The Stamford Review

Fall 2007

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holland cabinet
ROMAN THOMAS
New York 2006

WALNUT, PINE, MERCURY GLASS,
BRASS, LEATHER,
H 33.5 W 43 D 15.5

chichester
CAROL MANGAN
New York 2002

GOUACHE ON PANEL
H 59 W 96

cartella sconce
FERRAN
Spain 1974

FORGED IRON, HAND STITCHED
PAPER PARCHMENT
H 8 W 8 D 5

vase
EDWARD HALD
Sweden 1925

HAND BLOWN & ENGRAVED
SLIPGRAAL VASE
H 8 D 5.75

to the trade

Interior, Grand Central Terminal
Photo: Melissa Gorman

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Introduction

Our Fall 2007 issue is dedicated to my father, George, who was an activist. In his memory we continue to provide others with a platform for promoting change.

In this issue, five writers advocate improvements to New York City's transportation systems. Their proposals address service, finances, and aesthetics. Four of the writers are established experts in their fields. The fifth is a very gifted and informed observer.

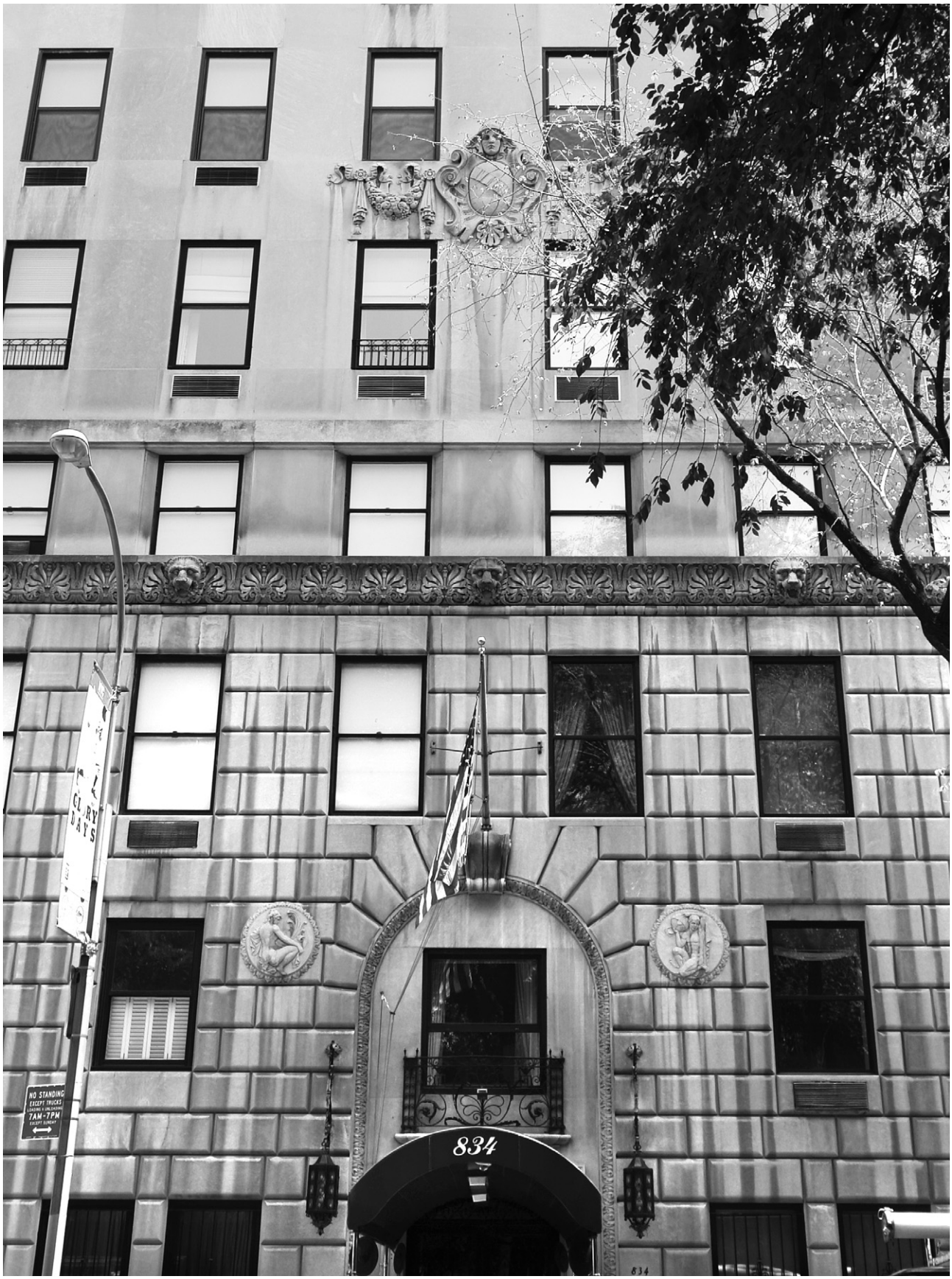
Each of them has addressed long-term issues that are relevant over a number of years. Nevertheless, much of it is relevant to what we read in the daily papers, as is the context for congestion pricing in Manhattan, given in Charles Brecher and Selma Mustovic's article on the MTA.

Our readers will find that this issue focuses primarily on policy proposals, and these recommendations are all informed by sensitivity to context. As such, Jeffrey Zupan illuminates the MTA's history in order to discuss the subway system's future development. John Philip chronicles the tangle of history and politics as a framework for linking New York's two greatest railway stations; and Judith Wolin eulogizes Pier Luigi Nervi's bus station at the George Washington Bridge, while demonstrating its underutilization.

As a prelude to these considerations, we have treated you to a panel discussion on Manhattan's housing market. The participants are very experienced and sophisticated brokers and managers. Their detailed observation and insights give an unusual and candid view of the dynamics of Manhattan's prime housing market.

In future issues we will continue to present proposals for change, with inside views of the present.

Larry Sicular
Editor



834 5th Avenue
Photo: Melissa Gorman

At the Top of Manhattan's Housing Market

Following is an edited transcript of a panel discussion on May 7, 2007 at Douglas Elliman's Madison Avenue offices.

Panelists, Clockwise from left:
Caroline Guthrie, President, Edward Lee Cave
Kirk Henckels, Director of Private Brokerage, Stribling & Associates
Hall Willkie, President, Brown Harris Stevens
Steven James, President of Manhattan Brokerage, Douglas Elliman

The discussion also included:
Joshua Kahr, Real estate consultant, moderator
Dan Arthurs, Streaming Culture, audio
Larry Sicular, Editor, The Stamford Review




Sicular: I am the editor of the Stamford Review, and we have a panel this morning of prominent real estate brokers in Manhattan. Josh Kahr who is a real estate consultant will be moderating, and we have Steven James of Douglas Elliman, Kirk Henckels of Stribling Private Brokerage, Caroline Guthrie of Edward Lee Cave and Hall Willkie of Brown Harris Stevens.

Kahr: I don't know how many of you took a look at the questions, but to open up, it's really getting a feel for who the customers are. For the Stamford Review, we want to clarify what sort of markets you're working in; basically describing customers; how the customers today are different than say five, 10 years ago; what trends you are seeing. We'll start with one person. I'll cut in and ask follow up questions, and we'll go from there. Describe your customers, big picture?

Henckels: Big picture, the way the clients differ now is a single word called hedge fund, that's actually two words, hedge fund. They have driven the $15 million and up market, like we've never seen it before. Our biggest problem is a lack of inventory, which is usually the case in the $15 million and up category. So far this year I know of six contracts for co-ops over $20 million, versus the first six months of last year when there were eight total, so we're probably going to end up ahead of the game. For the over $5 million dollar co-ops, so far there are 30 sold and closed, versus the first six months of last year at 68 – whether we're going to make up that difference or not this year is unclear. Back to the client, the hedge fund guys are quite qualified and generally pass these boards, whereas back in the old days when we had the dot.com and…

Guthrie: Old money…

Henckels: No, old money we had no problem with. No, the junk bond guys we couldn't necessarily get by the boards. So we have a great group of qualified buyers and again we just have the lack of inventory.

Sicular: Why would you say the hedge fund buyers have been better; why were the junk bond ones hard to get through?

Henckels: The nature of their business was much tougher; they made a lot more enemies than the hedge fund people who seem so far to have made a lot of people very happy. Also, their educational backgrounds are stronger, and their social ties are stronger which is better for board passage, though boards are taking a good long look at these guys, because that much money that fast is alarming to boards.

Guthrie: Well I'd certainly agree with Kirk, although I think the interesting thing about the hedge fund money is it tends to be young families, with enormous wealth that's been generated very quickly. That has proven to be a bit of an issue with some of the more prestigious old co-ops because it's been generated so fast. I think we're certainly seeing a problem there. But those are the people who are looking for the big family apartments of which there are so few. I've never seen inventory so restricted as it is now. It's really quite extraordinary. But I think the very top end of the market is still being somewhat driven by people with extraordinary wealth that they've had for a very long time. And we're seeing bidding wars again that are really not based on value but on requirement and really an arbitrary decision to have something. So we're seeing – Kirk, I know you've been great about putting together some of the statistics – that it is quite difficult to interpret some of the numbers, because they aren't going by the normal basis of what we'd look at. So it's thrown off all the figures, and I think it makes pricing an incredibly difficult task for us all.

Sicular: Can you talk about what the normal bases are, versus what you're viewing as perhaps abnormal or unusual?

Guthrie: I think the normal criterion was comparable past sales. And a general feeling among the brokers for what something's worth. As a group, we used to be able to walk into an apartment and come up with a fairly similar number based on past sales, the general feeling in the market. Now I think you walk into an apartment and people give widely different views, because the sky is almost the limit. It's not a question of what the bricks and mortar are worth, or what the cachet of the building is worth. It's a question of what is this space on this floor, in this corner of this building, with these views is worth to people who have limitless money.

James: We're also finding that even some of the boards are stepping into the pricing process. There was a recent one about a month ago where the board president said "you under priced the property, and we think it should be $4 million higher." Well that put the seller in a very awkward position. So they had no choice but to raise the price. Now it didn't get to the level that the board president thought it would, but it came pretty close. And none of the data supported anywhere near that price, none of the data.

Guthrie: And I'm sure the board president was basing his figure on a number plucked from the sky, but the amazing thing is, whereas in the past that number would have been absurd, now it probably was almost approached because of this crazy frenzy for the best.

Henckels: There has been one example of an apartment going for $11 million over asked.

Kahr: What was the asking in that case?

Guthrie: Over $15 million.

Willkie: I think everything that's been said is true, but I believe that these new prices are value because they're being reached through competitive bidding, and what is value but that? And so I don't think that we're seeing these high numbers as a single shot. It's usually because there are other people willing to pay a similar dollar amount. So I just think we're seeing a new market, and it's come very quickly. The other thing is that hedge funds buyers are definitely the big guys, but the market is driven by the financial industry, whether it's hedge funds or not.

James: But in a normal real estate transaction in a normal market, you'd have contracts subject to financing, and of course we haven't done that for a long, long time; but if that were thrown into this mix, the market might be very different. Because when it comes to these high prices, you can't substantiate them

on comps to begin with, which a real estate appraiser would have to do.

Willkie: Well that's one of the things that makes New York so different. The majority of apartments in our market are co-ops, and as we know the very high-end co-ops – every co-op restricts financing to some degree – but the really high ones don't allow it at all. So there is no outside influence. If it were a house in Beverly Hills, I think you would have that controlling factor.

James: Well everyone that you talk to that travels and understands markets around the world all invariably say that New York is cheap compared to other cities. It's hard for us fathom that.

Willkie: Another thing about financing. You know many years ago I worked in Beverly Hills with Sotheby's, and that was in the 1980s, and it was such a different world. Buyers would go to closings and walk away not only with the deed but with money in their pocket. You know, 110 percent financing, etc. And all very precarious because of it, and one thing about the New York market is, it is solid. It is all about equity. You're not talking about buying an apartment for $15 or $35 million and owing a lot to the bank. I mean it's a hundred percent equity, except in those cases, obviously where there are some negative pledges. So our market is so incredibly strong, which is due in part to the lack of investors. My understanding is that a market like Miami is 40 to 50 percent investor-driven. I believe New York is only about four percent. So there's tremendous strength to this market; it's not funny money, it's real money.

James: This is the only market in the country that's not down. There are a few other markets around the country that are up three or four percent, but nothing like New York.

Guthrie: And I think the reason for the undervaluation of the New York market verses London for example is really the co-op system, because foreign buyers just can't conceive of making that kind of exposure of their personal assets.

Henckels: And there's another factor which is that the U.S. arguably lost its position as the number one financial market to London for the same reason that we don't have as many foreign buyers. It's simply more difficult to move money in and out of the U.S., whereas in France and London. . .

Guthrie: Right, and of course in London you're seeing that huge influx of Indian money, Russian money.

Henckels: One report said that 60 percent of all sales over $7.5 million in London are foreign.

Sicular: In our condo market do we see numbers like this?

Willkie: We see high numbers, and certainly in the condo market we're seeing a lot of Russian buyers. What's amazing is that throughout my career in New York foreign buyers always comprised around 10 or 12 percent of the market. That doesn't seem to change. Who they are changes. But for the first time that I can remember foreigners are buying at the top of the market, and they're buying big places, high-end places. And so that's a little different, and those mainly, in my experience, are Russians. I think many of the Russians who have a lot of money are establishing homes here.

Kahr: Even though I'm technically the moderator I'll throw this in: a lot of this is also currency trading. If we're talking foreign buyers for a moment; and you compare the U.S. dollar to the pound right now; it's two bucks to the pound. So from the point of view of the British buyer, we are cheap; we are a lot less expensive than London. If the U.S. currency readjusts what happens to New York City's prominence as a super-luxury market?

Henckels: I think prices are lower here, but don't you also get less? The typical two bedroom apartment here isn't quite as nice as the two bedroom you can find in London. That has been my experience.

Guthrie: Well I think the difference is partly also that London is a huge city with many very prime areas of real estate, whereas New York is so restricted.

Kahr: We talked a little bit about the limited inventory. Are you starting to see people buying at this level, considering neighborhoods that were not considered previously, just because they're out of product? And if so, what neighborhoods are they looking at?

Willkie: The neighborhoods in New York, in my 20 years in New York, have changed completely. I mean before it was the Upper East Side and certain parts of the Upper West Side, and of course the Village. That was about it, and now there isn't a bad neighborhood in New York. People are buying everywhere.

James: Well look at how many Upper East Siders moved downtown, that was a whole … we just never had before.

Willkie: It's amazing, so neighborhoods have definitely expanded, but like Caroline said, it is an island; it is small; it is limited, and so this is bound to happen, and it's a great thing. Also every group wants to be here. We're not a single-faceted market. Obviously young people always come here for their careers, etc. What is relatively new is that when they have families they tend to stay in New York and raise their children in New York. Tremendous pressures from that, and then it's becoming a great retirement place. If you have your housing taken care of in New York, it's a great place to retire. There's public transportation and a million things to do on every block, rather then sitting on the side of some highway in West Palm.

Henckels: But speaking of neighborhoods, the East Fifties are undervalued, and particularly the very high-end properties. You used to refer to a 20 to 25 percent discount for living on Sutton Place. I'm not sure it's not significantly higher now that you have these stratospheric prices for a large family apartment on Fifth or Park.

Willkie: It's a much more narrow market.

Henckels: Oh yes…

Willkie: It always has been, and that has increased.

Guthrie: Because for big family apartments, the desire is really over where the private schools are, which is uptown on the Upper East Side. And people don't want to … even though it is undervalued. Although

I do think … if we're talking about One Sutton, that we've just recently seen some sales there which are a significant jump up from past sales.

James: But it's a much slower sale, and especially for the bigger ticket apartments…

Kahr: Let's define slower; I want to sort of grab this before it goes away. Let's define slow sale for a moment. How long are you seeing for transactions to take place? We know prices have gone up a lot, but have you seen time to complete a sale change?

Willkie: Well, I don't think it's that different. It depends on pricing. It's like everything, if an apartment today, in any size, in any location, is properly priced, if it's priced at the high-end of its value range, it sells very fast. If they stretch beyond that, other than some of these real exceptions that we've discussed, it takes longer. And the higher you price it, the longer it takes, and I think that has always been the case.

Guthrie: But I think the top pinnacle of the market doesn't fall within that rule. That is purely about…

Willkie: But those are the exceptions; those are a handful of sales.

Kahr: And those can take…?

Guthrie: A minute and a half.

Henckels: And again it depends on price; there are only 12 available cooperatives right now over $20 million.

Kahr: And how long have they been on the market, what's the average?

Henckels: Interesting, I haven't calculated that. Ah … some of some of these have been on for quite a while. (laughter)

Sicular: I guess they're at the pinnacle of price, but not the pinnacle of desirability.

James: The average out there across the board is somewhere around a 144 days. In terms of days on market, you really have to think about it. Almost all the fellows, especially Jonathan Miller, define it from the last asked price to the contract.

Kahr: Now going along with the fact that neighborhoods have opened up, there's the issue of the kind of product they are looking for. I know I heard about large apartments and I understand that. But there's a later question, something which Larry and I discussed a little bit, about specific things that you're seeing driving the market as far as must-haves, that sort of thing. Something that people absolutely have to have in these apartments, verses what they used to be looking for. There was the topic of maids' rooms.

Guthrie: I think the one place that we've seen something that is very tangible is in the new developments. Those used to be condominium developments where you saw investors coming in and buying a block of one-bedroom apartments. Now they're really being built for the traditional pre-war market.

Willkie: And are competing with that market now, which they never did before.

Guthrie: Exactly, yes you're absolutely right, and not only are we seeing that uptown, but we're also seeing it to some extent downtown.

Willkie: Quite a bit. I think it used to be, you were a co-op buyer or you were a condo buyer, and now those lines are blurred, because a lot of the new condos are built to that very high standard.

Sicular: And how do the new condos differ from the old co-ops? How are they designing them…they are catering to the same people, but what are they putting in them that's different?

Willkie: In the high-end co-op buildings up and down Fifth and Park Ave., they have doormen and a super and porters and maybe an elevator man. The condos are doing the concierge thing. I think that's less important than people hype it to be, but service is there. And of course gyms are important.

Guthrie: It's a marketing tool.

Willkie: It's a marketing tool, and you're seeing buildings, mixed-use buildings, you know like AOL and like the Plaza is going to be, where there is commercial space or shops or hotel services…

Sicular: Do the customers care about these additional services?

Willkie: Some do, but not the others. I think the people coming in and out of New York care more, still the most … the high-end of New York is the traditional buildings that offer beautiful spaces in great locations with a door man.

Guthrie: And a lot of people at that level want to say I live at 834 Fifth Ave. or at 960 Fifth, because that speaks volumes to their peers and…

Willkie: Well that buyer isn't going to buy … typically isn't going to buy a new development.

James: Well they might buy at something like 15 Central Park West, which I think is just fabulous.

Guthrie: Yes, I think some will.

Henckels: Just that, unbelievable.

Willkie: Well you know, I was just going to mention that building, because that is by far the best new high-end building in New York, and it has achieved the highest prices. And what is interesting, is that it is built along the lines of an old building, in terms of its design; it looks like it, and it's limestone, but also has services. It really just has, you know, the good door man, the porter … it's not all the hype, and that kind of building is the one that's really competing with the high-end co-ops.

Guthrie: Well and that's because it's an easy transition for a traditional pre-war buyer to slide into that thinking, "I want something new and different" and the views...

Willkie: And then for a condo, it is unique in that there's no apology for location. Most of the condos, you have to say, well it's okay or that it will become, or you know 58th and Third is a residential neighborhood. You're apologizing, and you have to … just like Columbus Circle has become, but this … is Central Park West.

Henckels: It's the only thing of its kind.

Kahr: Larry, do you want to start off on the renovation topic?

Sicular: Oh yes, I wanted to ask you about the importance of renovations. I've been under the impression that a brand new renovation tends to speed up a sale, but that the renovations can date very quickly.

Willkie: It depends how they're done.

Guthrie: I think it also depends on the basics of the renovation. I lot of people might be attracted by something that seems as though it's a brand new renovation, what they're really attracted by is the fact that it's already got central air conditioning, it's already got new windows, because they're going to come in at the very end and rip out the cosmetic appearance and redo it to their own taste.

Willkie: Having those good basics is great, because it's so hard to do work in New York. Vertical living is great, but it also has downsides, and with summer work rules and all that, if you have the basics, like new plumbing, new electric, central air, it's great; the cosmetics … you know, they're going to be ripped out.

Sicular: Is it speeding the sale though to have a renovated apartment?

Willkie: Most people have a hard time visualizing. You go into a space that is done and well done, clean and neat, and even if it isn't a hundred percent your taste, you definitely respond to it in a more positive manner. You don't have to imagine what it's going to look like.

15 Central Park West
Photo: Melissa Gorman

James: You're right though, that it depends on the renovation. I mean if you have a classic pre-war building, it's sorry if they've modernized it…

Henckels: There's no resemblance to the building.

Willkie: Absolutely, that narrows your market tremendously.

Kirk: But I think the importance of the renovated apartment is even more than it's ever been. I mean given a reasonable price, a newly renovated apartment is out of there in seconds.

Kahr: The City Council has put out something; the Fair and Prompt Co-op Disclosure Law, how many of you have … have you taken a look at this? One, two … thoughts? (laughter)

Willkie: I'm happy to go first. I'm for it, I believe in it. Like many laws, I don't know that it's so well-written, and I'm not an expert to judge that. But the idea of having some kind of a system that narrows down discrimination is a great idea, and I think having to give a reason is good. A lot of buildings are worried about it, and I think a lot of people are worried about it liability-wise, but I believe that a co-op should look for two things, financial responsibility, and for somebody that's not cooking in the hallways. Often co-op boards worry about issues that have nothing to do with being a good neighbor. Maybe I should say it this way. I don't know that this is a good law. I think it's good to have a law that tries to control this.

James: Well this is not approved yet, is it?

Willkie: It's not approved yet, and I hope that they modify it to make it a better law, but the idea that there is a law that's proposed by the City Council… I think is terrific.

Kahr: Thoughts?

James: I agree with him, I think there should be something, I think this goes … I think this is too far out there, and I ultimately believe that they will not approve this, and whatever they approve will be so watered down it will be insignificant…. Because you know… we've spent much of the morning talking about essentially the condominium market, and the truth of the matter is that our market is still over 70 percent a co-op market. I mean it's just mind-boggling when you think about it, because the condominium market gets all the press, but the real market is the cooperative sales market.

Willkie: That's right, and I find the press doesn't seem to understand that, they think it's all about "signature" buildings.

Sicular: Kirk or Caroline did you have any comments you wanted to make on the disclosure law?

Henckels: Ironically I think, depending on how it's written it could lead to an awful lot of lawsuits, I'm a little concerned about that.

Willkie: Maybe it needs to.

Kahr: Well you're supposed to give a list of reasons [why] you're rejecting them. And rejecting based on economics, that's pretty clear and simple, they don't have enough money, no one can argue with that.

Sicular: Except the draft of the law cites that one of the undesirable impacts of the current situation is economic discrimination.

Kahr: The interesting case I think is for people who are economically well-qualified, but who the board for one reason or another feels are not appropriate for the building based on a variety of things which are not discrimination issues. How boards are going to write that reason is going to be fascinating.

Willkie: Well that's what's tough; a good reason to reject somebody is… they've got a bad reputation, they're not cooperative, they're litigious, they can't get good references. No one likes them, and then what do you have to say? Do you then have to say, well Steven wrote a letter about you that wasn't flattering at all. I mean… so then Steven is going to stop writing

letters . . . so that's the part of the law that I think is so complicated. But we all know, I mean certainly four of us at this table know, that what sometimes happens is unacceptable for this great sophisticated city of ours, and something needs to be done about it. I wish I knew how to write this law for them, I don't.

Guthrie: We should be writing it.

Henckels: But you know, it's very difficult.

Sicular: Did they consult with you, when they wrote this?

Willkie: No, certainly not, did they call you? They didn't call me.

James: Presumably they did confer with the Real Estate Board of New York.

Henckels: I don't think they did.

Kahr: But we . . . you know the amusing thing is; we have laws on the books for this already.

Willkie: Yes, but because a co-op is not require to state why, it's hard to know why a buyer is turned down.

Guthrie: And it would be interesting to see if they do put a law in place, and people are still turned down, how many people actually pursue and go after a co-op board; and then whether a decision will be turned over, and whether that person will then want to move into that building.

James: Someone will pursue it, if this law is passed, there will definitely be some litigation.

Willkie: What surprises me is that there hasn't been that landmark case. I think it would probably do more good then anything else. If a highly publicized clear-cut case happened, I think all boards would take note and sit up and try to do it right. But it really hasn't happened, mainly because the buyer is looking for a place to live. And who wants to go down that road, it's expensive. . .

Guthrie: And if they can't live there, they want to live somewhere else.

James: And a high profile case will assure them not living…

Kahr: And that leads to the topic of shared listings, of websites, the industry, as long as we're throwing out changes, throwing the bomb into the road.

Henckels: I don't know if this is where I follow my father's genes or my mother's genes. I think it's time we grew up here and got on one system, and the difference, and you guys attend all these meetings and I don't so…

James: It doesn't mean that we know anything… (laughter)

Henckels: In other areas of the country, when you on a firm's website, you can pick up the whole MLS [Multiple Listing Service] listings. So if we're going to do it, then let's do it, and then everybody can keep their own websites, and everybody can spend all their money marketing them and so be it. But I find it incredibly embarrassing in front of the public that as an industry we can't get our act together on this point.

Sicular: So how does it work now in this market?

Henckels: I think it actually works pretty well: 90 percent of the market is obeying getting the listings on Real Plus [New York's shared listing system] when they should and they're cooperative. You always have lone wolves in the market that aren't going to behave, and everybody knows who they are so you just work with it. I think it's a shame that the *New York Times* has control of what is effectively our MLS, and I would love to see our industry come to some sort of conclusion and get this done like we're not living in Neanderthal times.

James: I find it interesting if you look in today's *Times.* This is about the second or the third time that the *Times* has run the full page ad about how many listings and how strong their web site is. You cannot tell me that they're not running scared on this issue or they would not be spending…

Willkie: I agree with Kirk. I think we're on the brink of being able to pull it off, and certainly I support that 100 percent. When I started sitting over there [in the next office], 21 years ago, in New York, there was no co-brokering. It was all open listings; you didn't even know your competitors.

Guthrie: We used to type the listings onto little cards, index cards, and it was all direct.

Willkie: My first job was taking those cards away from people and some would actually hit me. I used to do it at night, get a tray at time. This is a much better world; 72-hour co-brokering is a great thing.

Sicular: Let's explain what 72-hour co-brokering is.

Henckels: It's an agreement between all Real Estate Board members that all exclusives will be sent out to other members within 72 hours of the seller's signature unless the seller puts in writing they don't want you to. Many of them go out before 72 hours, but that is the idea, and it's terrific, and we're all doing more business because of it; it's not something to be frightened of.

Kahr: Can you talk about briefly the reasons why the firms have been not able to come together to a shared portal? What's holding it up? Is it technical reasons? Is it political reasons? Why hasn't this come together?

James: Well, my firm is part of this; and I don't think it's just Elliman. There are some smaller firms that have issues with it too. We've said that while initially we're not going in on it, we've never said that we weren't going in on it. And Dottie's [Herman] been very clear about that; that we would leave the door open; we would wait and see. I think her point is … and it's a valid one: if you go to Realty Alliance you hear all of these companies, all over the country talking about wanting to get off of their MLS public portals, and the reasons why they want to get off is because the Justice Department is looking carefully into, whether it's discriminatory to keep sellers, for sale by owners, off those public portals, and also discount brokers. I think that is a legitimate claim for thinking very carefully of whether we go forward, and I don't think that's really

come out in discussion at the Real Estate Board. And it's a big issue.

Willkie: It's a big issue, and it's a legitimate issue but when I think about our public portal, I compare it to the *New York Times.* We have it currently, it's owned by the *Times,* and in the *Times* you can get owner ads and everybody ads, we should have something that we control that is ours, that we own and not give it over to the *New York Times,* in my opinion. There always will be issues with it, because there are so many different firms; you have the one-man firm, up to a firm like Elliman and then everybody in between, and people have their own interests. I think that, when you work with a trade association, you're doing so for the greater good of the community, and I think sometimes it is hard to take off the 'what's-in-my-interest' hat and consider what's for the greater good.

Sicular: I guess we should ask if there are any other topics that we have not thought of, that you might think are relevant to this discussion.

Henckels: I have seen on the very high end, and it may just be a fluke because they are random, but I've seen an awful lot of direct sales which I find interesting.

Sicular: How are they finding each other?

Henckels: I used to make a joke because the high end, they start buying and they stop buying like this. . . and they all go to the same cocktail party and say are you going to shop tomorrow? And then they ask, is your apartment for sale?

Guthrie: Exactly, and I figure it's PLU.

Sicular: PLU?

Guthrie: People like us.

Henckels: Yes, they love buying from each other to begin with.

Sicular: What's causing though an increase in that phenomenon? Or has that always been the case?

James: Actually if you look at the data – because we're a large managing agent, we look at the data of all the companies that do the deals in all of our buildings, and which companies do how much, and also the ones that have no broker, and you would all be shocked at the high percentages without a broker.

Willkie: I think a lot of it is buying within the same building.

Henckels: Yes, which makes sense.

Sicular: Trading up or trading down.

Willkie: And combining.

Guthrie: It's a huge factor.

Henckels: Your best buyer is your next door neighbor. But 90 percent of all sales are made by the brokerage community; that's the obvious. A lot of sellers think that it's advertising, it isn't.

Kahr: That's a good closing point.

Entrance to the Carroll Street Station, Brooklyn
Photo: Simon Kristak

Pursuit of the Optimum: Ensuring the Future of New York's Subway System

Jeffrey M. Zupan

THE PAST AS PROLOGUE

One-hundred-and-three years ago the first subterranean subway line opened from City Hall north to Harlem – 13 route-miles of subway tunnel. This project added to the 67 route-miles of elevated rail transit already in place at that time, including the Ninth Avenue elevated line, the oldest, which opened partial service in 1868. The opening of this first underground line in 1904 soon set off a frenzy of transit construction never seen before or since. Over the next 33 years 204 route-miles of new lines were built at a rate of almost seven route-miles per year. Of this increment, 127 route-miles were underground, 20 at grade and another 57 elevated. By 1937 the extent of the subway system had reached its zenith, 268 route-miles.[1]

This expansion made the growth of New York City possible.[2] In 1900, more than half of the city's population of 3,435,000 lived in Manhattan, many crammed into wards on Manhattan's Lower East Side with densities of 400,000 people per square mile. From 1900 to 1940, roughly paralleling the growth in the subway network, the three boroughs that were its beneficiaries grew by almost 2,000,000 people; the Bronx alone added over 800,000 between 1910 and 1930. In this same 20-year period Manhattan saw a population drop of almost a half million, as many people relocated to the newly accessible outer boroughs.

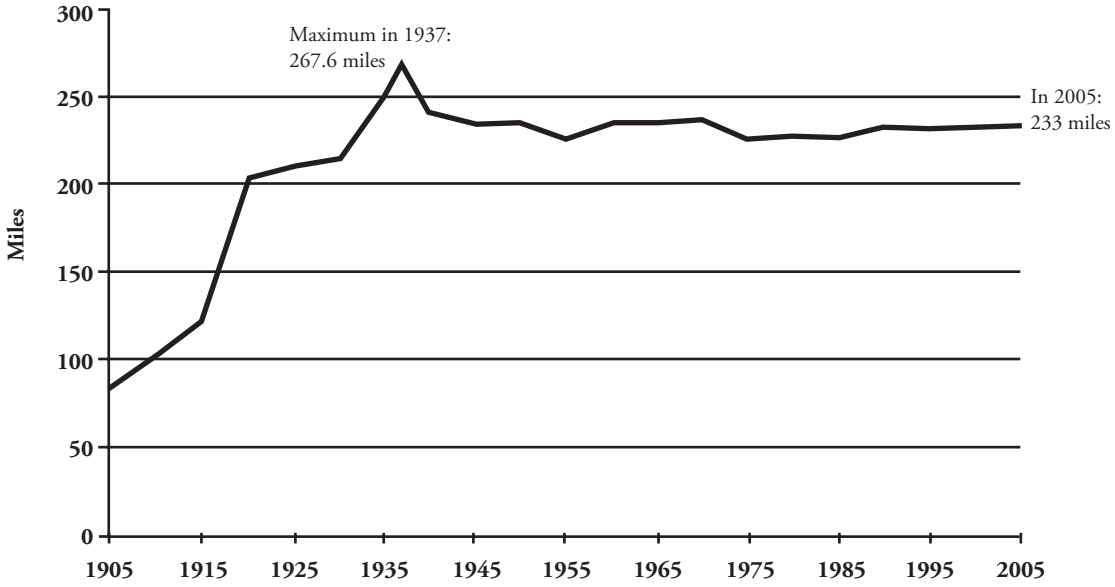
By 1940, New York City's population had reached 7,455,000, double what it had been 40 years earlier. The subway systems made the growth of Midtown Manhattan possible and helped to reinforce lower Manhattan's financial district. Population growth was fitful for the next 50 years, shrinking slightly to 7,333,000 in 1990. During this same period the subway system began to shrink – by 35 route-miles, with 13 route-miles of new tunnel more than offset by the teardown of 64 route-miles of elevated line. The history of the subway system's expansion is shown in Figure 1.

Most of the elevated lines that disappeared after 1937 were in Manhattan and Brooklyn, torn down to remove their blighting impact. The intent was to replace them with new subway lines. By 1940 the Sixth Avenue and Ninth Avenue lines were gone, replaced by the IND's Sixth Avenue and Eighth Avenue lines. On the East Side the Second Avenue elevated was demolished in 1942 and the Third Avenue elevated followed in 1955, with the promise of the Second Avenue subway to replace the lost carrying capacity. In anticipation of this, the east side of Manhattan was up-zoned – commercially south of 60th Street, and residentially to the north.

However, the Second Avenue subway did not materialize. Fits and starts have marked its history; construction actually began in 1969 but was a victim of the city's fiscal crisis of the early 1970s.

This period not only marked a shift away from expansion, but also by disinvestment in the system in place, most of which was then 40 to 70 years old. Breakdowns, track fires, and derailments became commonplace. When added to the perception and reality

Fig. 1 NYC Transit Subway Route-Miles 1905-2005



Sources: Boris S. Pushkarev, with Jeffrey M. Zupan and Robert S. Cumella,
Urban Rail in America (Indiana University Press), 1980 and correspondence with MTA – NYC Transit

of crime in the system, the New York City subway became a place to be avoided. The subway's annual ridership, which had reached a post-wartime peak of 2.1 billion in 1946, plunged to 917 million in 1977, a victim of many forces. Among them was the shift from the six-day work week, the flight to the suburbs, growing automobile ownership, a major economic downturn in New York City in the 1970s and, finally, the miserable condition of the system.

Recognition of the link between the state of the subway and the state of the economy came slowly. New York City has 43 percent of New York State's jobs and 45 percent of its income, and the city could not bring all those people to work without the subway system. Under the leadership of Richard Ravitch, the Chairman of the Metropolitan Transit Authority (MTA), the State Legislature created new revenue sources that expanded the MTA's ability to borrow. The proceeds were used to bring the system up to a "state of good repair" and eventually to normal replacement cycles. During the 1980s Ravitch and his successor, Robert Kiley, rightfully focused on fixing what was falling apart, rather than expansion.

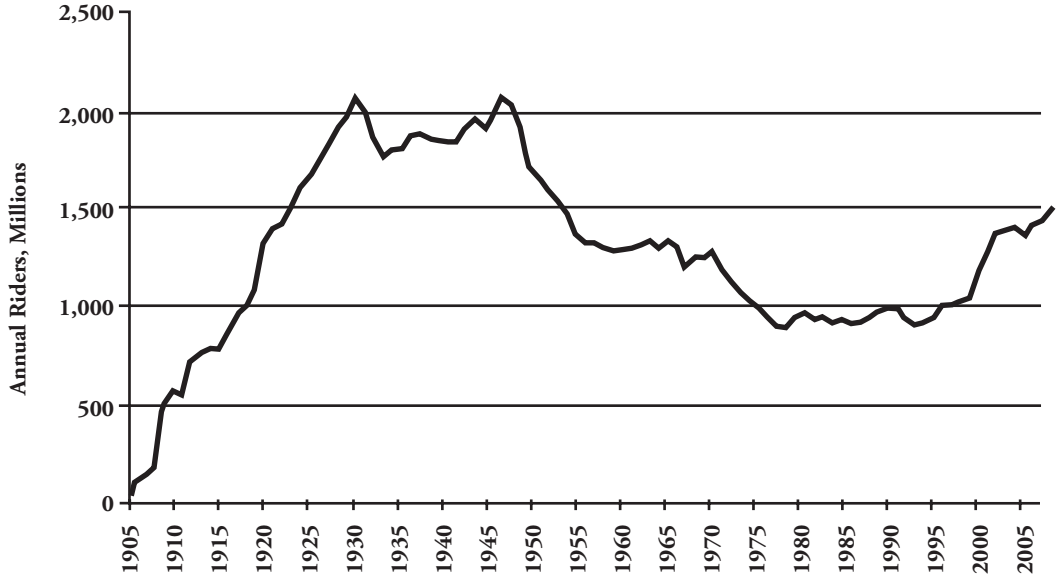
By the mid 1990s, ridership growth was at a rate not seen since the 1920s. In 2006 ridership reached 1.5 billion rides, a level not seen since 1952. The full history of the subway ridership is shown in Figure 2.

The universal installation of MetroCard, with its unlimited ride capabilities, the growth in the city's economy, and the reduction in the crime rates in the subway were all factors that made this growth possible, but it could not have occurred without improved conditions in the subway. These are perhaps best shown by the transit industry indicator for reliability, the mean distance between failures, which climbed by a remarkable 26 times from 6,700 miles to 178,000 miles between 1981 and 2005.

EXPANSION PLANS

As the system started to recover in the early 1990s, the MTA began to resurrect expansion plans. New studies eventually led to a commitment to build the 8.5-mile Second Avenue subway from 125th Street to the Battery in four phases, at a total cost of $16.8 billion. The $3.8 billion first phase from 96th Street to 63rd Street had its most recent ground-breaking this April and is to open in 2013. This segment will allow service to the Broadway line Q train on the west side using connecting tracks built in the early 1970s under Central Park. The Second Avenue Subway in Manhattan will

Fig. 2 NYC Subway Ridership 1905-2005



Source: MTA – NYC Transit, *2004 Subway and Bus Ridership Report* (2005), and supplementary data MTA – NYC Transit

directly benefit a half million riders a day, or almost one in ten of all daily riders.

In an effort to revive lower Manhattan following the 9/11 terrorist attack, two additional subway projects emerged and are now under construction – the Fulton Street Transit Center and the South Ferry Station, both highly desirable projects. These projects are paid for with special 9/11 federal funds and will both be completed by 2009.

Other rail projects have also been proposed. The extension of the 7 Flushing line to the far West Side, expected to cost more then $2 billion, will be largely funded with tax-increment financing from the development it generates. In an attempt to strengthen lower Manhattan's competitive position, a new tunnel under the East River is under study by the MTA. Its intent is to connect LIRR riders and Kennedy Airport more directly to lower Manhattan. Its future is uncertain, since its cost-effectiveness is unproven, but would be more cost-effective if it connected to the Second Avenue subway in lower Manhattan.

Two commuter rail projects have also been advanced. The $6.3 billion LIRR's East Side Access project would connect the LIRR commuter rail system to Grand Central Terminal, eliminating backtracking to east Midtown and relieving subway overcrowding at Penn Station. This project has been moving forward and is expected to be completed in 2013. These projects have received partial funding from the federal government and are among the most cost-effective "new starts"[3] rail projects in the nation.

Similarly, NJ Transit is advancing a new $7.5 billion commuter rail tunnel under the Hudson River to overcome the limited capacity problem and to respond to the rapid growth in interstate travel. The new tunnel would terminate at a station under 34th Street and Seventh Avenue, with a future possibility of extension to the Grand Central area. Funding for this project is also incomplete, but $3.5 billion has been pledged from the Port Authority and the State of New Jersey. With this level of local contribution, the federal government would be more inclined to contribute most if not all of the remaining $4 billion.

HOW MIGHT THE FUTURE SUBWAY SYSTEM LOOK?

What can be expected for the next 50 years or more? Given the long gestation period of large projects, it is not too soon to think about and plan for them.

Potential improvements in the subway system can

be characterized by more coverage, capacity, connectivity, speed, civility and, at least in the past, reliability. Possible changes cannot be looked at in isolation from other modes of transit; the subway cannot and should not do it all. The subway, best at carrying large numbers of people between relatively dense places, may not always be as appropriate as buses, commuter rail, ferries or light rail systems in some markets and settings. The subway system is used and can be better used as part of a larger transit network. New York City is the center of a much larger, three-state metropolitan region; an expanded subway system must be seen as part of a larger, regional framework.

COVERAGE

How well does the system directly serve the city? Figure 3 shows the existing subway system, with the shading showing the areas within 1,750 feet, or a seven-minute walk of the system's 468 stations. The areas beyond walking distance include wide swaths of eastern Queens, southern Brooklyn, parts of the south-central and northeast Bronx, and the upper and lower east side of Manhattan. The Upper East Side will be addressed with the Second Avenue subway, but the other areas remain unserved.

Many of these coverage problems could be solved by the implementation of Regional Plan Association's (RPA) MetroLink proposal *MetroLink: New Transit for New York,* (www.rpa.org, click "Transportation"). MetroLink uses the Second Avenue subway as the spine from which the lack of coverage in southeastern Queens, south-central Bronx, Co-op City in the northeastern-most corner of the Bronx, and the Lower East Side can be addressed by extending the Second Avenue line northward into the Bronx or eastward into Brooklyn and Queens. The Utica Avenue corridor in eastern Flatbush in Brooklyn could also be incorporated in the MetroLink concept. Once it is clear that funding for the Second Avenue subway in Manhattan is assured, revisiting these concepts can lead to a more complete subway system. Fortunately, the Second Avenue subway will be constructed to enable future extensions.

Other areas not covered by the subway might best be covered with other modes. For example, the Brooklyn and Queens waterfront might be served by new ferry services and by express buses, particularly for Red Hook. The LIRR East Side Access project would offer more frequent commuter rail service from northeastern Queens. Staten Island could be better served by a combination of added ferry service from the central and southern parts of that borough and more express buses with preferential treatment on the highway network.

CAPACITY

Where is subway overcrowding likely to get worse? With the remarkable growth in ridership of the last few years, the flippant answer is everywhere. Yet, some lines stand out, including the Lexington Avenue line, the IRT 1, 2, and 3 lines on the west side, the Queens Boulevard lines (E and V), the 7 Flushing line, and the newly overcrowded L line from Brooklyn, the beneficiary of the rebirth of Williamsburg. The Second Avenue subway will address the Lexington Avenue line's crowding not only because of diversion to the new line, but also because fewer Lexington Avenue line riders will enable the MTA to operate the line at full capacity, now hampered by excessive crowding at stations. Many Bronx riders, now using the west side lines, will also divert to the Lexington Avenue line, once crowding there is eased.

Fig. 3 Walking Distance Coverage of the New York City Subway System. Source: Regional Plan Association

The Queens Boulevard lines (E and F) saw some benefit from the so-called local connection that opened in 2001, but remain overcrowded. The LIRR's East Side Access project, with its ability to divert some riders to the LIRR, will be of some help. Of still more help would be the conversion of one of the two LIRR lines – Montauk or Atlantic branches – in southeastern Queens to subway service, as described in the MetroLink proposal.

System-wide, capacity gains are more likely to come from upgrades in the signal system. The MTA is in the midst of testing the communication-based train control system, which will have it first benefits on the L line, enabling more frequent service by reducing the time between trains. Capacity problems, not based on station overcrowding (which only added lines could address), could be overcome with the full installation of this technology.

CONNECTIVITY

Where is the subway system disconnected from itself or from other transit modes? The New York City subway system was originally two systems – the IRT and the BRT (later BMT) – with the Independent lines (IND) added later. This left the system with many places where lines touched or crossed but passengers could not transfer between them. Over time many of these transfers have been added, but a number are still disconnected, mostly in Brooklyn and Queens, where there would facilitate travel within the boroughs. There are also seven possible Second Avenue subway transfers where the new line could intersect with existing ones, but are not now guaranteed. And the new line's Bowery station should have a connection with Grand Street. The MTA must make all of these connections; if they miss these opportunities there will be no going back.

The commuter rail expansions will also assist to create more "connectivity" by, ironically, eliminating the need to connect. The LIRR East Side Access project will save up to 45 minutes a day for 60,000 travelers to east Midtown from Long Island and eastern Queens by obviating a subway ride to the East Side. In a reverse twist, Metro-North is also considering rerouting some of its trains, now destined to Grand Central, to Penn Station, eliminating transfers for riders destined to the West Side. This would become feasible if the LIRR gave up some peak-period capacity once East Side Access eased LIRR rider demand at Penn Station.

NJ Transit's new commuter rail tunnel under the Hudson is currently planned to stop only on the West Side. Once this project is completed, NJ Transit can begin to pursue RPA's proposal to extend the line to the East Side under Madison Avenue, or possibly to Grand Central Terminal.

Trips within and between boroughs are often not possible without first traveling through Manhattan because of the radial configuration of the system. RPA's Triboro Rx proposal, shown in Figure 4, would overcome this problem, enabling many riders to travel to destinations now not reachable by public transit. This line would operate on the connecting freight rail line from Bay Ridge, through Brooklyn and Queens and over the Hell Gate Bridge into the Bronx. The existing right-of-way has room for both freight and passenger service. The line would connect with 19 of the subway's 22 subway lines. Preliminary estimates show that ridership would be high, comparable to some of the busier lines in the system.

SPEED

Where is the system too slow to be attractive as a travel option? The average speed on the New York City subway is only 18.3 miles per hour. This slow speed converts to unacceptable travel times, particularly for longer trips in the outer reaches of the boroughs. The remedies would help the Rockaway peninsula, the east Bronx, and eastern Queens.

While subway service to speed Staten Islanders' travel is unlikely, a continuous two-way bus preferential treatment to lower Manhattan through Brooklyn is possible, as are higher speed ferries from Staten Island at locations other than St. George.

There are many opportunities to speed bus service. The city and the MTA have embarked on a program of bus rapid transit, but it faces opposition for giving buses the preferential treatment they will need to go faster; neighborhoods fear the loss of parking and road capacity. A more aggressive stance that favors vehicles that carry more people – buses rather than cars – will be needed. Meanwhile, low-floor buses that speed loading and unloading, off-vehicle fare collec-

tion in high volume areas, and signal prioritization can be very effective. Eventually, smart card technology will speed the pace of loading too.

AMENITY, CONVENIENCE AND ATTRACTIVENESS

What can be done to make the system more civil, more inviting and more uplifting, all terms not yet associated with the New York City subway? Visible to the customer are two components: the stations and the subway cars.

The cars have been continually upgraded, with lighting and public address and electronic information continually improving. The progress on the station environment is much slower. The work involves cosmetic improvements and conformance to Americans with Disabilities Act requirements, including new elevators, and new and expanded escalators. The program is beset by the complexities of the stations themselves, with each station representing unique problems of hidden infrastructure.

Despite these efforts, most of the improvements do not go beyond the cosmetic to address more functional areas of station redesign, to make the circulation patterns more direct and the spaces more open and less forbidding, nor do they seek to integrate the stations with development above ground or make the entryways more commodious and inviting. These improvements are often mistakenly thought of as frills and are sacrificed when budgets are tightened, as was threatened with the Fulton Transit Station in lower Manhattan and as occurred at the Times Square station where the MTA mistakenly decided against fighting for building entrances to the new office towers above.

Within each station, the MTA is now testing real-time train-arrival information, which will lower the anxiety associated with waiting for the train's arrival.

To date, of the 468 stations in the system, only 188 have been brought to a state of good repair. Since the program to overcome deferred maintenance started in earnest in 1982 about seven stations per year have been upgraded, and the programmed rate over the next 10 years will not materially accelerate that pace. Thus, the last station to be upgraded will be in 2047 (280 stations at seven per year takes 40 years). By

Fig. 4 Triboro Rx. Source: Regional Plan Association

An example of much-needed station maintenence.
Photo: Melissa Gorman

then, the earliest station upgrades will have taken place 65 years earlier.

RELIABILITY

Will the subway get me to my destination in some close approximation of when it is supposed to? Perhaps reliability trumps all the other features we seek from our subway system. And reliability depends on a system where all the parts – both hidden and in plain view – are working. These elements include signals, communications, ventilation, pumps, power, and tracks, and the supporting maintenance facilities where repairs and maintenance of rolling stock takes place. Failure makes for late or canceled trains. Today, these systems are being modernized and, as has been pointed out earlier, with dramatically lowered rates of failure. But the task is Sisyphusian, and the costs of continuing to do so are climbing. However, any backsliding could return us to the bad old days of the late 1970s and early 1980s.

THE CHALLENGE AHEAD

What then would the subway Nirvana of the mid-21st century look like? It would be a subway network, or equally attractive rail, bus or ferry, that reliably gets most New Yorkers, wherever they live and work and wish to play, to their destination in reasonable time.

The challenge in reaching that Nirvana is to solve the current problems first. This challenge has multiple parts:

- Continue the enormous task of renewal of this huge rapid transit network that, despite the investments of the last 25 years, still has many elements that do not meet "state of good repair" standards.
- Complete the many highly desirable and currently committed projects intended to overcome existing deficiencies in the system.
- Identify, prioritize and build new projects that will simultaneously overcome the system's deficiencies and accommodate expected growth.
- Fund all these needs, without sacrificing any.

It is clear that for both the maintenance and expansion programs the MTA will have to think of new ways to keep costs down. For example, the closure of a segment of track for repairs is only done overnight, elevating costs and stretching out the schedule. Perhaps closures to cover a full work shift, despite its hardship for the rider, may be a better option in the long run.

Today, the MTA funds 51 percent of its capital program by borrowing, and this rate has been continually climbing. Borrowing is both necessary and prudent when paying for long-term investments, but when used for maintenance it is not. It is clear then that we must increase our ability to pay as we go. And that means finding more revenue sources.

In the early 1980s we found these sources, and did it with variety of innovative financial devices. Those who shy away from finding a solution, which might include taxes and tolls, particularly using New York City's congestion pricing revenues, are reminded that New York has always been an expensive place to live and work. It is a special place despite its higher costs. And its uniqueness is in large part because our subway system puts us in close proximity of one another. If we allow our 100-year old subway and transit systems to wither from lack of investment, we will surely be presiding over a place that is neither special nor worth living in.

Notes

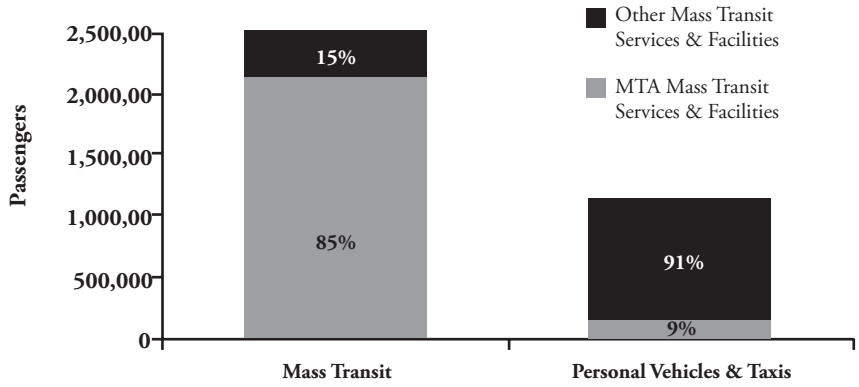
1. The term *subway* in this article refers to the rapid transit system, of which not all is actually underground, but includes both elevated and at-grade segments.
2. For a full history of this phenomenon see Derrick, Peter. *Tunneling to the Future: The Story of the Great Subway Expansion that Saved New York* (New York University Press, 2001).
3. "New starts" is the federal program designation for investments in relatively expensive new public transit lines.

A Prescription for Getting the MTA on the Right Fiscal Track

Selma Mustovic and Charles Brecher

Photo: Simon Kristak

Fig. 1 Two-thirds of travelers entering the central business district on a typical weekday come by mass transit; MTA accounts for 85% of it.



Sources: New York Metropolitan Transportation Council, *2004 Hub Bound Travel Report,* February 2007, Table 14. This figure for autos is conservative as it does not account for vehicles using the MTA bridges, including the Triborough, Throgs Neck, Henry Hudson, and Bronx-Whitestone as a part of their route to the central business district.

A defining feature of the New York regional economy is the concentration of employment in its central business district, the 8.5 square miles below 60th Street in Manhattan. With about 2.1 million jobs, this area is one of the largest and densest clusters of economic activity in the world.[1] The effective functioning of this central business district is critically dependent on an extensive and efficient transportation system. Of the 2 million people working there, relatively few live within walking distance to work; the vast majority depend on some form of transportation. Of everyone entering the central business district on a typical weekday (for work and other reasons) about two-thirds come by mass transit and one-third by auto.[2]

The Metropolitan Transportation Authority (MTA) is by far the largest provider of transportation services in the region. The MTA transports the majority of those working in the central business district to their jobs. Of the 2.5 million people traveling to the hub each weekday by bus or subway, 85 percent use MTA facilities; the remainder relies primarily on services operated by New Jersey Transit or the Port Authority. The MTA's bridges and tunnels account directly for about 9 percent of the personal vehicles entering the central business district on a weekday morning, with the others coming from New Jersey via Port Authority facilities or using the non-tolled bridges over the East River operated by the City of New York [3] (see fig. 1).

Providing these services is expensive. The annual operating expenditures of the MTA's agencies are budgeted to exceeded $9.7 billion in 2007. More than half the money is required for New York City subways and buses. About one-fifth supports commuter railroads, and about 4 percent supports the bridges and tunnels for autos.

Despite its essential role in sustaining the New York economy, the MTA is not financed in a consistent or sensible manner. Current public policies leave it with (1) repeated operating deficits and (2) capital investments insufficient to bring its facilities to a state of good repair. We examine the two problems and suggest alternative financing policies for the MTA to balance its operating budget and provide sufficient capital to accelerate the pace at which its facilities are brought to a state of good repair.

Fig. 2 MTA expenses by type of service, 2007 *(dollars in millions)*

MTA Agency	Total Funds	Percent of Total
New York City Transit	$5,400	56%
Long Island RR	1,097	11%
Metro-North RR	854	9%
Long Island Bus	121	1%
Bridges & Tunnels	437	4%
MTA Headquarters	273	3%
Debt Service	1,457	15%
MTA Reserve	75	1%
Total:	**$9,714**	**100%**

Source: Metropolitan Tranportation Authority, *MTA 2007 Adopted Budget February Financial Plan 2007-2010,* February 2007.
Note: Expenses exclude depreciation.

THE PROBLEMS

Recurring Deficits

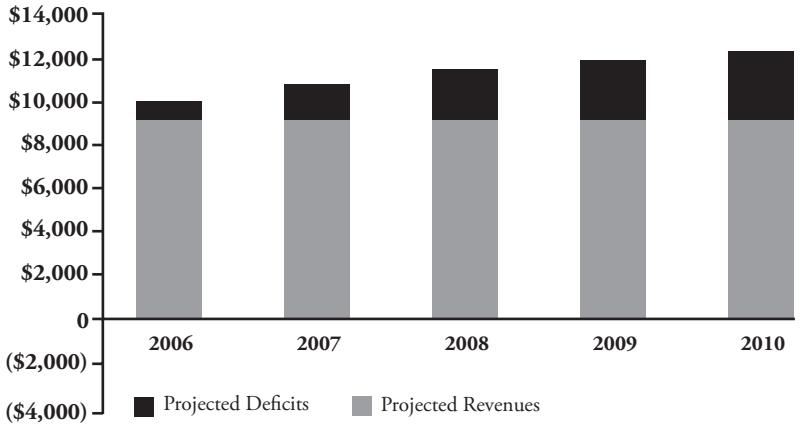
The MTA had an operating deficit in 14 of the past 15 years. The only surplus was in 1996, the year following a large fare increase, and that surplus was less than 1 percent of operating expenses. In contrast, the deficits have typically been in the hundreds of millions of dollars, and have become exceptionally large in the most recent years. The deficits averaged 10 percent of total operating expenses in the years 2000 to 2005.

In the MTA's February 2007 plan, the deficits grow from $2.2 billion in 2007 to $3.7 billion in 2010, or from 19 percent to 28 percent of operating expenses (see fig. 3). Compared to 2006, the deficit in 2010 jumps from 11 percent to 28 percent of operating expenses.

How can an organization repeatedly run large deficits but not go bankrupt? The answer is linked closely to the concept of depreciation, the loss in value of a capital asset related to its use during the year. Under generally accepted accounting principles, the most reliable and meaningful way to determine if a budget is balanced, depreciation is recognized as an operating expense. The logic behind it is to promote intergenerational equity (ensure that the current users of a given capital asset pay for its use) and to provide sufficient funds for future asset replacement.

There are different ways to measure depreciation. Typically when an asset is acquired it is assigned a "useful life" representing the amount of time it can be expected to stay in use. Then a fraction of the asset's purchase price, equal to one year of its "useful life," is counted as an annual expenditure called depreciation. The MTA's depreciation schedules are based upon estimated useful lives of 25 to 50 years for buildings, two to 40 years for equipment, and 25 to 100 years for infrastructure. Most subway cars are depreciated over 30 years and buses over 12 years. Setting aside money equal to the value of depreciation, known as "funding depreciation," is a way of ensuring that an organization has adequate capital to replace assets at the end of their useful life. In contrast, failing to fund depreciation enables an organization to meet its cash

Fig. 3 MTA projects growing deficits, 2006-2010



Sources: Metropolitan Transportation Authority, 2006 Adopted Budget, *February Financial Plan 2007-2010,* February 2007

expenses each year without having a budget that is balanced under generally accepted accounting principles. However, the adverse consequence of this practice is a shortage of capital and a resulting need to borrow in order to replace depreciated assets. This is the path the MTA routinely takes.

The MTA's financial plans use a modified version of generally accepted accounting principles, whereby it deducts depreciation from the total operating expenses. Thus, recent discussions of the "surplus" at the MTA refer to an amount of cash available at the end of the year that exceeds the budgeted revenues rather than a surplus as defined by generally accepted principles.

The practice of not recognizing depreciation as an operating expense in budgets and financial plans has important implications for the MTA's financial condition. In effect, the MTA is using a separate capital budget (which should be an investment, not an expense, and should create new physical assets) to pay for operating expenses. That is, a part of the capital budget devoted to replacement needs such as buying buses and subway cars is actually offsetting the depreciation expenses for this equipment. Because much of the capital budget is financed with borrowing, the net effect is to pay for an operating expense with borrowed funds. Borrowing for operations unfairly imposes costs on future taxpayers who did not receive the current services and adds interest costs to operating expenses.

Borrowing to pay for operating expenses is a major cause of the MTA's heavy and growing indebtedness. Outstanding debt grew from $13 billion in 2000 to $20 billion in 2005, and is projected to reach $32 billion by 2010. Debt service is projected to grow from $1.1 billion in 2005 to $1.9 billion by 2010, a 77 percent increase.

The rising debt service, in turn, has implications for the operating budget as the cost of debt service consumes an increasing chunk of operating revenues; debt service is expected to grow as a share of total revenues from an average of about 12 percent between 1996 and 2005 to 20 percent in 2010.

Inadequate Capital Investment

When the MTA was chartered in 1965 as an amalgam of six previously established agencies, these systems' facilities had already suffered from decades of neglect. For the first 15 years of the MTA's existence, its facilities continued to deteriorate and by the late 1970s were on the brink of collapse. In the early 1980s, a new system of capital planning, spanning five-year periods, was established to promote greater capital investment for New York's subways and commuter railroads. The five capital plans covering 1982 through 2004 provided a total of $53.2 billion.[4] The MTA is currently in its sixth five-year plan, allocating another $21.3 billion from 2005 through 2009.

Despite these large investments, major components of the system are still not in good repair. The Long Island Railroad is in the best shape with all of its components except line structures brought to a state of good repair by 1994; however, its line structures will not be restored until 2014. Metro-North also has many components in a state of good repair, but its line structures will not be fully restored until 2026, and all its stations will not be restored until 2020. The mass-transit facilities still require major investments in order to be brought to a state of good repair. The bus fleet was restored by 1986, and subway cars and mainline track by 1991. But other needs remain substantial – for example, the ancient signaling system will not be modernized until 2027.[5]

The extended schedule for achieving a system-wide state of good repair derives from two considerations. First, the available capital resources are not being devoted exclusively to this objective. In the proposed 2005-2009 capital plan, $9.2 billion or 43 percent of the total resources are allocated to normal replacement, a sum required to keep the components already at a state of good repair at that level. Another $7.1 billion or 33 percent is reserved for system improvements and network expansion projects, despite the still unachieved system-wide state of good repair. About $5.0 billion or 24 percent is allocated to making progress on state of good repair projects. This is a smaller share of the total resources than in any previous plan.

Second, MTA leadership does not believe it is practical to move toward a state of good repair at a more rapid pace. They argue that service disruptions and other obstacles would become intolerable to customers if state of good repair work was done more extensively in coming years. Others question this judg-

ment, particularly with respect to the pace of subway station renovations and signal and communication system replacement or upgrading.[6]

GUIDELINES FOR A BETTER SYSTEM

A better fiscal route would be one in which the MTA's budget was truly balanced and future borrowing was limited to the financing of system expansions. All operating expenses including depreciation should be covered with operating revenues. This raises the difficult question: Where should the added revenue come from? The Citizens Budget Commission has answered the question with these four guidelines:

1. *The cost of bridge and tunnel facilities should be paid for entirely through user fees paid by motorists.* These services should be covered in their price, usually in the form of tolls.
2. *User fees paid by motorists should also generate a surplus large enough to cover one-quarter of the cost of providing mass-transit services.* The price for using highways, bridges and tunnels should exceed their cost in order to help compensate for the negative externalities of auto use. This additional price can be paid directly through tolls that more than cover costs and through indirect user charges such as fuel taxes and motor vehicle fees collected by the state and dedicated to the MTA.
3. *Mass-transit users should pay fares sufficient to cover one-half the cost of those services*. Since mass transit provides a combination of direct benefits to the riders and positive externalities to the general public, such as reduced pollution and access to a larger labor force for economic growth, its cost should be divided between user fees (fares) and government subsidies. Setting fares at one-half the cost has an inherent appeal of fairness in setting the shares borne by each beneficiary.
4. *State and local subsidies to mass transit should cover one-quarter of the operating cost of those services and fund "catch-up" capital investments needed to bring the system to a state of good repair due to a history of prior neglect.* If riders pay half the cost of mass transit and motorists cover one-quarter through a cross-subsidy, then the remainder should be paid with public subsidies. This reflects the broader benefits derived from mass transit. In addition, state government should bear the cost associated with restoring the system to a state of good repair due to negligent behavior in earlier periods. It is unfair to put this burden on current riders or motorists.

These funding recommendations, summarized as "50-25-25," can be used to decide how to balance the MTA's budget in the future. The starting point for this task is to estimate future expenditure requirements. Using the MTA's operating expenditure projections provided in its July 2006 financial plan, and after some modifications to the MTA's projections of the future costs of capital, we estimated that annual operating expenditure requirements in 2009 would be $13.1 billion, or $3.3 billion more than expenditures in 2005.

Under the same assumptions, the available revenues in 2009 fall short of expenditure requirements by $2.9 billion or nearly a quarter of total projected expenditures. To close this gap following the "50-25-25" guidelines, three basic changes would be required. First, fares would have to be increased by about 34 percent. This is an average annual increase over the five-year period of about 7.6 percent. If applied to the monthly Metrocard price, the increase would be from the current $76 to over $102, and a single ride would increase from $2 to $2.70. Second, government tax subsidies could be cut from the projected levels by $121 million, or 4 percent.[7] Third, the cross subsidy from auto users would have to more than double; the required increase is nearly $1.6 billion.

OPTIONS FOR INCREASING THE CROSS SUBSIDY FROM AUTO USERS

Raising an additional $1.6 billon annually from auto users would not be easy. Currently such a cross-subsidy is provided in four ways:

- "Surplus" revenue from tolls on the MTA's bridges and tunnels.
- The dedication of a portion of state registration and license fees for motor vehicles to mass transit.
- The dedication of a portion of the state's motor fuel tax to mass transit.
- The dedication of petroleum business taxes to mass transit.

None of these items individually is likely to be a practical source for $1.6 billion in additional revenue, but some combination of these sources could be a realistic answer. In addition, new congestion pricing policies are an alternative for raising the needed funds. Figure 4 summarizes the annual revenues that could be raised from individual options for increasing the cross-subsidy from motor vehicle users. It reflects the revenues at the fully phased-in stage of the corresponding policy option.

Bridge and Tunnel Tolls

The baseline scenario indicates that, absent any increases, in 2009 tolls on the MTA's bridges and tunnels will yield $1.2 billion, and that operating costs of $658 million reduce the available "surplus" to $586 million. The MTA calculates that a $1 toll increase on its bridges and tunnels yields about $125 million annually in additional revenue. Since costs are already covered, this toll increase represents a boost in the available cross subsidy to mass transit.

Based on the MTA's rule of thumb, it would require a toll increase of $13 to raise an additional $1.6 billion annually. This would increase the E-Z Pass toll on the major crossings from $8 to $21 (and the cash toll to $22). In practice the rule of thumb would probably not hold up; the more than incremental toll increase would likely dramatically reduce utilization and revenues from the initial estimate. More practical and fiscally viable between now and 2009 are toll increases in the range of 25 percent to 50 percent, or increases of $2 to $4 per trip. This would likely yield increased annual revenues of about $230 million to $425 million, allowing for some reduction in volume due to the higher prices.

Motor Vehicle Fees

Owners and drivers of motor vehicles currently pay three different types of fees. State drivers license fees average about $5.40 annually for regular licenses. State vehicle registration fees are based on weight and range from $10 to $56 annually. New York City levies a $15 annual auto use fee, and Nassau, Suffolk, and Westchester counties impose a similar fee of $5.

The Regional Plan Association (RPA), based on data relating to licenses and registrations in 2002, estimated the revenue gains from substantially increasing each of these fees for owners or drivers in the MTA region. Specifically, they estimated that an auto use tax of $50 annually applied in the region would add $235 million; that an average increase of $50 annually in registration fees would raise an additional $260 million; and that hiking the average license fee from under $6 annually to $50 annually would raise an additional $294 million.[9] The combined yield of these measures, $789 million annually, suggest a maximum revenue figure for higher auto use fees in the coming years. Increases in all three fees of this magnitude are politically unlikely and might fall short of the estimate due to resulting changes in ownership patterns.

Motor Vehicle Fuel Taxes

The State currently imposes an eight cent per gallon tax on motor vehicle fuels. The Regional Plan Association reports that about 3 billion gallons of fuel are sold in the MTA region annually, and they use simple arithmetic to estimate that each one cent increase in that tax region-wide would yield $30 million annually. The RPA suggests that an increase of as much as 10 cents per gallon might be practical and would yield an estimated $300 million annually.[10]

New Congestion Pricing Policies

"Congestion pricing" arrangements impose charges for access to the central business district by motor vehicles. The primary intention is to encourage a shift from autos to mass transit for hub-bound trips, but they can also have the impact of raising new revenue from the auto users who do not shift.

In the context of New York City, congestion pricing schemes have two basic variations – East River bridge (ERB) tolls and a London-like arrangement under which a fee is collected electronically from autos using any of multiple access points (not limited to bridges and tunnels) to the central business district. Estimating the fiscal impacts of each plan is difficult, but each has the potential to yield significant new revenue.

East River Bridge Tolls

On a typical business day about 254,000 vehicles enter the central business district via one of four bridges

Fig. 4 Annual revenue from auto cross-subsidy policy options *(dollars in millions)*

MTA Bridge & Tunnel Tolls	Annual Net Impact	Percent of Required
$1 Increase	$125	7.8%
$2 Increase	$230	14.4%
$4 Increase	$425	26.6%
Motor Vehicle Fees		
Low Increase Option **	$120	7.5%
High Increase Option ***	$789	49.4%
Motor Fuel Taxes		
5¢ per Gallon Increase	$150	9.4%
10¢ per Gallon Increase	$300	18.8%
25¢ per Gallon Increase	$750	47%
Congestion Pricing Options		
Toll East River Bridges	$645	40.4%
London-like Plan	$1,382	86.5%
PlaNYC 2030	$900	56.4%

**Low Increase Option assumes a $10 annual increase in motor vehicle regisration fees, a $10 annual increase in drivers license fees, and $15 per year increase in the Auto Use Tax. Increases are applied only in the MTA region.

***High Increase Option assumes a $50 annual increase in motor vehicle regisration fees, a $50 annual increase in drivers license fees, and $50 per year increase in the Auto Use Tax. Increases are applied only in the MTA region.

connecting the area to Brooklyn or Queens.[11] These bridges are owned by the City of New York, and no tolls are collected on them. One policy option is to begin collecting tolls on these bridges, presumably at a price equal to that charged for the MTA bridges and tunnels connecting central Manhattan to the other boroughs.

A 2003 study by the RPA estimated that a new tolling policy would generate $547 million annually from users of the East River bridges owned by the City and would increase tolls collected at the MTA's tunnels by $159 million, for a combined increase of $706 million annually.[12] Given the toll increases of approximately 14 percent (from $7 to $8) in 2005, the future gross revenue impact is about $805 million annually. After taking into account the maintenance expenses that the MTA likely would have to assume and the added mass transit expenses resulting from increased ridership, one is left with a more realistic net revenue gain to the MTA of about $645 million annually.

London-like Congestion Fees

In 2003, London implemented a program of motor vehicle charges (initially of about $9, raising it to approximately $15 in 2005) for entering the central business district. It has proven to be successful at diverting motorists to mass transit (mostly buses) and reducing traffic, thereby speeding the route times for buses. It has yielded substantial gross revenues, but these have been offset by added expenses for the additional bus service and the new collection system.[13]

The Regional Plan Association has explored the impacts of establishing a London-like system for the New York central business district.[14] The most expansive of the congestion pricing options simulated by the RPA included tolls at each entry point that were equal to the 2003 MTA tolls (that is, $7) during daytime hours but were reduced in the night to $4 and raised during the rush hours to $10. This plan was estimated to produce gross additional revenues of more than $1.7 billion annually with about $258 million additional collected at MTA tunnels, $76 million additional at Port Authority tunnels, and nearly $1.4 billion in new revenue generated at the new tolled entry points including the East River bridges.

The RPA did not estimate the added expenses that would be needed for this option. The plan is estimated to shift about 60 million trips annually from autos to mass transit; this can be estimated to generate added costs for these services of about $110 million annually. The plan also would require investments (which could be amortized) to establish the electronic enforcement system and ongoing administrative costs for collecting the fees; based on the London experience these costs can be estimated at about $120 million annually. Finally, because the plan includes tolling the East River bridge entry points, it is reasonable to assume that the previously noted maintenance costs for these bridges (totaling $120 million annually) would have to be covered by the new revenues. After these expenses are taken into account, the net gain from the plan is an estimated $1.38 billion annually.

PlaNYC 2030. Mayor Michael Bloomberg recently unveiled the PlaNYC 2030 initiative, a long-term agenda for cutting pollution, reducing traffic congestion and building affordable housing in the city. It includes a proposal for a three year congestion pricing pilot program modeled on London's system.[15] Under this proposal, passenger vehicles entering or leaving Manhattan below 86th Street during the business day (weekdays 6 a.m. to 6 p.m.) – with the exception of the FDR Drive, the West Side Highway, and West Street – would pay an $8 daily fee. Trucks would pay $21. Those traveling only within the congestion zone would pay half price. The charge would apply to all vehicles, except emergency vehicles, those with handicapped license plates, taxis, and for-hire vehicles (radio cars). The fees would be assessed electronically and could be paid either with a toll pass or over the phone or the Internet.

The proposed congestion pricing pilot program would begin in the spring of 2009. It is projected to reduce the number of vehicles entering the central business district by 6 percent and to increase vehicle travel speeds within the zone by 7 percent. The city anticipates net revenues of $380 million in the first year of operation, increasing to over $900 million by 2030. All net revenues would be dedicated to transportation investments through a new city-state transit financing authority. The details of the program would have to be determined in collaboration with the state, because state legislation would be needed to enable the

city to impose a fee, as well as for the creation of the new transit financing authority.

SELECTING THE BEST OPTIONS

Putting the MTA on the right fiscal track means generating more revenue for its mass-transit operations. This will require modest fare increases, and substantial increases in one or more types of cross-subsidy from auto users. Congestion pricing arrangements appear to be the best way to collect these funds, because they shift commuters from autos to mass transit as well as raise large sums of money. Among the possibilities for congestion pricing, a London-like model is most attractive. Tolling only the East River bridges raises less money and may only alter driving routes rather than shift commuters to mass transit. Mayor Bloomberg's proposal has many desirable features, but its fees are relatively low and it allows some of the new money to be allocated to highways as well as mass transit.

Even an aggressive congestion pricing scheme is not likely to raise all the money needed to put the MTA on a sound financial footing. Additional forms of auto cross-subsidy are required. Some combination of higher fuel taxes and vehicle fees should supplement a well-designed congestion pricing plan in order to get New York's mass-transit services on the right fiscal track.

Notes

1. New York Metropolitan Transportation Council, 2004 Hub Bound Travel Report, February 2007, page 1-23, Table 13B.
2. New York Metropolitan Transportation Council, 2004 Hub Bound Travel Report, February 2007, Table 14. Mass transit includes commuter railroads, ferries and tramways.
3. New York Metropolitan Transportation Council, 2004 Hub Bound Travel Report, February 2007, Table 14. This figure for autos is conservative as it does not account for vehicles using the MTA bridges, including the Triborough, Throgs Neck, Henry Hudson, and Bronx-Whitestone as a part of their route to the central business district.
4. The first five five-year plans add up to less than 25 years because the initial plan for the 1992-1996 period was revised in 1995 and a new plan adopted to cover the period from 1995-1999.
5. Metropolitan Transportation Authority, MTA 2000-2004 Capital Program, MTA Capital Needs Assessment 2000 - 2019, September 29, 1999.
6. Office of the State Comptroller, Report 1-2006, Financial Outlook for the Metropolitan Transportation Authority, May 2005.
7. We expect the government tax subsidies to fall short of what is required under the "50-25-25" guidelines in the future. The current projections for government subsidies in 2009 are inflated as a result of recent gains in the real-estate market and related tax collections.
8. MTA 2005 Adopted Budget, February Financial Plan 2005—2008, Section III-8, February 2005.
9. Regional Plan Association, Financing Options for the MTA Capital Program, October 2004.
10. Ibid.
11. New York Metropolitan Transportation Council, 2004 Hub Bound Travel Report, February 2007, Table 14.
12. Regional Plan Association, An Exploration of Motor Vehicle Congestion Pricing in New York, November 2003.
13. Transport for London, Congestion Charging Central London, Impacts Monitoring Third Annual Report, April 2005.
14. Regional Plan Association, An Exploration of Motor Vehicles Congestion Pricing in New York, November 2003.
15. The City of New York, PlaNYC, "Transportation" in A Greener, Greater New York, April 17, 2007, www.nyc.gov/html/planyc2030/downloads/pdf/report_transportation.pdf (May 2, 2007).

Crosstown Fabric: Building a Link Between Grand Central Terminal and Pennsylvania Station

John V.N. Philip

In November 2006, Transportation Secretary Mary Peters pledged $2.6 billion in federal funds to the "East Side Access Project," an initiative to bring the Long Island Railroad (LIRR) into Grand Central Terminal. The project represents the largest ever federal investment in a transit initiative. And munificent though it is, this project presents a rare and enormous opportunity for New York's planners and concerned citizens to insist on changes that will advance a key rail infrastructure improvement, the linkage of Grand Central Terminal and Pennsylvania Station, as part of a true regional approach to rail transit.

As the proposal currently stands, without linking the two main rail stations, forecasters suggest the total cost will likely exceed $8 billion to $10 billion.[1] In its current conception, the Metropolitan Transportation Authority (MTA) proposes to bring thousands of daily LIRR commuters into the heart of Manhattan, alleviating the current congestion in Pennsylvania Station by bringing their trains into a "Deep Cavern Station" 150 feet below the street, and not at either of the two current track levels just below Park Avenue where Grand Central's trains now terminate. This "GCT via Main Line" plan raises multiple design, safety and aesthetic considerations, none greater than the fact that it would vastly complicate and increase the expense of any eventual attempt to link New York's two major stations. The alternative, an adaptation of a plan originally proposed in 1996 known as the Upper Level Loop Alternative, would merge new LIRR lines directly into existing tracks and platforms in Grand Central itself, affording passenger benefit and appreciable cost savings in the immediate term, while enhancing the future possibility of an ultimate link.[2]

Why connect the terminals? Because New York must finally put in place the critical missing connection in the city's railroad infrastructure, enhancing the rail mode of travel by offering travelers from any direction at least two station options in major business areas, thereby meeting the metropolitan area's ongoing challenge to remain at the forefront of the world's urban places. The efficiencies from linked-terminal stations flow to both passengers and to the operating companies involved: Amtrak, Metro-North, New Jersey Transit (NJ Transit) and the LIRR. For Amtrak, whose trains now only use Pennsylvania Station, intercity trains traveling the Northeast Corridor would have two principal midtown boarding and disembarking points. Commuters from west of the Hudson, now confined to Pennsylvania Station, could progress to Grand Central without a cumbersome subway transfer and would have direct access to Manhattan's East Side, the largest concentration of office space in the country. Many such daily travelers are also headed to areas of northern Manhattan, the Bronx, or Connecticut, all served directly from Grand Central. By the same token, many commuters from Connecticut, in transit for areas on the West Side of Manhattan, would now also have direct access without a subway transfer at Grand Central to the business area, existent and planned, around Pennsylvania Station (including the projected extensive Hudson Yards initiative).[3]

Interior, Grand Central Station
Photo: Simon Kristak

Perhaps most dramatically, air travelers would receive immense benefits from multiple Manhattan destination options, as well as the possibilities of taking a train directly to a suburban destination currently served by only one of the two stations. This could greatly enhance the AirTrain service to John F. Kennedy International ("Kennedy") and Newark Liberty International ("Newark") airports. For instance, a passenger arriving at Newark could use the AirTrain to the connecting station on the Northeast Corridor line, and catch a train to Pennsylvania Station, Grand Central, 125th Street, or various Westchester, Long Island and Connecticut locales. Similarly, a traveler arriving via AirTrain at the Jamaica transfer station from Kennedy could, without another change, reach Grand Central Terminal, Pennsylvania Station, or destinations in New Jersey, as well as Westchester, Long Island and Connecticut.[4]

For all these passengers, arriving from any direction, greater distribution at Grand Central alone brings relieved congestion and added convenience. Grand Central serves approximately 125,000 passengers daily, on 67 tracks, and with vast public spaces. Pennsylvania Station serves approximately 310,000 passengers a day, in what is since 1964 a primarily underground facility lacking an equivalent to Grand Central's main concourse, and has 21 tracks.[5] Using Grand Central makes sense in that it is a larger terminal area, with far greater passenger comforts in the form of retail outlets, to service passenger needs. There is, finally, that other inestimable aspect of passenger amenity: the opportunity for rail travelers, if the stations are connected, to choose to enter New York through a not only comfortable but also inspiring edifice.[6]

The operating efficiencies for all four rail carriers in the link are manifold. Firstly, such a plan creates a "run-through" design for Grand Central, as opposed to the current "stub-end" track layout. Grand Central's tracks now terminate at bumper posts before the concourse, making the station a true "terminal." For a locomotive-hauled train this means that once arrived, the cars themselves must be pulled by another locomotive at the rear, or pushed by its own locomotive, out of the station for servicing. This, in turn, creates switching traffic, moving now empty equipment, which strains capacity and degrades overall efficiency. In the days of massive Pullman and dining car operations the servicing of long distance trains involved thousands of employees,[7] and the use of enormous coach yards in Mott Haven in the Bronx (now abandoned), as well as large numbers of 'pocket' tracks (many still in use) tucked into the approaches to the station itself for interim storage of equipment. But even in these days of simplified train services generally, and many commuter trains of electric multiple unit cars, driven on their own power and without locomotives, a stub-end terminal presents myriad operating concerns in assuring trains, once unloaded, do not occupy platforms needed for other arriving schedules.[8]

If at least a few of the tracks at Grand Central continued south, and then west, to connect with Pennsylvania Station, all sorts of opportunities open for "running through" trains, increasing equipment flexibility, reducing terminal costs, and effectively adding capacity. Intercity trains on the Northeast Corridor could call at both stations (and those terminating in New York could continue to be serviced at the existent Sunnyside Yards in Queens), giving their passengers Grand Central, at the city's core, as an option. Trains from Albany and points north could now also stop at either station, and then continue west under the Hudson, for Philadelphia, Washington, and points south.[9] Commuter trains from Westchester and Connecticut could now operate through both stations, exiting to the existent LIRR railroad yard on the West Side of Manhattan, or in many cases continuing as trains outbound from both Grand Central and Pennsylvania Station to New Jersey points. More route options, as noted above, would exist reaching both Newark and Kennedy airports. Conceivably in the future, as train volume increased, trains could also proceed through Pennsylvania Station, under the Hudson River, to new and less expensive yard space in New Jersey. Of course, at present, Amtrak already has the Hell Gate Bridge route, allowing trains to pass unimpeded through Manhattan via Pennsylvania Station only. But adding the link to Grand Central (where, pre-Amtrak, most trains from Boston terminated after running down the current Metro-North line from New Haven) also allows an alternate route in times of accident or other emergency.

Accepting that connecting Grand Central Ter-

minal and Pennsylvania Station dramatically improves rail infrastructure in Manhattan and the New York area generally, why should planners and concerned citizens reconsider aspects of the East Side Access Project, as now proposed? Specifically, why should they consider a variant of the Upper Level Loop Alternative, which could be appropriately named the Lower Level Loop Alternative?[10] The Upper Level Loop Alternative differs from the current GCT via Main Line plan in one fundamental way: while both plans call for a new route diverging from the current LIRR line in Queens, accessing Manhattan via the lower deck of the 63rd Street tunnel,[11] the MTA plans call for the LIRR route to terminate in the aforementioned "Deep Cavern" station, separate from the existing platforms and trackage at Grand Central itself. The new platforms would connect via escalators or elevators with a mid-level mezzanine, which would itself be connected to the Grand Central Concourse. Overall, passengers would arrive in an enlarged tunnel platform area and then travel about 150 feet, the equivalent of the height from base to torch of the Statue of Liberty, to reach the street. As an entry point to the city, the deep cavern configuration would likely be crowded, claustrophobic, and potentially dangerous in times of emergency.[12] The plan calls for extensive deep excavation, including in bedrock, all adding to complexity and cost. By contrast, the Upper Level Loop Alternative proposes that the LIRR trains, after reaching Manhattan via the 63rd Street tunnel, merge with the existing approach tracks coming into Grand Central and enter the station itself on its upper level (in addition, the Upper Level Loop Alternative calls for the LIRR trains to use the "loop" tracks of the upper level to turn back, after unloading, towards Long Island destinations).[13] In this way these passengers would enjoy much more immediate and comfortable access to the station's aesthetic grandeur and amenities. In addition, considerably less excavation would be required than under the MTA's[14] current plan. But the Lower Level Loop Alternative offers a further and critical refinement: the East Side Access Project should be so engineered that provision is made for a minimum of two tracks to be extended directly south from the lower level of Grand Central, under the Concourse. These tracks, which would be the link, would follow the alignment of the Lexington Avenue subway approximately to 36th–34th Streets, a distance of only six to eight blocks, where the new line would connect with the existing route of the LIRR coming in from Jamaica, and thereby access Pennsylvania Station.

In 2003 the MTA, NJ Transit, and Port Authority of New York and New Jersey sponsored a Major Investment Study, entitled "Access to the Region's Core, Summary Report 2003" outlining various major proposals for improving rail transportation resources of the New York City region.[15] This Investment Study detailed and reviewed several major plans for infrastructure improvements, eventually eliminating all but three alternatives, labeled Alternatives "G", "P" and "S". Alternative "P", as its centerpiece, envisioned a new stub-end terminus for NJ Transit underneath and operationally distinct from Pennsylvania Station. Alternative "S" envisioned a new rail tunnel under the Hudson River paralleling the existing tubes, the use of existing tracks and platforms at Pennsylvania Station itself, and another new tunnel under the East River (the primary objective being to allow run-through operations to Sunnyside storage and servicing yards). Alternative "G" called for, among other improvements, a link between Grand Central Terminal and Pennsylvania Station, along with additional yard trackage, connecting at Grand Central's lower level, essentially as described above as the Lower Level Loop Alternative.[16]

All the plans were evaluated for both capital and operational costs. The estimated total capital cost (construction and new equipment) for Alternative G was approximately $2.9 billion – 3.1 billion. Annual operational costs, with the service expansion envisioned under Alternative G, after accounting for increased revenue projections, were reduced by as much as $13 million.[17]

The Investment Study ultimately resolved that alternatives P and S should advance to the Draft Environmental Impact Statement phase, and that Alternative G was not recommended.[18] The primary reasons given highlight the lack of a regional planning overview, which so argues for adoption of Alternative G. Firstly, the Investment Study, written in 2003, identifies the key goal at this juncture as "expanding Penn (sic) Station train capacity for increased trans-Hudson

rail service," and finds Alternative P most effective at achieving this single, albeit major, improvement. But the original mandate for the Investment Study, stated in 1995, had three broad objectives: (1) enhancing the economic viability and productivity of the New York-New Jersey region; (2) improving quality of life in the region; and (3) investing in transportation productively, efficiently and effectively.[19] These broader goals, on which planners and concerned observers should refocus, argue strongly for adoption of some version of Alternative G, or the Lower Level Loop Alternative. The Investment Study finds that Alternative G would "create complex train operations that could affect … operational reliability."[20] But it is the very complexity of operations that advances the first two mandated 1995 objectives: primarily the extensive opportunities for run-through operations, vastly increasing traveler options, and the spread of traffic among multiple desirable downtown locales. Suburban areas, both as residential and work destinations, become accessible not only to and from New York City itself, but also from opposite sides of the city, making Westchester – New Jersey commutes feasible, as one example. Similarly, airport rail services could dramatically increase in flexibility and routings. Further in the future, the link, which as noted above would follow alongside the Lexington Avenue subway line, could presage the eventual coordinated running of commuter and subway trains down various north-south subway axes, introducing even greater possibilities for convenient passenger distribution in midtown and lower Manhattan. All these improvements would enhance the desirability of the rail mode generally, according quality of life and ecological benefits, primarily in reducing car usage. The Investment Study, for example, found that daily "modal diversions" (from auto, bus and ferry, and existing Port Authority Trans Hudson ("PATH") services) to commuter rail would average approximately 9,400 trips per Alternative G, or approximately twice the number of the other alternatives.[21] Reliability of operations, of course, is a key goal. But modern technology and coordinated planning should be able to resolve ongoing operational issues (and the Investment Study also found the added traffic at Grand Central as feasible).[22] It is also noteworthy that Alternative G has estimated capital costs at par or below the other alternatives, and its projected operational costs are below the other options.[23]

The Investment Study advances structural arguments against Alternative G that also would seem resolvable. Construction, the study notes, would involve acquiring easements in a variety of Manhattan properties. But local government should be able to conclude these negotiations successfully. The Investment Study also raises concerns over impacts on existing infrastructure, including subways. But such problems will be faced with regard to any of the alternatives. In this respect also, the Investment Study notes that Pennsylvania Station was designed to permit five tracks (in addition to those now used by the LIRR) to be extended eastward, and Grand Central was designed to allow for a tunnel extending from the lower level tracks.[24] Any massive construction effort will inevitably face foreseen as well as unanticipated obstacles in the path to completion. But will they be greater than those faced, and the technological innovations required for resolution, by railroads operating in Manhattan in the early nineteenth century, which were overcome? New York City then, alarmed at the smoke and fire hazards created by steam locomotives, curtailed their use in Manhattan. The result eventually was mainline electrification between New York and New Haven, arguably the first long distance electrification in the world,[25] as well as the approaches to Grand Central and Pennsylvania Station.[26]

Even as the final moments for modifications to the East Side Access Project have arrived, so also the final stages of planning for the new Hudson River Rail Tunnel (additionally known as the "Trans-Hudson Express," or "THE" Tunnel), a two track bore to augment the existing line entering Pennsylvania Station (essentially Alternative P as described above), now threatens the link concept from the other side of Manhattan. In March of this year NJ Transit conducted hearings on the Draft Environmental Impact Statement for the project. The current plan continues to have the same central design flaw as the East Side Access Project: trains from New Jersey using the new tunnel will enter another planned "Deep Cavern" station, with the same negative attributes, beneath Macy's Department Store, rather than connecting with existing trackage into Pennsylvania Station itself.[27] Were the link plan

in place to connect Pennsylvania Station and Grand Central, the operational advantages of funneling trains from the Hudson River Tunnels into such a link line would be ever more manifest. Pushing ahead with the current Hudson River Rail Tunnel, just as pushing ahead with the East Side Access Project, as currently planned, brings benefits – but not the benefits attainable with a coordinated and reconsidered approach.[28]

Despite the evident goodwill and energy that continues in planning New York's transportation future, coordinated regional rail planning has yet to be fully realized. We should be actively advocating that elected officials and the agencies involved adopt a comprehensive regionwide perspective on these issues. Instead, there are now excellent efforts, working too often, as here, in ways that make future rational development more difficult. The involvement of three states, New York, Connecticut, and New Jersey, with their separate perspectives, constituencies and agendas, at times almost competing (an ironic echo of the New York Central and Pennsylvania Railroad's fierce competition when building Grand Central and Pennsylvania Station respectively) is probably the primary reason.[29] But we have an immediate chance to amend the East Side Access Project, and another pending opportunity to amend the Trans-Hudson Express project, and enhance the possibility of an eventual link, which would provide the key missing component of Manhattan's rail infrastructure.

Other cities, here and abroad, have recently embarked on similar investments. Noteworthy examples include Philadelphia's 1984 rail tunnel between all three downtown stations, two formerly stub-ended, allowing run-through operations for the city's two rail commuter networks. In 2006, Berlin opened its new Central Station, connecting intercity rail services though the center of the city on both north-south and east-west routes. Other cities, such as London, with its "ThamesLink," have created similar routings.[30] In a dense urban space, additional rail capacity, even lines that duplicate destinations, are not wasteful inefficiency. Rather they can be critical elements making the entire system more accessible and comfortable. Thereby, they attract more riders, benefiting the urban environment generally through specific and foresighted planning.

Notes

1. *Trains of Thought,* Jeff Gerlach, ed. (web journal about transportation and the urban environment), www.trainsofthought.com; also "Making the Connection," "Out of the Depths," www.irum.org, updated September 2006; *Trains Magazine*, March 2007, p. 33.
2. The summaries of the various plans involved in the Upper Level Loop Alternative, as well as additional arguments for the benefits of a Grand Central/Pennsylvania Station link, are taken from the website of the Institute for Rational Urban Mobility, Inc. (IRUM), and its various links. IRUM is a not-for-profit corporation formed to study and promote the enhanced livability and increased economic competitiveness of New York City and other dense urban areas through a program of innovative transport reforms. IRUM maintains a comprehensive website, www.irum.org, on which it presents 15 interrelated near-term strategies for improving public transport, reducing car use and enhancing the walking environment in New York City. One of these initiatives, the Regional Rail Working Group (RRWG) (www.rrwg.org), consists of 50 to 60 transit experts from the tri-state region. To promote the Upper Level Loop Alternative, IRUM commissioned a detailed study from Delcan Corporation, a Canadian engineering firm (hereinafter the Delcan Report) and Michael Schabas, a British urban rail consultant (Schabas Report). See e.g. Delcan Report, p. 3. The reports are referenced at various points below, and are available in full, linked to the IRUM website.
3. *Trains of Thought*, "Why Connect Penn Station and Grand Central," updated September 2006. The Hudson Yards plan, a joint project of New York State, New York City, and the MTA, calls for conversion of an area bounded by 28th to 43rd Streets, and Seventh Avenue to the Hudson River Park, from a neighborhood primarily of railyards, industrial buildings and parking lots into mixed-use business and residential development (www.hydc.org).
4. Even with today's system, a train serving the Newark Airport station could theoretically run through Pennsylvania Station directly to Long Island, were it not for the different electrical systems in use on NJ Transit and LIRR. See the discussion below at footnote 25.
5. Establishing figures for current daily use at Grand Central Terminal and Pennsylvania Station is complicated by a variety of reasons. Enormous numbers of subway passengers circulate though both points, whether or not boarding commuter or intercity trains. In addition, Grand Central hosts sizeable and popular retail areas. Calculating from publicly available sources, Grand Central would seem to have approximately 400,000 people circulating daily (train passengers, excluding subway and retail pedestrian traffic, being about 125,000), Pennsylvania Station has approximately 550,000 (train passengers, excluding subway and retail pedestrian traffic, being about 310,000). See e.g. "Grand Central Station," (Wikipedia - with links to supporting articles); the "Moynihan Station Position Statement," dated Dec. 12, 2006, available on the internet under the same name; see also "Access to the Region's Core, Summary Report 2003," referenced below as the "Investment Study," at footnote 15, at p. 5. As a point of comparison, 100 million passengers, or approximately 274,000 per day, used New York's airports in 2005. The Port Authority of New York and New Jersey, "2005 Annual Airport Traffic Report." In an edition of *The Railroad Man's Magazine*, Oct. 1906, Pennsylvania Station, then in the planning stages, was described as "[m]astodonic in area," some 25% bigger than Grand Central (not true after the 1964 demolition), 50% bigger than South Station, Boston (then the nation's busiest) and to be capable of holding, at any one time,

300,000. The same author also noted that, by means of the tunnels connecting the station to Long Island, the Pennsylvania Railroad was considering developing Montauk as an auxiliary sea terminal for New York, the city's port being already "inadequate to the demands of ocean steam-ships."

6. Gratifyingly, the plans for a rebuilt Pennsylvania Station have been aesthetically and architecturally ambitious. Recent rail structures nationwide, particularly on some of the new light rail and other commuter systems, have often shown innovative, as well as historically evocative designs. A notable local example is the Secaucus Transfer Station of NJ Transit, also known as the Frank R. Lautenberg Station, and sometimes Secaucus Junction. The new Berlin Central Station, discussed below, is an excellent example overseas.
7. It is always important, whenever considering the vast armies that serviced railroads in their prime, to recognize that the onboard services, with the exception of conductors, or 'captains' of the train, were almost invariably African-American. The legacy was two-fold: for several generations of black Americans life on the rails offered a route to the middle class. But for the American traveling public from the end of the Civil War to the end of World War II, at a time when travel was generally by train, the face of subservience was African-American, and the stereotype persisted, and perhaps grew, as railroads served every corner of the nation, not just the South. The indignities could be harsh. As a few examples, porters were expected to wait on passengers at their beck and call, every hour of day or night. Dining car waiters, on some long distance limiteds, after closing the car at 10 or 11:00 p.m., slept on the tables, curtains strung to create minimal privacy, and then were expected to be up and preparing breakfast at 5:00 a.m. (crew dormitory quarters enroute generally did not appear until after World War II). As Paul Achard, a French journalist on The Twentieth Century Limited out of Grand Central, wrote in 1930, testifying as to what was expected of crews: "…(they) make up your bed, supply you with ice, serve drinks, put your clothes on coat hangers, your hat in a box, clean your shoes...You need only give a ring and they come…service service." *Dining By Rail*, James D. Porterfield, St. Martin's Press, New York 1993, p. 69.
8. Mr. Schabas points out that a platform in Grand Central, with the stub-end design, is used by one train on average every 54 minutes. By contrast, at Pennsylvania Station, as well as at rail terminals in London and Paris, each platform typically accommodates one train every 12–20 minutes. Schabas Report, p. 7.
9. The "West Side Connection," built in the 1990s, allows trains from these points to enter Pennsylvania Station (bypassing Grand Central), but they do so traveling south and then turning east to enter the station itself. Therefore, the engine must be run around the train to the other end to allow the train to head towards the Hudson River tunnels, which are in the opposite direction. While service from Albany to Washington, with no change of trains, was discussed when the "West Side Connection" was built, the fact it never was regularly established is likely due in large part to the cumbersomeness of this switching. In the event that trains could proceed to Grand Central and then to Pennsylvania Station via the link, the West Side Connection could continue to serve as an important commuter rail line, perhaps with a new stop connecting to the revitalized George Washington Bridge Bus Station (see the article *An Artist-Engineer's Treasure Hidden in Plain View* on p. 43 of this issue).
10. The Upper Level Loop Alternative is so named to differentiate it from a 1996 proposal by the Committee for Better Transit (CBT) (http://auto-free.org) to bring the East Side Access Project into Grand Central's upper level, known as the "Apple Corridor Scheme." This plan, one of the four alternatives considered and rejected by the MTA, also envisioned a direct route from Kennedy Airport to Grand Central. Delcan Report, p. 1-2; RRWG, "Statement on LIRR East Side Access Project."
11. RRWG, "Statement on LIRR East Side Access Project." The MTA has a public display on the East Side Access Project, currently on view at Grand Central at the entrance to the New York Transit Museum. As shown there, the 63rd Street tunnel was originally conceived in the 1960s on two levels, the upper for subways, the lower to bring LIRR trains to a proposed Midtown Terminal on Third Avenue. The project commenced over 30 years ago, yet only 1.6 miles has been completed. The city's financial problems caused the project to be scaled back. The subway portion of the tunnel, finally operational in 1989, now carries the F Train to Queens. The tunnel itself, including the lower bore, was largely completed. But finishing work was left incomplete.
12. *Trains of Thought*, "Out of the Depths." The plans show architectural embellishment in the design of the station itself, with mezzanines evoking design details of Grand Central's other concourse areas. But inspection shows the essential design flaw, in terms of convenience and safety, presented by the long ascent to ground level. The New York Transit Museum was also the site of an inspiring 2007 exhibit on the designs of the architectural firm of Heins & LaFarge for the first New York City subways. As noted in the exhibit, an early subway contract for the firm stipulated the system as a thing of potential "beauty."
13. Delcan Report at p. 3-4. The "loop tracks" are two tracks on the west side of the overall Grand Central track layout which continue under the Concourse and arc around 180 degrees, connecting back on the station's east side with several other tracks, allowing locomotives and trains to be turned. While arguably these tracks are not part of the stub-end arrangement by which Grand Central is characterized, being only two of the 67 Grand Central tracks (see above), their impact on the station's general efficiency, versus a true run-through design, is minimal.
14. Delcan Report, p. 27-28, 54 and 59.
15. The full Investment Study is available at www.accesstotheregionscore.com; follow links to "Library," and then to "Reports."
16. Investment Study, p. 15-26.
17. Investment Study p. 19-20, 32; using the tables at "InflationData.com," the total inflation between January 2003 and January 2007 is roughly 11.40%. Boston has a similar proposal to connect North and South Stations, the "North-South Rail Link," also estimated at costing several billion dollars. While the Commonwealth of Massachusetts currently has withdrawn its sponsorship, it is noteworthy that the "Central Artery," part of the recent "Big Dig" completed to put a freeway in Boston underground, included walls built underneath the roadway to be used by a future rail link (forethought!). (Wikipedia - with links to supporting articles).
18. Investment Study, p. 36.
19. Comparison between Investment Study p. (i) and p. 36.
20. Investment Study, p. 34.
21. Investment Study, p. 33. The Investment Study also considered, under Alternatives G, P and S, the possibilities of rail freight using the various options during off-peak hours, another potential economic advantage to increased capacity. The Investment Study at p. 26.
22. Investment Study, p. 16-20.
23. Investment Study, p. 32.

24. Investment Study, p. 16-17, 34.
25. By the 1930s the Pennsylvania Railroad's electrified mileage, from New York to Philadelphia and Washington, and Philadelphia to Harrisburg, was the largest mainline electrification in the United States, and rivaled any comparable system world-wide. The electrification of the Northeast Corridor from New Haven to Boston in the late 1990s was the first major increase in contiguous electrified mileage in the United States in decades. Electrification today is virtually universal on the main lines of most other modern countries. Ironically, the different electrification systems in place today on Amtrak, Metro-North, NJ Transit and the LIRR, a legacy of the different electrical systems chosen by the original private owners of these lines, would be one of the technological issues that regional planning, including planning for a link, would have to resolve.
26. Also in the early 19th century, trains through the Gare d'Orsay in Paris were electrified.
27. RRWG, "New Jersey Association of Railroad Passengers' Statement to the Planning and Economic Development Committee, North Jersey Transportation Authority, Inc," August 29, 2005, "Access to the Region's Core." www.accesstotheregionscore.com/THETunnel.html.
28. *The ESPA Express*, March/April 2007, p. 5.
29. *The ESPA Express*, March/April 2007, p. 5; *Trains of Thought*, at homepage.
30. The "ThamesLink" involved the integration of differing electrical systems (see footnote 25 above). *Trains of Thought*, "Berlin, London, Philadelphia – Why Not Here?"

An Artist-Engineer's Treasure Hidden in Plain View

Pier Luigi Nervi's George Washington Bridge Bus Station

Judith Wolin

Every New Yorker has a private hoard of hidden treasures – culinary, theatrical or architectural secrets. Among a small group of New York architects, there is an especially cherished cult secret, hidden in plain view. It is so embedded in the rush of the city that few people who pass it ever see it, much less have any idea that it was designed by one of the greatest artist-engineers of the 20th century, or that the clever meshing of its fabric with the massive infrastructure of the George Washington Bridge was intended to stand as a model for the integration of transportation systems with commerce and housing in the modern city.

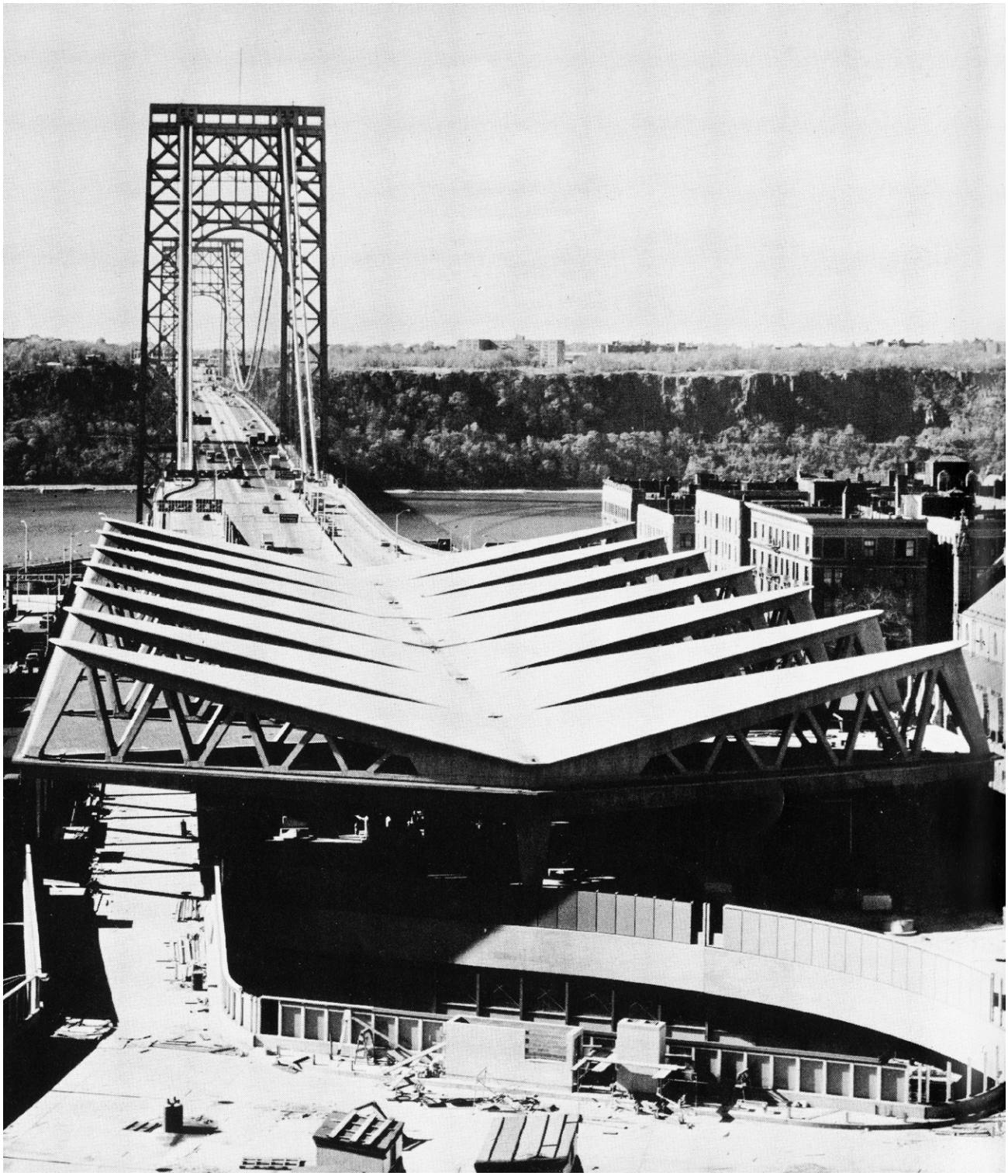
The George Washington Bridge Bus Station, opened in 1963, was planned by John M. Kyle, the Port of New York Authority's (as it was then called) technical chief. He commissioned the renowned Italian engineer, Pier Luigi Nervi, to design the structure. Nervi was at the high point of a career that had first received international attention in 1939, when he created a municipal stadium for Florence. The stadium was shaded by a boldly cantilevered, thin-shell concrete canopy and served by equally daring spiral staircases. His stately airplane hangers and exhibition halls of the 1940s and '50s demonstrated to avant-garde architects that reinforced concrete could be pleated, twisted and slung in more dramatic and complex ways than they had ever dreamed.

Robert Moses and John Kyle wanted a terminal that would lift New Jersey commuter bus traffic directly off the bridge. Passengers would disembark in an upper-level hall that spanned the entire width of the 12-lane roadbed of the Cross-Manhattan Expressway, which carries traffic to and from the Cross-Bronx Expressway. The buses would make a U-turn on bridges between Broadway and Wadsworth Avenue and descend back onto the upper deck of the bridge. Their wheels would never touch the city streets.

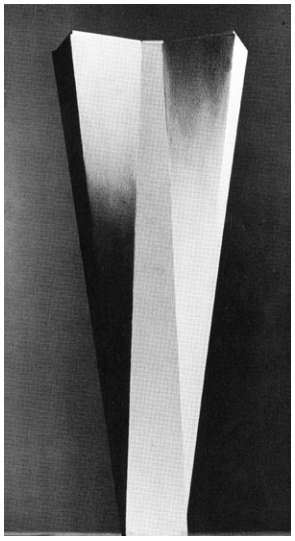
Nervi accomplished this feat with a huge, reinforced-concrete truss, supported only in the median between the east- and west-bound lanes of the expressway and at the outer retaining walls of the highway cut. He developed a form for the central columns whose sculptural precision and grace obeys the necessity that the column base be as small as possible so that the underground traffic would not be obstructed. The columns grow wider and spread like a tree as they gather in the load of the upper levels of the structure.

That central row of flaring columns supports the valley of a butterfly roof. The lifted wings of the butterfly were intended to allow bus fumes to escape and natural light to flood the arrival deck. Again, the structural and functional logic is absolute: every surface is triangulated by delicate ribs for maximum rigidity and minimum weight and the form that results from this technical clarity has the same magical grace as the bridge itself.

Nervi told students at his Harvard lectures in 1963 that there were always questions of style to be answered, even in buildings as tightly governed by engineering principles as his. He said that he looked to the design of, for instance, Boeing aircraft, with their



Port Authority Bus Terminal during construction
Courtesy: Port Authority



Model of central supporting column
Courtesy: Oscar Savio

rounded airfoil wings and noses, because these forms were direct responses to calculated natural forces. While he understood that the bus terminal would never have to fly, he thought those airfoil shapes could become elements of a stylistic vocabulary that would be both beautiful and recognizably "modern." In all his work he avoids frameworks of posts and beams, preferring forms that thicken where forces collect and taper to almost nothing where they are concentrated and delivered to the ground. Rather than simple intersections of straight lines, he preferred to find gentle curves that would express the continuity of those forces. His concession that this was a matter of "style" rather than calculation was consistent with his constant search for honesty in his thinking and it reveals his awareness of, and position in, architectural debates of the time, such as Walter Gropius's little tract, "Modern Architecture Is Not A Style."

Passengers descend from the arrival deck to a street level concourse where they can buy tickets, pick up a cup of coffee, or exit to city buses and the subway station on Fort Washington Avenue. The concourse, sandwiched as it is by traffic below and above, was never a lovely space, but Nervi tried to redeem it with colorful mosaics. Recent renovations have carved more rentable space from the concourse, but the unglamorous businesses that have leased the space have not cheered it up much.

In 2003 the concourse suffered a remodeling that, in addition to essential repairs, made space for some inconsequential retail activity but did not solve the more important problem of improving the connection to the 175th Street subway station, a crucial link in the system for New Jersey commuters headed downtown.

As a physical fact – a seven-bay truss spanning 186 feet and supporting itself on eight sculpted columns – the bus terminal ranks as a masterpiece of engineering art, worthy of being compared to the robust glass-and-steel train halls of the 19th century, which in their day did so much to supply the technological foundations and aesthetic ideals of modern architecture. But in addition to the principles of uncompromising structural expression, there were even larger ideas, albeit less successfully played out, invested in this project.

The word "megastructure" which came into common usage in the 1960s, described an idea about urban building that was given an early and vivid presentation by Le Corbusier in the 1940s. His "Plan for Algiers" envisioned a highway sweeping across the hilltops of the city, with housing, offices and open terraces filling the space between the upper road deck and the rising and falling terrain. His idea was to integrate all the manmade systems of the city – transport, housing, recreation, work – in a single, linear structure that could be modified or "filled in" over time, leaving the hillsides and the shore untouched. By the mid 1960s, the megastructure idea dominated Futurist dreams of the city, to the point of self-satire by groups such as Archigram in England and Superstudio in Italy. The Centre Pompidou in Paris, for instance, could be understood as the direct progeny of the linear infrastructure romance, even though it exists only as an incomplete quotation of the linear city, one block long, marooned in the historic center of Paris.

In practice, true megastructures don't get built because the multiple agencies and corporations involved in such enterprises have very different goals and fears, even if they are public agencies working without an independent profit motive. The Port Authority was in the rare position of controlling the bridge and the buses and also having the power to develop real estate. While their plan did not merge uses or provide amenities to the extent envisioned by Le Corbusier, it did include four housing slabs spanning the expressway. Together, the bus station, the four apartment tow-

ers, and the expressway suggest a linear city that has stitched itself over, under and through the fabric of northern Manhattan.

By 1960, planners were beginning to understand that a megalopolis – a huge urbanization, with many population centers and a mesh of transport connections – was supplanting the older concentric city with all transportation lines aimed like arrows at its heart. The uptown bus terminal was a clear acknowledgement of the new pattern. But along with its poor cousin, the 125th Street Metro-North rail station, it was perceived as being marooned in dangerous territory, with insecure connections to the bus and subway conduits that could carry travelers downtown.

Nothing like utopia was achieved on Washington Heights, any more than the Housing Authority, also directed by Robert Moses, ever came close to realizing Le Corbusier's vision of the Ville Radieuse. On 178th and 179th Streets one can hear and smell the perpetual roar and fumes of the highway. Tenants of the four towers never escape the vibrations and the dirt rising from the uncapped sections of the road. While the residents of the outer slabs enjoy magnificent open views, the rest stare bleakly and bluntly at each other. And while the bus terminal succeeds in keeping some New Jersey commuter buses off the streets of Manhattan, hundreds of other buses from New England and upstate New York pass under it, cross the George Washington Bridge, turn south in a wide arc, and reenter Manhattan via the Lincoln Tunnel. When there is traffic trouble, they re-route themselves down the avenues of the island, creating choking gridlock at the 42nd Street approaches to the main Port Authority Bus Terminal and the tunnel.

The stillborn linear city at 179th Street is now nearly 45 years old; not yet an antique, but in serious need of some kind of attention. Even though more than 15,000 passengers a day pass through its arrival hall, and the volume of highway traffic beneath it has grown prodigiously, the project, more or less frozen since 1963, could be seen as ripe for a write-off. There was some talk in 1999 of developing the air rights over the adjacent, Nervi-designed parking garage with a multiplex cinema. But it has been a long time since anyone dared to dream about the Cross-Bronx Expressway as a spinal cord for a city of the future.

Schematic plan of the station in context.
Simon Kristak

And yet we need our megalopolitan transport systems to work better. We need more people in outlying areas to live closer together and to use mass transit rather than their automobiles for daily travel. This requires a more concerted approach to transport planning and development than anyone has dared to undertake in the last 50 years. It can be argued that some of the shortcomings of the present situation could be remedied, not by abandoning the structures that now exist, but by making them more useful. If, for instance, the existing parking structure could be modified to accept buses from New England and upstate New York, more passengers could disembark uptown and use the MTA or the New Jersey buses to complete their journey, easing the use of the bridge, the Lincoln Tunnel, and the streets in midtown. The regional buses could approach the terminal on the George Washington Bridge, north of the Cross-Bronx

Expressway, and enter the station at street level. If the subway station could be extended and redesigned so that bridges and escalators or elevators would connect bus passengers to the subway platform without crossing streets, it would resolve an old failure of the original scheme. This could be accomplished by allowing higher density development on the sites south of the station, with a portion of the lower stories of the new buildings given over to public-transit vestibules. Capping the open voids above the highway to provide new recreation space, and encouraging the development of some new housing on adjacent sites might improve the current situation without creating a serious upheaval in the existing urban fabric. It might tap a potential market of "out-commuters," whose desire to live in Manhattan is not connected to jobs downtown, but to the richness of city life.

The difficulties inherent in building in the midst of the current congestion are formidable, but the city has faced down more massive growing pains many times. Santiago Calatrava, the heir to Nervi's mantle of world-class "artist-engineer," faces a much more difficult logistical problem at the World Trade Center site. Even Calatrava might be hard pressed to tease much visual poetry from the constraints now in place in Washington Heights. Then again, Nervi has already provided that. Now we need to preserve the best things we have, and to build on their logic, strengthening a major link in the metropolitan web rather than choking the old city heart to the point of infarction. This could be an idea whose time has come, gone, and come again.

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