BUYING TIME: GUIDEBOOK
A GUIDEBOOK FOR THOSE CONSIDERING CONGESTION RELIEF TOLLS IN THEIR COMMUNITIES

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This guidebook addresses the political and institutional issues involved with congestion relief tolling. It is targeted to policymakers, elected officials, and community leaders. Seven recommendations are provided for overcoming barriers, illustrated with examples from specific cities. A glossary of terms is provided on page 26 for those less familiar with transportation terminology:

The guidebook is based on written materials and interviews with participants from the Federal Highway Administration’s Congestion Pricing Pilot Program, and on focus groups and a Citizens Jury® project conducted by the State and Local Policy Program at the Hubert H. Humphrey Institute of Public Affairs. The opinions expressed are solely those of the authors; not the federal, state, and local agencies administering the programs.

This guidebook is designed to be a companion to other excellent resources such as Congestion Pricing Guidelines for Project Development, available from the Federal Highway Administration Congestion Pricing Pilot Program, and the two-volume Curbing Gridlock: Peak Period Fees to Relieve Traffic Congestion, produced by the Transportation Research Board.
WHAT IS A CONGESTION RELIEF TOLL?

The term congestion relief toll refers to the policy of charging drivers a fee that varies with the level of traffic—or demand—on a roadway. Congestion relief tolls represent a market-based approach in that they use prices to match supply to demand. These tolls are designed to allocate roadway space, which is becoming a scarce resource, in a more efficient manner. By efficient, we mean getting the most output per unit of input cost. For example, consider the automobile. An auto is considered more fuel efficient if it can travel a longer distance than another vehicle, using the same amount of fuel. The same is true regarding the efficiency of public policies. They are considered efficient if they use society’s resources in a way that achieves the greatest net benefits (total benefits minus costs).

Thus, congestion relief tolls are designed so the public can enjoy less-time-consuming trips from each dollar invested in the transportation system. Congestion relief tolls have been instituted on a freeway in Orange County, California, and on roadways in France and Singapore, leading to substantially reduced congestion.
WHAT ARE THE COSTS OF CONGESTION?

Traffic congestion is something we all hate and try to avoid, but we're not likely to think about how we contribute to this problem or what its costs might be. The fact is, however, when we enter a congested road, we cause all the other traffic to be delayed. The cost of this delay, referred to in economic terms as the marginal cost, is much greater than the cost in delay that the individual motorist experiences. To efficiently allocate scarce roadway space, congestion relief tolls charge drivers a fee based on their contribution to congestion.

In assessing the effectiveness of a transportation policy, it is also important to consider the costs of any negative impacts, such as pollution or the disruption to neighborhoods. Including these costs in the total cost of goods or services consumed by society is referred to as full-cost pricing. A congestion relief toll, with its focus on mitigating the negative impacts of congestion, is considered one component of full-cost pricing.

Variable prices are typically used to allocate scarce resources. Consider, for example, placing a long-distance telephone call. A person in Minneapolis calling someone in San Francisco pays approximately ten cents more per minute to call during the workday (peak-demand period) than during evening hours (off-peak period). So most people choose to wait for the cheaper evening rates to make a nonemergency long-distance phone call to a friend or relative.

By using variable prices to influence consumer behavior—such as when to make a personal phone call—the telephone company does not need to invest more in costly infrastructure to meet demand during peak-demand periods. Actually, this approach is used in many sectors, including the airline, restaurant, resort, and public utility industries.

A similar approach could be used to address traffic congestion on roads. Congestion is very costly to society. The economic cost in terms of reduced worker productivity, delayed shipment of goods, and wasted fuel is estimated to be approximately 40 billion dollars per year.¹

“I moved here to get away from paying a toll!”

1. People often confuse congestion relief tolls with traditional toll roads; however, there are three major differences.

2. Congestion relief tolls address the demand for the road by varying the amount of the toll according to the time of day and the level of congestion. Traditional tolls are a flat fee. They are designed to pay off the investment, but not to manage the demand for the road.

3. Congestion relief tolls can address demand by creating an effective incentive for carpools and buses, which could be exempt from the toll or pay a reduced rate.

4. Congestion relief tolls utilize electronic tolling technologies, thereby eliminating the need for toll booths, which are costly and a source of traffic congestion. With electronic tolling, tolls are collected without stopping at a toll booth. Instead, a transponder, which is about the size of a credit card but twice as thick, is installed in the vehicle and is read by a nearby laser. The toll is deducted or billed electronically to the motorist’s account.

Privately owned and operated State Route 91 in southern California has used the transponder system on its variably priced Express Lanes™. Transponder sales have surpassed predicted numbers and drivers find the system easy to use and a valuable time saver.

EFFICIENCY IS IMPORTANT, BUT WHAT ABOUT EQUITY?

Public policies also focus on the equity or fairness of the distribution of goods and services in the society. Even an efficient policy may create “winners” and “losers.” With congestion relief tolls, for example, those who value saving time more than paying the toll are the winners and those who value saving time less than paying the toll are the losers. Compensation for groups adversely affected by a policy may be necessary to meet the objectives of both efficiency and equity goals. For example, a portion of the revenues generated by an efficiency-enhancing policy could be directed toward reducing inequities.
WHY DO WE NEED CONGESTION RELIEF TOLLS?

Congestion relief tolls interest policymakers for at least three reasons: transportation system management, less costly government programs, and environmental protection.

Transportation System Management ■ Urban populations and automobile travel are predicted to continue growing into the next century. Given the cost and public opposition to continually building new roads, traffic congestion will result. Congestion relief tolls could play an important part in managing the transportation system. They can encourage more trips by bus or carpool, especially during peak periods, while providing revenue for new transit systems or road maintenance. They give engineers at traffic management centers another tool (in addition to ramp metering and signal timing) to manage the flow of traffic. By setting prices, the demand for travel can be spread out more evenly over the whole transportation network and over the course of the day. Congestion relief tolls can also be used to encourage more compact land use development, thereby improving the efficiency of transit systems. And they can offer a long-term solution to traffic congestion. Because motorists pay a fee that is dependent on the demand for the road, it is possible to avoid the current phenomenon of uncongested roads filling up with traffic by varying the price of travel during peak-demand periods.

Less Costly Government Programs ■ The provision of public services is in a period of intense belt-tightening. Currently, we determine the size of a road by what is needed to meet rush-hour demand. If that demand can be reduced by initiating congestion relief tolls, fewer roads and roads with smaller capacity could provide the same public benefits. Congestion relief tolls could also provide transportation professionals with better indicators of when and where to build new roads based on citizens' willingness to pay.

Environmental Protection ■ Transportation systems, and congested roadways in particular, have a detrimental impact on the air we breathe, the water we drink, wildlife habitats, and open spaces. Congestion relief tolls, by helping to provide a transportation system that moves more people with fewer vehicles on fewer roads, can offer an innovative pollution reduction strategy.
ARE CONGESTION RELIEF TOLLS BEING CONSIDERED IN THIS COUNTRY?

Congestion relief tolls initially received attention following passage of the Clean Air Act in 1970 and the energy crisis of 1973. Political barriers, however, prevented its implementation. Passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and the Clean Air Act Amendments (CAA) of 1990 signaled a shift toward policies that reduce travel demand.

Responding to a growing interest in innovative and market-based approaches to reduce congestion and emissions, ISTEA funded local and state efforts to explore the potential of implementing congestion relief tolls. Nine projects are underway as part of the Congestion Pricing Pilot Program overseen by the Federal Highway Administration (FHWA). Two of the projects, one in San Diego, California, and the other in Fort Myers, Florida, involve pricing programs that are scheduled for implementation in 1996 or 1997. The other seven projects are preproject studies designed to lay the groundwork for potential future applications of pricing. For budgetary reasons, Congress withdrew future funding for the pilot program in late 1995. New funds must be designated or other funding sources explored to pay for additional pilot project sites.

Congestion relief tolling is being considered as a way to reduce congestion on existing roadways or to provide a source of revenue to build new freeways. States are also considering various public-private partnerships to fund, construct, and operate new facilities with congestion relief tolls. The table on the opposite page illustrates the variety of congestion relief tolling scenarios being considered across the country.

Before any community can be expected to embrace congestion relief tolls, numerous questions need to be answered. Some of these questions are technical, but the most challenging are those that have to do with political and institutional issues: How will the system operate? Who will be accountable for managing the system? How will congestion relief tolls affect family budgets and neighborhoods? Who is negatively affected by tolls and how are they compensated? And What benefits do individuals receive from paying a congestion relief toll?
## Congestion Relief Tolling Concepts

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<tr>
<th>Type of Project</th>
<th>Location</th>
<th>Project Specifics</th>
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<td>New facilities</td>
<td>State Route 91 in Orange County, California</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>
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<tr>
<td>Exploring variable toll on an existing toll road or bridge</td>
<td>San Francisco-Oakland Bay Bridge in California</td>
<td>Increase the peak-hour toll for commuters, depending on demand, and possibly lower the off-peak toll.</td>
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<td>Tappan Zee Bridge in New York, New York</td>
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<td>Examining incentive pricing on HOV lanes*</td>
<td>I-15 in San Diego, California</td>
<td>Allow lower-occupancy vehicles to pay a fee to travel on existing, underutilized high occupancy vehicle (HOV) lanes.</td>
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<td></td>
<td>Katy Freeway in Houston, Texas</td>
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<td>Considering other pricing options, including variable fees on congested road(s), parking pricing, and off-peak differentials</td>
<td>Minneapolis-St. Paul, Minnesota</td>
<td>Apply congestion relief tolls on existing heavily congested road or roads.</td>
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<td>Boulder, Colorado</td>
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<td>Los Angeles, California</td>
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<td>Portland, Oregon</td>
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## Congestion Relief Parking Fees

| Increasing parking fees                              | University of Washington, Seattle                                        | Use revenue to pay for new transit service. |
| Discounting parking rates at parking garages         | I-394 in Minneapolis, Minnesota                                          | Use parking discounts to provide an economic incentive for carpooling. |
| Parking cash-out programs                            | Los Angeles, California                                                  | Employers allow employees to cash out parking reimbursements and use the money according to each person’s preference. |

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-15 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.
Involvement of key stakeholders is crucial

- Each of the congestion pricing pilot projects used a local advisory committee made up of key stakeholders from the public, private, and nonprofit sectors to assist in defining the key goals to be achieved with congestion relief tolls. These committees worked to build consensus on issues related to business development, environmental impacts, public-private partnerships, and land use and equity impacts.

- The matrix to the right shows some of the various goals addressed by the pilot projects.

**RECOMMENDATION ONE**
**FIRST, DETERMINE YOUR GOALS**

Like any new endeavor, it is important to define the goals that are to be achieved. Very different goals can be advanced depending on the design of a congestion relief tolling scheme. Congestion relief tolling is a unique transportation policy in that it addresses both the supply and demand for transportation services. On the supply side, congestion relief tolls result in new revenues that can be used to build new roads or transit systems. On the demand side, congestion relief tolls convey a disincentive for traveling alone during peak periods. In addition, congestion relief tolling can be applied on both new and existing facilities. Each has dramatically different political and institutional implications.

Due to the funding climate in many states, private toll road facilities are being considered. They have the advantage of allowing roads to be built sooner and of charging the users of the system directly. Road building projects initiated through a public-private partnership face both the institutional issues connected with regulatory processes and the general resistance—from environmental and transit

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<th>Exploring the Variety of Congestion Relief Toll Goals</th>
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<td>Existing toll road</td>
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<td>HOV buy-in</td>
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<td>New facility</td>
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* An evaluation study of SR-91 is the only portion of the project funded with FHWA Congestion Pricing Pilot Program dollars.
lobbies and from local residents expressing the NIMBY, "not in my backyard," sentiment—that is engendered by the mere act of building roads. The environmental and transit lobby groups may, however, be supportive of tolling on existing roadways, given the possibility of reducing automobile travel and traffic delays, and increasing the use of buses, carpools, bicycling, and walking.

One might expect road-building interest groups and highway user clubs, such as the American Automobile Association (AAA), to challenge tolling on existing roads, viewing it as a threat to mobility and an infringement on drivers' rights. Other issues related to tolling on existing roads include the unwillingness of people to pay a toll for what was once considered free. Also, due to the lack of alternatives to traveling on the tolled route (e.g., other nearby existing routes, transit, or carpooling options), equity concerns intensify.

Some observers believe that before congestion relief tolls can be applied to existing roadways, the public needs to become familiar with paying directly, through tolls rather than gas taxes, for additions to the transportation system. Others stress the need to focus congestion relief tolls on reducing travel demand on existing facilities, given the futility of attempts to build our way out of congestion. Depending on the particular goals identified in your community and the existing plans for new roads, either approach may be warranted.
Understanding consumer preferences using IVISTM in Minneapolis and St. Paul. An innovative surveying technique, known as the Interactive Video Interview Station (IVISTM), was used in Minnesota to contrast congestion relief tolls with other possible options. IVISTM, which makes use of multimedia computer stations, allowed respondents to choose among an array of possible options, such as paying a toll and traveling more quickly, changing the time of day they travel, taking transit, or switching to an alternative free route. IVISTM also allowed respondents to record their general thoughts about congestion relief tolls. The different results between these two techniques were revealing. Approximately 25 percent of respondents elected to pay a toll when responding to the travel options presented by IVISTM and nearly 50 percent supported congestion relief tolling when examining revenue uses. At the completion of the survey, however, when given the opportunity to express their general thoughts, almost all of the comments about congestion relief tolling were negative.

**RECOMMENDATION TWO**

**CONTRAST AND COMPARE CONGESTION RELIEF STRATEGIES**

Attitudes toward congestion relief tolls are much more favorable, both at the individual and policy level, when the policy is compared and contrasted with other options. Alternative methods for mitigating traffic congestion include:

- **Increasing the Supply** 
  This alternative involves expanding the capacity of the highway or transit system by building new facilities or deploying new technologies such as intelligent transportation systems (ITS).

- **Reducing the Demand through Regulation** 
  Key transportation demand management techniques include employer- or community-based trip reduction requirements designed to increase the use of transit, carpooling, or telecommuting.

- **Making Individual Adjustments rather than Public Policy Interventions** 
  This alternative relies on individuals choosing to adjust to the inconvenience of congestion by purchasing the latest in-car enhancements, such as cellular phones and compact disc sound systems, in order to make delays bearable, or by choosing to relocate where they live or work, in order to escape having to deal with the congestion.

When congestion relief tolling is contrasted with the alternative options described above, its pros and cons can be examined more appropriately. In the public's eye, the
first alternative—increasing the supply—represents new taxes; taxes that are no less inequitable than congestion relief tolls. Using gas and property taxes to fund road improvements for those who drive the most—often the wealthier motorists—is regressive.

The cost-effectiveness of these options is also in question. Expanding transit, without politically unpopular land use restrictions, is not a cost-effective route to decreasing peak-period trips and congestion. Expanding roads does decrease congestion, but at what cost, given current levels of local political opposition? for how long, given the traffic typically generated when travel times are reduced? and with what impact on land use?

ITS technologies rely to a great degree on diverting traffic to currently uncongested routes, which is an uncertain benefit. Also, it remains uncertain whether these information technologies have the ability to encourage people to shift away from driving alone. In addition, it must be remembered that technology has a price tag too.

With the second alternative—managing demand—it has already been found that attempts to reduce demand for travel by requiring employers to enact trip reduction programs resulted in strong opposition. This approach has been rejected by employers across the country due to its cost and to employers' unwillingness to intervene in their employees' lives.

The third alternative—making individual adjustments—is the default option and is already taking place in most cities as funding for new infrastructure does not keep pace with increased travel. As a result, congestion, which is projected to increase significantly in the future, is often 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. This approach is also apt to lead to a level of traffic diversion onto local streets similar to that which occurs with congestion relief tolls, once roads reach capacity. In addition, the impacts on urban sprawl are likely to equal or exceed that of a carefully designed congestion relief tolling system due to the public's desire to escape congestion through relocation.

Why not just raise the gas tax instead of instituting a congestion relief toll? Many people think that increasing the gas tax would cause people to drive less and thereby reduce congestion. Unfortunately, there are a couple of problems with this approach. First, gas taxes are not specifically targeted to the congestion problem. The increased cost of driving is only felt when going to the gas station, not at the moment when an individual decides to add to the congestion problem. This means that a gas tax offers virtually no incentive for people to drive during the off-peak, and has only a small effect on whether they decide to take transit during a congested period. Secondly, states and localities limit themselves in how much they raise the gas tax because they are afraid of losing customers and gas tax revenue to neighboring states or localities that may charge less.

What's being done at the policy level?

- In Minnesota, the state Department of Transportation now requires that major investment studies done for large highway projects include consideration of alternatives such as congestion relief tolls. This is a critical institutional step to ensure that congestion relief tolls are not simply considered in isolation, but rather, as a realistic option in long-range planning.

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2 IViS™ is a product of the Resource Systems Group, Inc., White River Junction, Vermont.


RECOMMENDATION THREE
FOCUS ON REVENUE USES AND EQUITY IMPACTS

There are two common reactions to congestion relief tolls: (1) Is it really necessary to raise more money for transportation facilities? and (2) Will this approach work in reducing congestion? A response to these questions and a strategy for building political support is offered by considering how the revenues from congestion relief tolls would be used.

For some communities where antitax sentiments are high, one option is a revenue-neutral approach in which revenues are used to offset existing property taxes or gas taxes. Revenue neutrality illustrates to constituents that congestion relief tolls are not a “cash cow” transportation scheme, but rather, a demand management, congestion mitigation tool.

If a proposal for congestion relief tolls does involve a net increase in charges, this should be made explicit. To gain public support, it is critical to direct the revenues to popular and recognizable transportation projects. Improving transportation alternatives to priced facilities indicates a commitment to improve transportation options within the community. The preferred tolling applications identified in the Twin Cities traffic congestion pricing study involved directing the majority of revenues to bus and carpooling alternatives.

Given cutbacks in federal funding, congestion relief tolls offer an important strategy to communities searching for new ways to fund transit and other alternatives. Thirty-one states have laws that dictate that gas tax revenues must be used solely for highway purposes. As a result, while roads have a dedicated source of funding, transit systems typically must compete with all the other claims on the public purse. Although gas tax revenues could conceivably go to pay for transit and other alternatives, the reality is that significant institutional issues exist—issues such as the need to amend state constitutions. Revenue generated from congestion relief tolls, however, could be used in whatever way a community deemed most appropriate.

Equity impacts are a critical consideration in the discussion of how revenues from congestion relief tolls are used. Equity impacts take two main forms: (1) the impact on low-income individuals (social equity) and (2) the impact on communities that bear an unduly large burden of toll payment, given the lack of alternatives to paying the toll, or are directly affected by increased traffic, or both (geographic equity).
Equity impacts need to be carefully and thoroughly addressed. A common critique of congestion relief tolls is that they fall most heavily on the those least able to pay, but this is not necessarily accurate. A closer look reveals that peak-period traffic is often composed primarily of middle- and upper-income users,⁵ that existing transportation financing measures are regressive, and that equity impacts can be mitigated through the use of lifeline tolls (similar to the guaranteed service programs of gas and electric utilities) and by using revenues to improve alternatives.

Geographical equity concerns can be addressed by how the boundaries of a pricing system are established, by using revenues to expand alternatives, by encouraging business participation in developing a workable solution, and by redirecting revenues back to those communities paying a higher proportion of the tolls.

Public concerns over equity provide an opportunity to engage community residents in the decision-making process and to educate the public on the potential of congestion relief tolls to create communitywide benefits. Citizens respond strongly to arguments that emphasize fairness. As they become more familiar with the mismatch between what people pay and what they get from the current transportation system, congestion relief tolling may emerge as a more logical choice.

Bay area MTC finds way to address equity concerns. In their plans for initiating congestion relief tolls on the Bay Bridge, the Metropolitan Transportation Commission included the use of lifeline tolls whereby low-income travelers would be exempt from the higher, peak-period tolls. Qualifications for receiving the lifeline tolls are based on the same income categories established by the gas and electric utilities' guaranteed service programs. MTC's inclusion of lifeline tolls substantially reduced opposition to its proposal, indicating that when equity impacts are placed in the context of the current system and properly mitigated, they do not prove to be a fatal flaw.

⁵ The Metropolitan Transportation Commission used careful data analysis to determine the makeup of current travelers over the San Francisco-Oakland Bay Bridge. The analysis revealed that a very small percentage (4 percent) of travelers were low-income residents. In the Twin Cities of Minneapolis-St. Paul, traffic counts show that only 3 percent of peak-period travelers are classified as low-income.
RECOMMENDATION FOUR
MAKE OUTREACH TO KEY OPINION GROUPS A PRIORITY

The public is not interested in the abstract, academic-sounding congestion pricing concept. There is, however, a demand for increased convenience and reliability, reduced pollution, and reduced government spending on transportation infrastructure. As a result, many cities have developed names that more accurately capture the benefits of congestion relief tolls. Boulder, for example, is undertaking a Congestion Relief Study, Portland has a Traffic Relief Options Study, and both the New York Toll Authority and the operators of SR-91 in Orange County, California, refer to variable pricing as “incentive tolling.”

Building public support for congestion relief tolls requires outreach to three key audiences: citizens, elected officials, and institutional leaders from the transportation and planning professions and business and community organizations. These are discussed below.

Citizens—Understanding and Involvement

Citizen input should be gathered throughout the process of analyzing and implementing a market-based strategy. It is important to recognize that citizen support depends on a greater understanding of how transportation is currently financed, what costs are not presently accounted for, and the transition that is underway from an expanded to a managed transportation system.

Fundamental concepts and features of congestion relief tolls, such as value of time, marginal cost, price elasticity, and electronic tolling, need to be conveyed in easily understood language. For example, while most people are familiar with manual toll booths, most are unaware that electronic tolling is now being successfully used on several roads in the United States.

Many people hold the perception that congestion relief tolls would not change their personal travel behavior. This reaction becomes a barometer of public support, despite the fact that congestion would be greatly relieved if only a small percentage of drivers drove during the off-peak hours or used transit. As a result, public education campaigns should include graphics that convey the importance of changing the travel habits of a small percentage of the driving public and the travel alternatives that would become available in conjunction with congestion relief tolls.

Innovative approaches are being used around the country to educate and involve the public. In Boulder, Colorado, six households with diverse travel characteristics
will be selected to work with personal transportation budget trainers in a widely publicized examination of their travel budgets and travel choices. In California, the Bay Area Metropolitan Transportation Commission has produced a wonderful primer on California’s market-based strategies. Entitled *California’s Transportation Future: Paying For What You Get & Getting What You Pay For*, the primer lays out the arguments for congestion relief tolls in a convincing and easy-to-understand manner. In Minnesota, residents from the Twin Cities metropolitan area participated as jurors in a five-day Citizens Jury® on Traffic Congestion Pricing. In addition, the Humphrey Institute’s State and Local Policy Program is creating a video that depicts the congestion phenomenon, the cost of roads and transit systems, and the ways that congestion relief tolls affect travel patterns.

For a copy of the report, contact the Metropolitan Transportation Commission Library. Phone: (510) 464-7852; e-mail: library@mtc.dot.ca.us. The primer is a summary of *Transportation Pricing Strategies for California*, a report prepared for the California Air Resources Board.
Most elected officials are unfamiliar with the concept of congestion relief tolls. Those who are, are most attracted to its revenue potential and are less aware of its value in managing travel demand and its potential to get more out of the transportation system at a reduced cost. Elected officials, however, do pay close attention to the preferences of the voting public.

Currently, the public's distrust of government is on the rise, and this has led to concerns over government's ability to effectively collect and allocate revenues and to administer complex technological systems, such as those involved with congestion relief tolls. On the other hand, the devolution of governmental authority that is currently taking place creates an opportunity for local implementation of congestion relief tolls, since they effectively move finance and revenue allocation decisions from Washington, D.C., or from state capitols, closer to the people directly affected.

Congestion does not adhere to any political boundaries, making it difficult to gain the support of locally elected officials. Rather, congestion is a regional problem. Locally elected officials are beginning to recognize the importance of a regionwide approach to congestion, but in most metropolitan areas, governmental fragmentation continues to impede regional strategies. It is likely, therefore, that a congestion relief tolling project will have to start in a limited section of the city. For this to occur, project proposers will have to overcome the fear of local residents that they will "lose out" on their share of the regional or statewide pot of transportation funds, and the fear of the business communities that congestion tolls will drive away business.
"I want to hear about the real, tangible benefits congestion relief tolls have to offer."

- Gaining the support of elected officials requires stressing tangible, financial benefits and connecting the congestion relief toll policy to existing legislative concerns. A cost-benefit analysis quantifying benefits in terms of the reduced traffic is essential. An analysis conveying 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 proposals for congestion relief tolls be linked to current legislative agendas.

When first approached, many members of the Minnesota Senate Transportation Committee saw congestion relief tolling as "tinkering 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. Linking the revenue-raising potential with funding constraints can make congestion relief tolls more appealing to legislators.
I-287/Tappan Zee Bridge crosses the Hudson River connecting Westchester and Rockland Counties in the New York metropolitan area. The Tri-State Transportation Campaign has advocated "incentive tolling" as part of an alternative to the addition of a reversible HOV lane proposed by the New York Toll Authority. The Tri-State Campaign is a coalition of environmental organizations in the northeastern part of the United States that promotes more environmentally sound transportation systems. Key Tri-State Campaign members and affiliates involved in the Tappan Zee incentive tolling effort include the Environmental Defense Fund, Federated Conservationists of Westchester County, and the Regional Plan Association.

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pursuing emissions reduction strategies. Nevertheless, in many cases, business involvement in promoting market-based strategies continues. Businesses are well represented in the study of congestion relief tolls in the Los Angeles area through the Coalition for Local Environmental Solutions and a Competitive Economy (COALSCE). With congestion levels predicted to soar over the next twenty years in many metropolitan areas, and funding for important transportation investments uncertain, a strong motivation remains for the business community to support pricing options.

The Tri-State Transportation Campaign has used several innovative strategies to build public support for incentive tolling. First, they helped create a leadership coalition involving the Westchester County Transportation Management Association, which represents major employers in the area, and Westchester and Rockland County officials. Second, they linked the incentive tolling study with a broader exploration of improved transit and intelligent transportation systems to control traffic demand, enhance value, and expand choices for travelers. Third, they made strategic linkages with the region's metropolitan planning organization (MPO). For two and a half years, Tri-State Campaign member Michael Replogle of the Environmental Defense Fund, has cochaired the Capacity and Pricing Subcommittee of the MPO, effectively building common ground for the incentive tolling study. Fourth, they have stressed the importance of public education strategies to build public support and to bring into the dialogue the broad range of concerns associated with any changes in tolls. The Tri-State Transportation Campaign's approach offers an exciting model of collaboration for building public support for the study and possible implementation of incentive tolling as part of a broad package of customer-oriented reforms and innovations.
Houston to use ITS technology to ease congestion. Houston’s HOV-3 buy-in project relies heavily on ITS technology. The city already has experience with a number of ITS tools. The buy-in project is a proposed solution to balancing demand and capacity on an existing HOV lane. Cars with two passengers are charged a toll, while HOV-3 vehicles (those with three or more occupants) are allowed to travel at no charge. Tolls will be set electronically at the level that will yield an additional eight hundred to nine hundred vehicles per hour. Every effort is being made to identify and avoid potentially negative issues that could be attached to the project. Some of the concerns being addressed are (1) allowing too many vehicles to buy into the HOV lane, causing speeds to decline and (2) having to increase rather than lower the toll during any mid-course corrections.

RECOMMENDATION FIVE
DEVELOP A RELIABLE TECHNOLOGY PLAN

In-motion electronic toll collection technology currently exists for collecting congestion relief tolls. There are a number of technology-related issues that must be addressed, however, before implementation can take place. These issues include the public’s lack of awareness of the new technology and concerns about privacy, cost, and reliability.

Any time a new technology is introduced, an adjustment period is required for users to get used to the new way of doing things. Currently, when most people think of how tolls are collected on roads, they have an image of the manual toll booth. Like other transformative innovations, such as the personal computer or cellular phone, public support for congestion relief tolling cannot be expected until people have gained a better understanding of the new technology and its benefits.

The Privacy Issue
Privacy concerns relate to public opposition to a “big brother” monitoring one’s whereabouts and to the concern that information about an individual’s travel habits will be sold to product marketers. These issues need to be addressed. Often, greater familiarity with how electronic tolling works can result in increased support. The use of anonymous identification systems, for example, eliminates much of the privacy concern. Also, privacy is less of a concern on new facilities or HOV buy-in projects in which an individual’s decision to use the facility is voluntary.

The Cost Issue
A common critique of congestion relief tolls has to do with the cost of the technology. Although electronic tolling technologies are not cheap, it is important to convey the fact that these costs typically represent a very small fraction of potential revenues and, therefore, do not prevent sizable net benefits.

The Reliability Issue
It is critical that the technology works right the first time. Even a small glitch during a demonstration phase could doom further implementation. It is also important to “customize” the electronic tolling system to the preferences of the users. For example, the California Private Transportation Company, the private firm overseeing the SR-91 project, opted for fixed tolls at different times of the day rather than a constantly changing toll structure, because customers wanted to know the toll level before leaving home in the morning.
RECOMMENDATION SIX
USE AN INCREMENTAL APPROACH

Any change in public policy or within institutions typically occurs in an incremental fashion. Because congestion relief tolls represent a radical departure in how congestion is addressed and in how transportation infrastructure is financed, an incremental approach is best here too. Incremental steps toward congestion relief tolls include making the connection between tolling and related projects, conducting an analysis of likely traffic and revenue impacts, and starting with small-scale demonstration projects.

It is important to recognize that congestion relief tolls represent one of many possible market-based approaches to congestion. In many cities, some form of market mechanism is in place. Minneapolis, for example, has instituted substantially reduced parking rates at downtown parking ramps for carpoolers, and the Minnesota Legislature recently passed a law reducing property taxes for industries that locate close to high-frequency bus routes.

Related approaches being used in other cities include preferential treatment for buses and carpoolers in the form of exclusive lanes, ramp meter bypasses, traffic signal preemption, and the provision of convenient parking spots. All of these techniques reduce the travel time for buses and carpoolers, making these modes of travel more attractive options. Another approach has been to use the revenue from increased parking fees or gas taxes to pay for enhanced transit service. Increasing parking fees was successfully used at the Seattle campus of the University of Washington, and diverting gas tax revenues to transit is increasingly being done by states. Cities and states are also exploring methods to level the playing field between employer benefits for parking and alternatives to driving alone to work.

Expanding concentric circles of support Boulder’s congestion relief study offers an excellent example of building internal support early in the process. GO Boulder, the city’s alternative transportation center, identified and engaged key stakeholders, first within city agencies, then within the various transportation agencies in the region, and finally within local and regional agencies significantly affected by transportation systems.
CPTC proves the value of marketing and media efforts. California Private Transportation Company (CPTC), the company that built and operates the SR-91 Express Lanes™ in Orange County, California, made marketing and media efforts a top priority. CPTC worked with the media, including national syndications such as Fortune magazine and the New York Times, and authored numerous articles and informational fact sheets on the project. A particularly unique component of the project is its guarantee, which promises every customer a time-saving trip on the Express Lanes™. If any driver is dissatisfied with a facility for any reason, CPTC will refund the transponder deposit, any unused toll account balance, and the last five tolls already paid to use the lanes.

A transponder affixed to the inside front window of the car makes it possible to electronically charge drivers a congestion relief toll for their use of the Express Lanes™.

RECOMMENDATION SEVEN
CAREFULLY DESIGN A MARKETING AND MEDIA STRATEGY

In marketing a new idea, timing is critical. Thus, it is crucial to recognize the political, economic, and social context of a proposal for congestion relief tolls in your particular locale. Are there plans for a major new road or bridge? Is a gas tax increase under consideration? Are there existing toll roads? Are user fees being proposed in other sectors? Does the public perceive that HOV lanes are underused? Answers to these questions provide important steps to identifying groups that are favorable to congestion relief tolls.

It is also important to recognize that Americans have strong associations with their cars and equate them with ideas of freedom, economic opportunity, and creativity. When presenting congestion relief tolls as an option, it is imperative not to "demonize" car drivers. Instead, driving should be recognized as a legitimate and often necessary choice. A policy that requires consumers to pay their fair share for the transportation services they enjoy resonates with drivers and nondrivers alike.

To be successful, every congestion relief tolling plan will need the help of the media, which should be engaged early and often. Although it may not be advisable to seek media coverage in the very early stages of building consensus, the media should be briefed to avoid distorted or inaccurate coverage. The media is also important in any public education effort. Educating the public about the true costs to society of driving alone during peak-demand periods, the automobile’s contribution to pollution, and the high cost of infrastructure maintenance and construction is an important step toward building awareness and support for congestion relief tolls.

As the media becomes educated on the subject, they play a key role in ensuring that congestion relief tolls are not considered in isolation. For example, as a result of media briefings in the Twin Cities, the press covered the Citizens Jury® on Traffic Congestion Pricing in an objective, informative manner. Both major metropolitan newspapers wrote editorials supporting congestion relief tolls. Unfortunately, other cities have received less supportive media coverage, highlighting the importance of early efforts to involve media representatives.
CONCLUSION: BUILDING COMMUNITY SUPPORT FOR CONGESTION RELIEF TOLLS

Congestion relief tolls represent a substantial change from traditional transportation policies. As a result, skeptical reactions should be expected from the public, from politicians, and from within the transportation community. Nevertheless, the potential to use market forces to create less costly transportation systems should not be overlooked.

Before any community can embrace the strategy of congestion relief tolls, numerous questions need to be answered. Straightforward conversations must include why congestion relief tolls make sense, how they will be implemented, who is going to be responsible, how moneys will be collected and spent, what alternatives currently exist, and what legislative safeguards need to be put in place. Demonstration projects are critical due to the lack of data on the real world impact of directly charging drivers for their contribution to congestion.

Numerous communities around the country are already exploring the potential of congestion relief tolls. Discussions with community, business, academic, environmental, elected, and transportation leaders are occurring in many areas and need to be part of a larger national discussion. Involvement of citizens and the media, and educating each on the current inadequacies and costs of our transportation system are crucial first steps for communities considering congestion relief tolls.

Given the enormous complexity of the issues involved, implementation of congestion relief tolls will be slow. However, its potential to manage travel demand, raise revenues, increase the efficiency of the transportation system, and address environmental concerns makes congestion relief tolling a transportation policy with numerous advantages—a policy worth considering.
GLOSSARY

alternatives. Transportation modes other than single occupancy vehicles; for example, buses, light rail, bicycling, or walking.

capacity. The maximum number of vehicles a road may carry in accordance with its design specifications. Beyond this number, congestion will occur.

demand side/supply side. Congestion mitigation strategies address either the demand for travel or the supply of road capacity. Demand-side policies attempt to lower the number of trips made, particularly in single occupancy vehicles (see SOV). Supply-side policies increase the capacity of the transportation system; for example, by building more roads.

efficiency. Economic efficiency concerns itself with the allocation of society’s resources to maximize net benefits—total gains minus total costs—from a particular policy.

electronic tolling. A system in which drivers on a road are charged automatically as they drive past a monitoring point. With the use of a “smart” or debit card, transactions can be conducted anonymously.

equity. The benefits and costs of a policy may differ by social or economic standing, geophysical location, race, gender, or even generation. Sometimes a policy may be efficient but not equitable.

externality. Externalities are the spillover effects (costs and benefits) that are not reflected in the price of a good or service. Congestion is considered a negative externality.

HOT lane—high occupancy toll lane. Special new lanes in which high occupancy vehicles (see HOV) travel for free and single occupancy vehicles (see SOV) pay a toll.

HOV—high occupancy vehicle. Any vehicle with two or more occupants, also known as carpooling. Some cities have highway lanes specifically designated for carpoolers, although some require three or more people, rather than two.

HOV buy-in. A form of congestion relief tolling in which single occupancy vehicles (see SOV) are allowed to pay a toll to gain access to existing HOV lanes.

ISTEA—Intermodal Surface Transportation Efficiency Act of 1991. ISTEA emphasizes a systems approach to transportation planning, linkage to air quality and environmental issues, performance, aesthetics, and public involvement.

ITS—inelligent transportation systems. ITS utilizes modern technology in the pursuit of more efficient highway and transit travel.

marginal cost (of a trip). The value of resources that would be saved if a trip was not made. The marginal cost includes not only the time and vehicle operating costs that are experienced directly, but also the costs caused by contributing to the congestion that slows down each vehicle—costs that few consider in deciding when, where, and by what mode to travel. (Herbert Mohring and David Anderson, Congestion Pricing for the Twin Cities Metropolitan Area [St. Paul: Metropolitan Council, 1994].)

metropolitan planning organization (MPO). The Intermodal Surface Transportation Efficiency Act of 1991 (see ISTEA) required that transportation funding be in accordance with regional, long-range planning, to be undertaken by the MPO.

parking pricing. Charging a price that reflects the market value for parking in congested areas, with particular emphasis on parkers traveling during the most congested period.

peak-demand period. Refers to the time of day in which traffic levels are at or above road capacity. Typical peak periods are from 6 A.M. to 9 A.M. and from 3 P.M. to 6 P.M., depending on geographic region and location.

price elasticity. A measurement of the population’s sensitivity to a change in the price of a good or service. The more elastic, the more a change in price will result in a change in the demand.

regressive. A tax policy that places a greater burden, as a percentage of income, on lower-income individuals than on higher-income individuals.

SOV—single occupancy vehicle. Any vehicle containing only the driver. SOV travel accounts for the majority of trips in most urban areas.

TDM—transportation demand management. Strategies aimed at reducing the amount of travel by SOV vehicles through regulatory constraints; financial incentives and disincentives; and/or promoting, improving, or increasing the supply of alternative means of transportation.

demand period. Refers to the time of day in which traffic levels are at or above road capacity. Typical peak periods are from 6 A.M. to 9 A.M. and from 3 P.M. to 6 P.M., depending on geographic region and location.

value of time. Refers to the economic value that individuals put on their time. It is a relative concept. People with higher incomes, for example, have a higher value of time. Also, individuals value the time lost in congestion delays differently, depending on the purpose of their trip.

VMT—vehicle miles traveled. One vehicle traveling one mile generates one vehicle mile.
RESOURCES

PUBLICATIONS


K.T. Analytics, Inc.

VIDEOS


CONGESTION PRICING WEB SITE

http://www.hhh.umn.edu/Centers/SLP/conpric/conpric.htm

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