak discounts, the following periods have been identified: discount hours: 6:30–7:00 a.m., 9:00–11:00 a.m., 2:00–4:00 p.m., and 6:30–7:00 p.m. These times buffer the morning and evening peak hours and are designed to more evenly spread travel flows. Transponders will be distributed at no charge to users.

LESSONS LEARNED FROM TOLL AUTHORITY EXPERIENCES

The Maine experience provides several lessons, which are summarized below.

• Identify and maintain legislative relationships. The Maine Legislature disrupted the implementation of the original congestion pricing plan. Without careful cultivation of relationships with identified elected leaders, congestion pricing may not be given a chance.

• Congestion pricing may be more effective than simply raising tolls. For those tollways needing to raise tolls, it may be more effective to pursue variable pricing. The Maine survey results indicate support for peak-hour tolls if off-peak discounts are included.

• Be heedful of stakeholders. Congestion pricing in Maine failed to be implemented because business and tourism-based stakeholders contended the impacts would be too great on their livelihoods. Policymakers should pursue an effective strategic plan that would incorporate stakeholder concerns into their congestion pricing proposal.

Advice from the New York State Thruway Authority, summarized below, focused on two areas.

• Well-thought-out program development should involve policymakers before any public outreach begins. Internal support should be identified to confront political obstacles.

• Anticipate the reactions of public interest groups. Although environmental groups in the New York area have typically supported congestion pricing, they have argued that revenues be devoted to transit and other alternative modes of transportation. Unfortunately, given existing mandates under state law, the thruway authority could not use revenues in this manner.

The Lee County pricing demonstration project differs from other pilot projects in that it offers only off-peak toll discounts. The lessons learned from this project reflect this fundamental difference:

• Front-end research is important in determining the type of fee schedule that will yield the greatest redistribution of traffic at the least cost.

• In choosing a pricing system, financial feasibility is more important than structuring a simple tolling system.

• Public and political support is greatest when variable fees are not tied to toll increases.
SECTION 3

PEAK-PERIOD PRICING: LESSONS FROM OTHER INDUSTRIES
What can be learned from industries that have implemented peak-period pricing for the delivery of other services such as telephone, package delivery, health care (urgent care), electric and gas power, and Internet access? A recent review of sources has found a rich lexicon filled with technical jargon, such as two-tiered pricing, peak-load pricing, user and supplier incentives, and so on, that describes different aspects of peak-period pricing—that is, using price to allocate access to a good or service that typically has high fixed costs (most often in capital) as compared to operating costs driven by transactions, and where usage or demand is unevenly distributed among one or more peak time periods.

Many service providers, both in the public and private sectors and to both business and consumer markets, have transformed their pricing from average cost (total cost, both fixed and variable, divided by the total number of units available) to marginal cost (cost of last unit delivered at system capacity).

During the past two or three decades, we have witnessed and accepted the introduction of prices that vary by time of day in long-distance telephone service, electric power service, and document and package delivery service by both government-owned or regulated monopolies (post office, electric, and telephone utilities) and private companies (UPS, Federal Express, MCI, Sprint, etc.).

With traffic congestion pricing, these services are offered and priced to allow consumers to choose a level of service and/or time of service that meets their own estimation of the services’ value. A U.P.S. ad, published in the Minneapolis Star Tribune (February 14, 1990), shows a new scheme for distance-based pricing. The headline says “Overnight delivery service made the world a better place for Capitalism. So why are the rates still based on Communism?”

The advertising slogan, “when it absolutely, positively needs to be there overnight,” is a promise to consumers that has revolutionized the document and small package delivery business and is attempting to change consumers’ expectations of the delivery of almost every other service. Time-poor consumers or time-sensitive materials place a high value on time-based performance while other goods and consumers can afford to wait.

The prices bid for an expected delivery time or access time (telephone service, for example) allocate usage to off-peak periods. This economic rationing works very well in most instances. Obviously, some people are disadvantaged under such schemes. Industries such as telecommunications were regulated “to address this through lifetime programs, to encourage universal access and to alleviate financial hardship” (Gillen 1994, 130).

Lifeline programs offered by power utilities and telephone service providers are measures taken by these industries to guarantee access by special classes of nonpayers.

The American economy places a high value on time, consumer choice, and reliability. This can be seen in the emergence of urgent care or critical care 24-hour health clinics available in most major urban areas. The consumer, even in health care, can choose to wait until regular daytime clinics are open and pay according to their insurers lower rates or face a higher payment by using services available on demand during nonpeak hours. Health care is somewhat unique, however. The emergence of “managed care” is an example of the type of demand management being applied to traffic congestion.

Similarly, peak-period rates for energy and telephone service have also served to improve the reliability of service by allocating demand to off-peak periods when capacity is not challenged. Much of this demand has been automated or become transparent to the consumer through devices such as energy peak levels, delayed facsimile transmissions, alternative networks for phone, or the Internet.

Congestion changes on the Internet are the most recent potential application with many parallels to the road network. Like the increase in traffic congestion, usage of the Internet has been doubling every year. According to a FAQ sheet put out by Jeffrey K. Mackie-Mason and Hal R. Varian (authors cited at http://www.personal.umich.edu/~jmm/), “the NSFNET backbone is only 5% of total capacity...but peak usage can be 10 times the average.”

Previously uniform pricing based on users of time performance (UPS delivery 1 day, 2 day, etc.) are facing more variables on costs, such as distance and size. The age of treating certain goods and services as commodities is over. With the help of electronic systems, costs can be calculated to reflect the actual costs of providing the good or service almost at the time it is delivered or offer incentive pricing based on supply and capacity. These pricing techniques are being used in almost every industry. It is no wonder that they are being considered for traffic congestion pricing.

It is in sectors where the price of access faced by the consumer was historically zero, or otherwise hidden to the buyer, that we observe the most negative initial response to congestion pricing. This is clearly the case with traffic congestion and it is soon to be the case for users of the Internet. Part of the plan of the Boulder, Colorado, Congestion Pricing Pilot Study included a public education effort aimed at giving examples of peak pricing already accepted by consumers (GO Boulder 1996, 3). These examples included:

- premium prices for videos,
- mattresses versus prime-time movie tickets,
- airline ticketing prices (Saturday night stays versus weekday returns), and
- ski-lift tickets (seasonal, day/night, weekday/weekend).

Various user fees and incentives, some especially focused on reducing a negative externality like congestion,
are becoming more common in the marketplace. These include pollution emissions fees, waste abatement and recycling incentives, parks and recreation usage fees, and parking charges. An example cited by Elmer Johnson is at the Los Angeles (LAX) airport where vehicles using the road system are charged a fee for the time they "dwell" within the airport complex (Johnson 1993, 18).

It will take some experimentation to determine how, whether, and under what conditions traffic congestion pricing will be acceptable to consumers. Market research is of limited value as people do not always act in ways that they suggest they will. To understand the consumer acceptance of congestion pricing, experimental research focusing on behavior is essential.

There are several converging trends that may be instructive to those implementing congestion pricing on urban highways. They include:

• acceptance and development of prices, charges, and/or secondary markets for previously unpriced externalities such as pollution credits, wetlands credits, and so forth;
• increased privatization of roads and runways that may lead, over time, to consumer acceptance of increased tolls for peak periods; and
• increased use of two-tiered or multi-tiered pricing and increased utilization of 24-hour capacity in many industries, such as research and development, manufacturing, services, and retailing, which may lead to greater acceptance of pricing for various levels of service and more flexible work scheduling to reduce peak-period travel demand.
INTRODUCTION

The potential institutional barriers to congestion pricing may prove in the long run to be the most important to consider, understand, and forecast. The fragmentation of local governments, the lack of a strong regional transportation authority in most areas, and the legislative constraints surrounding the generation and allocation of transportation revenues are formidable obstacles to implementing congestion pricing. Determining who should be responsible for building and administering congestion pricing programs is a difficult institutional consideration. Focus group participants failed to generate a consensus on who should administer congestion pricing. In the current climate, which emphasizes a diminished role for government, private companies may potentially lay the groundwork for congestion pricing. Involving the private sector, however, leads to several considerations about the role of government, necessary legislation, and costs of enforcement. If the administration of congestion pricing is undertaken by a public organization, revenue allocation questions must be answered—questions involving not only social equity, but geographic equity as well. Determining which governmental body should run a congestion pricing project or whether a new administering body must be created may also require legal action.

Public support for a pricing initiative is strongly related to both timing and perceived need. Establishing a credible link between road pricing revenues and a transportation improvement may be the first important step to securing public support. Because the public needs clear, specific answers to legal, organizational, and technical questions before offering support, considerable forethought must be given to these areas.

CREATING AND ADMINISTERING CONGESTION PRICING

The implementation of congestion pricing introduces several administrative issues. The design of a congestion pricing project (a policy question) must be separated from issues related to day-to-day operations (a question of mechanics). Design questions—including where to price, how to set congestion tolls, and how to mitigate negative impacts—will ultimately have to be addressed by state legislatures. At the same time, as the federal government continues to downsize, municipal governments and special districts are becoming critical areas for transportation decisions. ISTEA has encouraged greater cooperation between state departments of transportation and metropolitan planning organizations in the development of regional transportation projects that lead to reduced congestion, emissions levels, and the negative social, economic, energy, and environmental impacts.

Traffic congestion does not recognize political or jurisdictional boundaries, and spillover effects from the transportation and land use policies of one jurisdiction affect surrounding jurisdictions and the region as a whole. Unfortunately, despite the regional nature of transportation networks, the goals of the various municipalities in a region do not often coincide. The Chicago metropolitan area, for example, includes over four hundred local governments, each competing for funds and authority. As one Chicago transportation official noted, land use decisions made by developing suburbs make providing mass transit options for suburban commuters a fiscal impossibility.

Furthermore, economic competition between the suburbs and the central business district in a given region creates additional institutional barriers to the implementation of congestion pricing. Many communities see congestion pricing as increasing the cost of doing business in the implementing community, despite the long-run potential for congestion pricing to benefit areas by lowering transportation costs through decreased travel time.

A congestion pricing project that spurs several local governmental jurisdictions may require the creation of a new public institution to administer the program and make allocation decisions. Many metropolitan areas lack a regional governmental body possessing the power and authority to create and operate a congestion pricing project. In the Phoenix area, for example, community and business leaders expressed a lack of confidence in the existing agencies supervising transportation and regional government to administer congestion pricing. In other cases, pricing projects put forward by state departments of transportation are threatened by existing public antagonism toward, and criticism about, the state agency.

Creating a new governmental body and mandating the adoption of congestion pricing requires enabling legislation at the state level. The following factors are necessary to the success of a newly created agency: (1) a single or limited purpose, (2) clear goals mandated by statute, (3) a performance-evaluation based on criteria derived directly from the mandated objectives, and (4) experimental and innovative managerial behavior as well as technical competence (Olson 1994). A regional authority granted the power to administer congestion pricing must wrestle with allocation questions that involve economic and geographic equity. The agency must have autonomy from other local governments and, at the same time, must have the mandated authority to make transportation decisions that impact local governments. Securing this type of power will undoubtedly require a political battle at the state level. In addition, because congestion pricing has the potential to generate significant revenues, an administering agency must possess a particular set of operational capabilities, including accounting, billing, technical assistance, and customer service. In the current
climate of shrinking revenues, it may be tempting to combine the administration of congestion pricing with existing departments or agencies, a practice that may cloud the operation's goals and diminish the efficiency of a regional congestion pricing authority.

In some regions, existing organizations may be well suited to administering congestion pricing. County general purpose governments, state- or ISTEA-funded metropolitan planning organizations, federally funded regional agencies, special purpose local governments, metropolitan districts, and highway departments all exhibit considerable strength and a degree of autonomy that make them potential administrators of a congestion pricing program. Some areas, notably so in California, but also in the Twin Cities, Seattle, and Phoenix, are considering private ownership and administration of a congestion-priced corridor or route.

Local, as opposed to regional, applications of congestion pricing add to the list of difficulties. The diversion of traffic to roads outside the pricing area limits the effectiveness of the pricing mechanism. A community that chooses to impose pricing to fund new improvements faces the prospect of a reduced share of existing revenues allocated on a regionwide or statewide basis. When public-private partnerships in Minnesota and Seattle proposed toll highway projects, for example, communities hesitated to become the first to apply tolls when the same projects were also competing for state gas tax revenues. The mayor of one Minnesota community being considered as the site for a private toll road argued that paying a daily toll for the next thirty years was neither a logical nor efficient means to accomplish the goal of building a much-needed highway a few years earlier than had otherwise been proposed.

ADDITIONAL LEGAL CONSIDERATIONS

Administering congestion pricing may require state and federal enabling legislation in the following areas: (1) pricing interest on loans to cross-subsidize transit or other transportation projects, (2) compensating users and localities, (3) establishing potential public-private partnerships, and (5) involving the state in enforcement. If the congestion pricing plan is to be a toll road, the federal statutes prohibit the application of tolls (Section 129, Title 25, U.S. Code); therefore, federal legislation must be enacted to allow the establishment of toll facilities. Under section 101B of ISTEA, the U.S. Department of Transportation is authorized to allow congestion pricing pilot projects on three interstate highway systems. Additional interstate tolling would need separate legislation. Although revenues raised under a congestion pricing program theoretically could be directed to any transportation improvement, including transit, the federal government's Congestion Pricing Pilot Program stipulated that such revenues could be directed only to capital investments in transit. In Minnesota, for example, the state constitution does not permit the use of the gas tax to be used to finance transit. Arizona has existing legislation that makes public-private partnerships in the state problematic. California, on the other hand, had enabling legislation at the state level that has helped promote public-private partnerships such as SR-91.

Congestion pricing researchers have identified four important questions to be considered in the development of congestion pricing legislation (Olsom 1994): (1) Is congestion pricing to be imposed as a regulatory measure under the police power in general or under specifically delegated authority? (2) Is the authority to price roadways a reasonable exercise of police power? (3) Does the pricing technique violate any constitutional principles? and (4) Is the pricing technique a valid exercise of the taxing authority? State and local regulations and long-range transportation programs may be used early in a project's development. If federal action is necessary, the project clearly faces an additional obstacle and an extended timetable before implementation.

UNCERTAIN IMPACT OF THE CLEAN AIR ACT AMENDMENT

During the 1970s, transportation researchers gave serious consideration to using pricing mechanisms to alleviate pollution, manage traffic demand, and respond to the oil crisis (Higgins 1970). Political, institutional, and technological barriers prevented congestion pricing from being advocated at that time by decision makers. Recent technological improvements in toll collection and the passage of the Clean Air Act Amendments of 1990 (CAA) and ISTEA in 1991, however, have led many to take a second look at congestion pricing. Air quality has improved as a constraint to new transportation projects. Environmental pressure from interest groups and the public have resulted in new alternatives for reducing emissions.

Pricing mechanisms, along with parking restrictions, mandate trip reductions, and land use regulations, are considered restrictive transportation control mechanisms (TCCMs). These approaches offer the greatest potential for meeting attainment deadlines, but are typically resisted by highway users. Federal statutes prohibit the application of tolls (Section 129, Title 25, U.S. Code); therefore, federal legislation must be enacted to allow the establishment of toll facilities. Under section 101B of ISTEA, the U.S. Department of Transportation is authorized to allow congestion pricing pilot projects on three interstate highway systems. Additional interstate tolling would need separate legislation. Although revenues raised under a congestion pricing program theoretically could be directed to any transportation improvement, including transit, the

funding] to strengthen congestion procedures linking transportation planning with emissions reductions. Many felt that the CAAA, by requiring the development and federal approval of state implementation plans, would indirectly lead to the creation of specific TCCMs across the nation. Although the threat of discretionary sanctions initially motivated states to comply with the CAAA, three factors have contributed to the credibility of the Environmental Protection Agency and the motivation of transportation planners and elected officials to pursue unpopular pricing mechanisms. These factors are: the delay of attainment schedules, the removal of a mandatory Employee Commute Options (ECO) program in severe nonattainment areas, and the rare use of sanctions. The eventual impact of a weakened implementation of the CAAA is unclear at this time. With congestion levels predicted to soar during the next twenty years, however, strong motivation remains for pursuing pricing options.

TECHNOLOGICAL INNOVATION AND COSTS

The introduction of any new technology faces institutional constraints that include cost and the public's lack of familiarity with the mechanics of the technology. The results of the Arizona focus groups illustrate the way in which recent technological change can affect the potential implementation of congestion pricing. Prior to the Phoenix focus groups, participants were asked to complete a written questionnaire exploring their understanding of congestion pricing and views about its use. Comments on one of the returned surveys made it clear that the participant's past experience with manual tolls on the East Coast influenced her opinion. She had also observed that tolls are used for any reasons in the Phoenix Valley. During the focus group, however, as information about electronic tolling was shared, the same participant changed her negative opinion to one of conditional support.

Electronic Toll Collection technology (ETC) has revolutionized the efficiency of and potential for congestion pricing. Traditional toll collection methods, which required motorists to stop to pay the toll, are inconvenient for motorists, costly to operate, and a source of congestion. ETC—also referred to as Automatic Vehicle Identification (AVI) or Electronic Tolls and Traffic Management (ETTM)—works simply and effectively. Motorists using electronic tolling make a prepayment via cash or check, or authorize payments through a debit or charge card. A transponder device is mounted on or in the vehicle and is read electronically as the motorist passes under a toll reader. The toll is automatically deducted from the motorist's account. It would be possible to have transponder users on a monthly basis and generate a statement similar to a credit card or utility bill.

ETC systems can be loosely classified into one of three categories based on the type of transponder used (Wilbur Smith Associates 1996b):

- READ Write System: This system utilizes a transponder that is permanently encoded with a specific account number and other information. Contents of the on-board device are not altered in any way when a transaction is processed. Although offering the lowest cost per transponder, this system leads to higher operational costs because information is centrally maintained, updated, and processed each day.
- READ Write System: A portion of the transponder information is physically "rewritten" with each ETC transaction. Since the official record of the remaining balance is stored within the transponder, anonymity is assured. To replenish their accounts, users must physically bring their units to a designated location, leading to high operational costs. SR-91 currently uses a read-write system.
- Programmed Read Write Systems: Currently, this system is underway to provide programmable, read-write devices such as the Smart Card or credit card, which offer a feedback mechanism to alert drivers to upcoming tolls, provide additional user security, and offer information on account balances. Such a card could be replenished at convenient locations without bringing in the entire transponder system.

For more information on pricing technology options, see the Federal Highway Administration's interim report (1996, 35-41).

Each toll collection location needs to operate a reader system that would include an intelligent interrogator device, an antenna device, and controlling computer equipment. Video enforcement, such as that used with SR-91, generates additional operational costs that must be considered. Implementation costs vary greatly depending on the size and scope of the pricing project. The total system price is dependent on the type of transponder system used, the area covered by the pricing program, the number of toll collection locations, communication requirements, enforcement costs, and other operational considerations.

Researchers agree that pricing revenue would not necessarily outweigh operational and start-up costs by a factor of ten to twenty. As illustrated by the San Francisco experience, however, a congestion pricing project that generates revenue may receive less public support than one that is revenue neutral. One transportation researcher (Howitt 1980) noted that public response is more sensitive to the distribution and visibility of policy impacts than to the net societal benefit or cost. The pricing project must be clear from the start about whether its primary goal is traffic demand management or revenue generation. Each has its political implications.
INTRODUCTION

A Citizens Jury® on Traffic Congestion Pricing was held in St. Paul, Minnesota, on June 5-9, 1995. The project was jointly undertaken by the University of Minnesota’s Humphrey Institute of Public Affairs, the Minnesota Department of Transportation (Mn/DOT), the Twin Cities Metropolitan Council (the region’s metropolitan planning organization), and the Jefferson Center. The Jefferson Center has been conducting Citizens Jury® projects, which are intended to amplify the voice of the average citizen in the public policy process, for over twenty years. The process is designed to elicit public opinion that is both representative and informed.

Citizens Jury® projects typically involve between eighteen and twenty-four randomly selected individuals who meet for about five days. The agenda is structured to incorporate a balance of expert testimony for the first two or three days, followed by approximately two days of deliberations. The jury presents their recommendations and final report to the public at the conclusion of the week.

Congestion pricing—which seeks to provide an answer to the question, can road space, an inherently scarce good, be efficiently allocated—is a concept that has received a chilly reception by the public in the few areas where it has been proposed. Public input, therefore, has become a critical piece of any congestion pricing proposal. The Citizens Jury® project result are serving as a public input component of several larger studies being done by the sponsoring organizations.

Shortly before undertaking this project, Mn/DOT and the Metropolitan Council had begun a legislatively directed study on congestion and road pricing. The study was partially funded by the Federal Highway Administration Congestion Pricing Pilot Program, which provides money to cities interested in exploring the implementation of congestion pricing. Various applications of congestion pricing are included in the technical analysis component of the study, which also has a major public outreach element that includes citizen focus groups, telephone and interactive video surveys, and interviews with key opinion leaders.

The consulting firms hired by Mn/DOT expressed concern with the timing of the Citizens Jury® project, which was scheduled to take place prior to the Mn/DOT focus groups and before completion of much of the technical analysis. Mn/DOT and the Metropolitan Council, however, were intrigued by the process and the opportunity to refine other public involvement techniques with results from this project.

THE PLANNING PROCESS

A steering committee for the project was formed, comprised of staff from the Humphrey Institute and the Jefferson Center. As project sponsors, representatives from Mn/DOT, the Metropolitan Council, and their private consulting firms participated in planning meetings for the project but did not vote on critical decisions or direct its format.

One of the defining criteria of a Citizens Jury® project is that it be representative of the community. The first question, therefore, was to define the community. The Twin Cities of Minneapolis and St. Paul are geographically located within MA CO 9017 while the Metropolitan Council’s jurisdiction is a seven-county area. It was decided, however, that the parameters should be expanded to a thirteen-county metropolitan area, largely because the broader area is rapidly becoming a commuter-shed for the cities. In addition, sponsors realized that any application of congestion pricing would ultimately have to garner political support from the broader geographic region.

The Jefferson Center uses up to six demographic variables to achieve a balanced jury panel. The standard five variables are age, race, gender, education, and geographic location. The steering committee decided that the jury should also be stratified by “commuting status” to ensure that there was an accurate representation of regular commuters on the panel. The frequency with which a person experiences traffic congestion was also thought to be important and was looked at while selecting the jury to ensure accurate representation of the region. After the project was completed, there was some criticism that the jury panel did not adequately represent the highly congested southwest area of the region. Although this critique may hold some truth, the percentage of jurors who reported that they experienced regular congestion was generally consistent with that of the thirteen-county area.

THE CHARGE TO THE JURY

Congestion pricing potentially addresses two distinct problems: traffic congestion and projected shortfalls in transportation funding. The jury was charged, therefore, with addressing each alleged problem and recommending a solution, if necessary. The charge was designed to allow the jurors to come up with creative alternatives should they reject congestion pricing. It read:

Can congestion pricing be an effective strategy to address present and impending problems of traffic congestion and provide stable financing for surface transportation improvements? If not congestion pricing, then what alternatives may be acceptable?
The jurors were presented with three different applications of congestion pricing:

- Arcawide congestion pricing, in which drivers would be charged a tax based on all congested freeways in the metropolitan region.
- HOV buy-in, in which drivers of single-occupancy vehicles (SOVs) could pay a toll to travel in existing high occupancy vehicle (HOV) lanes.
- Facility or corridor pricing, in which tolls would be applied to a single corridor or bridge.

In addition, jurors considered road pricing in the form of a statewide mileage-based tax, which MnDOT had been directed by the state legislature to study.

The agenda was loosely structured, with the first three days of the week allocated to hearings and the final two days to jury deliberations. On the first day, the jurors were introduced to the process and the dual problems of traffic congestion and transportation financing. On the second and third days, the jurors gave input for and against congestion pricing. The fourth day was devoted to deliberations and the fifth day to drafting a final report (see Appendix E) and sharing it with project sponsors and the media.

The jury panel heard from twenty-one witnesses in all. Ample time was provided for jurors to question each witness. At times, witnesses were arranged on panels, allowing jurors to ask questions of one or more witnesses and opinions among different points of view.

JURY FINDINGS

During deliberations, the jury voted on six key questions, which are described and voted on in Appendix E.

- Is there a current problem with traffic congestion in the thirteen-county metropolitan area? YES, 8 no.
- Will there be a problem with congestion in this area in the future? 24 yes, 0 no.
- Is there a transportation funding problem? 24 yes, 0 no.
- Would you like to see a pilot project on congestion pricing funded by the federal government tried in some other part of the state? YES, 8 no, 2 a unsure. Would you like to see the Twin Cities metropolitan area chosen for a pilot project? YES, 13 no, 1 a unsure.
- Can congestion pricing be an effective strategy to address or mitigate impending problems of traffic congestion and to provide stable financing for surface transportation improvements? YES, 17 no.
- Do you support the limited use of tolls? YES, 12 yes, 8 no.

Jurors had responses to the following four applications of congestion pricing that were asked to consider. These responses were also presented in Appendix E.

- Arcawide congestion pricing. Although recognizing that an arcawide application of congestion pricing has advantages related to geographical equity and limiting diversion to other routes, the jury rejected this approach. Most of the jurors did not believe the metropolitan area was currently congested enough to warrant this solution, and nearly half of all the jurors did not believe congestion pricing being used or should be used to change travel behavior. Not anticipating congestion relief benefits, most jurors felt congestion pricing was an extremely costly and that a mileage-based tax was presented prefered, if any, advantages to the existing gas tax, and they rejected its high price tag.

- CONSIDERATION OF ALTERNATIVES

The jurors were presented with two alternatives to congestion pricing: land use regulations and a continuation of the status quo (with future road building and dispersed housing patterns). They were also encouraged to create their own “solutions,” should they reject congestion pricing and these alternatives.

The jury was convinced of the projected financing shortfall, as evidenced by their previously noted $400 million on this question. Consequently, they focused their discussions on strategies to raise additional revenue and quickly agreed that an immediate five-cent gas tax increase was in order, with an additional 15-cent increase over a period of six years if needed. Further discussion addressed how high an increase was needed and how to address the existing impasse between rural and urban legislators.

Although a broad charge had purposely been set out, the jurors’ consideration of the details surrounding a gas tax increase broadened its focus. It had been hoped that the group would consider congestion pricing an urban transportation issue and it had not been anticipated that political issues between rural and urban areas would enter into the discussion. Once a gas tax increase was agreed upon, the jurors sought a solution that could garner statewide political support. They suggested broadening the constitutional dedication of the gas tax to allow expenditures to transit as well as highways, while maintaining the present distribution of revenues between urban and rural areas, essentially declaring that the urban area should be able to spend its share of revenue as it chooses. Recognizing the political pitfalls to this recommendation, the jurors instead focused on the consideration of a metropolitanwide sales tax on gas as a fallback plan.

Unlike their view of the projected financing shortfall, the jury did not view congestion to be an imminent problem yet the substantial implications in this area as well. Their solution to the congestion problem was to make transit more readily available and attractive. They suggested increasing the frequency of service (5%–10%) from their proposed gas tax increase be dedicated to transit. They also supported extensive education and marketing programs to encourage the general public to use transit. Nearly all of the jurors commented that they would use transit if routes were conveniently located and provided frequent service.

LESSONS LEARNED—PART I: CONGESTION PRICING

The goal of the Citizens Jury® project was to gain an understanding of the public’s receptiveness to congestion pricing, including their reasons for support or opposition. Although the group’s support for pricing was limited, those jurors who regularly experienced congestion expressed support for arcawide pricing. The jury as a whole, however, gave only qualified acceptance to tolling specific corridors. In addition, the larger group supported a gas tax increase that can direct funds from SOV travel to transit. This cross-subsidy is akin to one of the fundamental outcomes of congestion pricing—that is, sending a new market signal supporting HOV travel. The jurors’ suggested alternative to congestion pricing called for increasing the cost of driving on area roads in order to decrease the total costs of transit (i.e., buses and carpools).

The project sponsors were particularly interested in what the jurors did not like about congestion pricing. The group’s unprompted reasons are listed below, along with our analysis of the issues they raised.

- Insufficient way to raise revenue (19 votes). In addressing the finance problem, the jurors preferred to raise the gas tax, a tool that is already in place and would not require a major increase in administrative costs. The group was skeptical of the effectiveness of congestion tolls in changing travel behavior. As a result, they were opposed to spending large sums of money to implement the infrastructure necessary for congestion pricing.

- It is likely that the consideration of road pricing, in addition to congestion pricing, diminished the jurors’ appreciation for the core benefit of congestion pricing. To garner increased support for congestion pricing, advocates will need to quantify the monetary benefits of congestion relief under a pricing scenario relative to imposition of a gas tax increase or a mileage-based tax.

- Negatively impacts low-income individuals (15 votes). The jury was particularly concerned with the social equity impacts of the HOV buy-in scenario where high-income individuals are allowed to buy premium service. This may have colored their assessment of the equity impacts of congestion pricing in general. When the equity impacts of arcawide and facility pricing were raised, concern was related more to individual transportation options than to income.

- Inability to change travel behavior (11 votes). The jurors recognized the desirability of changing travel behavior. It was surprising, therefore, that proponents were unsuccessful
in convincing jurors that financial incentives can change behavior, especially in the face of market-directed behavior in our society. The group's reaction makes sense, however, in light of the lack of alternatives faced by many commuters in the region. The present dearth of transit options combined with inflexible schedules imposed by employers made a change in travel behavior seem unrealistic to jurors. Proponents were also unsuccessful in effectively communicating the potential of the success of congestion pricing depends on only a small percentage of drivers changing their behavior.

- Revenues would be used in the wrong way (5 votes). Interestingly, the jury was not greatly concerned with the ability of government to effectively direct revenues to needed projects and mitigation strategies. A strong distrust of government, however, was conveyed early in the week. The open process gave jurors a better understanding of the complexities and tradeoffs faced by decision makers, thereby enhancing the trust between these two groups by the end of the week.

- Violates personal freedoms (5 votes). Although the privacy concern was a dominant issue for some, this group was small. On the whole, the jury seemed generally convinced that traffic pricing could provide for protection of individual freedoms. The jury felt strongly that only anonymous detection systems should be used if congestion pricing were to be implemented. Not surprisingly, the primary support for congestion pricing came from those jurors who felt most strongly that the congestion problem was severe. Congestion pricing receives greater support when framed as a strategy to both manage congestion and build necessary improvements in a specific highly congested corridor. Whether the region as a whole will support such a project raises a set of interesting questions about the economics of the pricing process. For example, should the decision to implement pricing be devolved to the users of, or residents surrounding, the corridor? Or, given the important relationship between transportation services and economic development, should the decision be regional or statewide?

- Key lesson for congestion pricing advocates is that any analysis of the pros and cons of congestion pricing should be coaxed in the context of possible alternatives. The Citizens Jury project conveyed the importance of discounting other possible options. Investment in ramp metering or intelligent transportation systems, which the jury recommended, needs to be compared with pricing. In addition, the drawbacks of simply directing more money toward transit will have to be delineated.

It is interesting to note that although the jurors didn't feel that a congestion toll would impact their travel behavior, they did believe that a small increase in transit service, which would result from their proposed increase in the gas tax, would change their choice of mode. Clearly, more precise information on the comparative costs and impacts of these approaches would have been useful.

The key to building public support is to capture the distinctiveness of pricing—the fact that people respond to their pocketbooks. In the proposed new amendment, jurors have never faced direct market signals related to their contribution to congestion. As a result, even toward the end of the week, many jurors were still adamant that financial distinctions could not lead them to change their travel behavior.

It is not advisable to structure a public involvement process around two problem statements, particularly considering the need to portray the alternatives described above. When assessing congestion pricing, the focus should be on congestion mitigation. Congestion pricing’s selling points are most obvious when contrasted with the costly and unimpressive record of congestion mitigation through increasing road or transit capacity. The benefit of substituting transportation demand management strategies for capital investments should not be understated, particularly at a time when the public is very reluctant to fund new projects. The fact that congestion pricing can raise significant revenues is a feature planners and elected officials should carefully regard, but it should remain secondary to its main benefit.

It is imperative for proponents to put the economic theory behind congestion pricing into everyday language. The planning team, however, chose not to give jurors a separate economics tutorial for fear that it would not be well received. We believe this was a lost opportunity. Although it was abundantly clear that abstract economic concepts like value of time, supply and demand, and marginal cost are not well understood by lay citizens, the value of congestion pricing cannot be conveyed without a basic grasp of such concepts.

The key is to convey these concepts in everyday terms while at the same time allowing citizens to explore alternatives that may not precisely fit the economic model. To the end, they may choose to reject congestion pricing, but it cannot be attributed to missing its economic benefits. The Humphrey Institute has begun to explore the creation of a video depiction of congestion pricing into everyday language. Pricing and its many complex impacts that will help to better convey its potential.

LESSONS LEARNED—PART II: PUBLIC INVOLVEMENT

The jury process was well received by both participants and observers. The jurors reported high levels of satisfaction with the project. The seriousness with which they undertook their task reflected their belief in the process. Groups such as the American Automobile Association, Minnesota Tracking Association, and Neighborhood Transportation Network (a grass roots public interest group opposed to highway expansion and skeptical of pricing), as well as state legislators representing transit and environmental concerns, observed much of the jury process. Although some observers initially expressed concerns with the agenda and the potential for bias, by week’s end they either commended the process or were not motivated to criticize it.

Several conclusions to the public involvement process were highlighted by this project. The Citizens Jury process, which is intensive and unpredictable by design, poses both opportunities and risks for public agencies. The drama of a "jury" and the empowerment of average citizens attract attention and are a great way to garner public attention and dialogue, but the media coverage also presents potential pitfalls and risks. The planning committee was vulnerable to downplay the "verdict" aspect and to stress that the project was only component of many powerful involvement techniques being used in the MnDOT study.

The media response was mixed. Talk radio programs turned complex issues and tradeoffs into sound bites and reactive politics. Conversely, print media coverage was extensive and informative. The endowment of pricing by both major newspapers at the time of the jury represents positive coverage hard to find in other cities that are analyzing or implementing congestion pricing.

Citizens have a large degree of skepticism and distrust of the transportation planning process, but many jurors entered the process believing that MnDOT had already made up its mind and that this process was a public involvement sham. They also tended to feel that many of the funding problems presented could be solved simply by a little belt tightening within the bureaucracy. This lack of trust prevented inherent difficulties for public involvement processes. The steering committee struggled with finding appropriate people to serve as moderators and the neutral expert. It was felt that these roles should be filled by individuals sufficiently knowledgeable about the transportation issues at hand, but if agency personnel were ruled out due to perceived bias, there were few others to choose from. Thus, Jefferson Center and University of Minnesota personnel were used to fill these roles.

Whether their objectivity outweighed their lack of experience with transportation issues is an open question. Some observers discounted the findings of the Citizens Jury because they found them to be politically naive. Citizens Jury projects and similar events should stick to gathering public input and public discussion according to what is politically viable. The point of public involvement is to give planners and decision makers a snapshot of what the public desires. If the selection of participants is representative of the community and the process is conducted in an objective manner, the project findings should be of great interest to policymakers.

CONCLUSIONS

The Citizens Jury project led to two vestigIAL specific to congestion pricing: (1) a rejection of a perimeter-wide pricing, and (2) support for spot pricing under certain conditions. Although public hearings and citizen focus groups offer one way to garner public input, addressing "public good" problems like congested roadways require a public outreach strategy that goes beyond tapping individual attitudes and desires. The Citizens Jury project engaged a microcosm of the public in considering difficult tradeoffs and the relationship between individual decisions and the common good. It also effectively signaled to the public the consideration of a new policy direction. (In addition to the Citizens Jury process, see also Kathlene and Martin [1991] for a discussion of the use of citizens’ panels.)

The project highlighted the lack of knowledge that citizens have about transportation issues and the planning process. In particular, juror knowledge of the many complexities, both political and technical, that shape the ultimate design of a project. They could not understand, for example, why roads had been built with such obvious design problems as bottlenecks and lanes that end abruptly. Such a perception lacks an awareness of the contentious political context in which engineering plans must be implemented. Similarly, jurors were generally unaware of the impending threat of congestion in the area and its impacts on the environment, the economy, and the quality of life. Clearly, strategies are needed to convey to the public a much greater understanding of the intertwined issues involved in any transportation project.

In accordance with ITEA guidelines, the Citizens Jury process allowed a group of citizens, as well as the broader public, to begin dialogue leading to a possible policy change. The jury gave full support for the continued study of congestion pricing. The Citizens Jury process, though relatively intensive, may be ideally suited to public involvement regarding major new directions or controversial public projects.

Additional information about the Citizens Jury project is presented in the Appendix section of this report. The agenda is presented in Appendix C, the list of jurors, including their occupations, ages, and hometowns, in Appendix D, a reprint of the jurors’ Final Report Findings and Recommendations, research notes at the State and Local Policy Program of the Humphrey Institute, served as the neutral expert, and information about the Jefferson Center in Appendix F.

9 Neve Sandell and Amy Kallberg from the Humphrey Forum, an education arm of the Humphrey Institute, moderated the jury process. Neal Groetsch, co-director of the Jefferson Center, also moderated portions of the Minneapolis jury process. Groetsch serves as a State and Local Policy Program of the Humphrey Institute, served as the neutral expert.
MIDWESTERN REGION CONGESTION PRICING WORKSHOP

INTRODUCTION

On May 17, 1996, the Federal Highway Administration (FHWA) Congestion Pricing Team, in conjunction with the State and Local Policy Program of the Hubert H. Humphrey Institute of Public Affairs at the University of Minnesota, conducted a one-day workshop on the FHWA Congestion Pricing Pilot Program and related roadway pricing strategies at the Westin O’Hare Hotel in Chicago, Illinois. Over one hundred individuals attended, including representatives from state departments of transportation (DOTs), metropolitan planning organizations (MPOs), toll authorities, and environmental organizations, consulting firms, academic institutions, and the regional and division offices of the Federal Highway and Transit Administrations. The workshop agenda consisted of morning and afternoon plenary sessions separated by a mid-afternoon breakout session where attendees were provided the opportunity to meet individually with representatives from FHWA congestion pricing pilot projects around the country.

The workshop was structured so as to provide substantive interaction between and among workshop panelists and attendees. The focus of the workshop was to share information about the FHWA Congestion Pricing Pilot Program and to provide progress reports on pilot projects. Additionally, FHWA hoped to generate discussion of the potential applicability of congestion pricing concepts in the region and provide an open forum for discussion on the perceived applicability and acceptability of these concepts in different local contexts. With this goal in mind, each of the technical sessions consisted of relatively brief presentations by the panelists on such topics as pilot project status reports, developing political and public support, and lessons learned and next steps, with time provided for questions, comments, and discussion. The last hour of the workshop allowed attendees to present and discuss potential pricing applications in the region.

SUMMARY OF PROCEEDINGS

PILOT PROGRAM OVERVIEW

The workshop was opened by John Berg, FHWA’s team leader for the Congestion Pricing Pilot Program, who introduced the cohorts for the day’s session. Gloria Jeff, FHWA’s associate administrator for policy, and Lee Munnoch, senior fellow and director of the Humphrey Institute’s State and Local Policy Program, Jeff offered welcoming remarks and provided background on the pilot program and recent legislative changes to the program, as well as an update on current projects and funding status. She briefly described the two congestion pricing implementation projects underway in San Diego, California, and Lee County, Florida, and mentioned FHWA’s monitoring and evaluation study of the privately financed State Route 91 variable tolling project in Orange County, California.

Jeff discussed the various reasons for considering congestion pricing implementation, including travel behavior modification, air quality improvement, and revenue generation, and stressed the need for proponents to be upfront and clear about their objectives. She pointed out that the current political and economic environment creates the possibility and need for innovative transportation projects, such as congestion pricing, in an effort to no more effectively use the existing infrastructure. The barriers to the successful implementation of congestion pricing, she said, are not technical, but institutional and political.

Jeff concluded her opening remarks with an update on program funding availability. She pointed out that the National Highway System Designation Act of 1995, signed into law on November 29, 1995, rescinded the remaining balance of pilot program funds authorized through 1995, and transferred authorizations for 1996 and 1997 to other purposes. Jeff indicated that, even though funds were rescinded, the federal program still provides the only means for localities to introduce tolls on inmenace highway segments, and this is likely to continue to attract interest in the program.

Lee Munnoch extended a welcome from the Humphrey Institute, presented a synopsis of key lessons learned from the institute’s study of political and institutional factors related to congestion pricing, and explained that the study’s resulting document (this report) would incorporate information obtained from numerous focus groups held in

---

The FHWA also conducted a regional workshop in Philadelphia, Pennsylvania in the fall of 1996. For copies of the Philadelphia proceedings, contact the FHWA Transportation Studies Division Highway Revenue and Pricing Team at (202) 366-8576.
several U.S. cities, the Citizens Jury project held in the Twin Cities last summer, lessons learned from pilot project sites, and a workshop held in Claremont, California.

Munich highlighted six key considerations, listed below, that must be fostered in any congestion pricing implementation effort, whatever its location or scope:

- Leadership coalition from within the transportation community, including DOTS, MPOs, transit and toll authorities, businesses, and citizen groups.
- Elected officials' leadership and support, not necessarily as advocates, but as supporters and enablers.
- Attention to equity issues, with an understanding that the current system is inequitable, that revenue allocation can be a tool to offset equity imbalances, and that efficiency benefits from congestion pricing far outweigh the equity impacts.
- Understanding of the process and potential for using market-based strategies such as congestion pricing to reduce automobile emissions. He pointed out that the EPA is in the process of developing guidance on technical procedures to estimate emissions reductions from market-based strategies so that states and metropolitan areas can use such air quality measures to earn credits in their state implementation plans (SIP). Rooted in the EPA's authority for implementation of the Clean Air Act Amendments of 1990, the guidebook is designed to offer user-friendly information for cities and states analyzing market-based transportation policies as part of their SIP development process.

CONGESTION PRICING NOT PROJECT UPDATES

This session began with an overview of the nation's first operational automated variable toll project, the State Route 91 (SR-91) Express Lane* in Orange County, California, which opened on December 27, 1995. Updates on the SR-91 project were provided by Edward Regan, representing the California Private Transportation Company, the facility's owner and operator, and Edward Sullivan, from California Polytechnic University, San Luis Obispo, who is the principal investigator for a monitoring and evaluation study of the SR-91 project being funded by FHWA, the Federal Transit Administration, and the California Department of Transportation.

Regan briefly described the characteristics of the SR-91 project, which consists of ten lanes, including three bus, vanpool, and carpool facilities. The bus express lanes were built in the median strip of the heavily congested state highway between Riverside County and job markets in the Los Angeles area. He indicated that traffic counts on the SR-91 Express Lane** are increasing by the week. Thus, the facility is providing express service to a growing number of users while also leading to improved service on the adjacent local lanes. Sales of tollpayers, the icar electronic device required for all users of the facility, have far surpassed expectations. This project is a clear example that public-private partnerships can improve road infrastructure, create jobs, and improve quality-of-life times, all without tax dollars," Regan said. In conclusion, Regan pointed out that the company prefers to use the term "value pricing," rather than "congestion pricing," in order to focus on the overall benefit.

Edward Sullivan of California Polytechnic State University, San Luis Obispo, provided an overview of the SR-91 evaluation study. He indicated that although the SR-91 Express Lane** project has received so far, it is still too early to gauge its overall success. Driver surveys are being conducted to determine public perception toward the roadway and to monitor changes in driver behavior. The next panel featured brief reports by FHWA's pilot project partners in the Minneapolis-St. Paul, San Diego, San Francisco, and Boulder, Colorado, Metropolitan area.

MINNEAPOLIS ST.PAUL PROJECT

An overview of the Minneapolis-St. Paul project was presented by Aidee Lari, director of the Office of Alternative Transportation Financing at the Minnesota Department of Transportation (MnDOT), and Carl Ohn, transportation planner at the Twin Cities Metropolitan Council. Lari discussed MnDOT's desire to improve traffic demand management in the region, and the fact that congestion pricing was being explored as an alternative to more traditional approaches. She emphasized the importance of citizen involvement, and he and Ohn described the methods used to involve the public in the process, including:

- A week-long Citizens Jury project that was held at the Minnesota State Capitol during the summer of 1995.
- An Interactive Video Interview Station (IVIS) survey that was used nationwide to obtain personal responses to congestion pricing in the Minneapolis-St. Paul metropolitan area. IVIS uses advanced multimedia computer stations that are programmed with a graphical, touch-screen-based interface to facilitate a complex, self-administered questionnaire.
- Thirteen focus groups that were held throughout the state to obtain input from the public, to assist in the development and evaluation of study alternatives, and to form a basis for refinement of the public outreach effort.
- Opinion leader interviews with community and business leaders to determine what types of changes people would and would not support, and to determine public interest not adequately or directly represented by the other methods.

Results indicate that citizens were receptive to congestion pricing when they felt it would reduce wait times currently being experienced at ramp tolls. Also, they were more receptive to pricing when they felt that revenues would be used for transportation improvements, including transit. Lari and Ohn agreed that a regionwide approach to pricing was appropriate in the long run, but that such a system could only be introduced incrementally. They felt that one of the major positive impacts of such a system would be more effective land use planning in the Minneapolis-St. Paul metropolitan area, and more effective management of the long-term growth plan for the region.

SAN DIEGO PROJECT

An overview of the San Diego congestion pricing project on I-15 was presented by Mario Oropeza, project manager with the San Diego Association of Government. The project, which is funded by the FHWA. The project, which is funded by the FHWA.
was recently required by the legislature. MTC is still holding out hope for the 1997 legislative session.

Nonetheless, Caltrans is proceeding with its plan to install electronic tolling equipment on the Bay Bridge regardless of whether a change in the tolling structure occurs. Frick indicated that one lesson the AFTC has learned from this whole experience is that any governmental entity proposing congestion pricing must get coalation of non-governmental support groups out in front so that the general public understands that the application has broad-based support.

BOULDER PROJECT

Debra Raskin, project coordinator with the GO Boulder, presented her overview of the GO Boulder Congestion Relief Study in Boulder, Colorado. The study, scheduled to be completed by the end of 1997, is targeted at offering new strategies and innovative public outreach techniques related to the implementation of road-based strategies. A key motivator of the study is the region's goal of maintaining the city's twenty-five thousand acres of open space in and around the city and the seven thousand acres of adjacent city-owned mountain parks. While at the same time meeting the City Master Plan goal of no increase in vehicle miles traveled (VMT). The study is addressing the economic, social, and political issues involved in bringing about a shift in driving patterns in an effort to alleviate traffic congestion, improve air quality, and maintain the region's quality of life.

Traffic congestion is a key component of the study. Some of the public outreach processes used include citizen surveys, focus groups, polling, an advisory board, neighborhood meetings, and public education. Total Costs of Travel, a report with information specific to the Boulder region, has just been completed by Parsons Brinckerhoff for the GO Boulder Congestion Relief Study. The Household Travel Exercise is another innovative public outreach step being implemented to help educate the public on the impacts of congestion pricing. Six households will work with a "personal trainer" to calculate the existing costs of travel and their household process, support for the concept will be difficult to establish. He also stated that once the concept is thoroughly explained to the public, they are more receptive to the approach.

Sandra Pappas, Minnesota state senator, shared her experiences as a political advocate of congestion pricing in the Twin Cities. Pappas stated that personal experience with congestion is important to understand and supporting congestion pricing, and that other alternatives to congestion pricing must be discounted before the proposal will be well received. Although it is important to have the support of an elected official, congestion pricing needs more than one champion to counter the public's pessimism and current attitude toward the direct pricing of road use. Coalition building of legislators, transportation officials, and the public is essential for any project to succeed.

During lunch, Economics Professor Herb Mohring from the University of Minnesota highlighted his thoughts on the progress of the congestion pricing concept over the years. Mohring highlighted his work on congestion pricing and the predicted revenue benefits generated through his economic modeling scenarios. He stressed the importance of revenue allocation in light of the economic efficiencies and inequities associated with congestion pricing.

DEVELOPING POLITICAL AND PUBLIC SUPPORT

Josh Budin, a city activist and businessman from Houston, Texas, started off the afternoon plenary session by speaking about the role of public involvement in determining whether a congestion pricing project proceeds to implementation. Budin encouraged greater involvement of the public in the process and stressed the need to maintain a consistent relationship with the media, warning that they may not be the best routes to congestion pricing because of its controversial nature.

He stressed the need for advocates to define and thoroughly explain the overall benefits of congestion pricing to the public and press. For instance, Budin stated that he typically begins his presentations by asking the question, "How much do you pay to use the road?" and indicated that most of the time, no one in the audience has any idea. He stated that direct pricing of the roadway based on the demand for travel is a more effective approach (than the gasoline tax, for instance) in revealing the true costs of driving and is fair for drivers to reveal their true preferences for roadway use. Budin wanted to know how the purchase of gasoline at 8 a.m. in the evening conveys a driver's level of preference to drive at 8 a.m. the next morning.

In closing, Budin indicated that until the public is educated on the true costs of travel and the benefits of congestion pricing, it is unlikely that the process, support for the concept will be difficult to establish. He also stated that once the concept is thoroughly explained to the public, they are more receptive to the approach.

Sandra Pappas, Minnesota state senator, shared her experiences as a political advocate of congestion pricing in the Twin Cities. Pappas stated that personal experience with congestion is important to understand and that other alternatives to congestion pricing must be discounted before the proposal will be well received. Although it is important to have the support of an elected official, congestion pricing needs more than one champion to counter the public's pessimism and current attitude toward the direct pricing of road use. Coalition building of legislators, transportation officials, and the public is essential for any project to succeed.

Paul Voelker, executive director of the Miami Tumpike Authority, spoke about the authority's plan last year to implement a ten-week variable pricing demonstration project during the summer tourist season when heavy weekend traffic is experienced. Just prior to the project's scheduled start-date (when peak-period surcharges would be applied along with off-peak discounts), the Maine State Assembly passed legislation that prevented the implementation of peak-period surcharges because they feared that such a project might drive away out-of-state tourists. The tumpike authority revised its program and offered an off-peak discount for a five-week period last summer (with no peak-period surcharge above the traditional fixed toll of $1.60). Although results indicate that travel time shifts by tourists were modest, the authority plans to conduct a similar program during this year's tourist season, with more aggressive marketing of the program and modifications to the peak-off-peak periods. Despite the fears of the legislature, tumpike users have apparently received the concept well. When the tumpike authority asked drivers for their thoughts on the off-peak discount experiment, most out-of-state tourists thought the concept was a good approach to encourage tourists to travel when traffic was lighter and roadway capacity readily available.

LESSONS LEARNED AND NEXT STEPS

This workshop session built on some of the issues discussed at the Transportation and Public Policy "Support" session and focused on elements that must be included in a congestion pricing experiment to enhance its chances for success. The session began with David Van Huttum, research associate with the State and Local Policy Program at the Humphrey Institute, University of Minnesota. Van Huttum examined in more detail the Twins Cities Citizens Jury project and other experimental exercises concerning congestion pricing. Some of the major themes to emerge from the Citizens Jury® project held in Minneapolis were:

- The public recognizes that current revenues for transportation are below the needed amount. Although the jurors did support an increase in revenues, the most favored approach was to increase the gas tax.
- Transportation alternatives, particularly mass transit, must be invested in before congestion pricing experiments can be considered.
- The "variable pricing" should be replaced with a more descriptive, positive image because the public is unfamiliar with it, and inadequate to the existing terminology, which it finds misleading. "Congestion relief tolls" may be a better term in that it focuses on the benefits of congestion pricing, but addresses the reality of tolling. (Note: CPTC, owners/operators of the SR-91 Express Lane™ project, always uses the term "value pricing" when referring to their operation."
- Efforts to promote congestion pricing must contrast congestion pricing with other congestion alternatives, such as raising taxes, increasing capacity, etc. In other words, it is important to highlight the problems and shortcomings associated with these alternatives and the relative benefits of congestion pricing.
- Congestion pricing should be connected with similar proposals aimed at complementing environmental and traffic behavior goals, such as discouraging parking for increases, and parking cash-out programs.

Edward Regan of Wilbur Smith Associates (WSA) spoke about the lessons learned from his company's participation in many congestion pricing studies, including Los Angeles, California, and the State of Washington. Based on WSA's experience with each project, technology has emerged as a lesser issue than political concerns, contrary to initial beliefs. Privacy concerns, frequently raised when discussing congestion pricing, have not proven to be a major obstacle in practice. Intelligent transportation system applications such as real-time traffic information and traffic conditions combined with road pricing have the opportunity to make congestion pricing a more acceptable TDM tool. One method by which to enhance the acceptability of congestion pricing is to present it in a systems context.

Regan also indicated that their efforts show that many drivers are willing to pay a small additional individual's value of time is generally fifteen cents to twenty-five cents per minute. He also stated that the success of a congestion pricing application depends significantly on creating travel alternatives for those drivers priced off the roadway, and with having project officials emphasizing the personal and social benefits of such an application.

The notion of a systems approach was reiterated by Kiran Suryakrishnan of K.T. Analytics. He encouraged shifting congestion pricing not as a "quick fix" solution to traffic congestion throughout the U.S., but rather, as one of a wide range of pricing concepts that may be applicable for certain metropolitan areas. In addition, he identified the following lessons learned from his work on the institutional and political issues surrounding congestion pricing:

- Predictable and specific taxes are preferred by the public (Note: They can still be variable but must be consistent.)
- Expansion of alternatives, such as mass transit, carpooling, telecommuting, and arterial road investment, is critical.
- Experimental modeling tools are used in the current era to address the complex questions and issues of congestion pricing. Transportation officials must address the public to that large a degree of uncertainty underlies these models.
- Media relations are vital and public education efforts take time.
- Equity issues receive lots of attention and must be addressed in any congestion pricing project. In actuality, however, they only affect a small number of travelers and, therefore, reveal small overall impacts.
As part of the contract with the FHWA, the State and Local Policy Program (SLPP) conducted research and sponsored a symposium on the land use and social equity impacts of implementing congestion pricing. The SLPP sponsored faculty research commenced in the spring of 1995 and the findings were reported at the research symposium and policy forum held in October 1996. The final papers and a summary of the symposium proceedings are presented in a separately published report (State and Local Policy Program 1996).

The topics chosen for further investigation by Humphrey Institute faculty were developed in joint conversations among the researchers and representatives from the Minnesota Department of Transportation, the Metropolitan Council, and the transportation consultants. The research questions were framed based on these practical research needs and the interests and skills of the faculty members.

**Social Equity Impacts**

One of the three Humphrey Institute research projects dealt with trying to determine the distributional effects of the existing transportation system in an effort to avoid making the existing inequities greater. The research team, headed by Samuel L. Myers, Jr., Roy Williams Professor of Human Relations and Social Justice at the Humphrey Institute, found that differences in travel time by race and income vary from city to city, but that these differences are small in the Twin Cities (Myers, Saunders, and Chung 1996).

This research and subsequent policy discussion suggested that lower-income groups and people of color have a higher dependence on transit than other populations and they make up a very small proportion of the peak-period travel. Thus, there is some uncertainty as to the extent to which the imposition or absence of congestion pricing would affect these populations. Myers raised the concern that diversion of traffic to arterials and local streets could adversely affect low-income transit users on those routes.

Key questions as to how the imposition of congestion prices would affect transit need to be explored. Similarly, whether the use of congestion pricing's revenues could or should be put toward addressing racial and income disparities of the current transportation system should also be considered. In general, researchers commented that congestion pricing is not designed to be a policy tool for social equity, but its imposition should take care not to deepen already existing inequalities.

**Land Use Impacts**

Two of the three research projects dealt with potential land use impacts of imposing congestion prices. One study team, headed by Richard Boan, professor of planning at the Humphrey Institute, looked at data from twenty-five major metropolitan areas to investigate the relationship of land values and urban form. The research team's hypothesis was that auto transport costs are reflected in land values yielding the present day condition of peripheral land receiving additional value while central areas decline due to the existing price structure for automobile transportation.

The team reasoned that "if urban form variables had high explanatory power in predicting travel behavior, and travel behavior was associated with location decisions, then urban form could also explain differences in land value" (Boan, Kim, and Lu 1996, 80). The findings were somewhat ambiguous on whether congestion pricing would affect land use. It did clearly show the relationship between urban form and residential home sales: major determinants of residential values include density, economic diversification and growth, and family income. The team believes that the inclusion of more cities and more accurate local or regional cost data on automobile transport would greatly improve the results of the regression analysis.

The second team, headed by Thomas F. Luce, Jr., assistant professor of public affairs and planning at the Humphrey Institute, considered the potential effects of congestion pricing within the Twin Cities metropolitan area by examining the existing travel behavior and demographic characteristics of commuters to various types of employment subcenters. He central business district and its fringe, an "edge city" with a regional retail shopping and office complex, two manufacturing areas—one inner city and one suburban, and one developing affluent suburb. The research team's finding, "do not imply that tolling will improve the competitive position of an Edge City over a downtown...Indeed, the outermost employment subcenters appear to be the most vulnerable because they rely most heavily on I-94 commuter who use the interstate system" (Luce and Tukemman 1996, 73). Future work will look at the potential effects using a model of the transportation network to adjust for changes once a congestion price is imposed.
Experts participating in the policy forum also had differing opinions about the potential land use impacts. Other comments from land use experts were that the impacts must be examined within an urban system rather than from national experience, as the impacts on place and on people by race and income vary from city to city.

The key issue with congestion pricing regards the use of the potentially large amount of revenue that would be collected from a congestion pricing scenario. Would these revenues be used to compensate the losers through enhanced transit or other subsidies and/or to replace the current system of paying for transportation through gas, property, and sales taxes? Congestion pricing has the potential to revitalize the transportation payment system, shifting the burden of cost more directly onto the users for the benefits they receive. By reducing the amount of public funds spent on highway construction, increased dollars may be available to benefit individuals and geographic areas that have traditionally been the most inequitably impacted.

The symposium agenda is presented in Appendix J; the list of participants, in Appendix J.

**CLAREMONT WORKSHOP**

On September 8, 1995, the University of Minnesota’s Humphrey Institute of Public Affairs, the Federal Highway Administration (FHWA), and the Claremont Graduate School in California hosted a day-long workshop on the Claremont campus to explore efforts to assess and build public support for congestion pricing.

The workshop was structured around the experience of the FHWA congestion pilot projects underway at that time. Approximately sixty individuals participated, including elected officials and representatives of business, federal, state, and local transportation, air quality, and environmental protection agencies; private consulting firms; universities; and community and environmental interest organizations.

**MAJOR THEMES FROM THE WORKSHOP**

1. **Differentiate between different applications and goals of congestion pricing.** It is necessary to develop clear terminology to distinguish between the different forms of congestion pricing and the varying political and institutional issues associated with the different forms. The implementation advantage of HOV buy-ins or variable pricing on new facilities is that drivers have the choice of continuing to use their same routes without paying a toll. Conversely, the implementation advantage of pricing on existing facilities is that it provides a greater incentive for drivers to use an alternative to SOV peak-period travel.

   Support for the SB-91 project resulted from the ability of the private sector to build the project sooner than could the public sector. Support for the San Diego HOV buy-in resulted from the public’s perception of a wasted resource (i.e., “empty” HOV lanes). The motivation for demand management pricing stems from opposition to new capacity.

   Some see the new capacity approach as a necessary precedent to variable pricing on existing facilities. This approach conveys the concept of paying directly for what you get from the transportation system, which sets the stage for more aggressive pricing approaches in the future. Others see the need to use congestion pricing in order to reduce highway demand, given the failure of efforts to build our way out of congestion. In either case, it is important to recognize the antecedents of congestion pricing. These include toll roads, preferential parking rates for HOVs, and using some portion of gas tax revenues to fund transit.

   **2. Recognize external driving forces.** The public’s distrust of government is currently at a peak and this, in turn, has led to a lack of political leadership. The lack of trust relates both to government’s ability to collect and allocate revenue and to administer complex technological systems. This distrust creates difficulties for innovative new policies. The devolution of government responsibility now underway, however, may create opportunities for congestion pricing since it moves the finance and revenue allocation decision to a more local level. The sea change in state legislatures to Republican control makes it difficult to garner support for any project that increases taxes. But it may present opportunities for more public-private partnerships.

   Mandated command and control regulatory approaches are not the motivator they once were, but other opportunities may emerge. For example, the Northridge earthquake in San Fernando, California, presented a unique opportunity for the introduction of economic incentives. To stem the loss of economic productivity, private firms were paid bonuses for getting bridges rebuilt ahead of schedule. This type of event acts as a sudden jolt to peoples’ consciousness and presents tremendous educational opportunities. The key is to have impact analyses completed and plans in place to take advantage of opportunities when they present themselves.

   **3. Stress congestion pricing demonstrations in light of impending congestion.** It is important not to oversell congestion pricing but, rather, to convey the enormously useful information that could be obtained from a demonstration project. Proponents of congestion pricing should be humble and up front that they do not have all the answers, which is, in fact, why demonstration projects are so critical. The failure of attempts to build our way out of congestion and of other demand management approaches to address impending congestion provide an impetus for demonstrations of innovative approaches such as congestion pricing. The public will be more comfortable with a demonstration if it is clear that a program can be terminated at any time.

   **4. Develop strategic public education programs to take advantage of future opportunities.** Education programs should use graphic representations of congestion pricing and analogs of peak-period pricing from other sectors. Whenever possible, proponents of congestion pricing, such as citizens, representatives of business or public interest groups, or elected officials, should convey the education message: like other transformative innovations, such as the personal computer or cellular phone, public support cannot be expected until people have gained a better understanding of the new technology and its benefits. Education is also needed to provide an understanding of how the system is presently financed, and users should...
not expected to support a radical change in the way roads are financed before grasping the basics of the existing structure.

5. Target marketing strategies to specific market demands. Marketing strategies need to identify the market demand. They should also recognize the political, economic, and social factors since time of often critical. Descriptions of congestion pricing should not “denominate” car drivers. Rather, they should recognize driving as a choice and stress the fairness of having consumers pay their appropriate cost for the service delivered. The media should be engaged early and often. As they become educated on the subject, they can become allies in the education and marketing campaign. There is a need to use terms that resonate with the public. Congestion pricing does not, but issues such as convenience, efficiency, congestion relief, and community may. The public sees congestion pricing as a tax in clothed in everyday rhetoric.

6. Contrast congestion pricing with the alternatives. Interest in congestion pricing grew out of the shortcomings of existing traffic management and finance systems. In California, the costliness of command and control strategies to meet air quality goals was the major driving factor. In Houston, a desire to extend the options of linkages, including rail systems in meeting future travel needs was a key motivator. We should also remember to apply the no-build scenario that is required in transportation planning to the considerations of congestion pricing. In other words, given the facts of increased population and decreased investment in roads and transit, what will happen if we do not implement pricing?

7. Stress revenue allocation options. One should not assume that the public supports the need for increased revenues. In some cases, congestion pricing should be structured in a revenue-neutral format that is, returning all or part of the net revenues back to citizens in the form of tax relief. If a congestion pricing proposal involves an increase in total financial outlays, this should be made explicit. Projects to receive funding should be clearly identified. Surveys have shown that when money is directed to new projects, the public prefers that the money go solely to transportation projects as close as possible to where the money was raised (see the individual case studies in Citizens Jury© sections of this report). California’s experience with local transportation taxes demonstrates that people have a very clear understanding of where clearly identified projects are specified. New financial accountability structures are needed. This may include having private sector accounting firms oversee the revenue collection and allocation and citizen oversight committees.

8. Build leadership coalitions. Support for congestion pricing depends on engaging a range of stakeholders. Key stakeholders include the business community, transportation professionals, and environmentalists. Coalition building provides the opportunity to build arguments, connect congestion pricing to existing issues and projects, and identify proponents. It is best if proponents include politicians and members of the general public, not simply the technocrats.

9. Address equity impacts. Equity impacts can take many forms. They include the impact on low-income individuals (social equity) and on groups that have limited alternatives to paying the toll (geographical/situational equity). Most proponents of congestion pricing express three beliefs regarding the equity issues: (1) impacts on low-income individuals tend to be exaggerated because peak-period traffic is composed primarily of middle- and upper-income users, (2) impacts on low-income individuals are less than those of high-income users, and (3) impacts can be mitigated through the use of a toll fee, which would allow free passage for those under a certain income level, and by directing revenues to travel alternatives. Others remain opposed to congestion pricing, given the present dominance of the automobile and the danger that those without it will not be able to use public transit. In other words, the net impact of congestion pricing needs to be re-examined. The political solutions need to recognize that transportation is a need, not a luxury, and therefore, analogues such as the variable pricing of phone service, movies, or restaurant service may not be applicable.

10. Communicate the message that electronic tolling technology is viable, but that safeguards are needed. Electronic tolling is presently operational and its use will be greatly expanded in the near future. This presents great opportunities for the introduction of variable pricing. A real issue, however, is privacy. There are legitimate concerns both with the big brother aspect of electronic tolling and with the potential for private information on travel habits to be used by the private sector to market products. Privacy was identified as a major concern in national studies on the introduction of intelligent transportation systems (ITS). This issue, however, is not a fatal flaw. As the public becomes more familiar with electronic tolling, they become more trusting of its capability. Autonomous identification systems eliminate much of the concern. Also, privacy is much less of a concern when tolling is voluntary (e.g., on HOV bay-in lanes or on new facilities).

11. Recognize that public-private partnerships depend on a clear division of roles. The public sector cannot afford the financial risks associated with lengthy public/private projects to identify projects that meet environmental and other requirements. The public sector should remain in the role of defining projects and obtaining environmental reviews. SR-91, the one success to date out of five public-private partnership proposals in California, demonstrates the importance of public-private preconceived project proposals. After public support is confirmed, the private sector should be asked to bid on the construction and operation of facilities. Marginal return bidding procedures should provide a natural advantage to those firms that propose variable pricing on highly congested corridors.

CONFERENCE PROCEEDINGS

PANEL I: THE LEADERSHIP COALITION

Hank Ditmar, director of the Surface Transportation Policy Project, introduced the speakers. He suggested three potential participants for a leadership coalition: the business community, which sees congestion as a threat to the economic well-being of the community; environmental groups, which advocate a closer relationship between what transportation users pay and the societal costs that are imposed; and the beneficiaries of the revenues raised from such an equity.

Dennis Christensen, Texas Transportation Institute, described Houston’s approach to building support for congestion pricing. The project under consideration in Houston is an HOV bay-in scheme in which two-person carpools would be able to pay a fee to use the HOV lane that is presently restricted to three-person carpools. Houston benefited from a strong mayor who had previously served in the transportation department, and from the coordination of the mayor and the city transportation department in promoting a private sector, market-oriented approach. Planners in Houston looked for a project with no losers. The HOV system is well established in Houston and this innovation seemed to provide additional benefits. Christiansen cautioned that although equity issues always have political support, economic theory does not.

John Cox, The Southern California Economic Partnership, said that congestion pricing projects should be based on a clear understanding of where market demand exists. The introduction of variable pricing on the SR-91 toll facility in southern California resulted from the private sector recognizing the public’s market demand to save travel time.

Cox suggested that, in considering broader applications of congestion pricing, we need to recognize that public policy making does not always immediately respond to new technologies. For example, public polls conducted twenty years ago would have shown relatively minor interest in cellular phones and personal computers. Thus, we need a long-term public education campaign to build support for privately built and operated toll facilities and congestion pricing.

The recitation of a command and control regulatory strategy under the Employer Commute Options (ECO) program reduces the incentive to develop creative alternative strategies for travel demand management. It is useful to pose the question of how the private sector would implement congestion pricing if there was no government control. The private sector is motivated by survival (i.e., market demand), not equity.

Dave Heminger, Metropolitan Transportation Commission, Oakland, California, outlined six key lessons learned from the Bay Area experience in proposing congestion pricing on the Bay Bridge connecting Oakland and San Francisco.

1. Money is where the action is. Whatever the issue—equity, elected officials’ support, or public support—how the money is collected and allocated is the critical component. Political support is predicated on explicitly defining where revenues will go and what the benefits will be. We need to be careful in assessing public opinion on the need for new revenues. Transportation officials assume that public expectations imply support for increased taxes, but this may not be the case.

2. The need for equity may be needed. A revenue-neutral scheme preempts media and public attacks portraying congestion pricing as a tax increase. Unfortunately, complete revenue neutrality loses supporters. Environmentalists, for example, see the need to spend revenues to improve alternatives to SOV travel.

3. The equity issue is not a fatal flaw. It is important to recognize that the current financing system is regressive. The lifeline toll proposed on the Bay Bridge successfully addressed the equity concern and did not generate opposition.

4. Coalitions need support from both the left and right political perspectives. Given the revision of command and control air quality requirements, business is losing interest. We need to continue to nurture business and Republican support by stressing that congestion pricing represents a private sector approach.

5. Congestion pricing must be seen as better than the alternative. The fact that technical studies need to be made to make the car more habitable loses the impetus for congestion pricing. If the accepted wisdom that you cannot build your way out of congestion is accurate, however, then congestion pricing becomes attractive.

6. There is a need to cultivate and educate state legislators. Coalition members from the business community and public interest groups make better lobbyists than do bureaucrats.
Judy Wright, member of the Claremont City Council and cochair of the Los Angeles REACH Task Force, commented that the adoption of pricing strategies requires a long-term approach. The Southern California Association of Governments (SCAG) has considered this approach since the 1970s. The governor’s cutting of state spending provides an opening for user-fee-based financing and for local government solutions. Elected officials responded to congestion pricing as an alternative to trip reduction ordinances and as a familiar concept when it is suggested that roads be treated as public utilities.

The REACH coalition involves SCAG, the region’s metropolitan planning organization; Caltrans, the state department of transportation; COBESE, a business organization; and South Coast Air Quality Management District, a public organization. Building the coalition was a long and delicate process.

Wright suggested four strategies for advancing congestion pricing: (1) linking congestion pricing with technology advancements to notify people of the location of congestion, (2) educating voters on the congestion problem and possible management strategies, (3) embracing the conservative perspective, and (4) stressing the benefits, not simply the revenue potential.

John Duve, San Diego Association of Governments, described the unique history of public support for the HOV buy-in project in San Diego. San Godefroid, the mayor of Pasay, proposed the HOV buy-in based on constituent support. Mayor Goldsmith was able to get the project passed by the city council in ten minutes, and enabling legislation passed unanimously in the state legislature. Public support came from the grass roots as people saw money being wasted on empty HOV lanes.

The public supports using new policies to address specific problems. This was the case with passage of a transportation sales tax in California and is the case with the HOV buy-in proposal. Duve believes that the HOV buy-in is distinct from congestion pricing.

John Charles, Oregon Environmental Council (OEC), noted that the OEC is a leading advocate of congestion pricing and other market-based approaches, such as emissions fees, in the Portland area. The OEC became convinced of the superiority of a market-based rather than command and control approach to achieving environmental goals following a presentation by Randy Pometz, a transportation expert experienced in congestion research in California.

Charles believes that support for a congestion pricing proposal depends on creating an enticing package that would include (1) expanded transit, (2) expanded land-use, (3) replacement of the ECO program, (4) deregulation of the transit industry to allow more suppliers, (5) introduction of user-based vouchers to eliminate transit subsidies for those who do not need them, and (6) identification of projects with broad public support, in place of the existing political pork barrelming over the use of gas tax revenues.

Charles added that it is important not to attack the morality of driving, but to instead stress the fairness of full-cost user fees and the retention of individual choice.

**Panel 3 Technology Issues**

Bob Neely, AMTAC Corporation, pointed out that electronic tolling is now operational and that it presents opportunities for variable pricing. Neely’s firm has found that support for electronic tolling is greatly enhanced by actual use. One inherent problem with the technology is that the technicians want to do everything technically possible while the public supports a limited number of applications.

Adam Belin, with Noseman, Guthner, Knox & Elliott, identified two major privacy concerns related to electronic tolling: the fear of big brother surveillance and the potential for private firms to use information on individual travel habits to market products. The issue of privacy was identified as a major concern in the case studies on the application of intelligent transportation systems (ITS) and it should not be overlooked. There is a need for public education on electronic tolling technologies to convey to the public that they are no more intrusive than many common systems now in place.

**Audience Question**

Is it possible that the ease of payment under a monthly billing format may limit the effectiveness of pricing in demand management? This is an area that needs further research, but a more direct and complete price signal should be an improvement over the present system.

**Panel 4: Equity Impacts/Revenue Allocation**

John Beng, Federal Highway Administration, and James Bougurt, Parsons Brinckerhoff, reported on the equity workshops conducted by Bougurt’s company and others for the Federal Highway Administration (FHWA). Low-income communities, it was found, are especially distrustful of government. Participants questioned why workers should be stuck with increased commuting costs when industry makes the decision to leave nearby urban locations.

Equity issues depend on how the question is framed. Equity can relate to the flexibility of individuals to avoid tolls through alternative modes, routes, or work schedules, or to the impact on low-income individuals. Some question the legitimacy of the social equity critique of congestion pricing since tolls would disproportionately affect higher-income groups who make up the lion’s share of peak-period trips.

Participants in the workshops became more supportive of congestion pricing as their understanding of the concept increased. They also pointed out the importance of new financial accounting systems—either private accounting firms or citizen oversight committees—should congestion pricing be implemented.

Cameron Yee, Earth Island Institute, San Francisco, described the Institute’s recently completed study on the equity issues associated with the Bay Bridge congestion pricing project, which was funded by the U.S. Environmental Protection Agency. Yee suggested caution in introducing congestion pricing and pointed out that roads are public for a reason. Unlike movies, restaurants, phone service, and so forth, transportation is a need, not a luxury. When examining equity impacts of congestion pricing, a broad framework is required. Some of the questions that the Urban Habitat Program considered are: where does existing funding go? who suffers from environmental externalities and public health risks related to transportation facilities? and what is the existing state of access across different socio-economic groups? Yee expressed concern that congestion pricing could exacerbate existing disparities given the dominance of the car in the present system and the immediate impact of cuts in transit service. He also questioned whether the lifetime toll proposed on the Bay Bridge project had a high enough income threshold for participation.

**Audience Question**

Is there a tension between a revenue-neutral approach that addresses antithetical opposition versus using revenues only to deliver certain services to build the support of various stakeholders? Yes, it was suggested that proposals include some off-peak discounts but still raise some level of revenue.

**Audience Comment**

The creation of a citizens oversight committee (picked by lottery) to approve the expenditures of a transportation sales tax in Orange County was a successful accountability mechanism. The oversight committee thwarted an effort by the state legislature to grab sales tax receipts to deal with the county’s bankruptcy.

**Panel 5: Private Markets**

Gordon Fielding, University of California at Irvine, reported that effective public-private partnerships are dependent on an appropriate division of roles between the public and private sector. The public sector is best at clearing projects by identifying public support and conducting the environmental review. The private sector is best at building and operating local facilities. The national experience in public-private partnerships shows that private firm participation is hindered by the financial risk associated with a lengthy public approval process.

Fielding suggests that for reason SR-91 is the one public-private partnership proposal in California that has moved forward expeditiously, it is that the environmental review had been completed prior to involvement of the private sector. He proposes that the public sector define a project and conduct the environmental review and, then use marginal return building so selects a private team to construct and operate the facility. Fielding believes that the private firm that most effectively prices the use of a facility is also likely to be the lowest bidder.

Greg Halburz, California Private Transportation Corporation (CPTC), gave a slide show presentation on the SR-91 Express Lane project. A key aspect of the project is its guarantee of maintaining customer satisfaction. By using variable pricing, CPTC can assure customers a significant time savings on the Express Lane versus the existing general purpose lanes. CPTC used extensive market research to design the pricing and payment arrangements. Users of the Express Lane must obtain prepaid accounts that are debited electronically through an in-car transponder when the facility is used. CPTC decided on a relatively static toll rate schedule based on a recognition that travelers would want to know what the toll would be prior to leaving home in the morning.

**Audience Question**

What happens if too many HOVs use the lane, resulting in a loss of revenue? A provision for such a contingency is built into the franchise agreement with the state of California.

Ed Sullivan, California Polytechnic State University (Cal-Poly), reported on an FHWA-funded study of SR-91 underway at Cal-Poly. The study will examine travel behavior changes, such as mode, route, and time shifts, on both the SR-91 corridor are, nearby highways and analyze the unique operational features of the Express Lane and general public perceptions. The study will use origin-destination surveys and attitudinal surveys.

Sullivan suspects that SR-91 will be successful because it is optional and because it is a great buy for...
consumers. He suggests renaming the congestion pricing program, calling it the premium lane program instead.

People need to get used to the idea of paying directly for what they get. Only then should congestion pricing be proposed on existing facilities.

**Panel 6: Citizen Involvement, Understanding, and Support**

Jackson Bryant, a citizen of Houston, Texas, and member of a grass roots citizen organization, became interested in congestion pricing after examining the potential of light rail transit (LRT) to address Houston's congestion problems. He found LRT to be a costly strategy, given the sprawling nature of Houston, and began to look for other strategies. Together with the University of Houston and the Metro Transit Authority, Bryant organized a conference with national experts on congestion pricing and other transportation topics.

Bryant described Houston's HOV buy-in proposal. He believes that when congestion pricing is closely examined and contrasted with the alternatives, objections fall away. Before we can expect public support for congestion pricing, however, we need to establish a level of understanding regarding how transportation systems are presently financed. It is important to consider the often voiced double taxation critique of congestion pricing. Bryant uses an analogy of renting out an apartment over the garage of a private home. In this case, the homeowner sees the return on his or her investment to cover possible future costs and the original investment. The same is true of congestion pricing. Bryant sees great promise for congestion pricing although he recognizes that environmentalists are critical of the HOV buy-in approach.

Debra Basket, Go Boulder project coordinator, described the city of Boulder's approach to congestion pricing. To begin with, Boulder conducted their examination of market-based strategies within a broader framework of congestion relief. Their approach emphasizes widespread public involvement and education, and concludes meeting with all stakeholders, beginning with other city agencies. Boulder's communication strategy includes media outreach, computer networks, and bulletin boards. A key step in their program is to recognize the strategic terms into language that is understandable by all stakeholders.

Basket pointed out the need to connect congestion pricing proposals to the ongoing political process and to the sense of communities. Residents of Boulder are successful, congestion pricing needs to be associated with tangible, identifiable projects. Like John Charles, who spoke previously, Basket cautioned against alienating automobile drivers.

Mary Jo Porter, The Underhill Company, Seattle, reported on efforts in the Seattle metropolitan area to develop public-private partnerships to build toll facilities, some involving congestion pricing. The political support for the toll road proposals changed dramatically over time. The Washington Legislature originally voted unanimously in favor of soliciting public-private partnerships. That support evaporated, however, when specific proposals met with public opposition and especially the recognition of the sea change in the legislature from Democratic control to Republican. Specific support for congestion pricing was originally written into the metropolitan planning organization's regional plan, but the opposition of one council person led to support for only a study. Porter asserted that Gordon Fielding's point about the difficulties in merging public and private sector roles, given the inherent length of the public process and the private sector's need to see a timely return on its investment.

**Audience Questions**

Given the many different applications of congestion pricing and the different local contexts, is there a generic message that should be conveyed to the public? Porter emphasized the importance of clarifying the objective of congestion pricing. The experience of Washington State and Minneapolis (Porter observed the Citizens Jury (p) project) confirmed the problems associated with giving mixed messages to the public. In the local context, it is necessary to be clear about whether the objective is to raise money to build new facilities or to get people off of existing facilities.

Given that studies show that congestion pricing leads to significant net economic benefits—about one-third of revenues raised are a net benefit—why is there so much public support? Audience response: The problem is the general distrust of government. Surveys show that the public believes that government wastes 50 percent of total revenues raised. Thus, the theoretical efficiency gains of congestion pricing are not perceived as a likely outcome in practice.

Porter added that the general distrust of representative government does not bode well for innovations such as congestion pricing. She objected to both the substitution of citizen oversight committees for the accountability of elected officials and to the assumption that the private sector will necessarily do a project better. Porter concluded by stating that we should remember to apply the no-build scenario, required in transportation planning processes, to congestion pricing, as to ask, for what, what will happen if we do not implement pricing, given increased population and decreased investment in roads and transit?

**Panel 7: Education, Marketing, and the Media**

Adel Lari, Minnesota Department of Transportation, described the public outreach approach being used in Minnesota's exploration of private toll facilities and congestion pricing. There has been significant legislative interest and support for innovative financing techniques that include public-private partnerships and congestion pricing. The Lari Minnesota Legislature requires Mn/DOT to consider alternative financing for any proposed project costing over ten million dollars. Guna Whitehill-Buzik, Portland Metro, noted that her perspective on marketing strategies for congestion pricing stems from her lengthy experience with promoting transit projects in the Portland metropolitan area. She suggested that proponents follow six strategies. First, make sure there is a public demand for the product you are selling. Second, if there is a demand, carefully apprise the timing of the project given the immediate political, economic, and social conditions. Third, be clear in the messages conveyed. The transportation field is notorious for using terms and acronyms that are meaningless to the public. If your message is convenient and efficient, then stress those benefits repeatedly. Fourth, target your message to the beneficiaries of the project. Fifth, view the media as a friend. Portland Metro was very successful in educating the media to support light rail. Sixth, remember that congestion pricing does not stand alone. You will gain more support when congestion pricing is presented as one component of an integrated system that includes existing initiatives such as light rail transit, HOV lanes, and traffic signaling.

Jeff Weir, California Air Resources Board, described a study recently completed by Elizabeth Deakins and Greg Harvey for the National Group on market-based transportation control measures (TMCs). This study used focus groups in San Francisco, Los Angeles, San Diego, and Sacramento to examine public attitudes toward congestion pricing and other market-based TMCs. Results of the focus groups were used to develop a statewide marketing campaign. The focus groups revealed the following observations: (1) people agree that good transportation is worth paying for; (2) market-based strategies are viewed as ordinary taxes clothed in extraordinary rhetoric; (3) there is a distrust of government's competence to administer complicated policies and systems, and (4) the support for market-based approaches has a direct relationship to one's experience of congestion.

**Audience Comment**

Michael Replogle of the Environmental Defense Fund and a member of the Westchester County, New York, Pricing Task Force was given an opportunity to describe activity related to advancing pricing proposals there. He reiterated the importance of gaining support from the business community and environmental civic groups. He also pointed out that a pricing strategy faces extreme difficulties due to the entrenched institutional structures that were set up to build capacity as opposed to managing demand. We need to recognize that the easy transportation demand measure (TDM) strategies now underway will not solve our problems in an effective manner.

Replogle also suggested the need for (1) effective national standards for electronic payment systems, (2) a requirement that enabling technology be installed in new cars, and (3) public involvement strategies that provide openness and easy access to information by the public.

**Concluding Discussion: Building a Scenario for Implementation of Congestion Pricing**

The final session of the conference involved a full group discussion of key issues and strategies related to each of the day's panel topics.

**Panel 6: The Leadership Coalition**

- How to allocate revenues is a major issue.
- Leadership is more than poll-taking.
- Leadership must come from business and local leaders, with transportation professionals providing support.

*California's Transportation Future is an excellent brochure describing market-based approaches to reducing congestion and emissions. It is available from the Metropolitan Transportation Commission, Oakland, California.
STRATEGIES
- Build consensus around competing interests—there is strength in diversity.
- Build a collective lobbying campaign.
- Involve businesses and respond to consumer demand.
- Apply congestion pricing only where the problem is clearly identified by the public.
- Connect congestion pricing with other existing projects, such as ramp metering, signalization, etc.
- Education on the technology and policy needs to be the first step.
- Clearly define and articulate the purpose of congestion pricing.
- Involve community planning organizations and large homeowner associations.
- Engage opponents early in the process.
- Discourage alternative strategies, such as supply-side congestion mitigation strategies and demand and control air quality strategies.
- Create task forces and/or advisory committees to shape proposals.
- Create flexibility and design strategies to address perceived losers.

Panel 2: Elected Officials Leadership and Support

ISSUES
- Prices should be set by analysis, not political decisions or pork barrel.

STRATEGIES
- Stress that congestion pricing still maintaining freedom of choice.
- Educate elected officials that congestion pricing can be effective whether it raises revenues or is revenue neutral (there is a need to distinguish congestion pricing from another tax).
- Promote congestion pricing as a substitute for the gas tax.
- Contrast broad public benefits with narrow interest group opposition.
- Find citizens or organizations that are proponents of congestion pricing to lobby state legislators.
- Address low-income issues early and often.
- Use utility analogy to convey basics of congestion pricing.
- Sell congestion pricing as decentralized government.
- Overcome distrust by developing a clear policy on revenue allocation.
- Create an attractive package.

Panel 3: Technology Issues

ISSUES
- Automatic vehicle identification (AVI) can provide additional benefits through monitoring.
- System must be easy and convenient.
- Technology must work smoothly from the get-go.
- Monthly billings might lessen impetus for change in travel behavior.
- The need exists for more information on the cost of technology relative to the overall project cost.

STRATEGIES
- Address privacy issues—perception is reality.
- Keep technology clearly linked to its specific role.
- Develop and stress confidential information collection systems.
- Educate through examples of existing and planned electronic tolling systems.
- Tie the promotion of congestion pricing to the development of ITS systems (e.g., a policy of having automatic vehicle identification [AVI] installed in all new cars).

Panel 4: Equity Impacts: Revenue Allocation Plan

ISSUES
- Many felt that equity need not be an issue, or at least not a central concern.
- Equity is more than simply the impact on the poor.
- Alternatives must be in place first.
- Need more sophisticated analysis of relative equity impacts between existing finance structures and pricing strategies.
- Need assurances that funds will be used properly.
- Revenue neutrality has different equity issues.

STRATEGIES
- Involve the poor in planning activities.
- Provide choice.
- Design compensatory measures.

Panel 5: Private Markets

ISSUES
- Definition of purpose is the greatest concern.
- Greater public support for pricing is needed if projects are privately financed.
- Public agencies need more performance-based evaluation.
- Private projects need environmental clearance by public sector before private sector takes over.

Panel 6: Citizen Involvement, Understanding, and Support

ISSUES
- There is a need for early and continual outreach.
- There is a need for broad access to information.

STRATEGIES
- Convey ownership of the congestion problem to the general public.
- Address all issues, including technology, equity, etc.
- Segment the market.
- Time outreach and promotion to coincide with public agency decisions.
- Create a new name.
- Go to the people where they are.
- Overcome distrust of government by engaging stakeholders in the process by presenting examples of where government can and should work.
- Stress market prices.
- Define in simple terms.
- Structure public input around specific projects.
- Work with business and homeowner groups.

Panel 7: Education, Marketing, and the Media

ISSUES
- Citizen involvement and marketing attempts to sell pricing should be separate.
- Public education is important.
- Media may be biased, given advertising sources.

STRATEGIES
- Make media an ally.
- Use humor.
- Get the private sector to market the concept.
- Establish public relations programs immediately.
- Use beneficiaries to sell the project at the onset.
- Convey the problems associated with no action.
- The congestion pricing to quality-of-life concerns.
- Provide education on road building terminology and issues.
- Provide education on existing subsidies to automobile use and the fact that congestion pricing would allow unbundling of subsidies.

The Classroom Workshop agenda is presented in Appendix K, and the participants are listed in Appendix L.
APPENDIX A
CONGESTION PRICING CONCEPTS

<table>
<thead>
<tr>
<th>Type of Project</th>
<th>Location</th>
<th>Project Contact</th>
<th>Project Specifics</th>
</tr>
</thead>
<tbody>
<tr>
<td>New facilities</td>
<td>State Route 91 in Orange County, California</td>
<td>Ed Sullivan (909) 796-1186 Cal Poly Pomona</td>
<td>A private toll road built in a ten-mile stretch of an existing, highly congested corridor. Variable tolls are electronically charged on the express lanes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Greg Brooks (312) 882-1700 United Infrastructure</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exploring variable toll on an existing toll road or bridge</td>
<td>San Francisco-Oakland Bay Bridge in California</td>
<td>Karen Frick (510) 464-7784 Metropolitan Transportation Commission</td>
<td>Increase the peak-hour toll for commuters, depending on demand, and/or lower the off-peak toll.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Philip Jiang (650) 654-7138 Caltrans</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tappan Zee Bridge in New York, New York</td>
<td>William Bistau (518) 471-4258 New York State Thruway Authority</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Michael Biegon (312) 836-3500 Environmental Defense Fund</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bridges in Lee County, Florida (Fort Myers)</td>
<td>David May (941) 319-2578 Florida Department of Transportation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chris Swenson (414) 555-2511 Lee County Department of Transportation</td>
<td></td>
</tr>
<tr>
<td>Examining incentive pricing on HOV lanes*</td>
<td>I-35 in San Diego, California</td>
<td>Michele King (619) 595-9063 SANDAG</td>
<td>Allow lower-occupancy vehicles to pay a fee to travel on existing, underutilized high occupancy vehicle (HOV) lanes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pedro Oro (619) 688-6588 Caltrans</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Katy Freeway in Houston, Texas</td>
<td>Jack Foster (512) 467-3791 Texas Department of Transportation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bill Stolly (512) 364-9875 Texas Transportation Institute</td>
<td></td>
</tr>
<tr>
<td>Considering other pricing options, including variable fees on new or existing congested roads, parking pricing, and off-peak differentials</td>
<td>Minneapolis-St. Paul, Minnesota</td>
<td>Amed Lari (612) 262-6511 Minnesota Department of Transportation</td>
<td>Various applications being considered.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Carl Ohm (612) 291-6599 Metropolitan Council</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boulder, Colorado</td>
<td>Debra Baskett (303) 441-4498 GD Bolder</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Myron Swider (303) 757-0804 Colorado Department of Transportation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Los Angeles, California</td>
<td>Zahi Farnesh (213) 897-4279 Caltrans</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deborah Redman (213) 286-1956 Southern California Association of Governments</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Portland, Oregon</td>
<td>Dave Williams (503) 731-8211 Oregon State Department of Transportation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bridget Weighart (503) 757-1700 Portland Metro</td>
<td></td>
</tr>
</tbody>
</table>

Note: Examples are used to illustrate each concept; cities may be considering additional applications of congestion relief tolling.

* HOV refers to high-occupancy vehicles, such as carpools and buses. SOV refers to single-occupancy vehicle. The I-35 project would allow HOVs with two or more travelers to drive for free, whereas the Houston project would allow two-person HOVs to pay a reduced rate to use the three-person HOV lane.

APPENDIX B
SAMPLE LETTER OF INVITATION TO A CONGESTION PRICING FOCUS GROUP

Dear [Name],

The Humphrey Institute of Public Affairs and the Chicago Area Transportation Study (CATS) invites you to attend a focus group on the institutional and political issues related to the implementation of congestion pricing in Chicago. This focus group is open to all interested parties, including academic, government, and community stakeholders.

The Humphrey Institute has already conducted several focus groups with institutional leaders in the Portland, Houston, Philadelphia, and Minneapolis-St. Paul urban areas. The leaders in these cities have shared their experiences and insights into the challenges and opportunities of implementing congestion pricing. The information gathered from these focus groups will be used to inform the Humphrey Institute’s research and policy recommendations.

As a member of the focus group, you will have the opportunity to share your perspectives on the following topics:

- The benefits and challenges of implementing congestion pricing.
- The role of governmental and public agencies in implementing congestion pricing.
- The impact of congestion pricing on transportation infrastructure.
- The potential for congestion pricing to reduce traffic congestion and improve air quality.

The focus group will be held on [date] from [time] to [time] at [location]. Refreshments will be provided.

Please RSVP by [date] to confirm your attendance. If you have any questions, please contact David Van Hattum at [phone number] or [email address].

We look forward to your participation.

Sincerely,

David Van Hattum
Research Fellow
CONGESTION PRICING WITNESS
• Ed Began, Wilbur Smith Associates

CONGESTION PRICING WITNESS
• Carl Olm, Metropolitan Council

11:30-12:30 p.m.
LUNCH

OPPOSITION WITNESS
• Alan Pinsaki, Transportation Consultant
  1. Equity—creates a system of transportation haves and have-nots
  2. Difficult to set the “right price” and direct benefits to losers in the system
  3. Just a new tax, not an efficient way to raise revenue
  4. Price will have to be set too high to get desired change in behavior

PANEL
• Carl Olm
• Alan Pinsaki

CONGESTION PRICING WITNESS
• Bob Zauner, Hughes Aircraft
  Technology that makes congestion pricing viable

OPPOSITION WITNESS
• Phil Ague, Professor, University of California at San Diego
  Potential privacy concerns of congestion pricing

SMALL GROUP DISCUSSION—report findings to full group

ADJOURN

DAY 3—WEDNESDAY, JUNE 7

8:30 a.m.
CONGESTION PRICING WITNESS
• Ferrol Robinson, SRF Consulting Group, Inc.
  Introduce congestion pricing models in the Twin Cities
  1. Area-wide pricing or corridor line around the MNSA
  2. Spot, facility, or corridor pricing to finance new facilities
  3. Road pricing or mileage-based tax

CONGESTION PRICING WITNESS
• Senator Sandra Pappas, DFL-St. Paul
  Transit funding problems and how congestion pricing could fit in

OPPOSITION WITNESS
• Lisa Peterson, Minnesota Trucking Association
  Problems don’t merit this solution

OPPOSITION WITNESS
• Jake Crandall, American Automobile Association
  Spend money we have more wisely—there are better ways to raise revenue

OPPOSITION WITNESS
• Senator Jane Kimby, DFL-Minneapolis
  Limits on state taxation—a better solution is to underdate the gas tax
APPENDIX
JURORS FOR THE CITIZENS JURY® ON TRAFFIC CONGESTION PRICING

<table>
<thead>
<tr>
<th>Name</th>
<th>Occupation</th>
<th>Age</th>
<th>Hometown</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. MacKillop Arnold</td>
<td>Retired</td>
<td>75</td>
<td>Edina</td>
</tr>
<tr>
<td>Kenneth Bogen</td>
<td>Self-employed</td>
<td>49</td>
<td>Champlin</td>
</tr>
<tr>
<td>Robert Carlson</td>
<td>Heavy equipment operator</td>
<td>55</td>
<td>Minneapolis</td>
</tr>
<tr>
<td>Hail Chabana</td>
<td>Senior engineer</td>
<td>59</td>
<td>Roseville</td>
</tr>
<tr>
<td>Kristine Claremont-Giles</td>
<td>Writer, graphic designer</td>
<td>26</td>
<td>Minneapolis</td>
</tr>
<tr>
<td>Lynne Cobb</td>
<td>Teacher</td>
<td>67</td>
<td>Champlin</td>
</tr>
<tr>
<td>Jan Dahm</td>
<td>Jail program coordinator</td>
<td>39</td>
<td>Hugo</td>
</tr>
<tr>
<td>Elmer Descombes</td>
<td>Retired, telecommunications</td>
<td>71</td>
<td>Grand Rapids</td>
</tr>
<tr>
<td>Stephen Donahoo</td>
<td>Independent housing inspector</td>
<td>61</td>
<td>St. Louis Park</td>
</tr>
<tr>
<td>Kathleen Donahoo</td>
<td>Carricer</td>
<td>57</td>
<td>Minneapolis</td>
</tr>
<tr>
<td>Dawn Fisher</td>
<td>Computer technician</td>
<td>40</td>
<td>Centerville</td>
</tr>
<tr>
<td>Kevin Haidl</td>
<td>Lawncare</td>
<td>20</td>
<td>Forest Lake</td>
</tr>
<tr>
<td>Tara Heintz</td>
<td>Health unit coordinator</td>
<td>24</td>
<td>Brooklyn Park</td>
</tr>
<tr>
<td>Deborah Iverson</td>
<td>Office specialist II</td>
<td>41</td>
<td>Minneapolis</td>
</tr>
<tr>
<td>Terry Johnson</td>
<td>Bartender</td>
<td>25</td>
<td>Ham Lake</td>
</tr>
<tr>
<td>Jeene Lockrem</td>
<td>Community living assistant</td>
<td>27</td>
<td>Champlin</td>
</tr>
<tr>
<td>Diane Lockwood</td>
<td>Expediter</td>
<td>55</td>
<td>Zimmerman</td>
</tr>
<tr>
<td>Melanie May</td>
<td>Retail sales</td>
<td>32</td>
<td>North Branch</td>
</tr>
<tr>
<td>Allen Peterson</td>
<td>Armored courier</td>
<td>26</td>
<td>Anoka</td>
</tr>
<tr>
<td>Douglas Pratt</td>
<td>Professor</td>
<td>61</td>
<td>Scandia</td>
</tr>
<tr>
<td>Charlotte Rose</td>
<td>Student</td>
<td>16</td>
<td>St. Paul</td>
</tr>
<tr>
<td>Barbara Schuster</td>
<td>Dietary assistant</td>
<td>51</td>
<td>St. Louis Park</td>
</tr>
<tr>
<td>John Voskos</td>
<td>Minister</td>
<td>51</td>
<td>Andover</td>
</tr>
<tr>
<td>Paul Winth</td>
<td>Supervisor</td>
<td>25</td>
<td>St. Paul</td>
</tr>
</tbody>
</table>

DAY 4—THURSDAY, JUNE 8
8:30 a.m.  
SMALL GROUP DISCUSSIONS—each group assigned a congestion pricing model

9:45-12:45 a.m.  
FULL GROUP DELIBERATIONS

LUNCH

12:30-1:30 p.m.  
FULL GROUP DELIBERATIONS

ADJOURN

DAY 5—FRIDAY, JUNE 9
8:30 a.m.  
FINISH DELIBERATIONS AND BEGIN FOCUS GROUP PROCESS

12:30-1:30 p.m.  
LUNCH

FINISH WRITING FINAL REPORT AND PRESENT FINAL RECOMMENDATIONS

PRESENT RECOMMENDATIONS
INTRODUCTION
Our findings and recommendations are presented in three sections. First, we summarize the process we went through to arrive at our conclusions. Second, we answer the questions put to us in the charge. In the third section we make our recommendations.

STEPS IN THE PROCESS
- On the first day we heard from a number of neutral witnesses, who outlined the development of our transportation network and the problems of traffic congestion and financing at the state level. At the end of the day, we broke up into small groups and discussed the problems.
- On days 2 and 3 we heard from congestion pricing advocates and opponents. We broke up into small groups at the end of each day.
- On day 4 we broke up into four small groups and each was assigned a congestion pricing model for analysis. Our conclusions, as observed by the staff, are included near the end of this report. Each small group listed the merits and drawbacks of the assigned model and decided how they would structure the model to reach the desired goals. We presented our conclusions to the full group and continued deliberations throughout the afternoon deciding what solution we would recommend to solve the problem.
- We finished our deliberations on the fifth day and moved into a focus group format for transportation professionals interested in our conclusions. The eight jurors who felt the Twin Cities area did have a congestion problem broke off into a small group. Their views as recorded by staff observers have been compiled into a Minority Report, printed near the end of this report. At three o’clock the full group presented their final recommendations.

ANSWERS TO THE CHARGE
Is there a current problem with traffic congestion in the 13-county metropolitan area we represent? On this question, eight of us voted yes and 16 voted no.

- Will there be a problem with congestion in this area in the future? On this question, 22 of us voted yes, one voted no and one was unsure.
- Is there a transportation funding problem? On this question, all 24 of us voted yes.
- An congestion pricing be effective strategy to address present and impending problems of traffic congestion and to improve stable financing for surface transportation improvements? On this question, 7 of us voted yes and 17 voted no.

We were then asked why congestion pricing is ineffective in solving these problems.
- First, 11 of us voted that congestion pricing would not result in a change in travel behavior. Six of us voted that it could and seven abstained. We agreed, however, that the answer to this question depends in the price being charged.
- Second, 19 of us voted that congestion pricing is an inefficient way to raise revenues. Five of us voted that it is an efficient means for raising revenues.
- Third, 15 of us voted that congestion pricing would be a system for the elite and disproportionately hurt low-income users. Four of us voted against this idea and five abstained.
- Fourth, five of us voted that congestion pricing would not address congestion and financing issues because revenues generated could be used the wrong way. Eighteen of us voted against this notion, and one abstained.
- Lastly, five of us voted against the acceptability of congestion pricing because it would violate personal freedoms. Eleven voted against this argument and six abstained.

We were asked how many of us would want to see a pilot project on congestion pricing (handed by the federal government) tried in some other metropolitan area. On this question, 38 of us voted in favor, two voted against and four abstained. Those voting yes believed the study would be worthwhile because we could determine how it affects congestion, generates revenues and measures cost-effectiveness. Those voting no felt a study would be too expensive to undertake. Several abstained as they would support some pilot project models but not others.

As a follow-up to this question, we were asked how many of us would like to see the Twin Cities metropolitan area chosen for a pilot project. On this question, seven of us voted in favor, thinking if a project were conducted here in the Twin Cities we could actually see how it would work, while 31 of us voted no, believing that the public wouldn’t accept such a project at all. Four of us abstained.

RECOMMENDATIONS
We were offered the choice of working on several different methods to deal with congestion and financing problems. A clear majority of us preferred to build our own solution. The following is the idea we presented to Minnesota legislators and transportation planners to seriously consider. The overall plan was supported by 21 jurors and was opposed by two jurors. One juror abstained. The support for different parts of this proposal is shown below.

We believe that action must be taken to deal with the funding problem. A constitutional amendment must be passed to broaden the use of the gas tax in Minnesota so these funds can be used for transit. We suggest this only if it can be done in conjunction with a statutory dedication which includes the following provisions:
1. Provisions must be taken to ensure that rural Minnesotans receive the same percentage of the gas tax that they now receive.
2. We recommend a 5-cent increase in the gas tax and are willing to see this increase rise to 15 cents over a period of six years, as needed. (Our vote is unanimous.)
3. In the metropolitan area, the additional revenues from this increase in the gas tax should be spent as follows: transit, 60 percent; improved and repaired roads, 25 percent; new roads, 15 percent. (Our vote is unanimous.)

These provisions should be adopted at least a 10-year period. After that, we recognize the need for flexibility, which is why we did not vote these provisions in a constitutional amendment. (Our vote is 16 in favor; four opposed and four abstain.) If it is politically impossible to accomplish the above, then we recommend that a sales tax on gas be seriously considered to accomplish these same goals.

We also discussed the limited use of spot tolls. The use of tolls for these purposes should be considered, but only if the proceeds are clearly dedicated for the original project, with a sunset provision to end them as soon as sufficient revenues have been raised for the original project. There must be appropriate democratic consultation with those affected by the construction.

The exact details surrounding the use of this concept were difficult for us to decide upon. (Our vote is 12 in favor, eight opposed and four abstain.)

With regard to the present congestion problem, we felt there were three steps which should be taken: clean up the “loose edges” in the system (lanes which end inappropriately, etc.), expand the use of ramp meters and improve traffic management. To accomplish these and other changes, pilot projects and public hearings should be held.

In addition, we also wanted consideration to be given to:
- Encouraging changes in the mode, route and time of travel through education and training.
- Setting higher standards for new roads and highways if built.
- Creating more bike paths separate from traffic.
- Recycling of existing rail routes for transit.
- Designing multi-modal approaches to transit.
This information was prepared by the Jefferson Center; it has not been changed from the original.

The Jefferson Center is a nonprofit, nonpartisan organization conducting research and development into new methods of democratic decision-making. Founded in 1974 in Minneapolis, the Center is now the oldest of the organizations set up in America outside of a university setting to do long-term research and development on democracy. The major work of the Center is the development and running of the Citizens Jury process, through which randomly selected, representative panels of adults meet for several days to examine public policy issues or evaluate key issues in campaigns, and present their findings to decision-makers and the community at large.

Essential parts of the Citizens Jury process include:

- Conducting a survey
- Selecting jurors to resemble a microcosm of the community
- Setting the agenda and designing hearings
- Selecting witnesses
- Moderating the hearing and deliberations in a fair and neutral way
- Evaluating the process and issuing a final report to announce the results

Initially, there were four goals stated for the process: it should be representative of the community from which it is drawn, it should lead to reasonable conclusions, there should be the opportunity to express concerns for those affected by the issue, and it should be viewed as a legitimate process by the general public. Along the way each of these goals has been defined more clearly.

Representatives. This is achieved by randomly selecting a balanced panel of citizens based on several demographic values—typically age, education, race, gender, and geographic location—and a preliminary attitude with respect to the question or policy issue at hand.

Reasonable Conclusions. This is achieved by ensuring that good information is presented from several points of view.

Concern. This is achieved by moderating the hearings and deliberations in a way that promotes the mutual respect of the jurors for each other and for the points of view presented to them.

Legitimacy. This is promoted by presenting the process and its recommendations in a way that gains both the participation and respect of its audiences.

We are convinced that the Citizens Jury process provides a trusted, informed, and responsible way for ordinary citizens to exercise their voice in the critical decisions that affect their lives.

The process of public involvement is often overshadowed by the excitement of elections. Election-year issues typically dominate public discussion, and only the most high-profile issues receive serious debate. Yet, even when a forum like Citizens Jury is held, the results often are considered too much a part of the political process and too little a part of the public process. The Jefferson Center has also created the Extended Policy Discussion and Values Review Exercise reforms.

CITIZENS JURY PROJECTS TO DATE:

- Carleton and St. Olaf Citizens Jury on Hog Farming 1995
- Traffic Congestion Pricing 1995
- Minnesota County Budget Priorities 1991
- Low Income Housing 1991
- Arts in the Schools 1990
- 1990 Minnesota Gubernatorial Election 1990
- St. Paul Municipal Election Issues 1989
- School-Based Health Clinics 1988
- Organ Transplants 1986
- Agriculture and Water Policy 1985
- Peacemaking Project for the Province of the Twin Cities Area 1981
- 1976 Presidential Election Issues 1976
- National Health Care Plan 1974

AGENDA OF THE MIDWESTERN REGION CONGESTION PRICING WORKSHOP

MAY 17, 1996
THE WESTIN HOTEL O'HAIRE
CHICAGO, ILLINOIS

SPONSORS
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

STATE AND LOCAL POLICY PROGRAM, HUBERT H. HUMPHREY INSTITUTE OF PUBLIC AFFAIRS

REGISTRATION/CONTINENTAL BREAKFAST
8:00 - 8:30 A.M.

WELCOME AND INTRODUCTIONS
Overview of Congestion Pricing Initiatives:
- Gloria Jeff, Associate Administrator for Policy, Federal Highway Administration
- John Berg, Team Leader, Highway Pricing and Revenue Team, Federal Highway Administration
- Lee Mannich, Senior Fellow and Director, State and Local Policy Program, Hubert H. Humphrey Institute of Public Affairs, University of Minnesota

OVERVIEW OF PROGRAM AGENDA
- Jim Bougard, Workshop Facilitator, Parsons Brinckerhoff
- Maritime, Inc., FHWA
- Research on Equity Issues and Variable Toll Study, 7 Minute Video

STATE ROUTE 91 PROJECT
- Jerry Porter, Engineering Manager, California Private Transportation Company
- Edward Sullivan, Professor of Civil Engineering, California Polytechnic State University, San Luis Obispo Monitoring and Evaluation

MORNING BREAK
10:45 - 11:00 A.M.

DESCRIPTION OF CONGESTION PRICING PROJECTS
- Airdar Lati, Minnesota Department of Transportation
- Carl Goss, Twin Cities Metropolitan Council
- Mario Orecchia, San Diego Association of Governments
- Karen Ellick, Metropolitan Transportation Commission
- Debby Baskett, GO Boulder
- Colorado Project

LUNCH
- Professor Herb Mohring, Lunchen Speaker
- Reflections on the Progress of Congestion Pricing
- Introduced by John Berg
APPENDIX II
PARTICIPANTS OF THE MIDWESTERN REGION CONGESTION PRICING WORKSHOP

James Andrews
Associate Editor, Planning
American Planning Association
Chicago, Illinois

Todd Addley
Intermodal Planner
Missouri Highway and Transportation
Jefferson City, Missouri

Lee Baker
Senior Vice President
FHWA Engineering, Inc.
Omaha, Nebraska

Dulp Banmi
Dulce County Development Director
Wheaton, Illinois

Kevin Barnett
Virginia DOT
Richmond, Virginia

Debra Baxter
Project Coordinator
GO Boulder
Boulder, Colorado

John Berg
Team Leader
Highway Revenue and Pricing Team
Federal Highway Administration
Washington, D.C.

Scott Bernstein
President
Center for Neighborhood Technology
Chicago, Illinois

Kiran Bhut
President
K.T. Analytics, Inc.
Frederick, Maryland

Jim Bourgeau
Vice President for Business Development
Parsons Brinckerhoff
San Francisco, California

Jackson Bryant
Houston, Texas

Candace Campbell
Fellow
State and Local Policy Program
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Ross Capaccio
Senior Research Planner
 Pace Suburban Bus
Arlington Heights, Illinois

John M. Caster
Urban Transportation Planning Manager
Federal Highway Administration
Kansas City, Missouri

Ken Chaloupka
Technical Studies Engineer,
Illinois Department of Transportation
Champaign, Illinois

Don Chen
Research Coordinator
Surface Transportation Policy Project
Washington, D.C.

Yvail Cohen, Ph.D.
Chief Economist, Vice President
Parsons Brinckerhoff
New York, New York

Jeanette Colette
Senior Planner
Metropolitan Planning Council
Chicago, Illinois

Joe Crossley
Planning Analyst
Wisconsin Department of Transportation
Madison, Wisconsin

Susan M. Cummings
Transportation Analyst
K.T. Analytics, Inc.
Frederick, Maryland

Judith R. Donovan
Planning Associate
GO Boulder
Boulder, Colorado

John R. Duffe
Transportation & Air Quality Planner
Wisconsin Bureau of Air Management
Madison, Wisconsin

Greg Egan
Vice President
OTHC-Midway Limousine Service, Inc.
Wheeling, Illinois

Mark V. Emerson
Community Programs Specialist
State and Local Policy Program
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Dr. Minnie Fells Johnson
Executive Director
Miami Valley Regional Transit Authority
Dayton, Ohio

Cindy A. Fisk
President
Fish & Associates
Chicago, Illinois

Ronald Fielder
President
HNTB Corporation
Milwaukee, Wisconsin

Tom Rees
Manager, Air Quality Planning Section
Bureau of Air
Illinois Environmental Protection Agency
Springfield, Illinois

Karen Frick
Project Manager
Metropolitan Transportation Commission
Oakland, California

Lisa Gior
Planning and Mobility Engineer
Federal Highway Administration
Indianapolis, Indiana

Bob Gelson
Executive Director
TMA of Lake County
Libertyville, Illinois

Charlie Goodman
Congestion Management Team Leader
FHWA - Office of Environment/Planning
Washington, D.C.

Cindy Green
Associate
LKC Consulting Services
Houston, Texas

Kenneth Green
Environmental Studies Director
The Bacon Foundation
Los Angeles, California
AGENDA OF THE RESEARCH AND POLICY SYMPOSIUM ON THE LAND USE AND EQUITY IMPACTS OF CONGESTION PRICING

OCTOBER 27, 1995
HOLIDAY INN METRODOME
MINNEAPOLIS, MINNESOTA

8:00-8:30 a.m.  REGISTRATION
Coffee, juice and rolls available

8:30 a.m.  WELCOME
• Lee W. Munnich, Jr., Director, State and Local Policy Program, Humphrey Institute of Public Affairs, University of Minnesota
• Robert G. Johns, Acting Director, Center for Transportation Studies, University of Minnesota
• Adriel Lez, Director, Office of Alternative Transportation Financing, Minnesota Department of Transportation

OVERVIEW OF DAY’S AGENDA
• Moderator: Sally Evert, Assistant to the Chair, Metropolitan Council

8:30 a.m.  NATIONAL EXPERIENCE AND REGIONAL GOALS WHY WE WOULD WANT TO TRY CONGESTION PRICING
• Karan Bhutt, President, K.T. Analytics, Inc.
• Carl E. Olson, Planning Analyst, Metropolitan Council

RESEARCH PRESENTATIONS—SOME NATIONAL FINDINGS

9:15 a.m.  LAND VALUES, URBAN FORM AND TRAVEL BEHAVIOR
• Richard S. Bolan, Professor of Planning, Humphrey Institute of Public Affairs, University of Minnesota

9:35 a.m.  TRANSPORTATION EFFICIENCY AND EQUITY
• Samuel L. Myers, Jr., Roy Wilkins Professor of Human Relations and Social Justice, Humphrey Institute of Public Affairs, University of Minnesota
• Lisa Saunders, Assistant Professor of Economics, University of Massachusetts at Amherst

9:55 a.m.  QUESTION AND ANSWER SESSION

10:15-10:30 a.m.  BREAK

RESEARCH PRESENTATIONS—TWIN CITIES FINDINGS

10:30 a.m.  CONGESTION PRICING AND LAND USE: EFFECTS ON EMPLOYMENT SUB-CENTERS IN THE TWIN CITIES
• Thomas F. Lucic, Jr., Assistant Professor of Public Affairs and Planning, Humphrey Institute of Public Affairs, University of Minnesota
• Barbara L. Lueckmann, Senior Fellow, Humphrey Institute of Public Affairs, University of Minnesota

10:50 a.m.  MN/DOE CONGESTION PRICING STUDY
• Ferrel O. Robinson, Principal, SRF Consulting Group, Inc.

11:10 a.m.  QUESTION AND ANSWER SESSION

11:30 a.m.  RESEARCH REACTION PANEL
• Karan Bhutt, President, K.T. Analytics, Inc.
• Elizabeth Dekin, Associate Professor of City and Regional Planning, University of California at Berkeley
• Terry Moore, Vice President, ECO Northwest
• Gayle Coleman, Professor of Economics, Morris Brown College, The Atlanta University Center
• Joseph Springer, Senior Transportation Planner, De Loys, Cathor & Company

12:30-1:30 p.m.  BUFFET LUNCH
APPENDIX

PARTICIPANTS OF THE RESEARCH AND POLICY SYMPOSIUM ON THE LAND USE AND
EQUITY IMPACTS OF CONGESTION PRICING

Ken Albrecht
Vice Chairman
Region Nine Development Commission
North Mankato, Minnesota

Tom Cochrane
Executive Director
Minnesota Agri-Growth Council
St. Paul, Minnesota

Jim Erickson
Graduate Research Assistant
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Steve Alderson
Minnesota Department of Transportation
Rochester, Minnesota

Gyuta Coleman
Professor of Economics
Morris Brown College
Atlanta, Georgia

Sally Evers
Assistant to the Chair
Metropolitan Council
St. Paul, Minnesota

Dianne M. Obrisch, Vice President, Minnesota Urban League

Bonnie Bereczkly
Senate Counsel
Office of Senate Counsel & Research
St. Paul, Minnesota

Fred Corgian
Executive Director
Minnesota Transportation Alliance
Minneapolis, Minnesota

Marcus Ink
Director of Community Development
St. Paul Chamber of Commerce
St. Paul, Minnesota

Ferrel O. Robinson, Principal, SRF Consulting Group, Inc.

Kiran Bhut
President
K.T. Analytics, Inc.
Frederick, Maryland

Caro Flynn
Senior Editor
Minnesota State Senate
Minneapolis, Minnesota

Robert L. Hoffman, Attorney, Larkin, Hoffman, Daly & Lindgren, Ltd.

Richard S. Bolan
Professor of Planning
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Michael Polzin
Metropolitan Council
St. Paul, Minnesota

Pete Rude
Research Director, The Urban Coalition

Elizabeth Deakin
Associate Professor of City and Regional Planning
University of California at Berkeley

Richard P. Braun
Special Consultant
Co-Chair Minnesota Guidestar
Minnesota Department of Transportation
St. Paul, Minnesota

Gary DeGroot
Senior Fellow
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Jared Blodgett
Program Manager
Office of Alternative Transportation
Minnesota Department of Transportation
St. Paul, Minnesota

John DeWitt
President
Transit for Livable Communities
Minneapolis, Minnesota

Constance Campbell
Fellow
State and Local Policy Program
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Stefan Krogman
Director of Transportation
Metropolitan Council
St. Paul, Minnesota

James S. Chisholm
Senior Policy Fellow
University of Minnesota
Minneapolis, Minnesota

Daryl Duerin
Deputy Commissioner
Minnesota Department of Transportation
St. Paul, Minnesota

Todd Benson
Minnesota House of Representatives
St. Paul, Minnesota

Robert C. Johns
Acting Director
Center for Transportation Studies
University of Minnesota
Minneapolis, Minnesota

Jared Dwyer
Director of Transportation
Metropolitan Council
St. Paul, Minnesota

Jim Erickson
Graduate Research Assistant
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Sally Evers
Assistant to the Chair
Metropolitan Council
St. Paul, Minnesota

Marcus Ink
Director of Community Development
St. Paul Chamber of Commerce
St. Paul, Minnesota

Caro Flynn
Senior Editor
Minnesota State Senate
Minneapolis, Minnesota

Michael Polzin
Metropolitan Council
St. Paul, Minnesota

Pete Rude
Research Director, The Urban Coalition

Elizabeth Deakin
Associate Professor of City and Regional Planning
University of California at Berkeley

Richard P. Braun
Special Consultant
Co-Chair Minnesota Guidestar
Minnesota Department of Transportation
St. Paul, Minnesota

Gary DeGroot
Senior Fellow
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Jared Blodgett
Program Manager
Office of Alternative Transportation
Minnesota Department of Transportation
St. Paul, Minnesota

John DeWitt
President
Transit for Livable Communities
Minneapolis, Minnesota

Constance Campbell
Fellow
State and Local Policy Program
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

James S. Chisholm
Senior Policy Fellow
University of Minnesota
Minneapolis, Minnesota

Daryl Duerin
Deputy Commissioner
Minnesota Department of Transportation
St. Paul, Minnesota

Todd Benson
Minnesota House of Representatives
St. Paul, Minnesota

Robert C. Johns
Acting Director
Center for Transportation Studies
University of Minnesota
Minneapolis, Minnesota

Jared Dwyer
Director of Transportation
Metropolitan Council
St. Paul, Minnesota

Jim Erickson
Graduate Research Assistant
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Sally Evers
Assistant to the Chair
Metropolitan Council
St. Paul, Minnesota

Marcus Ink
Director of Community Development
St. Paul Chamber of Commerce
St. Paul, Minnesota

Caro Flynn
Senior Editor
Minnesota State Senate
Minneapolis, Minnesota

Michael Polzin
Metropolitan Council
St. Paul, Minnesota

Pete Rude
Research Director, The Urban Coalition

Elizabeth Deakin
Associate Professor of City and Regional Planning
University of California at Berkeley

Richard P. Braun
Special Consultant
Co-Chair Minnesota Guidestar
Minnesota Department of Transportation
St. Paul, Minnesota

Gary DeGroot
Senior Fellow
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Jared Blodgett
Program Manager
Office of Alternative Transportation
Minnesota Department of Transportation
St. Paul, Minnesota

John DeWitt
President
Transit for Livable Communities
Minneapolis, Minnesota

Constance Campbell
Fellow
State and Local Policy Program
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

James S. Chisholm
Senior Policy Fellow
University of Minnesota
Minneapolis, Minnesota

Daryl Duerin
Deputy Commissioner
Minnesota Department of Transportation
St. Paul, Minnesota

Todd Benson
Minnesota House of Representatives
St. Paul, Minnesota

Robert C. Johns
Acting Director
Center for Transportation Studies
University of Minnesota
Minneapolis, Minnesota

Jared Dwyer
Director of Transportation
Metropolitan Council
St. Paul, Minnesota

Jim Erickson
Graduate Research Assistant
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Sally Evers
Assistant to the Chair
Metropolitan Council
St. Paul, Minnesota

Marcus Ink
Director of Community Development
St. Paul Chamber of Commerce
St. Paul, Minnesota

Caro Flynn
Senior Editor
Minnesota State Senate
Minneapolis, Minnesota

Michael Polzin
Metropolitan Council
St. Paul, Minnesota

Pete Rude
Research Director, The Urban Coalition

Elizabeth Deakin
Associate Professor of City and Regional Planning
University of California at Berkeley

Richard P. Braun
Special Consultant
Co-Chair Minnesota Guidestar
Minnesota Department of Transportation
St. Paul, Minnesota

Gary DeGroot
Senior Fellow
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Jared Blodgett
Program Manager
Office of Alternative Transportation
Minnesota Department of Transportation
St. Paul, Minnesota

John DeWitt
President
Transit for Livable Communities
Minneapolis, Minnesota

Constance Campbell
Fellow
State and Local Policy Program
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

James S. Chisholm
Senior Policy Fellow
University of Minnesota
Minneapolis, Minnesota

Daryl Duerin
Deputy Commissioner
Minnesota Department of Transportation
St. Paul, Minnesota

Todd Benson
Minnesota House of Representatives
St. Paul, Minnesota

Robert C. Johns
Acting Director
Center for Transportation Studies
University of Minnesota
Minneapolis, Minnesota

Jared Dwyer
Director of Transportation
Metropolitan Council
St. Paul, Minnesota
AGENDA OF THE CLAREMONT WORKSHOP: INSTITUTIONAL AND POLITICAL ISSUES IN CONGESTION PRICING

SEPTEMBER 8, 1995
CLAREMONT GRADUATE SCHOOL
CLAREMONT, CALIFORNIA

SPONSORS:
HUMPHREY INSTITUTE OF PUBLIC AFFAIRS
CLAREMONT GRADUATE SCHOOL
FEDERAL HIGHWAY ADMINISTRATION

7:30-8:00 a.m. CONTINENTAL BREAKFAST

8:00-8:30 a.m. WELCOME AND DESCRIPTION OF HUMPHREY INSTITUTE STUDY AND THE DAY’S AGENDA
• Day’s Moderator: Gary DeGramer, State and Local Policy Program, Humphrey Institute, University of Minnesota
• Dan Mazmanian, Claremont Graduate School
• John Berg, Federal Highway Administration
• Lee Munnich, State and Local Policy Program, Humphrey Institute, University of Minnesota

SESSION I: BUILDING INSTITUTIONAL SUPPORT

8:30-9:30 a.m. PANEL 1: THE LEADERSHIP COALITION
• Moderator: Hank Dietz, Surface Transportation Policy Project
• Dennis Christensen, Texas Transportation Institute
• John Cox, The Southern California Economic Partnership
• Steve Hensliger, Metropolitan Transportation Commission, Oakland

9:30-10:30 a.m. PANEL 2: ELECTED OFFICIAL: LEADERSHIP AND SUPPORT
• Moderator: Barbara Rohde, State and Local Policy Program, Humphrey Institute, University of Minnesota
• Judy Wright, Claremont City Council and Los Angeles BEACH Task Force
• John Dave, San Diego Association of Governments
• John Charles, Oregon Environmental Council

10:30-10:45 a.m. BREAK

SESSION II: KEY CONSIDERATIONS

10:45-11:15 a.m. PANEL 3: TECHNOLOGY ISSUES
• Moderator: Krik Bhutt, K.T. Analytics, Inc.
• Bob Need, AMTECH Corporation
• Adam Reil, Nossaman, Guthrie, Knox & Elliott

11:15 a.m.-12 Noon PANEL 4: EQUITY IMPACTS/REVENUE ALLOCATION PLAN
• moderator: Candace Campbell, State and Local Policy Program, Humphrey Institute, University of Minnesota
• John Berg, Federal Highway Administration
• James Bourgatt, Parsons Brinckerhoff
• Camerino Yee, Earth Island Institute, San Francisco

12 Noon-1:00 p.m. LUNCH—FACULTY DINING ROOM

SESSION III: PRIVATE MARKETS

10:00-12:00 p.m. PANEL 5: PRIVATE MARKETS
• Moderator: Tom Horan, Claremont Graduate School
• Gordon Fielding, University of California at Irvine
• Greg Hubler, California Private Transportation Corporation
• Ed Sullivan, California Polytechnic State University

SESSION IV: EDUCATING AND INVOLVING THE PUBLIC

1:00-3:00 p.m. PANEL 6: CITIZEN INVOLVEMENT, UNDERSTANDING, AND SUPPORT
• Moderator: Dave Van Harman, State and Local Policy Program, Humphrey Institute, University of Minnesota
• Judson Bryant, private citizen, Houston
• Debra Raskett, Go Boulder, City of Boulder
• Mary Jo Porter, The Underhill Company, Seattle

3:15-4:00 p.m. PANEL 7: EDUCATION, MARKETING, AND THE MEDIA
• Moderator: Jim Bougant, Parsons Brinckerhoff
• Adell Lai, Minnesota Department of Transportation
• Gail Whitehill-Bartelk, Portland Metro
• Jeff Weis, California Air Resources Board

4:00-4:45 p.m. BUILDING A SCENARIO FOR IMPLEMENTATION OF CONGESTION PRICING
Full group discussion of key priorities and strategies
• Moderator: Lee Munnich, State and Local Policy Program, Humphrey Institute, University of Minnesota

4:45-5:30 p.m. RECEPTION
APPENDIX L
PARTICIPANTS OF THE CLAREMONT WORKSHOP: INSTITUTIONAL AND POLITICAL ISSUES IN CONGESTION PRICING

Thomas Addison
Bay Area Air Quality Management District
San Francisco, California

Jackie Bachman
Jackie Bachman and Associates
Rancho Palos Verdes, California

Kim Barnes
Manager
Traffic Planning and Engineering Metro
Houston, Texas

Debra Basket
Project Coordinator
GO Boulder
Boulder, Colorado

John Berg
Team Leader
Highway Revenue and Pricing Team
Federal Highway Administration
Washington, D.C.

Kiran Bhatt
President
K.T. Analytics, Inc.
Frederick, Maryland

James Bozorg
Vice President for Business Development
Parsons Brinckerhoff
San Francisco, California

Judson Bryant
Houston, Texas

Robert Cady
Transportation Engineer
FHWA, California Division
Sacramento, California

Candace Campbell
Fellow
State and Local Policy Program
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Donald Capello
Parsons Brinckerhoff
Orange, California

John Charles
Oregon Environmental Council
Portland, Oregon

Dennis Christiansen
Texas Transportation Institute
College Station, Texas

John Cox
South Coast Air Quality Management District
Diamond, California

Gary DeGramer
Senior Fellow
State and Local Policy Program
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Carol DeVinney
The DeVinney Group
Los Angeles, California

Hank Dittmar
Executive Director
Surface Transportation Policy Project
Washington, D.C.

Iran Doss
Sierra Association of Governments
Sierra, California

Wend Ellor
Claremont, California

Zahi Farahbakhsh
Department of Transportation
Los Angeles, California

Gordon Fielding
Research Professor
School of Social Sciences
University of California
Irvine, California

Anne Getzgaly
Manager
Transportation Strategies Group
California Air Resources Board
Sacramento, California

Jae Goldsmith
Assemblyman
Sacramento, California

William Hayden
Special Assistant to the Director
Privatization/Alternative Funding
Phoenix, Arizona

Steve Heminger
Metropolitan Transportation Commission
Oakland, California

Allan Hendrix
Deputy Director of Planning
California Department of Transportation
Sacramento, California

Tom Higgins
K.T. Analytics, Inc.
Oakland, California

Tom Horn
Director
Clarkson Graduate School
Claremont, California

Greg Hubsher
California Private Transportation Company
Los Angeles, California

Phil Jang
Chief
H.S. Systems
Sacramento, California

Robert John
Acting Director
Center for Transportation Studies
University of Minnesota
Minneapolis, Minnesota

Robin Joseph
Transportation Planner
Djelaj-Cutter and Company
Fairfax, Virginia

Keith Killough
Deputy Executive Officer
Metro-Countywide Planning
Los Angeles County Metropolitan Transportation Authority
Los Angeles, California

Won-Koo Kim
Research Assistant
State and Local Policy Program
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Robert Neeb
AmTech Systems Corporation
Heath, Texas

Adeli Lari
Office of Alternative Transportation
Minnesota Department of Transportation
St. Paul, Minnesota

Mike Larson
Research Assistant
State and Local Policy Program
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Jim Lee
Planning Engineer
FHWA, California Division
Sacramento, California

Hong Lo
University of California-Berkeley

Dan Mummert
Claremont Graduate School
Claremont, California

Jim McKern
Chief
Office of Transportation
Caltrans District 4
Oakland, California

Kay J. McKeever
Associate-in-Charge
Wilbur Smith Associates
Anaheim, California

Heidi Meising
Professor
State and Local Policy Program
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Arthur Morris
Research Executive
Public Technologies, Inc.
Washington, D.C.

Lee W. Munich, Jr.
Senior Fellow and Director
State and Local Policy Program
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Fred Siedel
Assistant Commissioner
Minnesota Department of Transportation
St. Paul, Minnesota

James Oster
Manager of Air Quality
Orange County Transportation Authority
Orange County, California

Mary Jo Porter
The Underhill Company
Seattle, Washington

Deborah Readman
Southern California Association of Governments
Los Angeles, California

Adam Rehm
Irvine, California

Mike Roppolo
Environmental Defense Fund
Washington, D.C.

William Roach
Supervisor
Market Development, Transit Department
King County Metro
Seattle, Washington

Christine Robert
The Robert Group
Los Angeles, California

Michelle Robinson
Union of Concerned Scientists
Berkeley, California

Barbara Rohde
Research Fellow
State and Local Policy Program
Washington, D.C.

Kenneth Small
Department of Economics
University of California-Irvine
Irvine, California

Norm Steinman
Senior Transportation Planner
Arthur Baier and Associates, Inc.
Yorba Linda, California

Edrinal Sullivan
Professor
Civil and Environmental Engineering
California Polytechnic State University
San Luis Obispo, California

David Van Harum
Research Fellow
State and Local Policy Program
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Milton Wachs
Department of Urban Planning
UCI
Los Angeles, California

Ellie Ward
Claremont McKenna
Claremont, California

Jeff Weir
CAEP
Air Resources Board
Sacramento, California

Gina Whitfield-Buziak
Portland Metro
Portland, Oregon

Judith Wright
City of Claremont
Claremont, California

Cameron Yee
Urban Habitat Program
San Francisco, California

Gene Ofstedal
Assistant Commissioner
Minnesota Department of Transportation
St. Paul, Minnesota

Edrinal Sullivan
Professor
Civil and Environmental Engineering
California Polytechnic State University
San Luis Obispo, California

David Van Harum
Research Fellow
State and Local Policy Program
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Milton Wachs
Department of Urban Planning
UCI
Los Angeles, California

Ellie Ward
Claremont McKenna
Claremont, California

Jeff Weir
CAEP
Air Resources Board
Sacramento, California

Gina Whitfield-Buziak
Portland Metro
Portland, Oregon

Judith Wright
City of Claremont
Claremont, California

Cameron Yee
Urban Habitat Program
San Francisco, California

Gene Ofstedal
Assistant Commissioner
Minnesota Department of Transportation
St. Paul, Minnesota

James Oster
Manager of Air Quality
Orange County Transportation Authority
Orange County, California

Mary Jo Porter
The Underhill Company
Seattle, Washington

Deborah Readman
Southern California Association of Governments
Los Angeles, California

Adam Rehm
Irvine, California

Mike Roppolo
Environmental Defense Fund
Washington, D.C.

William Roach
Supervisor
Market Development, Transit Department
King County Metro
Seattle, Washington

Christine Robert
The Robert Group
Los Angeles, California

Michelle Robinson
Union of Concerned Scientists
Berkeley, California

Barbara Rohde
Research Fellow
State and Local Policy Program
Washington, D.C.

Kenneth Small
Department of Economics
University of California-Irvine
Irvine, California

Norm Steinman
Senior Transportation Planner
Arthur Baier and Associates, Inc.
Yorba Linda, California

Edrinal Sullivan
Professor
Civil and Environmental Engineering
California Polytechnic State University
San Luis Obispo, California

David Van Harum
Research Fellow
State and Local Policy Program
Humphrey Institute of Public Affairs
University of Minnesota
Minneapolis, Minnesota

Milton Wachs
Department of Urban Planning
UCI
Los Angeles, California

Ellie Ward
Claremont McKenna
Claremont, California

Jeff Weir
CAEP
Air Resources Board
Sacramento, California

Gina Whitfield-Buziak
Portland Metro
Portland, Oregon

Judith Wright
City of Claremont
Claremont, California

Cameron Yee
Urban Habitat Program
San Francisco, California


Minnesota State Demographers Office. 1996: Telephone conversation with Maria Zimmerman, research assistant with the Humphrey Institute's State and Local Policy Program, September 30.

Minnesota Transportation Group and Interstate Management ER Group Infrastructure Corporation. 1996: Transact: Community support proposal. Submitted to the Minnesota Department of Transportation as part of the Transact public-private initiatives program.
ADDITIONAL RESOURCES

VIDEO

CONGESTION PRICING WEB SITE
http://www.jhho.umn.edu/Centers/NEP/Conpic/conpic.htm

CONGESTION PRICING ELECTRONIC NEWSGROUP
To subscribe send a message to LISTSERV@tc.umn.edu
No subject heading.
In message of body type:
SUBSCRIBE CON-PRIIC your e-mail address your full name.

GENERAL CONTACTS
Federal Highway Administration
Congestion Pricing Pilot Program
John Bong, Team leader
Office of Pricing and Finance
Federal Highway Administration
400 Seventh Street SW, RFP 15
Washington, DC 20590
(202) 366-9288
e-mail: jbong@infomac.dot.gov

K T Analytics, Inc.
• Kiran Bhart, President
303 Baughman Lane, Suite 176
Frederick, MD 21702
(301) 695-4714
e-mail: kibhart@kta.com
Technical assistance provider to the Federal Highway Administration.

Transportation Research Board
• Jon Williams, Senior Program Officer
Committee on Transportation Economics
2001 Constitution Avenue
Washington, DC 20438
(202) 354-5095