

CONGESTION PRICING: ENVIRONMENTAL BENEFITS



Congestion pricing can improve the environment in several ways. First, it reduces vehicle miles traveled (VMT) and thereby reduces fuel consumed and pollutant emissions. Second, it reduces stop-and-go traffic, reducing fuel consumed and emissions generated by accelerations and decelerations. Third, reduced traffic in urban environments creates a more livable, pedestrian-friendly environment and reduces noise from traffic. While researchers have for decades predicted the beneficial environmental impacts of pricing, we have more recently seen evidence of these impacts in cities around the world where congestion pricing has been implemented. Responding to this evidence, two U.S. mayors have promoted congestion pricing, primarily on environmental grounds.

Evidence from operating projects

Three cities have implemented congestion pricing on a broad scale and have realized significant environmental benefits. Through cordon pricing in its central business district, London reduced emissions of particulate matter and nitrogen oxides by 12 percent and fossil fuel consumption and carbon dioxide emissions by 20 percent. Singapore's congestion pricing scheme prevents the emission of an estimated 175,000 lb of carbon dioxide each day; and Stockholm's congestion pricing system has led to a 10 to 14 percent drop in carbon dioxide emissions in its central area.

Evidence from academic research

For several decades, researchers, academicians, and traffic analysts have known that traffic congestion degrades environmental quality, and that congestion pricing can help reverse the process. In a research report published in 2000, the authors of a seminal study, *The Environmental Impact of Highway Congestion Pricing*, demonstrated through modeling that congestion pricing of highways has the potential to provide important environmental benefits. Other studies have shown that reducing congestion can positively impact public health. One such example comes from a study of Atlanta, GA, during the 1996 Summer Olympics. Several travel demand management measures were introduced to reduce traffic congestion during the 17 days of the games. The study found that daily peak ozone levels dropped 28 percent and hospitalizations for asthma fell by almost 20 percent during that time.

Political support

Two major U.S. cities have recently championed pricing on environmental grounds. New York City plans implementation of congestion pricing in Manhattan by the spring of 2009. The plan was introduced in April 2007 by Mayor Bloomberg as a center piece of the city's long-term environmental sustainability plan. During his recent second term inauguration, San Francisco Mayor Gavin Newsom stated: "A sensible congestion-pricing plan is the single greatest step we can take to protect [San Francisco's] environment and improve our quality of life."