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Tuesday, August 4, 2009

19 Comments

Bloomberg Tests Free-Transit Waters

by Charles Komanoff on August 4, 2009

Mayor Bloomberg lifted a page straight from the Kheel Plan playbook yesterday in calling on the MTA to make crosstown buses free [PDF]. Bus riders and transit advocates should be beaming.

Free buses will save bus riders time and money and will benefit everyone by luring some taxi and car users to transit and easing traffic gridlock. Ted Kheel recognized this as far back as the 1960s. Over the past year, he and I have quantified the benefits from free buses, and they're striking:



Photo of M14 bus: Kriston Lewis/Flickr.

- ▶ MTA Bus engineers recently clocked "dwell time" -- those maddening seconds and minutes taken up by passenger boarding -- on the Bx12 Limited route from 207th Street to Co-op City. A typical run takes 56 minutes and 17 seconds, with passenger stops consuming 16 minutes and 16 seconds -- nearly 30 percent. The engineers found that doing away with fare collection could slash dwell time on the Bx12 to 2 minutes 36 seconds: an 84 percent reduction and a 24 percent saving in total trip time.
- ▶ The combination of free fare and speedier service -- including less waiting, since faster buses would arrive more quickly -- would attract many more riders. We estimate 28 percent more (16 percent from the fare savings, 12 percent from the time savings).
- ▶ The 28 percent gain in ridership wouldn't require more buses, even on crowded routes, since the average fare-free bus would travel 32 percent faster. (That 24 percent time saving equates mathematically to a 32 percent speedup.) In effect, absent the human gridlock to collect fares, buses could complete four runs in the time it now takes to do three.

To be sure, these numbers aren't fully proven. The speed gains were measured on one bus route among hundreds, and the imputed boosts to ridership are based on elasticity studies from years ago. But the numbers make intuitive sense. And they're certainly impressive. We place the time savings to bus riders alone at \$460 million a year, even valuing passengers' time at a meager nine bucks an hour. The additional travel-time savings to motorists from attracting even a modest number of drivers to transit buses would probably be worth far more.

The mayor says his proposal might not cost NYC Transit much since most crosstown bus passengers are free transfers from subways. The story citywide is probably different, though. We estimate that free buses in all five boroughs would cost \$740 million a year (after netting \$30 million now spent maintaining farebox machinery). How could this lost revenue be made up?

One way would be a modest weekday congestion charge to drive into the Manhattan Central Business District: \$6 during peak hours, \$2 overnight, and \$4 in-between, charged inbound only. That's just one option; others can be seen by inputting various congestion prices into the [Balanced Transportation Analyzer spreadsheet](#). (All figures in this article are derived from and sourced in the BTA; start with the "Bus Boarding" worksheet.)

Ted Kheel views free buses as a down payment toward [universal free transit in NYC](#), financed largely through a fair congestion charge. With his more limited proposal, a down payment toward Kheel's, Mayor Bloomberg has taken the first step toward realizing that vision.

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19 Comments | Last comment by [Ian Turner](#) | [Leave a comment](#)

Erik Sandblom

Free transit is a bad idea because it discourages walking and cycling.

Making transit free is about as smart as having a congestion charge and then removing it, in my opinion.

August 4, 2009 at 12:36 pm | [Link](#) | # 1

Carms

It's quite a leap from free crosstown buses to free buses everywhere paid for by congestion pricing. The crosstown buses are essentially a shuttle service for paid subway riders. The whole point is that the MTA won't lose money by running free crosstown service, and may even save money. Congestion pricing is totally dead in the water and free bus service is not going to revive it. Bus riders have no political power.

August 4, 2009 at 12:51 pm | [Link](#) | # 2

Erik Sandblom

Carms, crosstown buses are essentially a shuttle service paid for subway riders. Fine. But don't you think that will change if you make them free?

August 4, 2009 at 1:02 pm | [Link](#) | # 3

Carms

We won't know if swarms will switch from walking to a free crosstown bus unless we try it. That would be the point of the experiment. The stakes are low. We can put the fare back on the buses if they get overloaded.

August 4, 2009 at 1:23 pm | [Link](#) | # 4

Erik Sandblom

Can't they just do the usual bus lanes, traffic light priority and pre-paying passengers?

August 4, 2009 at 3:53 pm | [Link](#) | # 5

Carms

Erik, the one problem with pre-pay is that it takes up lots of room on the sidewalk. Unlike some corridors where signal priority can help the buses without causing much trouble, Manhattan is so crowded that you can't add signal time crosstown without delaying Uptown/Downtown buses, pedestrians etc. Maybe the free crosstown won't work. Why not try it for a couple months and see what happens? No matter what, we'll learn a lot from doing.

August 4, 2009 at 4:38 pm | [Link](#) | # 6

Charles Siegel

Should transit be free, or should it require a token payment? (joke)

August 4, 2009 at 6:13 pm | [Link](#) | # 7

fpteditors

Public transit is a public investment, like sidewalks. It should be free. There has been a massive propaganda campaign to convince people that the private auto has won a "free market" contest for the preferred system of transporting people. It did not. The film "Taken for a ride" shows unequivocally that the streetcar system was methodically and illegally dismantled will malice aforethought. The private auto is restraint of trade. It clogs commerce and is subsidized heavily to benefit a subset of corporations at the expense of the economy, social systems, and international peace.

August 4, 2009 at 6:48 pm | [Link](#) | # 8

Brent

While I don't dispute that a move to fareless service would speed up boarding times, the dwell time estimates seem really out of whack to me. 16:16 (16.25 min) in delays due to boarding now, reduced to 2:36 (2.6 min) — that says that only 16% of the time to board is passenger movement, and 84% is time to pay fares (or flash a transfer or a pass). This I find hard to believe, unless everyone is paying with dimes and quarters. Do you have any more details that went into these calculations (e.g. actual average service times per passenger)? If they are true, this is a major revelation and should be more widely disseminated, but I am much more inclined to believe the opposite — that the time savings would be 2:36 (a 16% reduction in dwell time).

August 4, 2009 at 9:58 pm | [Link](#) | # 9

Charles Komanoff

Brent --

Thanks for your question. Glad to see someone else out there is interested in data and analysis.

You're right in wanting details on dwell time. I've got some in the Bus Boarding worksheet of the BTA, dunno if you downloaded the spreadsheet and took a look. But there's a wealth of underlying detail from the MTA's original spreadsheet analysis that I neglected to include or fully reference.

I've got the MTA spreadsheet and am sending it to you separately. Let's each take a look (I haven't visited it since late 2007) and compare notes here.

— Charles

August 4, 2009 at 10:38 pm | [Link](#) | # 10

I w/ NY

forget free transit, what you really need for crosstown buses are dedicated 24 hour bus lanes surrounded with a moat filled with acid, alligators and barbed wire to keep everything other than buses out of the lanes.

August 4, 2009 at 11:30 pm | [Link](#) | # 11

John Coanda

This is a very interesting idea. The loading times do represent a non-trivial amount of time in the overall duration of a trip. Anything to make the trips faster should be considered.

Cities have already tried the dedicated lane concept, and that is normally met with howls of protest from auto drivers who are not happy to lose 25% to 50% of the lanes (depending on the number of lanes in each direction, the most common being 2 or 3).

Keep in mind that the fares do not come close to paying for the true cost of the ride. Bus riding is already subsidized by the city. Perhaps the money that is lost could be collected from another source, as mentioned in previous comments. With less people in taxis and cars, auto drivers would benefit by having less congestion, and therefore, they could be a source of the lost funds.

August 5, 2009 at 2:26 pm | [Link](#) | # 12

Dominic Brown

Brent, I wonder if using both front and back doors for boarding had something to do with that reduction in dwell time? In Vancouver, BC, the big articulated coaches use three-door boarding at certain busy stops.

The speed with which people get off is striking, both because they have three times as many openings, and because the opening they go out is much closer to their seat. The slow shuffling line gets replaced with a few quick steps, and the coach is empty in seconds.

Boarding is dramatically faster, and in fact better and friendlier. The painfully-slow-person (there's always one) can only hold up one stream of passengers, and wheelchair passengers don't make nearly as much of a difference. In fact if there's a wheelchair at the front door, everyone else boards by the other two—flexible parallel processing. People no longer struggle to dig out change (in everyone's way, of course); no one argues over age ID.

I can well believe an 80% reduction in dwell time—the difference really is astonishing once you see it. Granted, I'm talking about an artic, not a regular 12 metre diesel coach, but I don't think it's that great a stretch. It's not dropping in the change or flashing the card that takes the time, it's shuffling past the driver single file so she can see you do it.

August 6, 2009 at 4:43 pm | [Link](#) | # 13

Dominic Brown

Forgot to mention: Charles, could I trouble you for those spreadsheets as well, please? I have an informal proposal to TransLink (Vancouver's transit authority) that could do with more hard numbers to back it up. Thanks in advance!

—Dom

August 6, 2009 at 4:49 pm | [Link](#) | # 14

Dave Olsen

Good luck Dominic! Here's a link (<http://humanpowered.wordpress.com/2007/07/20/fare-free-transit-is-it-finally-time/>) to a huge amount of research on Fare Free Transit, some of which looks at Translink's system...feel free to contact me for more!

August 6, 2009 at 6:20 pm | [Link](#) | # 15

Jarrett at HumanTransit.org

Re transit boarding time, another useful element would be a business-driven campaign to put more \$1 coins in people's pockets, rather than bills. See here: <http://www.humantransit.org/2009/08/mundane-things-that-really-matter-us-1-bills.html>

August 8, 2009 at 6:50 pm | [Link](#) | # 16

Jarrett at HumanTransit.org

Fare-free operation of the crosstowns is a great idea, by the way. I would suggest, though, that NYC's conditions are so unusual, and so prone to nonlinear or "chaos" effects, that I'd rather see the results of a month's trial than an effort to predict the outcomes based on existing data. (Yes, transit geeks do get more empirical as they get older, just like almost everyone else.)

August 8, 2009 at 6:54 pm | [Link](#) | # 17

Rod Cleveland

Since you could never charge the actual cost of the fare (\$4 – \$7). Then why charge a fare that is eaten up by the overhead to collect and account for it. If your goal is truly to relieve congestion then this is a way. I would love to see the formula that they came up with to justify this.

August 18, 2009 at 10:14 am | [Link](#) | # 18

Ian Turner

Rod,

Do you have some evidence to support your claim that it costs \$5-\$7 per passenger to collect and administer fares?

August 18, 2009 at 12:01 pm | [Link](#) | # 19

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— Steven F

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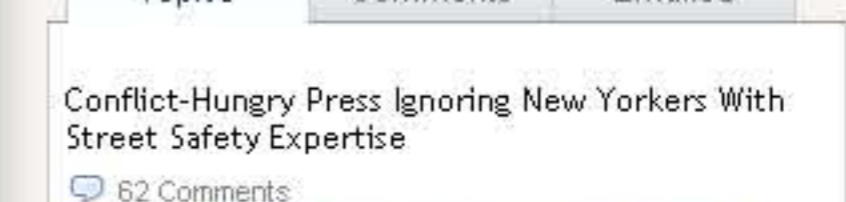
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