

Traffic Pricing Benefits and Costs

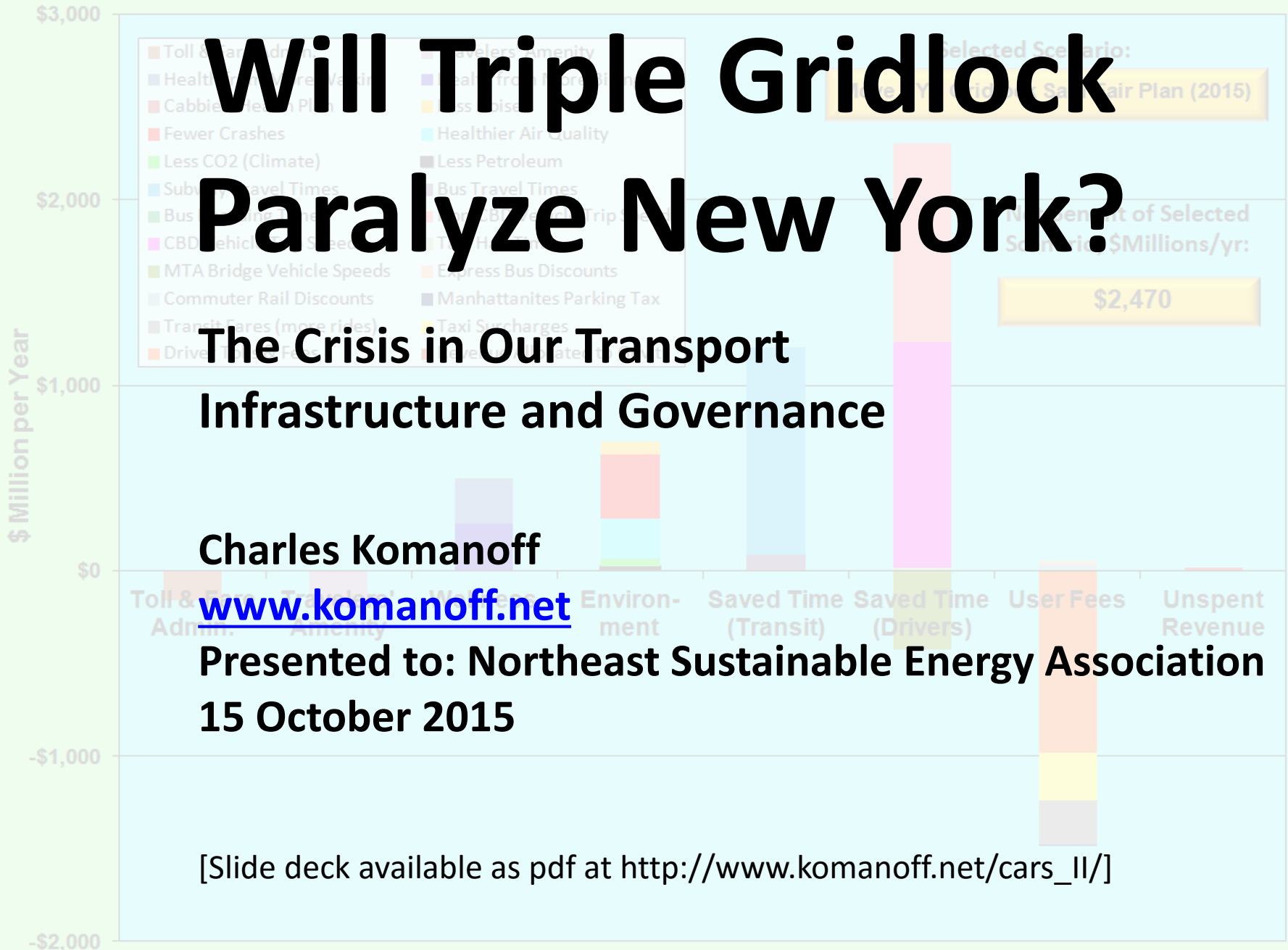
Will Triple Gridlock Paralyze New York?

The Crisis in Our Transport Infrastructure and Governance

Charles Komanoff
www.komanoff.net

Presented to: Northeast Sustainable Energy Association
15 October 2015

[Slide deck available as pdf at http://www.komanoff.net/cars_II/]



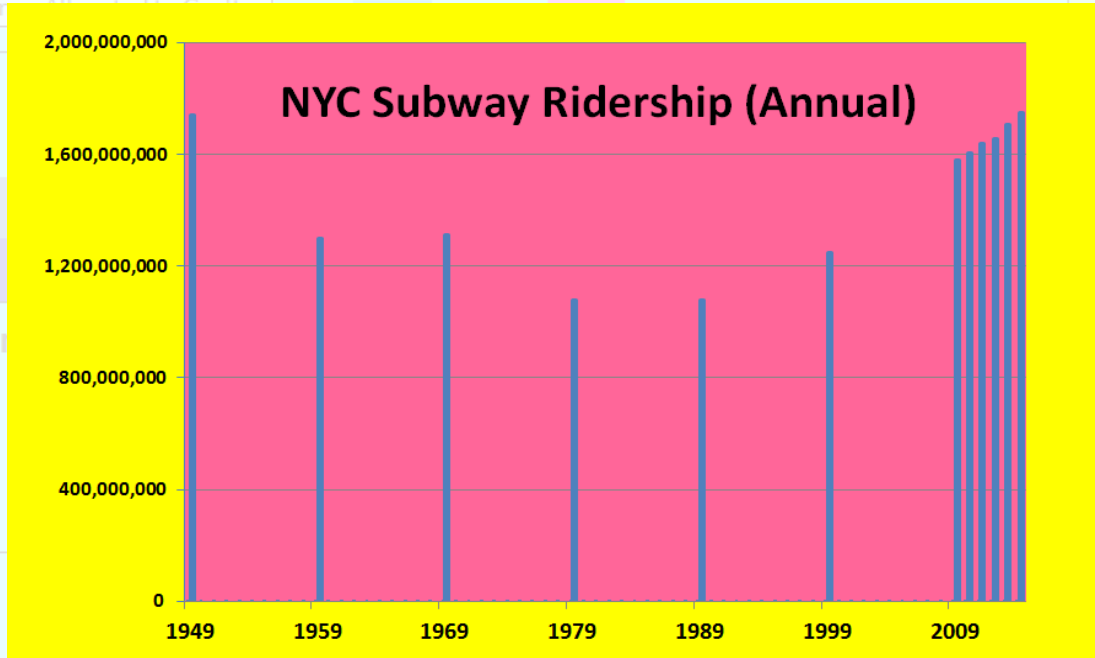
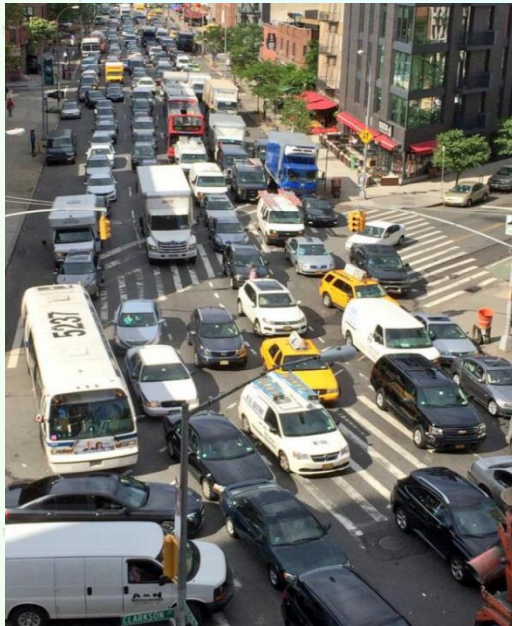
What is Triple Gridlock?

1. Street Gridlock

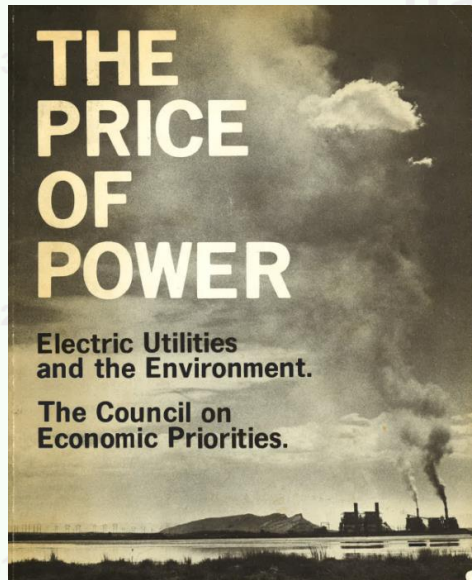
After nearly a decade of improved traffic flow, travel speeds are worsening within the Manhattan Central Business District (CBD).

2. Subway Gridlock

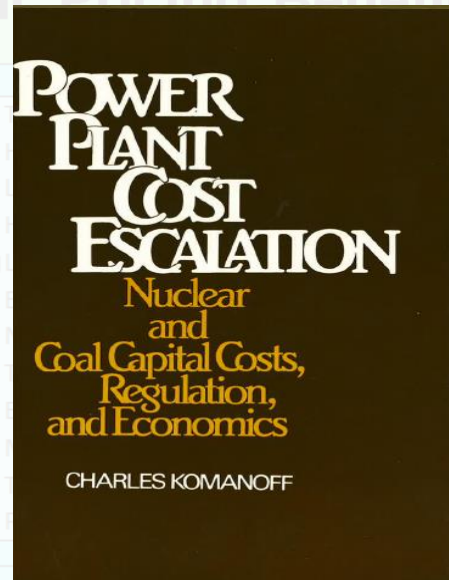
Transit ridership has climbed to levels not seen for 60 years. But antiquated communications systems limit train throughput. "Trains are forced to wait in stations while crowds of passengers exit and enter the cars, causing delays that ricochet through the system." (RPA)



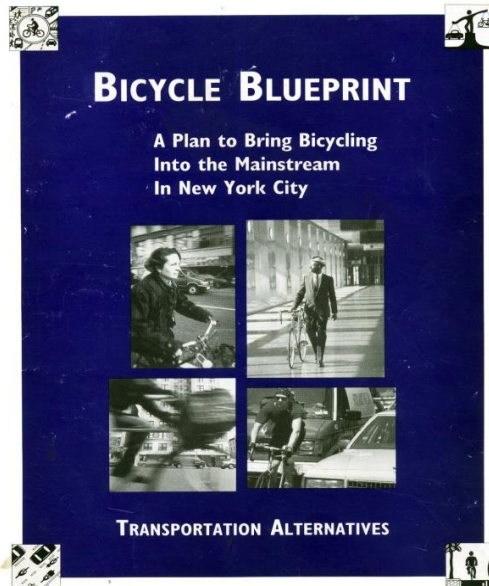
3. Political Gridlock [TK]



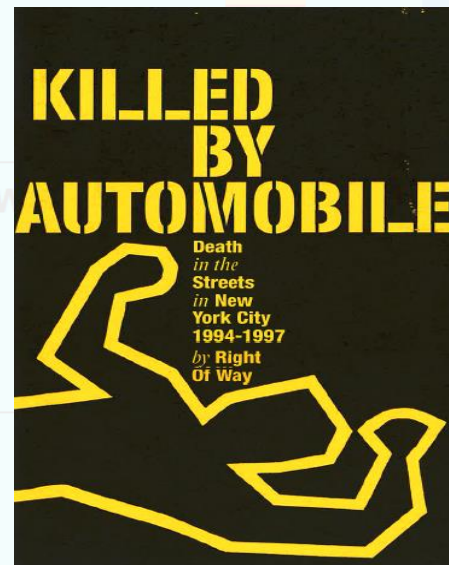
1972



1981



1993

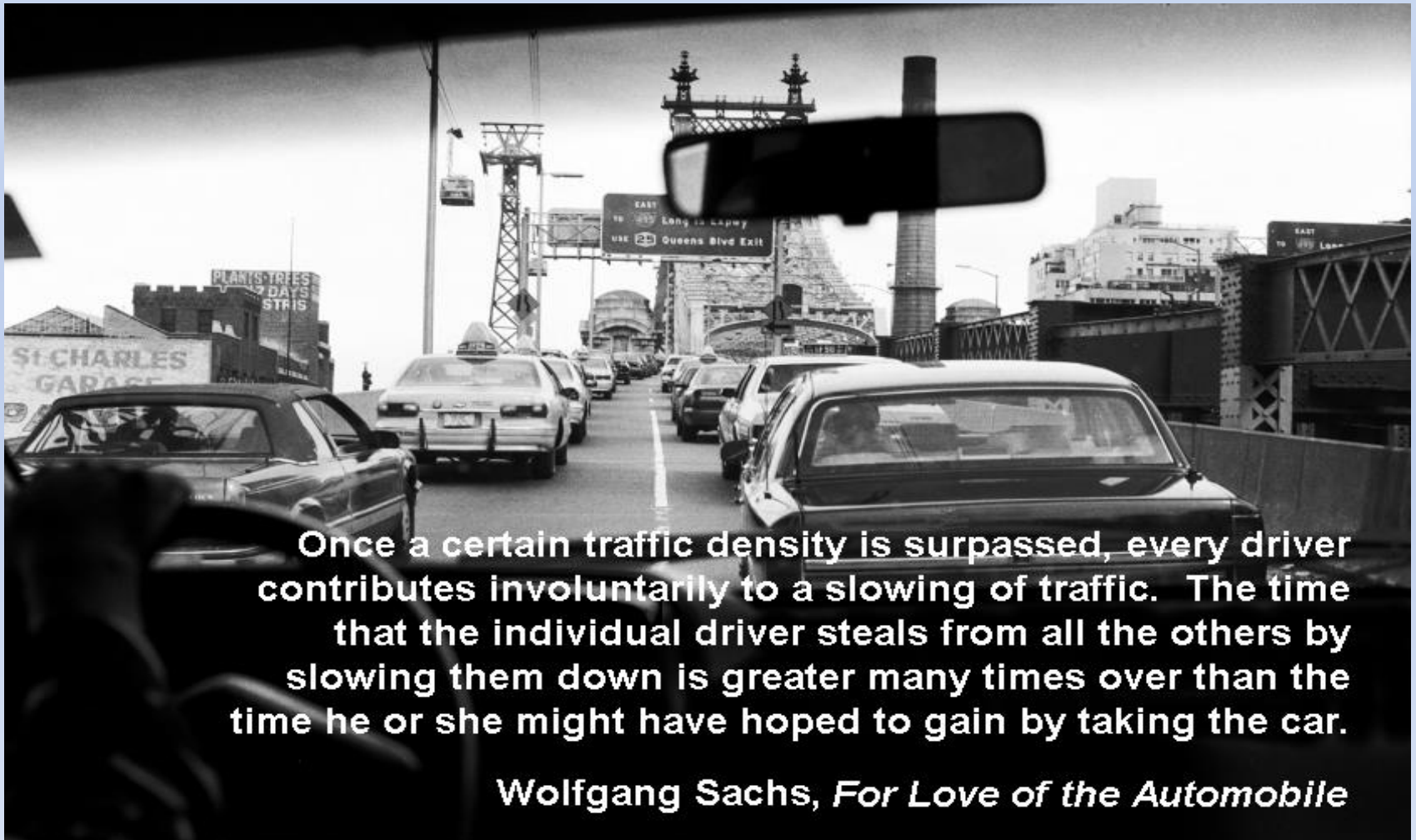


1999

In 2007, following 35 years documenting fossil-fuel pollution, deconstructing nuclear power cost escalation, and spearheading “livable streets” activism locally and nationally, I turned my attention to “traffic pricing,” particularly congestion pricing in New York City.

My touchstone was an epigram by the German scholar-activist Wolfgang Sachs, a student of the philosopher Ivan Illich. [See next slide.]

1. Street Gridlock



Sachs' epigram suggested two avenues: *analytical* and *political*. I pursued both.

ANALYTICAL:

With funding from the Nurture Nature Foundation, I created

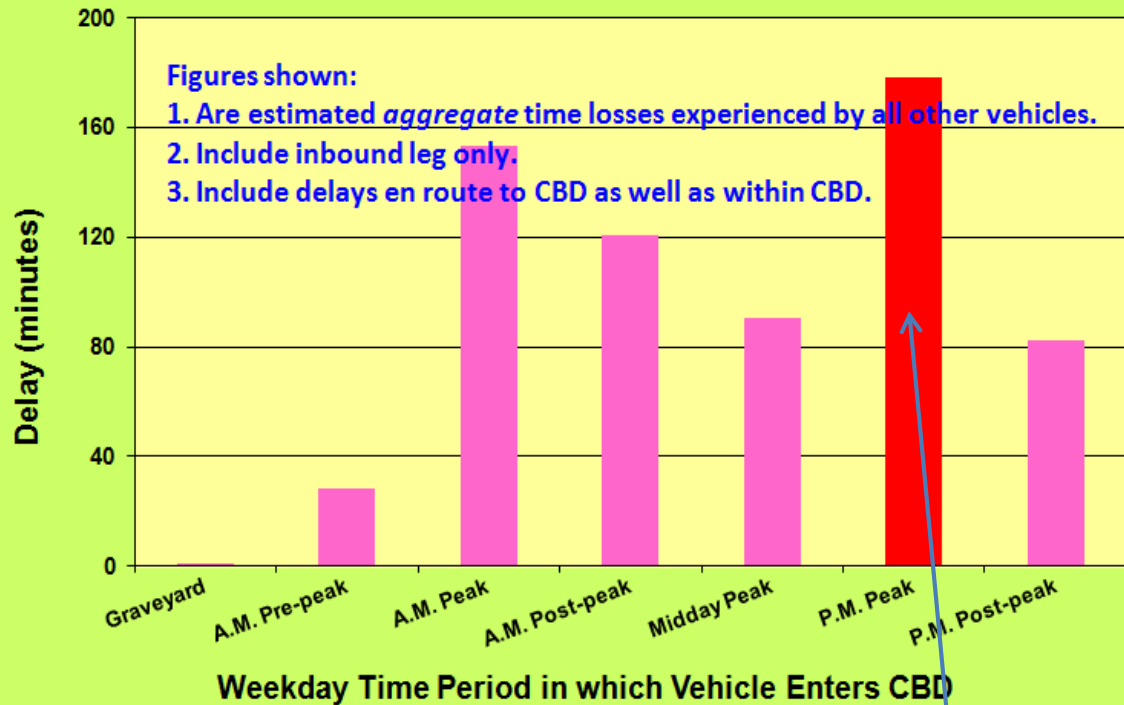
a spreadsheet model that, *inter alia*,

estimates the “social delay costs” from an “incremental” car trip into the Manhattan CBD.

The “Balanced Transportation Analyzer” (BTA 1.1):

- Treats transit, as well as motor vehicles.
- Has 67 tabs (worksheets), 500,000 (?) cells.
- Yet consumes only 5 MB.
- Runs new toll scenarios in seconds.
- Interactive: 000s of feedback loops.
- Outputs (time savings, environmental benefits, etc.) are expressed in both physical quantities & monetary equivalents.

Delays from One Additional Vehicle Trip to CBD



Any driving trip into the CBD betw 2-8 p.m. slows all other vehicles by a total of ~3 hours.

Traffic Pricing Benefits and Costs

Why Traffic Pricing?

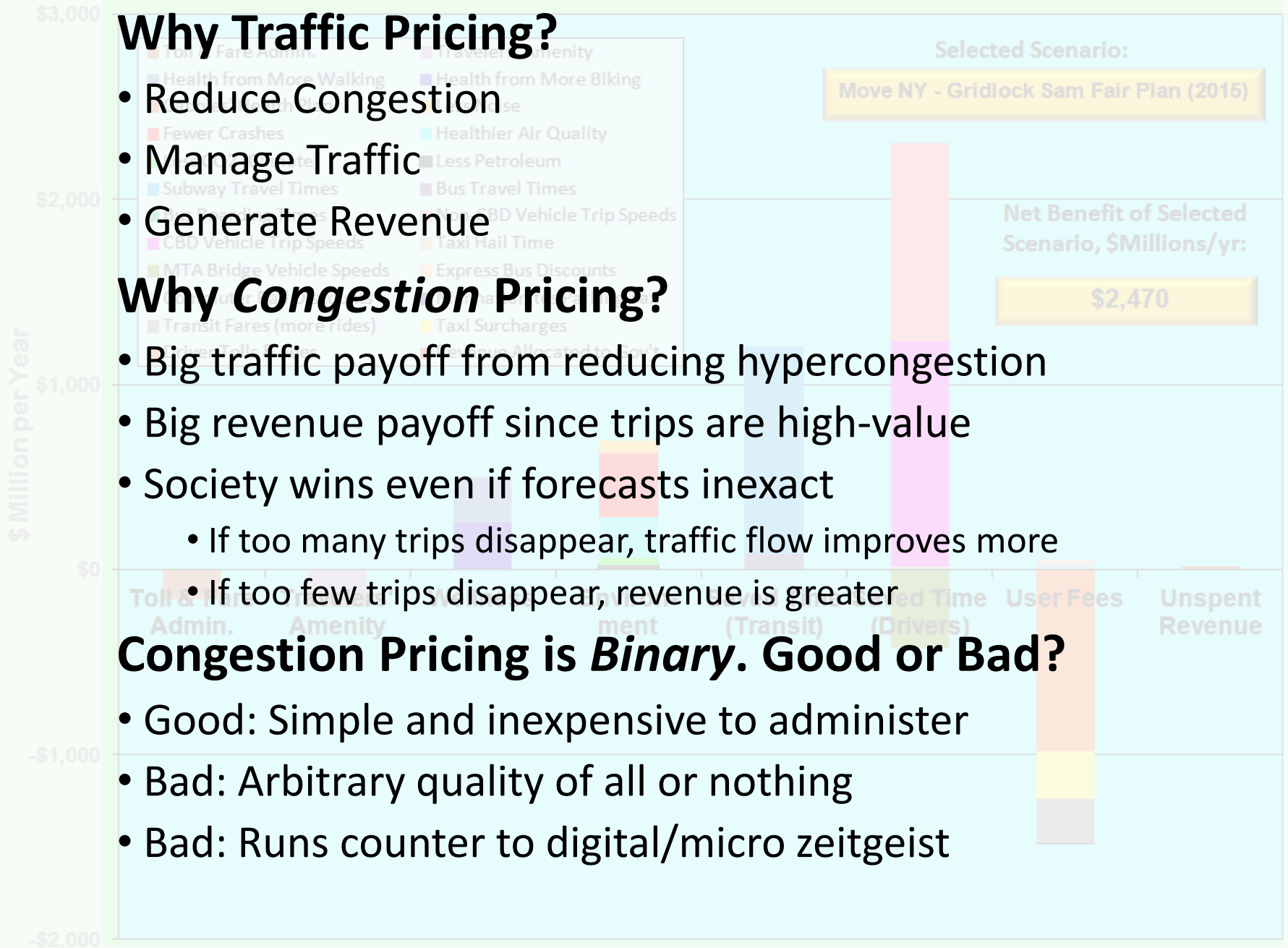
- Reduce Congestion
- Manage Traffic
- Generate Revenue

Why Congestion Pricing?

- Big traffic payoff from reducing hypercongestion
- Big revenue payoff since trips are high-value
- Society wins even if forecasts inexact
 - If too many trips disappear, traffic flow improves more
 - If too few trips disappear, revenue is greater

Congestion Pricing is *Binary*. Good or Bad?

- Good: Simple and inexpensive to administer
- Bad: Arbitrary quality of all or nothing
- Bad: Runs counter to digital/micro zeitgeist



Traffic Pricing Benefits and Costs

POLITICAL:

In 2011, I joined forces with traffic engineer Sam Schwartz (Gridlock Sam), who was devising a toll-reform proposal built around two precepts:

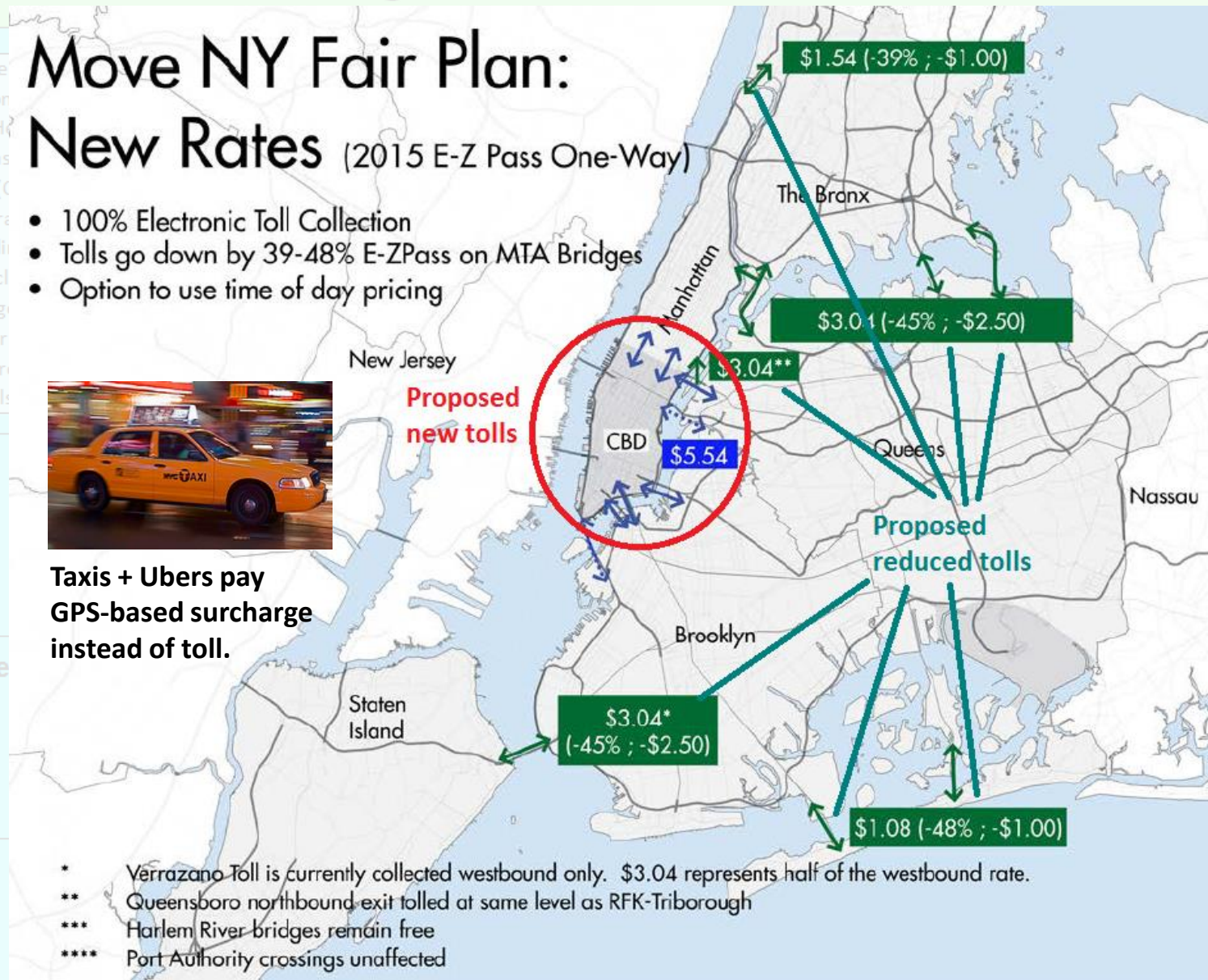
1. Charge more where there's more traffic and good transit.
2. Lower tolls everywhere else.

Move NY Fair Plan: New Rates (2015 E-Z Pass One-Way)

- 100% Electronic Toll Collection
- Tolls go down by 39-48% E-ZPass on MTA Bridges
- Option to use time of day pricing



Taxis + Ubers pay GPS-based surcharge instead of toll.

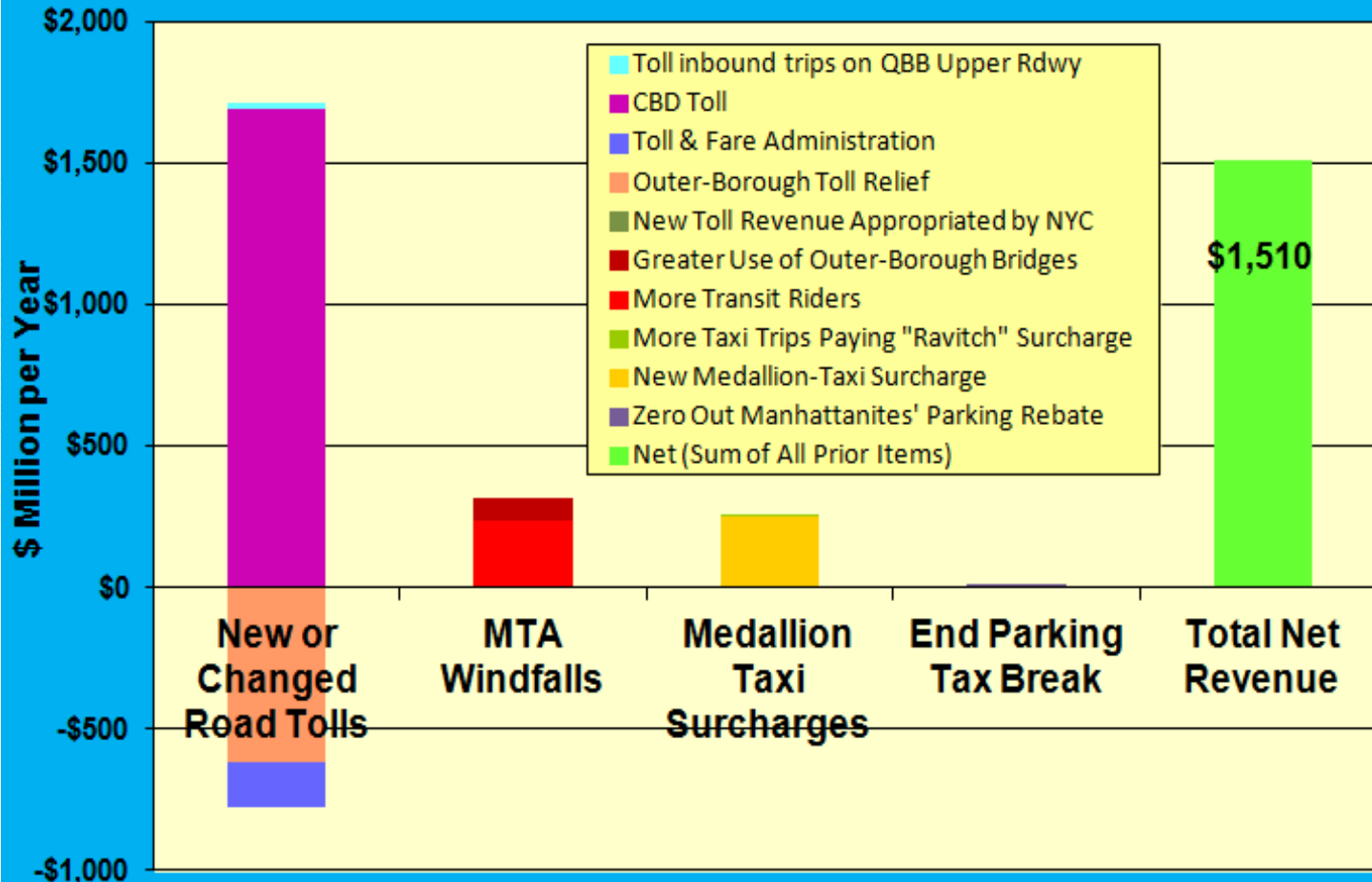


* Verrazano Toll is currently collected westbound only. \$3.04 represents half of the westbound rate.
 ** Queensboro northbound-exit tolled at same level as RFK-Triborough
 *** Harlem River bridges remain free
 **** Port Authority crossings unaffected

Here's what we get when we run Sam's tolls through my BTA model

Revenue Sources

Move NY - Gridlock Sam Fair Plan (2015)



Even with the rollback of tolls on the seven MTA bridges, and with ¼ of net proceeds allocated to roads and bridges, there's enough \$\$ to fill the gap in the 2015-2019 MTA capital plan – without more debt or new taxes.

And: CBD travel speeds are predicted to rise 15-20%.

3. Political Gridlock



Mayor de Blasio says city funds MTA enough



Cuomo goes after de Blasio over MTA capital plan

NY Daily News, 10-13-15.

By statute, the public authority in charge of NYC's transit system is controlled by the governor.

Moreover, any new tolls require approval by the state legislature.

Albany, then, rather than City Hall, is the gatekeeper for toll reform.

Mutual antagonism between the mayor and the governor has turned the customary mixed rivalry between the two offices into a zero-sum game.

A sense of shared interests that might enable the two executives to hammer out a generational overhaul of transportation tolling and finance is lacking.

Their feud, not policy options, rivets the public. A political truce is hailed as the policy solution.

The likely outcome: an underfunded capital plan (w/ fare hikes to amortize the debt) and no toll reform. Street gridlock and subway gridlock worsen.

Selected Scenario:

Net Benefit of Selected Scenario, \$Millions/yr:
\$2,470

\$ Million per Year

\$3, \$2, \$1, -\$1, -\$2,000

\$2.5 billion a year in net benefits. Spurned?

Traffic Pricing Benefits and Costs

