

Congestion Pricing: A Primer

What is congestion pricing?

Congestion pricing (also called value pricing or variable tolling) uses off-peak toll discounts and relatively higher peak tolls to encourage drivers to drive during less congested hours, carpool, vanpool or use public transportation. In many sectors of the economy -- telephone service and public utilities for example -- businesses use something akin to congestion pricing to allocate scarce capital assets in peak-demand periods. But its use for road congestion is a very recent practice. If properly applied, congestion pricing on roads can reduce peak period travel, save time and smooth traffic flow, resulting in positive environmental and economic benefits.

Transportation policymakers and economists are increasingly viewing congestion pricing as a way to remedy growing highway congestion in urban areas. While Singapore first implemented congestion pricing in 1975, other countries did not follow suit until the 1990s. Currently Norway and France are using congestion pricing. In the U.S., a federal program called the Value Pricing Program was created specifically to study the feasibility and to support pilot tests of variable tolling on facilities in California, Texas, New York, Maryland, Colorado and other states throughout the nation.

A number of precedents exist. A variable-priced toll road opened in late 1995 on a portion of State Route 91 in Orange County, California. Rush hour tolls were raised during the peak for trucks on the Tappan Zee Bridge in Westchester, New York in July 1997 and the same is currently being contemplated for passenger cars. Federal funding was used to study the feasibility of and then to implement variable tolls on two bridges in Florida. The Port Authority of New York and New Jersey looked at variable tolls on its crossings and is waiting for its peer agency, the Metropolitan Transportation Authority to assess the potential benefits of a priced toll scheme on its facilities in the hope of pursuing a region-wide application of this strategy. The New Jersey Turnpike Authority announced last week that a toll hike on the New Jersey Turnpike would be implemented on a time-variable basis.

Many forces have caused transportation authorities to consider congestion pricing. These include continuing growth in urban travel demand; realization that construction of additional road capacity may not always be possible or desirable; the advent of new electronic tolling technologies that greatly reduce implementation costs; a desire for cost-effective strategies to reduce mobile-source air emissions and energy consumption; and the need for new revenue sources for infrastructure investment.

Time is Money

The full cost of a trip on a congested road includes not just a traveler's own time and vehicle operating costs but also the costs that each traveler imposes on all

Congestion Pricing: A Primer

other travelers by adding to the level of congestion. Congestion pricing results in more efficient use of limited road capacity by encouraging those who value their trips at less than their full cost to shift to off-peak periods, mass transit or car-pooling, and/or to less congested routes.

National Debate: Merits vs. Societal Acceptance

Although congestion pricing holds great promise as a way to rationalize the use of scarce urban road space, many cities have been reluctant to implement it because of institutional barriers and the lack of political acceptance. Critical political and institutional issues include public opposition to any new taxes or fees, geographic and economic equity concerns, lack of regional transportation coordination, and the lack of alternatives to driving alone during peak periods.

Still, where it's been implemented, it works. Truck traffic during rush hour is down on the Tappan Zee Bridge since the institution of variable tolls, peak traffic on the Midpoint Memorial Bridge in Lee County, Florida dropped by an average of 8%, and the New York State Thruway Authority's recently-released study now being reviewed by New York State Governor Pataki's I-287 Task Force found that raising peak tolls from \$1 to \$1.50 could reduce peak traffic volume by over 7%, cutting travel time by over 10%. In the New York metropolitan region – a region with the third worst air quality in the U.S. -- agencies are buzzing about the pros and cons of this strategy, following pro-congestion pricing announcements made by New York City Mayor Giuliani and New York State Governor Pataki. The NJ Turnpike Authority's announced plan to implement variable tolls systemwide is the most far-reaching initiative to date.