



U.S. Department  
of Transportation

Federal Highway  
Administration

# **2000 REPORT ON THE VALUE PRICING PILOT PROGRAM**



**REPORT ON**  
**THE VALUE PRICING PILOT PROGRAM**

U.S. Department of Transportation  
Federal Highway Administration

July 2000

A report to the following Committees of the Congress, as required by Section 1012(b) of the Intermodal Surface Transportation Efficiency Act of 1991:

Committee on Environment and Public Works of the Senate  
Committee on Transportation and Infrastructure of the House of Representatives





THE SECRETARY OF TRANSPORTATION  
WASHINGTON, D.C. 20590

August 10, 2000

The Honorable Robert C. Smith  
Chairman, Committee on Environment  
and Public Works  
United States Senate  
Washington, D.C. 20510

Dear Mr. Chairman:

The enclosed report to Congress on the Value Pricing Pilot Program is submitted in accordance with requirements of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), Section 1012(b) as reauthorized by the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) (P.L. 105-178, Section 1216(a)). It discusses the work of States and localities with the Federal Government to experiment with the use of road pricing and other market-based measures to reduce peak period congestion.

An identical letter has been sent to the Ranking Minority Member, Senate Committee on Environment and Public Works; and the Chairman and Ranking Minority Member, House Committee on Transportation and Infrastructure.

If you have any questions, please contact me or Michael Frazier, Assistant Secretary for Governmental Affairs, at (202) 366-4563.

Sincerely,

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Rodney E. Slater

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THE SECRETARY OF TRANSPORTATION  
WASHINGTON, D.C. 20590

August 10, 2000

The Honorable Bud Shuster  
Chairman, Committee on Transportation  
and Infrastructure  
U.S. House of Representatives  
Washington, D.C. 20515

Dear Chairman Shuster:

The enclosed report to Congress on the Value Pricing Pilot Program is submitted in accordance with requirements of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), Section 1012(b) as reauthorized by the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) (P.L. 105-178, Section 1216(a)). It discusses the work of States and localities with the Federal Government to experiment with the use of road pricing and other market-based measures to reduce peak period congestion.

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Rodney E. Slater







THE SECRETARY OF TRANSPORTATION  
WASHINGTON, D.C. 20590

August 10, 2000

The Honorable James Oberstar  
Committee on Transportation  
and Infrastructure  
U.S. House of Representatives  
Washington, D.C. 20515

Dear Representative Oberstar:

The enclosed report to Congress on the Value Pricing Pilot Program is submitted in accordance with requirements of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), Section 1012(b) as reauthorized by the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) (P.L. 105-178, Section 1216(a)). It discusses the work of States and localities with the Federal Government to experiment with the use of road pricing and other market-based measures to reduce peak period congestion.

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Sincerely,

Rodney E. Slater



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## EXECUTIVE SUMMARY

This report is the first biennial report on the status of the Federal Highway Administration's (FHWA) Value Pricing Pilot Program as required by the Intermodal Surface Transportation Efficiency Act of 1991, Section 1012 (b)(5). It follows an interim letter report that was submitted on January 10, 2000. The Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) permits the U.S. Department of Transportation's FHWA to enter into cooperative agreements with up to 15 State or local governments or other public authorities to establish, maintain, and monitor value pricing projects. Notwithstanding Sections 129 and 301 of Title 23, United States Code, any value pricing project included under these local programs may involve the use of tolls on the Interstate System. A maximum of \$7 million was authorized for fiscal year (FY) 1999, and \$11 million for each of FYs 2000 through 2003 to be made available to carry out the requirements of the Value Pricing Pilot Program. The Federal matching share for local programs is 80 percent. Funds allocated by the Secretary to a State under this Section will remain available for obligation by the State for a period of 3 years after the last day of the fiscal year for which the funds are authorized. If, on September 30 of any year, the amount of funds made available for the Pilot Program, but not allocated, exceeds \$8 million, the excess amount will be apportioned to all States for purposes of the Surface Transportation Program. At the time of this report no funds have been obligated, but the FHWA anticipates that, by the end of FY 2000, from \$8 million to \$10 million in program funds will have been obligated to the support of value pricing projects. As a result, no Pilot Program funds will be redistributed in FY 2001.

In major U.S. metropolitan regions, the cost of urban traffic delay and associated fuel consumption has been estimated at \$72 billion annually. Value pricing is a market-based approach to traffic management which involves charging higher prices for travel on roadways during periods of peak demand. Also known as congestion pricing or road pricing, value pricing is designed to make better use of existing highway capacity by encouraging some travelers to shift to alternative times, routes, or modes of transportation.

A total of 4 cooperative agreements have been signed since funding first became available to the TEA-21 program in FY 1999. Two of those agreements are supporting projects in the State of California, a third agreement is supporting a pre-implementation study in the State of Maryland, and the fourth agreement is with the State of Minnesota. It is anticipated that additional project agreements will be signed during the remainder of FY 2000, with the States of Texas, California, Florida, New Jersey, New York and Connecticut being likely candidates for program participation. In addition, some of the projects funded with ISTEA funds are continuing to use previous year funding, or are continuing as operating projects without Federal support.

Section 1012(b)(5) directs the Secretary to report to the Congress on the effects that value pricing programs are having on driver behavior, traffic volume, transit ridership, air quality, and availability of funds for transportation programs. While it is not yet possible to provide definitive information on all of these variables at this stage in the development of value pricing,

early results from projects implemented to date are providing evidence that drivers do alter their behavior in response to value pricing, and that pricing does have an impact on traffic volume. The early pilot projects have had a modest impact on transit ridership, and have been an important source of transportation revenue. Pricing projects implemented to date have been well-received by the public and have been found not to put undue burdens on low-income drivers. More comprehensive applications of value pricing, where all users of a facility or network of facilities would have to pay a surcharge for peak-period travel, may require some form of compensation or offsetting benefits to become acceptable to the public.

Value pricing is becoming an important part of the transportation policy landscape in the United States. Projects implemented to date are breaking new ground and providing important lessons for those interested in exploring the use of pricing as a tool for enhancing urban mobility. The early results from pricing projects in the U.S. are showing that travelers are willing to pay for premium transportation service, and that pricing can lead to more efficient use of existing highway capacity. The U.S. interest in road pricing is mirrored by active interest in other countries in North America, Europe, and Asia, where value pricing is either in use, or is under intensive study. The Pilot Program will continue to play a key role in supporting value pricing efforts in the remaining years of TEA-21 authorization.



## **I. DESCRIPTION AND STATUS OF THE NATIONAL PROGRAM**

### **BACKGROUND**

With the costs of traffic congestion escalating in cities and suburbs across the United States and throughout the world, a new concept, long confined to the chalkboards of academic classrooms, is finally coming of age as a real-world tool for enhancing urban mobility. This concept, known as value pricing or congestion pricing, provides a way of harnessing the power of the market to reduce the waste associated with traffic congestion, a waste which places substantial burdens on individuals, families, businesses, and the nation. In its 1999 survey of urban congestion trends, the Texas Transportation Institute found that, in 1997, travelers in major urban areas experienced 4.3 billion hours of traffic delay due to congestion, and 6.6 billion gallons of motor fuel were wasted as a result. The annual cost of traffic congestion (delay and wasted fuel) amounted to \$72 billion in the 68 urban areas surveyed. And these costs may be just the tip of the iceberg when one considers the cost of economic dislocations and lost productivity that results from mispricing of our roads.

The promise of value pricing is that improvements in the pricing of transportation facilities will lead to improved service for transportation users, more productive use of existing transportation capacity, and reduced need for future capacity expansion. To encourage the testing and evaluation of value pricing concepts, the U.S. Congress established the Value Pricing Pilot Program (hereafter referred to as the Pilot Program) under Section 1216(a) of the Transportation Equity Act for the 21st Century (TEA-21) to support efforts by State and local governments or other public authorities to establish, monitor and evaluate value pricing projects, and to report on their effects. This program is a follow-on to the Congestion Pricing Pilot Program authorized by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). Although the name of the program was changed by TEA-21, the basic characteristics of the Pilot Program have remained the same, with some expansion in program scope. The express language of Section 1216(a) is contained in Attachment 1. A definition of value pricing is contained in the FHWA brochure, "Value Pricing Pilot Program: Notice of Grant Opportunities," included as Attachment 2.

Under the reauthorized program, the FHWA is authorized to enter into cooperative agreements with up to 15 State or local governments or other public authorities to establish, maintain, and monitor value pricing projects (ISTEA authorized 5 such agreements). A cooperative agreement may encompass one or more value pricing projects serving a local area such as a metropolitan area. Notwithstanding Sections 129 and 301 of Title 23, United States Code, any value pricing project included under these local programs may involve the use of tolls on the Interstate System. Section 1216(a)(6) specifically provides that a State may permit vehicles with fewer than two occupants to operate in high occupancy vehicle (HOV) lanes if the vehicles are part of a local value pricing pilot program under this Section. This is an exception to the general provision contained in 23 U.S.C. 102, that no fewer than two occupants per vehicle be allowed on HOV lanes. Potential financial effects of value pricing

projects on low-income drivers are to be considered and, where such effects are expected to be significant, possible mitigation measures should be identified. The costs of such mitigation measures can be included as part of the value pricing project implementation cost. The Secretary is to monitor the pilot projects for at least 10 years and to report to the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives every 2 years on the effects of the pilot projects. This is the first Congressional report under TEA-21, following four Congressional reports under ISTEA.

## **FUNDING AND FLEXIBLE PROGRAM SUPPORT UNDER TEA-21**

A maximum of \$7 million was authorized for fiscal year (FY) 1999, and \$11 million for each of FYs 2000 through 2003 to be made available to carry out the requirements of the Value Pricing Pilot Program. The Federal matching share for local programs is 80 percent. Funds allocated by the Secretary to a State under this Section will remain available for obligation by the State for a period of 3 years after the last day of the fiscal year for which the funds are authorized. If, on September 30 of any year, the amount of funds made available for the Pilot Program, but not allocated, exceeds \$8 million, the excess amount will be apportioned to all States for purposes of the Surface Transportation Program. At the time of this report, no funds have been obligated, but the FHWA anticipates that, by the end of FY 2000, from \$8 million to \$10 million in program funds will have been obligated to the support of value pricing projects, so funds will not be available for redistribution in FY 2001. Funds available for the Pilot Program can be used to support pre-project study activities and to pay for implementation costs of value pricing projects. Costs eligible for reimbursement under Section 1216(a) include costs of planning for, setting up, managing, operating, monitoring, evaluating, and reporting on local value pricing pilot projects.

## **IMPLEMENTING THE FEDERAL PROGRAM**

The Pilot Program is administered by the FHWA, with participation by States and localities solicited through Federal Register notification and other public outreach activities. Although no program authorizations were provided for FY 1998, the FHWA moved expeditiously to launch the new TEA-21 program, carrying out various outreach and informational activities and soliciting program participation. On July 13, 1998, an informational memorandum about the Pilot Program was issued to all FHWA field offices. This was followed by a workshop held in Washington, D.C. on September 9, 1998, to promote interest in the Pilot Program and to solicit comments on the procedures to be used in implementing the program. The next step in soliciting program participation was the issuance of a Federal Register Notice, dated October 5, 1998, to formally invite applications for program participation and to present selection priorities, program guidelines, and procedures for entering into cooperative agreements.

The FHWA also solicited the continued support of the Federal Interagency Review Group that assisted in implementation of the Congestion Pricing Pilot Program under ISTEA. This group, comprised of representatives from several Department of Transportation (DOT) agencies,



the Environmental Protection Agency, and the Department of Energy, plays a key role in program implementation by providing review and comment on applications to the program, as well as on drafts of various program documents. The Review Group relies on selection criteria contained in the October 5, 1998, Federal Register Notice. These criteria give priority consideration to comprehensive programs, in which pricing initiatives are identified as part of a broader congestion mitigation and environmental enhancement plan for an area. The Review Group encourages projects that have strong prospects for changing the time, mode, or route of travel, and are likely to lead to early implementation.

In order to reach a broader audience than might be reached through the Federal Register Notice process, the FHWA also published a program brochure (Attachment 2) designed to describe the reasons for public interest in value pricing and delineate the kinds of pricing activities that could be supported with Federal funds. The FHWA also continued the highly successful regional workshop series that had been initiated under the ISTEA Pilot Program.

### **PROGRAM PARTICIPATION**

States and localities have expressed a great deal of interest in the TEA-21 Pilot Program, either through participation in one of the FHWA's regional value pricing workshops, by submitting sketch plans to the FHWA outlining value pricing projects they would like to undertake, or by moving beyond the sketch planning stage to initiate project activity. At the time this report was written, approximately \$2 million of the TEA-21 Pilot Program funds have been obligated to support local and Statewide value pricing planning and pre-implementation activities. This is in addition to \$31 million in Pilot Program funds obligated to support pricing projects under ISTEA through FY 1995 (no funds were available for the Pilot Program during FY 1996 through FY 1998). A total of 4 cooperative agreements have been signed since funding first became available to the TEA-21 program in FY 1999. Two of those agreements are supporting projects in the State of California, a third agreement is supporting a pre-implementation study in the State of Maryland, and the fourth agreement is with the State of Minnesota. It is anticipated that additional project agreements will be signed during the remainder of FY 2000, with the States of Texas, California, Florida, New Jersey, New York and Connecticut being likely candidates for program participation. In addition, some of the projects funded with ISTEA funds are continuing to use previous year funding, or are continuing as operating projects without Federal support. The project activities are summarized in Section II of this report, while Section III summarizes the findings being generated by these projects. Section IV provides a strategic view of the future of value pricing and the Pilot Program.

### **PROGRAM SUPPORT**

In response to the active interest in the Pilot Program in States and localities throughout the United States, an extensive program of technical support, outreach and information dissemination has been developed by the FHWA to assist current and potential program participants. These activities are summarized below.

## **General Technical Assistance**

The FHWA supports program participants, and those considering program participation, by providing advice and technical assistance in preparation of program proposals and statements of work, and by providing technical assistance to project management teams once projects are underway. Assistance is provided either directly by the FHWA staff, or by an expert consultant under contract to the FHWA. Periodic on-site visits are made to supplement assistance provided by telephone and in writing. In addition, Project Partners' Forums are held periodically to facilitate information exchange among the Federal, State and local partners in the Pilot Program, and to focus on key project implementation issues. The next forum will be held in San Diego, California in July 2000.

## **Information Dissemination Activities**

In response to the needs of potential participants, the FHWA has established a pro-active and multi-faceted national outreach program on value pricing. In addition to the program brochure mentioned earlier, the FHWA participates in national and regional transportation forums to highlight the Pilot Program, and the Pilot Program supports a highly popular national website on value/congestion pricing to provide a center for the exchange of information about the Pilot Program and value pricing projects. Pilot Program participants are also conducting numerous outreach activities including focus groups, media campaigns, and neighborhood forums in project locations.

The FHWA is also sponsoring a series of regional informational workshops to disseminate the latest program developments, highlight active projects, and provide guidance on project development. The first two workshops under the TEA-21 program were conducted in Washington, D.C., in September 1998, and in New York City in June 1999. These workshops have been sponsored jointly with local transportation and/or academic agencies, and with the support of the Hubert Humphrey Institute of Public Affairs of the University of Minnesota. Both workshops were well attended and highly rated by the participants. The workshop series will be continued throughout the life of the TEA-21 program.

The FHWA and the Humphrey Institute have also developed a video on congestion/value pricing which has been used widely to provide information about value pricing and ongoing projects. The FHWA pricing team members are also participating on a Transportation Research Board task force working to address public outreach on value pricing. Other informational activities that will commence during FY 2000 include development of a guidebook on High Occupancy Toll lanes (priced lanes that provide discounts or free passage to High Occupancy vehicles); a Peer-to-Peer workshop on value pricing that will bring project partners from operating pricing projects to the State of Maryland to share their project implementation experience; development of a "best practices" planning guide on value pricing; issuance of newsletters on value pricing, and publication of journal articles on value pricing.

## **Other Pricing-Related Activities**

The FHWA is closely following key developments and activities in several states and metropolitan planning organizations (MPOs) relating to value pricing and other market-based pricing policies. These include: monitoring and evaluation of the private-sector variable toll State Route 91 (SR-91) facility in Orange County, California; the New Jersey Turnpike Authority's variable tolling initiative; and international pricing activities in Toronto, Canada; Singapore, Hong Kong, the United Kingdom, the Netherlands, Greece, Norway, Sweden, and France. Information on these activities provides assistance to the FHWA's project partners as they consider pricing strategies and alternatives.

## **II. PROJECT ACTIVITY SUPPORTED WITH PILOT PROGRAM FUNDS**

This first category of value pricing activities supported with Pilot Program funds includes the new pricing initiatives launched under the TEA-21 Pilot Program. These projects are in their beginning stages, but they serve to indicate the level of continuing interest in value pricing, and the locations where that interest is most active. The second category of Pilot Program projects included in this report were initiated and funded under the ISTEA Pilot Program, but continue to be active projects, either because they have become operational, or because they are continuing pre-project studies. The projects that became operational under the ISTEA program are of particular importance for this report, for it is these projects that are beginning to generate important information about the role that value pricing can play in responding to traffic congestion problems.

### **TEA-21 FUNDED PROGRAMS**

Beginning in FY 1999, when authorizations first became available to support the TEA-21 Pilot Program, States and localities developed sketch plans for potential pricing projects and worked with the FHWA to develop detailed project proposals. By September, 1999 cooperative agreements were signed to support pre-implementation studies in the States of California, Maryland, and Minnesota. In addition, in February 1999, a cooperative agreement was signed to continue the State of California effort to monitor the effects of the private sector road pricing project on State Route 91 (SR91) in Orange County. Approximately \$2 million of TEA-21 funds have been obligated to support these State and local value pricing activities. Other pricing projects expected to be funded during FY 2000 will be described in Section IV, below.

### **California--Transportation Corridor Agencies (San Joaquin Hills)**

The Transportation Corridor Agencies (TCA) have constructed and have been operating tollways in Orange County, California under agreement with the State of California. As the toll facilities are constructed, they are deeded to the State of California for highway maintenance and ownership. The TCA, through a contractor, operates the toll collection system. The San Joaquin

Hills Transportation Corridor is in operation as a traditional toll facility with tolls that do not vary by time of day. Because this facility is experiencing congestion during the peak hours, the operators are planning a shift to peak-period pricing. The Pilot Program is providing support to this effort through an agreement to provide Federal funds to examine the effects of variable tolls.

Under the cooperative agreement with FHWA and the State of California, the TCA will establish a monitoring and evaluation framework, establish a baseline of traffic information, examine peak/off-peak charging alternatives and the revenue implications of variable tolling, conduct public outreach and marketing, and provide for interagency review. Federal funds in the amount of \$198,000 have been obligated to Phase I of this project. The TCA expect to implement variable tolling by July 1, 2001, or sooner for some entrances. Upon completion of the pre-implementation phase, it is expected that the TCA will move into Phase II and request additional Pilot Program funding to support the implementation of variable tolling. It is also likely that funding will be requested to support the extension of peak-period pricing to other TCA facilities.

### **Maryland**

The study being undertaken by the Maryland Department of Transportation (DOT) recognizes that value pricing strategies have the potential to benefit a number of corridors throughout the congested Washington, D.C. and Baltimore metropolitan areas. The objectives of the study are to investigate the potential of a range of value pricing strategies to reduce congestion, improve the use of existing and planned capacity, and optimize system operations in the Washington-Baltimore region.

The Maryland study has identified several high-priority corridors and toll facilities for consideration in this study. These are:

#### **Highway Study Corridors - State Highway Administration (SHA) Jurisdiction**

- I-270 from I-495 (Capital Beltway) to I-70 (Frederick County)
- I-495 (Maryland portion of Capital Beltway)
- MD 210 (I-495 to MD 228 Connector)
- US 50 (Capital Beltway to US 301)
- I-95 (between Washington and Baltimore Beltways)

#### **Toll Facility Study Corridors - Maryland Transportation Authority (MdTA) Jurisdiction**

- Baltimore Harbor Crossings
  - Fort McHenry Tunnel (I-95)
  - Baltimore Harbor Tunnel (I-895)
  - Francis Scott Key Bridge (I-695)
- US 50/US 301 (William Preston Lane Memorial (Bay) Bridge)
- I-95 (between Baltimore's Fort McHenry Tunnel and Delaware)

The first phase of the study is considering a broad range of value pricing strategies for all the corridors/facilities, using sketch planning techniques and information from other value pricing studies to narrow down the range of pricing options. Initial screening narrowed the options on the Highway Study Corridors to facilities where there is excess capacity on existing HOV lanes, or where new capacity is being added.

Public participation is a cornerstone of the Maryland DOT's value pricing study. A steering committee consisting of representatives of Federal, State, and local government agencies has been established to provide regular input into the study. A Stakeholder Group, which includes a cross-section of public interest groups, community organizations and citizens, has been formed to review, comment, and provide feedback to guide the study's progress. Additional public workshops and outreach activities will be used to help determine the feasibility of study alternatives.

In Phase II, the study team will undertake a more detailed analysis of corridors and pricing strategies recommended for further investigation. The study is designed to set the stage for final planning and design of appropriate pricing strategies for implementation. Pilot Program funds in the amount of \$688,000 were provided to support activities under Phases I and II. The study and implementation recommendations are scheduled for completion in September 2000.

### **Minnesota**

The Minnesota DOT and the Twin Cities Metropolitan Council have looked at a number of policy alternatives, including value pricing, as possible responses to the continuing traffic congestion problems in the Minneapolis-St. Paul region. Previous studies have shown that regional pricing policies could greatly reduce peak-period congestion, reduce the need for future highway capacity expansion, and generate new sources of transportation revenue. However, attempts to implement pricing projects have not yet been successful. The TEA-21 study is examining the feasibility of implementing value pricing as part of a region wide planning process for the Twin Cities metropolitan area. This project will incorporate value pricing as an option in the region's long-range planning program in order to present the costs and benefits of pricing strategies alongside other alternatives for responding to the region's congestion problems. The study plan calls for extensive public participation activities, both to serve local needs and to supplement national efforts. A total of \$779,000 in Pilot Program funds were provided to support this three-year effort.

### **California--State Route 91 Study**

The agreement signed with the State of California continues the monitoring and evaluation study of an innovative private sector road pricing project on SR-91 in Orange County. The SR-91 Project is the first fully automated, variably-priced toll road in the United States. The project is not formally part of the Pilot Program, since it is privately-owned and operated under a franchise agreement between the California Private Transportation Company and the State. However, the

project is of great interest to the Pilot Program because it is generating important information about traffic and travel behavior responses to variations in time-of-day toll levels, as well as on public acceptance of variable tolling. Transportation officials in all parts of the United States, as well as in many other countries, are following the progress of this project closely to gain insights into the role that value pricing might play in their own transportation programs. The California DOT is using the information being gathered in this Pilot Program study to guide its statewide policies with regard to road pricing.

The SR-91 Express Lanes opened in December 1995 as a four-lane toll facility in the median of a 16 kilometer section of one of the most heavily congested highways in the United States. The toll lanes are separated from the general purpose lanes by a painted buffer and plastic pylons. As of March 26, 2000, tolls on the Express Lanes varied between \$0.75 and \$3.75, with the tolls varying by time of day to reflect the level of congestion delay avoided in the adjacent free lanes, and to maintain free-flow traffic conditions on the toll lanes. All vehicles must have a FasTrak transponder to travel on the Express Lanes. Vehicles with three or more occupants pay a reduced toll.

The SR-91 monitoring and evaluation study is being carried out by a research group at the California Polytechnic State University, San Luis Obispo. It is a follow-on to the SR-91 monitoring study that was initiated under the ISTEA program. A total of \$315,000 in TEA-21 funds have been provided to support this effort. The information being generated by this study is being made widely available through reports published by the research group, and through publication of results on the university's website (see Attachment 3 for a list of websites related to the value pricing program and projects). The results of this research effort will be presented in Section III.

### **ISTEA FUNDED OPERATIONAL PROGRAMS**

The pilot project activities initiated under the ISTEA Pilot Program were described in the Department's third report to Congress on the Congestion Pricing Pilot Program, "Reducing Traffic Congestion: Using Market Forces to Enhance Mobility," dated July 28, 1998. This section provides an update on the three major projects that became operational under the ISTEA program, and provides information to update the status of continuing pre-implementation studies that were funded under the ISTEA program. The following section on "Does Pricing Make a Difference" draws on the results of these operational programs in addressing the impact questions contained in Section 1216(a)(5).

#### **California - San Diego's "FasTrak" Express Lanes**

San Diego's value pricing project on Interstate 15 (I-15) is a three-year demonstration that allows single-occupant vehicles (SOVs) to use the existing high occupancy vehicle (HOV) lanes on I-15 for a fee. Initiated in December 1996, the project is managed by the San Diego Association of Governments (SANDAG), in cooperation with the California DOT (Caltrans) and FHWA,

with the intent of improving transportation service on I-15 and generating revenue for transit service improvements in the I-15 corridor. Pilot Program funds in the amount of \$8,000,000 were provided to support the pre-project study and implementation phases of this project. In addition, \$230,000 in Federal Transit Administration funds were used to support the initial feasibility study for this project.

The project has been operated in two phases. Under the first phase, called I-15 ExpressPass, SOV customers paid a flat monthly fee for unlimited use of the HOV lanes. This phase was used to more accurately assess the demand for use of the priced lanes and to prepare for the use of automated tolling equipment. March 30, 1998, marked the beginning of the next phase of the pricing program called I-15 FasTrak. Under the FasTrak program, SOV customers pay a per-trip fee each time they use the I-15 HOV lanes. The normal toll varies between \$0.50 and \$4.00 and is based on traffic levels in the HOV lanes and time of day. During very congested periods, the toll can go as high as \$8.00. FasTrak tolls are collected electronically via transponders and overhead antennas. The unique feature of this part of the program is that fees change dynamically with the level of congestion on the HOV lanes. Fees can vary in 25-cent increments as often as every six minutes to help maintain free-flow traffic conditions on the HOV lanes. Recently enacted State legislation allows the I-15 FasTrak program to continue in operation until at least January 1, 2002.

A comprehensive monitoring and evaluation study is providing information about the project's impacts on traffic and speeds, modal usage, operational issues, costs, revenues, acceptance, and business activity. With its third year of operation completed, the I-15 value pricing project has successfully met its primary goals of making better use of the excess capacity on the I-15 HOV lanes and improving transit services along I-15. The project is fully self-sufficient, generating approximately \$1.2 million in revenue per year. Daily traffic volumes on the Express Lanes averaged 15,800 in February 2000, an increase of 4,100 daily vehicles since the FasTrak program began.

### **Florida - Lee County's "LeeWay" Variable Pricing Program**

In August 1998, Lee County, in cooperation with the Florida DOT and FHWA, implemented value pricing on two toll bridges, the Cape Coral Bridge and the Midpoint Memorial Bridge. These bridges are heavily used by commuters, with average weekday traffic varying between 60,000 and 65,000 vehicles. Implementing pricing strategies on these facilities allows them to act as "throttles" for a large portion of the County's roadway network, since traffic pattern changes on the bridges are reflected on numerous highway facilities in the region.

The Lee County pricing strategy provides bridge patrons with a discount toll during selected off-peak hours as an incentive to change trip-making times from peak to off-peak hours. Currently the program is limited to two-axle vehicles, but a proposal to extend the use of the program to trucks is under development. Under the pricing plan, a 50 percent toll discount is provided for trips made during the half-hour period before the morning 7:00 - 9:00 peak and in the two-hour

period following the morning peak. In the evening, the discount period is two hours before the 4:00 - 6:30 peak and one-half hour after the peak. The LeeWay project is receiving broad local support since it has successfully moved traffic out of the peak congestion period and provided improved service to bridge patrons. The promise of value pricing is becoming a reality in Southern Florida.

### **Texas - Houston's QuickRide Program**

Travelers in the Katy Freeway (I-10) Corridor in Houston are being offered an opportunity to improve their peak-hour commutes through value pricing. The Katy HOV lanes, normally restricted during the peak hours to buses and carpools with three or more people, are now available to two-person carpools who register in the QuickRide program and pay a \$2.00 fee for each trip. The program is sponsored locally by the Metropolitan Transit Authority of Harris County (METRO) and the Texas Department of Transportation.

Opened in 1984, the 13-mile single reversible lane facility had been so successful in attracting both bus patrons and carpools that, by 1988, the HOV lane was becoming congested and traffic was beginning to move slowly during the peak hour. In order to maintain the speed advantage of the HOV lane, METRO began restricting peak hour use to vehicles with three or more occupants. This reduced the number of vehicles by more than half and restored speeds to speed limit flow. However, the departure of two-person carpools resulted in a net reduction of about 30 percent in the number of persons moved on the HOV lane during the peak hour.

In order to attract traffic back to the HOV lanes without giving up the speed advantage of the lanes, METRO decided to use Pilot Program support to develop a value pricing program that would allow a limited number of two-person carpools back onto the HOV lane during the peak hours in return for payment of a fee. The project opened in January 1998, and in little more than a year, 650 transponders had been issued or registered to use the QuickRide facility. Reports from QuickRide participants indicate that patrons are satisfied with the program and enjoy the flexibility QuickRide provides.

### **Continuing ISTEA Pre-Implementation Studies**

In addition to the TEA-21 funded value pricing programs and the ISTEA-funded programs that are currently operational, there have been important developments in some of the ISTEA-funded pre-implementation studies since the time of the Department's last report to Congress on the Congestion Pricing Pilot Program. For instance, under the auspices of the Pilot Program agreement with California and the Metropolitan Transportation Commission in the Bay Area, a pre-implementation study is examining the feasibility of a subscription service that would allow light-duty commercial vehicles paid entry to an existing High Occupancy Vehicle lane on I-880



in Alameda County. In addition, the agreement with Caltrans and MTC encompasses a feasibility study for a HOT lane on I-680 in Alameda County. The State of Colorado is examining the feasibility of converting existing HOV lanes on I-25 and US-36 into High Occupancy Toll lanes, as part of an overall study of a region wide HOT-lane system.

### **III. DOES PRICING MAKE A DIFFERENCE? - EARLY RESULTS**

Section 1216(a) directs the Secretary to report to the Congress on the effects that value pricing programs are having on driver behavior, traffic volume, transit ridership, air quality, and availability of funds for transportation programs. While it is not yet possible to provide definitive information on all of these variables at this stage in the development of value pricing, early results from projects implemented to date are providing evidence that drivers do alter their behavior in response to value pricing, and that pricing does have an impact on traffic volume. The early pilot projects have had a modest impact on transit ridership, and have been an important source of transportation revenue. This section will summarize the findings to date on these important effects, and will also look at the question of the public acceptability of value pricing projects, including the effects of value pricing on low-income road users.

#### **DRIVER BEHAVIOR AND TRAFFIC EFFECTS**

In **San Diego**, where tolls on the I-15 Express Lanes vary dynamically with the level of congestion, value pricing has led to improved use of available HOV lane capacity, and has generated revenues to support express bus service in the corridor. Some key findings from this project are highlighted below:

- Traffic on the I-15 HOV lanes has increased substantially since the inception of the pricing project.
  - The number of vehicles using the HOV lanes increased by 46 percent from October 1996 (pre-project) to April 1999 (from 9,200 to 13,500 average daily vehicles;
  - In the a.m. peak hour, the two-lane HOV facility carried 2,300-2,400 vehicles per hour at free-flow speeds in late April 1999, compared to 1,600 vehicles per hour in October 1996;
  - Daily traffic volumes on the Express Lanes averaged 15,800 vehicles in February 2000, an increase of 4,100 daily vehicles since the FasTrak program began in late March 1998; and
  - As of April 2000, FasTrak use of the Express Lanes comprises about 21 percent of total vehicles on the lanes.

- Most of the increase in HOV lane traffic has been accounted for by carpools, which grew by 30 percent from October 1996 to April 1999 (from 7,685 to 9,970 average daily HOVs).
- Carpools increased primarily in the ExpressPass phase of the program and peaked during the first month of FasTrak operation at about 10,500 average daily vehicles. From April 1998 to April 1999, carpools have declined by approximately 5 percent.
- Although the percentage of FasTrak usage has been increasing with the distribution of transponders, the majority of FasTrak customers are not daily users, with less than 10 percent of FasTrak customers using their FasTrak account on a daily basis.

One of the unexpected positive program benefits has been the significant reduction in SOV violators on the I-15 HOV lanes, the result of increased California Highway Patrol (CHP) enforcement funded by the project. In October 1996, illegal SOVs comprised 17 percent of total vehicles on the HOV lanes. Throughout the ExpressPass and FasTrak program phases, violation rates have ranged between three and five percent of total traffic (violation rates on California HOV lanes generally range between five and ten percent).

Another interesting phenomenon that is under further investigation is the increase in HOV usage that accompanied the Express Pass phase of the San Diego pricing program. A possible reason for the increase in HOV traffic is that pricing provides a more tangible sense of the cost savings from carpooling, since carpools travel free, while solo drivers must pay a fee to use the express lanes. Another possible reason is that the increased enforcement by the CHP encourages solo driver violators to become carpools (avoiding the risk of a high fine for a modest payment). It has also been speculated that pricing allows more flexible carpooling arrangements, with people now being more willing to commit to becoming carpool members because they know the same time-saving will still be available, for a fee, on days when carpool members are not available. It is hoped that the ongoing evaluation of the changes in HOV usage will shed more light on these issues, but it seems clear that value pricing can provide important support to carpool programs.

Further evidence that time-of-day variations in road pricing can have significant effects on traffic patterns is provided by SANDAG's modification of the FasTrak toll schedule on August 31, 1998. The maximum toll was reduced during the off-peak periods. Analysis of traffic patterns before and after the toll change indicate that the toll modification did have the desired effect of shifting some traffic out of the peak into the off-peak periods. The shift effect was most pronounced during the a.m. peak, while the p.m. peak showed only modest changes related to pricing.

In **Lee County, Florida**, the pricing strategy has caused drivers to shift trips out of the peak-congestion period into the shoulders of the peak, leading to more efficient use of available bridge capacity and improved service for bridge users. To provide a preliminary indication of the effects of the pricing program on traffic behavior, a comparison was made between the travel patterns of

patrons eligible to receive the off-peak toll discounts and the patrons who were not eligible (i.e., those not using electronic transponders). Data on traffic patterns clearly show that drivers are altering their travel behavior in response to pricing:

- Average traffic flows during each half-hour period covered by the toll discount indicate that little change has occurred in the time of travel of bridge users not eligible for variable pricing discounts.
- Travel pattern changes of patrons eligible for the variable pricing reflect shifts of travel out of the peak on both bridges, with most half-hour periods covered by the off-peak toll discount showing significant increases in traffic, and traffic decreasing significantly during the peak.

The traffic effects of **Houston’s QuickRide program** have been less pronounced than the other pricing projects, perhaps because of the smaller scale of the project and the limitation of the availability of the “entry for a fee” access to vehicles with two or more passengers. Still, HOV utilization has shown modest improvement during the peak. Daily use by participants has been between 150 and 200 vehicles for both peak periods combined. The vast majority of users are occasional users, with about one in four transponders being used in a given week, and about one in 20 transponders being used five or more times per week. During the initial implementation period:

- HOV utilization increased modestly during the peak, meeting QuickRide’s primary goals of increasing person movement and average vehicle occupancy.
- The number one source of QuickRide participants was persons who formerly traveled in SOVs on the freeway main lanes. As reported by participants, the number of trips made alone was cut in half, while the number of trips made in a carpool doubled.

The Value Pricing Project with the longest history in the United States is the Express Lanes Project on **SR-91 in Orange County, California**. The initial study of the operation of the Express Lanes has yielded a number of important observations:

- Traffic on the Express lanes continued to increase steadily through the first 3 years of operation. During this period, price changes were successful in maintaining free flow traffic conditions during the peak hours.
- Travelers showed considerable selectivity in deciding when and under what conditions they would use the Express Lanes, with half the customers using the lanes once a week or less. The hour-by-hour proportions of customers choosing to use the lanes track very closely the amount of delay avoided by using the lanes.
- Frequency of Express Lane use is correlated directly with income; however, 25 percent of those in the lowest income grouping of SR91 users (less than \$25,000 annual household income) indicate that they frequently use the Express Lanes.
- Female commuters are significantly more likely than male commuters to be frequent users.

The SR-91 Project continues as the leading private sector model of the use of variable pricing to maintain free flow traffic conditions. Although the tolls are not changed dynamically as they are on the I-15 Project in San Diego, toll schedule adjustments have been made several times since the lanes went into operation, with the latest change becoming effective on March 26, 2000. The early results from the operation of the SR-91 Express Lanes indicate that travelers are willing to pay a premium price for a premium service when circumstances make it worth the extra cost.

### **TRANSIT RIDERSHIP AND AIR QUALITY**

Indications are that the effects of pilot projects on transit ridership have been limited, although, as noted above, effects on carpooling have been more pronounced. The San Diego project has had the greatest success in promoting bus usage, with new express bus service being supported with revenue raised from the ExpressPass/FasTrak program. Ridership on the express bus line averaged 525 daily passengers in April 1999, short of the goal of 750 riders per day. Two-thirds of the peak ridership is in the reverse commute direction. The new route has provided faster service for existing transit users, but has not attracted peak direction travelers from the I-15 main lanes. No transit ridership effects have been noted for the Lee County or Houston projects, and the conclusion of the SR-91 study is that the Express Lanes have had no perceptible effect on either commuter bus or commuter rail traffic in the corridor.

Individual pilot projects are likely too small to have any significant effect on region-wide air quality, but the positive effects on carpooling and, to a lesser degree on transit use, and the traffic smoothing effects of reduced congestion, are at least in the direction of improving air quality and reducing energy consumption. Simulations of region-wide pricing strategies indicate that these benefits can be substantial. The long-term effect on air quality of express lane pilot projects such as San Diego and SR-91 depend on a number of factors, including the effects on land use.

### **AVAILABILITY OF FUNDS FOR TRANSPORTATION PROGRAMS**

Pilot value pricing projects implemented to date show that value pricing can be an important part of transportation financing programs. In San Diego, revenues are supporting new express bus service in the I-15 corridor. In Houston, revenues are defraying the cost of operating the express lane service. On SR-91, pricing revenues are part of the financial package that made construction and operation of the new road capacity possible. Indeed, in nearly all applications, value pricing will generate revenues that can be used to provide important benefits to road users. Research has also shown that peak-period surcharges on an existing toll facility will likely result in positive revenue impacts, although the effects of the application of toll discounts in combination with peak surcharges need to be examined carefully to determine the effect on total revenues. Value pricing projects expected to become operational during the TEA-21 implementation period should provide important information on this aspect of revenue availability.

## **PUBLIC ACCEPTABILITY OF VALUE PRICING**

Much has been learned about the public acceptability of value pricing since the inception of the Pilot Program. The kinds of projects that have been implemented to date have been very successful in gaining public support because they have offered new transportation options to road users and there have been readily-available alternatives to the use of the priced facilities. In San Diego, surveys conducted in the Spring of 1998 indicated that 79 percent of FasTrak users considered the program a success. The percentage of approval increased to 89 percent by the Fall 1998 survey. Customers cite travel time-savings of 10 to 20 minutes, free-flow traffic conditions in the express lanes, and reliability of on-time arrival as program benefits. The change to dynamic pricing was received very positively by customers. The Lee County off-peak toll discount program has also received very positive local support. In Houston, QuickRide participants report that they are pleased with the flexibility that the HOV-2 buy-in program provides. In surveys conducted for the SR-91 Express Lane project, about 75 percent of the commuting public expressed approval of virtually all aspects of the Express Lanes operation after 18 months of operation. Sixty-three percent of randomly selected businesses in the corridor report that the SR-91 Express Lanes are “good for business.”

Extensive evidence about the effects of value pricing on low-income drivers has been gathered in the SR-91 study. An initial perception about the Express Lanes concept was that only the rich would be able to take advantage of the time savings offered by the lanes. Experience has shown that both high income and low income groups use the Express Lanes facility, although higher income users are somewhat more likely to use the facility frequently. For the kinds of value pricing projects implemented to date (Express Lanes or High Occupancy Toll Lanes), there really are no losers as a result of the value pricing program. People can take advantage of the value pricing program and receive improved service, or they can continue to use the existing service and not pay the fee (or not receive the toll discount). More comprehensive pricing applications, where all users of a facility or network of facilities would have to pay a surcharge for peak-period travel would, of course, result in some people not valuing the time savings as much as the value of the fee. Such programs might not gain public support unless they were accompanied by a package of benefits to those who use the transportation system. These benefits might include time savings for those who pay the congestion fee, or benefits provided through the use of value pricing revenues, such as a reduction in existing taxes, improved transportation facilities, or improved transportation alternatives. By reducing the need for future capacity expansion, investment costs would be reduced, resulting in further savings to taxpayers.

## **IV. A LOOK TO THE FUTURE**

Value pricing is becoming an important part of the transportation policy landscape in the United States. Projects implemented to date are breaking new ground and providing important lessons for those interested in exploring the use of pricing as a tool for enhancing urban mobility. The early results from pricing projects in the United States are showing that travelers are willing to pay for premium transportation service, and that pricing can lead to more efficient use of existing

highway capacity. The U.S. interest in road pricing is mirrored by active interest in other countries in North America, Europe, and Asia, where value pricing is either in use, or is under intensive study. The Pilot Program will continue to play a key role in supporting value pricing efforts in the remaining years of TEA-21 authorization. This concluding section highlights value pricing project concepts anticipated to be funded for the remainder of FY 2000.

### **TEA-21 PROJECTS ANTICIPATED THROUGH REMAINDER OF FY2000**

Following the cooperative agreements signed with the States of California, Maryland and Minnesota in FY 1999, the TEA-21 Pilot Program anticipates that additional cooperative agreements will be signed during FY 2000. The States of Texas, California, Florida, New Jersey, New York and Connecticut are likely candidates for new projects during the remainder of the year. It is anticipated that by the end of FY 2000, a total of \$8 to 10 million in Pilot Program funds will have been obligated.

The types of projects we expect to participate in the program in FY 2000 include pre-implementation feasibility studies and implementation and evaluation of variable tolls on existing toll facilities. Feasibility study proposals under development are intended to examine High Occupancy Toll lane options (Texas, Florida and California), parking pricing (California, New York, New Jersey and Connecticut), Premium Service Access Highways, or "Q-jumps," and pay-as-you-drive insurance (Northeastern and other States). Existing toll facilities considering the implementation of variable tolling schedules are located in California, New Jersey, Pennsylvania, and Florida. These proposals are likely to seek Federal support for pre-implementation study, implementation, and the evaluation of value pricing impacts. Other project proposals are under development, but are not likely to be submitted until after FY 2000. These include a proposed extension of San Diego's FasTrak program to a to-be-constructed HOV lane extension. A sketch plan has already been submitted for this project.

Many of these project concepts will break new ground for the Pilot Program since they have not previously been studied under the pilot program or tested under operational conditions. Of particular interest are proposals to test Q-jumps, parking cash-out, and pay-as-you-drive insurance, all attempts to expand the use of market-based approaches in transportation decision-making. The Q-jump concept involves the construction of a bypass to a congested point in a network of highway facilities, with access to the bypass priced according to the time-savings gained by using the bypass. Parking cash-out involves the offer of a cash payment in return for an employee giving up an employer-provided free or subsidized parking space. The intent is to provide to employees who currently receive free or subsidized parking from their employers the option of "cashing-out" that parking, or accepting a cash equivalent to the market value of the parking space. Employees would then have a financial incentive to give up their parking space and commute to work via alternative modes, thereby reducing single occupancy vehicle trips, air pollution, and traffic congestion. The pay-as-you-drive insurance proposal would substitute current auto insurance charging systems for charges based on the amount of travel and travel conditions. One proposal that might be studied with Pilot Program support might involve the use

of travel surveys, diaries, odometer readings, or Global Positioning Satellite (GPS) systems for tracking auto travel. Vehicle travel, accident risk, emissions and motorist cost would be compared under alternative charging systems.

### **THE FUTURE OF THE VALUE PRICING PILOT PROGRAM**

The pilot tests that have been initiated to date are pathbreaking projects that show great promise for the future of value pricing in transportation. Yet, these projects have been limited in both geographic scope and variety of pricing innovations. Operational projects have been launched in California, Texas, and Florida. However, even though interest exists in other parts of the country, resistance to exploring new ways of charging for road use has not yet been overcome.

The challenge of the Pilot Program is to continue to test the successful concepts in new areas, and to move beyond the initial pricing concepts to new applications of value pricing, including variable pricing on existing toll facilities, pricing of newly constructed highway facilities, parking pricing, and other innovative concepts. Continued information sharing and public outreach through the Pilot Program approach has an important role to play in expanding the number and variety of pilot tests, and in showing how greater use of pricing principles in highway transportation can help bring more rationality to transportation investment decisions and can lead to significant reductions in the billions of dollars of economic waste associated with traffic congestion.

## ATTACHMENTS

### Attachment 1: **TEA-21 Pilot Program Authorizing Legislation**

Section 1012, Public Law 102-240, as amended by P.L. 105-178 (§1216(a)), with technical corrections (P.L. 105-206, §9006(b))

(b) Value Pricing Pilot Program.-(1) The Secretary shall solicit the participation of State and local governments and public authorities for one or more value pricing pilot programs. The Secretary may enter into cooperative agreements with as many as 15 such State or local governments or public authorities to establish, maintain, and monitor value pricing programs.

(2) Notwithstanding Section 129 of Title 23, United States Code, the Federal share payable for such programs shall be 80 percent. The Secretary shall fund all preimplementation costs and project design, and all of the development and other start up costs of such projects, including salaries and expenses, for a period of at least 1 year, and thereafter until such time that sufficient revenues are being generated by the program to fund its operating costs without Federal participation, except that the Secretary may not fund the preimplementation or implementation costs of any project for more than 3 years.

(3) Revenues generated by any pilot project under this subsection must be applied to projects eligible under such title.

(4) Notwithstanding Sections 129 and 301 of Title 23, United States Code, the Secretary shall allow the use of tolls on the Interstate System as part of any value pricing pilot program under this subsection.

(5) The Secretary shall monitor the effect of such programs for a period of at least 10 years, and shall report to the Committee on Environment and Public Works of the Senate and the Committee on Public Works and Transportation of the House of Representatives every 2 years on the effects such programs are having on driver behavior, traffic volume, transit ridership, air quality, and availability of funds for transportation programs.

(6) HOV Passenger Requirements- Notwithstanding Section 102(a) of Title 23, United States Code, a State may permit vehicles with fewer than 2 occupants to operate in high occupancy vehicle lanes if the vehicles are part of a value pricing pilot program under this subsection.

(7) Financial Effects on Low-Income Drivers- Any value pricing pilot program under this subsection shall include, if appropriate, an analysis of the potential effects of the pilot program on low-income drivers and may include mitigation measures to deal with any potential adverse financial effects on low-income drivers.



(8) Funding-

(A) Availability- Funds allocated by the Secretary to a State under this subsection shall remain available for obligation by the State for a period of 3 years after the last day of the fiscal year for which the funds are authorized.

(B) Use of Unallocated Funds- If the total amount of funds made available from the Highway Trust Fund to carry out this subsection for fiscal year 1998 and fiscal years thereafter but not allocated exceeds \$8,000,000 as of September 30 of any year, the excess amount--

(i) shall be apportioned in the following fiscal year by the Secretary to all States in accordance with section 104(b)(3) of Title 23, United States Code;

(ii) shall be considered to be a sum made available for expenditure on the surface transportation program, except that the amount shall not be subject to Section 133(d) of such title; and

(iii) shall be available for any purpose eligible for funding under Section 133 of such title.

(C) Contract Authority- Funds authorized to carry out this subsection shall be available for obligation in the same manner as if the funds were apportioned under Chapter 1 of Title 23, United States Code; except that the Federal share of the cost of any project under this subsection and the availability of funds authorized to carry out this subsection shall be determined in accordance with this subsection.

## Attachment 2: **Value Pricing Pilot Program**

### **Notice of Grant Opportunities**

The Federal Highway Administration (FHWA), has funds available to support the development, operation and evaluation of pilot tests of innovative road and parking pricing projects. Public agencies interested in implementing and evaluating certain innovative pricing programs are eligible to apply for grants under the Value Pricing Pilot Program authorized by Section 1216(a) of the Transportation Equity Act for the 21st Century (TEA-21). The program's intent is to demonstrate and evaluate road and parking pricing concepts that achieve significant and lasting reductions in highway congestion.

Congress has mandated this program as an experimental program to learn the potential of different value pricing approaches for reducing congestion. The grant program supports efforts by State and local governments or other public authorities to establish, monitor and evaluate value pricing projects, and to report on their effects. A pricing project under this program may include tolls on Interstate highways. Funds in the amount of \$7 million in FY 1999 and \$11 million per year for FY 2000 to FY 2003 are available to support costs of implementing up to 15 new State and local value pricing programs. Federal funds can be used to support pre-implementation costs, including costs of public participation and pre-project planning for up to 3 years, and to support project implementation costs for up to 3 years. The Federal share payable for such costs is 80 percent.

#### **What Is Value Pricing?**

Value pricing, also known as congestion pricing and peak-period pricing, is a way of harnessing the power of the market and reducing the waste associated with congestion. It entails fees or tolls for road use which vary with the level of congestion. Fees are typically assessed electronically to eliminate delays associated with manual toll collection facilities. This concept of assessing relatively higher prices for travel during peak periods is the same as that used in many other sectors of the economy to respond to peak-use demands. Airlines offer off-peak discounts and hotel rooms cost more during peak tourist seasons. Road-use charges that vary with the level of congestion provide incentives to shift some trips to off-peak times, less congested routes, or alternative modes, or to cause some lower-valued trips to be combined with other trips, or to be eliminated. A shift in a relatively small proportion of peak-period trips can lead to substantial reductions in overall congestion. And, while congestion charges create incentives for more efficient use of existing capacity, they also provide improved indicators of the potential need for future capacity expansion. They are also generating revenues that can be used to further enhance urban mobility.

## **Where Has It Been Implemented?**

A number of value pricing projects have been launched in the United States over the past 3 years. The private sector led the way in 1995 by constructing new tolled express lanes in the median of State Route 91 in Orange County, California. Tolls vary by time of day and level of congestion to maintain an uncongested alternative along one of the most heavily-traveled commuter routes in the United States. Under the Value Pricing Pilot Program and its predecessor, the Congestion Pricing Pilot Program established by the Intermodal Surface Transportation Efficiency Act of 1991, value pricing projects have been launched in San Diego, California; Houston, Texas; and Lee County, Florida. The California and Texas projects involve tolling on High Occupancy Vehicle (HOV) lanes to make better use of available capacity.

**Maximum Toll Schedule (as of 3/99)**  
**I-15 Value Pricing Pilot Project**  
**San Diego, California**

Maximum Toll	Morning Period (Southbound)							
	5:45-6:00	6:00-6:30	6:30-7:00	7:00-7:30	7:30-8:00	8:00-8:30	8:30-9:00	9:00-9:15
\$4.00				X	X			
\$3.00								
\$2.50								
\$2.00			X			X		
\$1.50								
\$1.00		X					X	
\$.75	X							X
\$.50								

Maximum Toll	Evening Period (Northbound)							
	3:00-3:30	3:30-4:00	4:00-4:30	4:30-5:00	5:00-5:30	5:30-6:00	6:00-6:30	6:30-7:00
\$4.00				X	X			
\$3.00								
\$2.50								
\$2.00		X	X			X		
\$1.50								
\$1.00							X	
\$.75	X							X
\$.50								

In San Diego, California, drivers of single occupant vehicles are allowed to use the HOV lanes on Interstate 15 by paying a toll that varies directly with the level of congestion. In Houston, Texas, drivers of vehicles with two occupants can pay a fixed toll during rush hour to use an HOV lane on Interstate 10 that is otherwise restricted to vehicles with three or more occupants. The project in Lee County, Florida involves the use of peak and off-peak toll variations to provide an incentive to shift travel out of the most heavily traveled time. A number of additional cities across the United States are evaluating the feasibility of value pricing to improve traffic flows and to enhance mobility. Several of these are expected to move toward implementation in the near future. Internationally, pricing projects have been implemented recently on a new beltway in Toronto, Canada, in three cities in Norway, on intercity toll roads in France and in the central area of Singapore. Numerous cities in the European Community (the Netherlands, United Kingdom, Sweden and Greece) as well as Hong Kong are currently conducting feasibility and implementation studies and field tests of pricing concepts.

## **Why Is Value Pricing of Interest?**

Travel time savings due to reduced congestion and anticipated environmental benefits have been major attractions of recently opened value pricing projects. Other potential benefits include:

- Reduced frustration and delay
- Increased travel choices
- More efficient modal choices
- Revenue generation
- Increased economic productivity
- Improved highway investment decisions

## **What Kind of Pricing Applications are Eligible for Support?**

The FHWA is seeking proposals to implement value pricing programs designed to reduce highway congestion through the use of variable tolls on roads, although related market-based approaches to congestion relief, such as parking pricing, will also be considered if they incorporate significant price variations by time, location, and/or congestion level. Projects of interest include:

### **AREAWIDE VALUE PRICING**

- Fees for entering an area, sometimes called cordon crossing charges, using electronic vehicle identification devices;
- Charges for traveling on a network of metered routes within a defined area;
- Areawide parking charges with variable fees targeted toward congestion reduction, or areawide parking cash-out programs which provide employees the option of trading in employer-provided parking spaces for cash.

### **VALUE PRICING ON A SINGLE HIGHWAY FACILITY, ROUTE OR CORRIDOR**

- Pricing of key traffic bottlenecks, single traffic corridors, or single highway facilities, including bridges and tunnels; and
- Conversion of fees on existing toll facilities from fixed to variable structures, such as use of peak surcharges combined with off-peak discounts.

### **VALUE PRICING ON SINGLE OR MULTIPLE HIGHWAY LANES**

- Charges for the use of newly constructed or existing highway lanes during peak-traffic periods, including fees that allow entry to High Occupancy Vehicle lanes by vehicles not meeting prescribed occupancy requirements.

### **PRE-PROJECT STUDIES AND MARKET TESTS**

- Pilot Program funds may be used to assist State and local governments in carrying out pre-project study activities designed to lead to the implementation of a value pricing project. The intent of the pre-project study phase of the Pilot Program is to support efforts to identify and evaluate value pricing project alternatives and to prepare the necessary groundwork for possible future implementation.
- In certain situations, Pilot Program funds may also be used to implement and evaluate small scale market tests with voluntary participants designed to demonstrate a new pricing technology or to generate information about user responses to value pricing.

### **INNOVATIVE PILOT TESTS**

- Potential Pilot Program participants are encouraged to develop new and innovative pricing approaches for incorporation into the program, including use of innovative electronic tolling technologies, satellite-based vehicle identification technologies, incorporation of smog fees into variable road pricing strategies, or use of auction techniques for allocating entry permits, or determining price levels.

## **What Activities Can Be Carried Out with the FHWA Funds?**

Funds available for the Pilot Program can be used to support pre-project study activities and to pay for implementation costs of value pricing projects. Costs eligible for reimbursement, under Section 1216(a) of TEA-21, include costs of planning, setting up, managing, operating, monitoring, evaluating, and reporting on local value pricing pilot projects. Examples of specific costs eligible for reimbursement include the following:

### **PRE-PROJECT STUDY COSTS**

- Impact assessment
- Modeling
- Development of monitoring/evaluation plans
- Public participation
- Market research
- Financial planning

## **IMPLEMENTATION COSTS**

- Costs associated with the implementation of a value pricing project such as implementation of electronic tolling equipment, enforcement costs, costs of monitoring and evaluation and public participation.
- Costs of providing new or expanded transportation alternatives.
- Depending on the availability of funds, limited funds may be available to serve as a revenue reserve fund to provide assurance to toll authorities that a pilot test of value pricing would not jeopardize their bond covenants.

## **How to Apply**

Any State, local government, or other public authority may apply for these the FHWA grants. Coordination of the proposals with the relevant Metropolitan Planning Organization (MPO) and the State Department of Transportation (DOT) is required.

Prior to submitting a formal application for pro-program participation, potential applicants should contact their State FHWA Division Office and/or the FHWA Value Pricing Team in the Office of Transportation Policy Studies to discuss their interest in the Pilot Program and the general nature of the proposed local value pricing pilot program or pre-project study. The FHWA will then be able to provide materials and technical support to assist in the development of the application. Following this initial contact, a sketch plan for the proposed pricing program will be requested before a full proposal is developed. Further detail on what should be included in the sketch plan is contained in the Federal Register notice of October 5, 1998.

Proposals with the greatest potential to reduce congestion and advance current knowledge of price effects, operations, enforcement, revenue generation, equity mitigation and monitoring/evaluation mechanisms will be given the highest priority. The FHWA is also interested in expanding the value pricing strategies implemented. Thus, priority will be also given to promising but untried technological, operational and institutional innovations. Projects with strong evaluation programs, significant commitment by implementing organizations and evidence of stakeholder support are encouraged.

## **What Technical Resources are Available?**

- Federal Register Notice of October 5, 1998 [(Volume 63, Number 192), pages 53487-53491], provides a summary of the TEA-21 Value Pricing Pilot Program and establishes broad criteria for participation.
- The activities under the ISTEA Congestion Pricing Pilot Program are summarized in the FHWA's Report to Congress on the progress and accomplishments of the congestion pricing pilot program, entitled, Reducing Traffic Congestion: Using Market Prices to Enhance Mobility, July 1998.
- Pricing project planning guidelines are summarized in an FHWA report, Congestion Pricing: Guidelines for Project Development, Revised Interim Report, FHWA, August 1996.

## **Where Can Additional Information be Obtained?**

Additional information can be obtained from the value pricing homepage at <http://www.hhh.umn.edu/centers/slp/conpric/conpric.htm>. This homepage is being operated for the Federal Highway Administration by the University of Minnesota's State and Local Policy Program.

More general information about value pricing and the Value Pricing Pilot Program can be obtained from either of the following offices:

### **POLICY ISSUES**

Office of Transportation Policy Studies, HPTS  
Federal Highway Administration  
Washington, D.C. 20590  
Tel: (202) 366-0570

### **OPERATIONAL ISSUES**

Office of Travel Management, HOTM  
Federal Highway Administration  
Washington, D.C. 20590  
Tel: (202) 366-6726



### Attachment 3: **Value Pricing on the Web**

The following websites provide information about value/congestion pricing projects mentioned in this report.

#### NATIONAL SITES:

[www.hhh.umn.edu/centers/slp/conpric/conpric.htm](http://www.hhh.umn.edu/centers/slp/conpric/conpric.htm)

This website provides extensive information about pricing concepts and projects and has links to project websites, as well as summaries of literature on pricing, and a Listserve established for the exchange of information about pricing. The website is the official website for the Pilot Program and is supported with funds from the FHWA and the Minnesota Department of Transportation.

[www.fhwa.dot.gov/policy/13-hmpg.htm](http://www.fhwa.dot.gov/policy/13-hmpg.htm)

The FHWA Office of Policy's Homepage on value pricing.

[www.epa.gov/otaq/market.htm](http://www.epa.gov/otaq/market.htm)

The Environmental Protection Agency's Market Incentives Resource Center

#### REGIONAL/STATE/LOCAL SITES:

##### California

Metropolitan Transportation Commission, San Francisco-Oakland Bay Area

[www.mtc.dst.ca.us](http://www.mtc.dst.ca.us)

[www.metrodynamics.com/bats/congestion.html](http://www.metrodynamics.com/bats/congestion.html)

San Diego Association of Governments

[www.sandag.cog.ca.us/I-15fastrak](http://www.sandag.cog.ca.us/I-15fastrak)

State Route 91 Express Lanes

[www.91expresslanes.com](http://www.91expresslanes.com)

[airship.ardfa.calpoly.edu/sr91/sr91.htm](http://airship.ardfa.calpoly.edu/sr91/sr91.htm)

Transportation Corridor Agencies

[www.tcagencies.com](http://www.tcagencies.com)

Colorado Department of Transportation

[www.valuelanes.com](http://www.valuelanes.com)

Florida (Lee County)

[www.leewayinfo.com](http://www.leewayinfo.com)

[www.cutr.eng.usf.edu/its/varprice.htm](http://www.cutr.eng.usf.edu/its/varprice.htm)

Maryland Department of Transportation

[www.mdotvaluepricing.com](http://www.mdotvaluepricing.com)

Oregon (Portland)

[www.metro.dst.or.us/metro/transpo/tros/tros.html](http://www.metro.dst.or.us/metro/transpo/tros/tros.html)

Texas (Houston)

[www.hou-metro.harris.tx.us/KATY.htm](http://www.hou-metro.harris.tx.us/KATY.htm)

