Bloomberg’s Folly?

Congestion Pricing in New York

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Outline

- What is congestion pricing?
- Benefits and costs of congestion pricing
- Present New York traffic situation
- PlaNYC 2030
- Case Studies- Singapore and London
- Conclusions
- Discussion questions
What is congestion pricing?

- A market-based traffic management strategy
- Charges drivers for the use of roads
- A method of both managing traffic congestion and generating revenue
Why is Congestion a Problem

- It wastes time, and time is money
- It wastes fuel
- Environmental consequences
Costs of Congestion

(NYC Department of Transportation, PlaNYC 2007)
How Congestion Pricing Manages Congestion

- Charges for use of congested areas during times of peak use provides an incentive for people who do not need to be on the road to postpone trips to non-peak hours or shift modes.

- These trips would be more efficient during off-peak hours.
Types of Congestion Pricing

- Cordon Pricing

London
Congestion Pricing in the U.S.? 

- FHWA funds available under SAFETEA-LU for implementing congestion pricing
- Urban Partnership Agreements – U.S. Department of Transportation
- Public-Private Partnership (PPP)
Benefits

- Reduction of peak-period and total roadway congestion
- Better mass transit
- Reduction of greenhouse gas emissions and energy consumption
- Increased traffic safety?
HOW IT WORKS:

Better Transit → Fewer Cars → More Space for People

Costs Money → Paid thru Road Pricing → Fewer Delays for Essential Traffic

Boost City’s Economy and Livability

(Transportation Alternatives)
Costs

- Inconvenience to motorists
- Privacy issues
Is There a Traffic Problem in New York City?
Is There a Traffic Problem in New York City?

Average Travel Time to Work

- QUEENS (NY)
- STATEN ISLAND (NY)
- BROOKLYN (NY)
- MANHATTAN (NY)
- PRINCE WILLIAM (VA)
- PRINCE GEORGE'S (MD)
- MCLEAN (VA)
- NASSAU (NY)
- WESTCHESTER (NY)
- ESSEX (NJ)
- GRAYSON (CA)
- CONTRA COSTA (CA)

Of the 231 counties in the United States with populations of 250,000 or more, the four counties with the longest average commute times in 2003 were Queens, Staten Island, the Bronx, and Brooklyn.

Demand for Travel into Manhattan's Central Business District

- DEANDO 2003
- DEANDO 2007

Source: U.S. Census Bureau, 2003 American Community Survey

(NYC Department of Transportation, PlaNYC 2007)
Is There a Traffic Problem in New York City?

YES!

- 50 hours lost to congestion in 2003
- 87% of NYC voters agree that traffic congestion is a “serious/somewhat serious problem” (Schuster 2007)
PlaNYC 2030

- A comprehensive sustainability plan for the city’s future
- Includes a pilot congestion pricing program for managing traffic in Manhattan’s Central Business District

New York Mayor Michael Bloomberg unveiling *PlaNYC 2030*
Pilot Congestion Pricing Program

- Aims to reduce the amount of congestion during peak hours in Manhattan

- Charges a flat fee of $8 for cars and $21 for trucks to enter and drive around in Manhattan

- Buses, taxis, for-hire vehicles, vehicles with handicapped license plates, and emergency vehicles exempt

- Estimated cost of $223 million
NYC Congestion Pricing Zone
Fee Collection

- There would be no toll gates or waiting areas
- Existing EZ-Pass System would be used
Fee Collection and Enforcement

- Cars without transponders can pay their tolls within a 48 hour window of accessing the zone either online or at area merchants.

- The license plates of all vehicles are recorded by cameras and violators are issued citations by mail.
How it Works

Electronic Toll Collection

Video Enforcement System
- Captures images of the license plates of vehicles that pass through an ETC tollbooth without a valid ETC tag. The latest device used to capture license plate images of toll violators is video-based digital imaging cameras.

Toll Assessment System
- **Input:** When a vehicle approaches a tag reader site, the roadside antenna emits a signal that is reflected back by the tag on the windshield. This signal is slightly altered by the vehicle's tag, giving the vehicle a unique tag ID number as well as a time, date, and location stamp.
- **Output:** Sends account and toll charge to the central computing facility. Signals video system to take pictures of vehicles without a tag.

Treadle:
- Determines the number of axles, number of wheels, and direction of a vehicle crossing the treadle. Treadle types include electromechanical, resistive rubber, optical, or piezoelectric.

Loop Detectors:
- Shows presence of vehicles in order to measure vehicle flow, density, and speed as part of the vehicle classification process at toll plazas. Some loops can also classify a vehicle by its speed, length, and number of axles.
Projected Impacts of PlaNYC

- Decrease vehicular traffic within the zone by 6.3% and increase speeds by 7.2%
- Increase productivity for businesses
- A modal shift of 94,000 from cars to transit
- Only 1.4% of travelers from outside the zone will discontinue traveling to the zone
- $400 Million in net revenue in the first year
Implementation

- NYC has not dedicated funding for the project yet
- It is eligible for $354 million of U.S. DOT Urban Partnership Agreement funds
- $10 million of this will be immediately available once the program is written into law by the State Legislature
Implementation

- The State Legislature created a Congestion Mitigation Committee to study the pilot program in August 2007.

- The Committee will issue its report on January 31, 2008.

- The State Legislature and City Council are required to vote on enabling legislation by March 31, 2008.

- The city’s goal is to have the program operating by Spring 2009.
Case Studies

Congestion pricing schemes have been successfully implemented in:

- Singapore, 1975
- London, 2002
- Stockholm, 2005
Singapore

- 100% urbanized city-state
- Island geography
- Increasing private vehicle ownership
- Densely populated
Singapore Timeline

1975: Area Licensing Scheme
1991: Weekend Car Scheme
1994: Off Peak Car Scheme
1998: Electronic Road Pricing
Initial Problems

- Drivers who would have driven during restricted times now drove before or after to avoid fee
- Drivers who would have driven through Restricted Zone took other routes to avoid fee
- Drivers who avoided Restricted Zone in the morning drove through it in evening when there was no fee
New Tactics Employed

- Increasing length of restricted time
- All-day restricted time began in 1994
- Shoulder Pricing system: increased fee during rush hour
- Switch from manual toll booths to electronic fee collection
Results

- Initially, traffic in Restricted Zone decreased 45%, creating underutilization of roads (Toh)
- Transit share increased from 33% before ALS to 69% (Toh)
- Peak hour traffic reduced by 13% (Munnich)
- Road speeds increased by 20% (Munnich)
London

- 7.5 million people
- Worst traffic congestion in UK
- Londoners spent 50% of time in traffic queues
- Congestion cost London £2-4 million ($4-8 million) per week (Transport for London)
- Environment and social effects of congestion
- Good transport network in place
- Automobile traffic 12% share of total trips
London Congestion Charging Scheme

- 2003, Mayor Livingstone
- Designates Congestion Charging Zone
- 7 a.m.-6 p.m., Mon-Fri
- £8 ($16.50) charge
- Electronic reading system
- Profits fund transport initiatives
Congestion Charging Zone

(www.bbc.co.uk)
How it Works

- Congestion Charging Zone clearly marked
- Photograph of license plate matched to vehicle registration
- Account billed
- Payment made online, by text, at payment station, participating shops, or prepaid on account by midnight
Visible Results

<table>
<thead>
<tr>
<th>VEHICLE Type</th>
<th>Change</th>
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<tr>
<td>Automobiles</td>
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<tr>
<td>Heavy trucks</td>
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<tr>
<td>Vans</td>
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<tr>
<td>Buses</td>
<td>+21%</td>
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<tr>
<td>Taxis</td>
<td>+22%</td>
</tr>
<tr>
<td>Bicycles</td>
<td>+28%</td>
</tr>
<tr>
<td><strong>ALL VEHICLES</strong></td>
<td><strong>-12%</strong></td>
</tr>
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Source: Transport for London
Other Results

- Share of automobiles decreased to 10% (Litman)
- Modal shift to transport
- Traffic delays down 22% (Munnich)
- Traffic speeds up 37% (Munnich)
- Emissions reduced by 13-15% (Munnich)
- Fuel consumption down 20% (Munnich)
- 15% increase in bus ridership (Litman)
Community Support

- Public opinion mixed
- Business community mostly supports
- Congestion charge offset by reduced travel time and fuel costs
- Political favor across party lines
Winners

- Downtown bus riders
- All transport riders (due to increased funding)
- Taxi users
- Motorists with high-value trips
- Most city center businesses
- Overall city productivity
- Pedestrians and cyclists

(Litman)
Losers

- Motorists with marginal-value trips
- City center businesses depending on low-cost weekday car trips
- Residents and motorists in border areas who experience spill-over effects
- City center parking revenue recipients
"It's packed full of people complaining about it."
Discussion Questions

- Do you think congestion pricing would work in the Twin Cities area?
  - Downtown Minneapolis
  - Downtown St. Paul
  - Elsewhere?
- What is keeping congestion pricing from being implemented everywhere?
- Is it better to have a flat fee or a variable pricing scheme?