Land Value and the Financing of Urban Rapid Transit Infrastructure

A Thesis Presented to the Faculty of Architecture, Planning and Preservation
COLUMBIA UNIVERSITY

In Partial Fulfillment
Of the Requirements for the Degree
Master of Science in Urban Planning

By

Daniel Dykema

May 2013
Abstract

As federal and state funding sources have declined, transit agencies have sought to find alternate forms of financing for their transit systems. One underutilized strategy is land value taxation (LVT), which has the potential to increase revenues for these agencies. This research looks at how New York City’s Metropolitan Transportation Authority currently utilizes its existing portfolio of real estate holdings to generate revenues. Through an examination of two recent land deals, Atlantic Yards and Hudson Yards, this research examines how the MTA missed out on opportunities to maximize revenues during the negotiation process and how a lack of autonomy reduced the MTA’s ability to improve the outcome of negotiations. Alternate real estate strategies are discussed using Hong Kong’s transit agency as example. Recommendations for the MTA to utilize LVT concepts and possible changes to the MTA’s governance structure are presented.
To Nikki Thompson

i carry your heart with me
Finding sufficient financial resources for the construction and maintenance of urban rapid transit infrastructure has become increasingly difficult in the United States. Dedicated revenue sources such as federal and state gas taxes are insufficient and their ability to shoulder a significant percentage of the costs is uncertain as cars continue to become more fuel-efficient and total vehicle miles travelled decreases. Moreover, contributions from general tax funds have decreased as governments have reduced residents’ overall tax burdens. Other funding strategies like sales taxes are volatile and fluctuate with the overall economy. Complicating this issue further is the willingness of private companies to purchase transit infrastructure for one-time lump-sum payments to government entities strapped for cash.

In part as a reaction to these dwindling revenue streams and the threat of private takeovers, but also as recognition that transit infrastructure should be financed by people who directly benefit from them, policymakers have begun to consider alternate forms of financing that more precisely target beneficiaries of the system. Counterintuitively, the pool of direct beneficiaries is considerably larger than just the transit riders who pay fares. Broadening this base is significant because it more equitably distributes the costs of transit infrastructure and lessens the burden on transit riders who are generally lower income.

This pool can be characterized in three ways: automobile users who benefit from fewer drivers on the roads as a result of a robust transit system, business owners who benefit by having more potential patrons and property owners whose land increases in value the closer it is to transit infrastructure. Automobile users contribute to transit systems through tolling; this can include the creation of congestion zones that charge drivers for entering certain areas, charging for using certain infrastructure like bridges or highways or the creation of High Occupancy
Vehicle (HOV) or High Occupancy Toll (HOT) lanes. Money collected from these tolls is in turn transferred to the transit system.

While urban planners and transit agencies have logistical and political challenges in adding or increasing tolls the principle is straightforward and well tested. Value capture, on the other hand does not have a consensus on the proper method for diverting the unearned value of land to transit agencies. Rather a number of important differences exist. Chief among them is exactly what should be taxed, the value of the property or the underlying value of the land? What is the proper geographical area for determining who benefits from transit infrastructure? Finally, what is the role of the private sector in the construction, financing and maintenance of these projects? Underlying these questions are important concerns regarding equity; the role of government; the spatial structure of cities and the inalienability of property rights. These concerns motivate my interest in value capture and provide critical assumptions that guide my research.

The purpose of this study is to examine how the Metropolitan Transportation Authority (MTA) currently disposes of land in its real estate portfolio and how it can better utilize concepts of value capture to retain the ownership of this land while, at the same time, increase revenues to pay for continuing operational costs of the system. In essence I have studied the ability of the MTA to function as a real estate developer in addition to its role as a transit provider to the New York metropolitan area.

The first section of this paper provides a foundation for my research that contextualizes the principles of land ownership; the theories of land value taxation (LVT) including ideological arguments for and against it; the impacts of LVT as it pertains to spatial concerns in addition to
revenue generation; and finally how LVT can help finance the construction and operations of transit infrastructure.

Before proceeding, it is important to address the assumptions that undergird my research. The first assumption is that government ownership of transit infrastructure is better than private ownership. Private ownership is more sensitive to market pressures and less receptive to the needs of the community. In order to make transit efficient private companies can streamline services either by reducing coverage/frequency or by raising fares, otherwise private transit operation still requires significant government subsidies. Public ownership of transit increases access rather than reduces it and is the only way to ensure positive externalities when costs exceed revenues.

The second assumption is that compact, denser metropolitan areas are better than larger, sprawling regions. This assumption is premised on the belief that smaller areas are more sustainable both for the environment and for their citizens, whereas larger, sprawling population centers increase hazardous emissions and contribute to unhealthy lifestyles.

The third assumption is that private ownership is not inviolable and that unearned increases in land value do not belong to private property owners, rather they are a tax that constitutes a legitimate property taking. These three assumptions will be critical to understanding how the MTA can utilize value capture effectively and constrain my research to concepts of LVT rather than other forms of value capture.
Land and Private Property

An inherent tension exists in classical conceptions of private property. Land can only be designated as private through the act of an entity powerful enough to thwart all unlawful claims. The only power strong enough to grant this authority is a government that can issue titles and deeds that identify the rightful owners of a property. Ultimately, an individual’s property can only be assured by something that is owned in common, i.e. government. Without a shared, public entity private property is not possible.

While governments formalize ownership, how does one make an initial claim toward rightful ownership? John Locke contends that while nature is held in common, it is only through the dividing of nature that it is given any real value. Until an individual uses it, land is meaningless. Through labor land becomes an extension of the individual and, consequently equally inviolable (Wenzer, 1999).

This categorization of land and private property is flawed because not all land is equal in value. There is no guarantee that if one puts significant labor into one’s property he/she will reap a true bounty. The reason for this is that not all land is the same, some land is fertile and some is not, some have natural resources that others do not. There is not always a linear relationship between one’s labor on property and its value, rather value is often a consequence of luck and happenstance. This disparity is unjust in that it advantages luck and not true labor (Wenzer, 1999).

If, as Locke says, land is an extension of the individual and his labor, but value is not directly correlated to labor how can this imbalance be eliminated? Henry George offers one possible solution and in turn takes the concepts of value out of an agrarian setting and brings them to the city. The industrialization of the city reinforces the belief that land value is highly
contingent on location and not inherent characteristics of the land. George recommends taxing away the un-improved value of the land so as to create an equal playing field for all participants. A land tax would place the laborer and the landowner on equal footing. While Henry George’s broader plans of land free of monopoly and private ownership are unrealistic, his desire to create baseline fairness in society has considerable appeal. George’s land tax corrects Locke’s understanding of land because once the value of the land is removed all that is left is the value of the labor that is invested in the land (Wenzer, 1999).
Land Value Taxation

The tension between Locke’s inviolability of private rights and George’s desire to eliminate structural imbalances in private property ownership still holds meaning. This can be seen in the efforts of landowners who speculate on undeveloped land that increases in value from the labor of others, particularly infrastructure improvements initiated by government. By not building on land until they know a significant windfall is certain landowners are able to earn value without labor. This disparity can be corrected through the intervention of the single authority that protects the inviolability of private property: the government. Common ownership of the government allows it to act for the common good of the populace.

Henry George’s conception of LVT fits easily into the United States’ existing legal regime because it is one form of value capture. Legal precedence indicates that value capture is an example of the government acquiring land, or in this case a portion of its value, for a public purpose, or benefit (Callies and Siemon, 1976).

Recognizing that LVT is legally possible, what makes it more advantageous than other forms of tax collection such as the property tax? Henry George argues that LVT would increase efficiency by allowing governments to eliminate taxes on land improvements, i.e. property taxes. The reason this is beneficial is that it would eliminate the need for all other taxes as well as make society more equitable. Moreover, LVT is the least distortionary tax possible as there is a finite amount of land and a clear demand for it. This differs from a property tax, which distorts behavior and creates a deadweight loss, meaning that as a result of property tax fewer buildings are constructed. This is because the supply of housing is elastic. (Cohen and Coughlin, 2005). In addition, the imposition of a single tax on land would bring land up to its “highest and best use” in order to finance the payment of the tax (Wenzer, 1999). The primary benefits of LVT are
twofold: first, land would be built quickly and in a manner that maximizes value, this would benefit society since it would eliminate attempts at speculation; second LVT would serve as a mechanism of redistribution.

George devised LVT at a time of American western expansion and industrialization; modern economists have since identified a number of limitations in LVT that are worth discussing. First, differentiating between the land value and the value of the improvement is difficult. Furthermore, if a land tax were to capture all current and future value from landowners, the market value of the land would be zero. Taking the full value of land equates to a government taking of the land, leads to the private abandonment of land and ultimately the government making decisions on the proper use of the land. Finally, the redistributive effects of LVT would significantly impact the wealth of certain landowners. Redistribution of wealth may be a desired outcome for some governments, though in 21st Century America this is highly improbable (Cohen and Coughlin, 2005).

Modern economists have arrived at a compromise strategy for implementing LVT: the two-rate tax. Under current property tax systems land and improvements are taxed together at the same rate, under a two-rate tax a significant differential between land and property would be instituted with the tax on the land going up and the tax on the value of the improvement decreasing. The argument for a two-rate tax is that it would encourage urban economic development through incentivizing building improvements on small inner-city lots. Because the change to a two-rate system would be less drastic than the conversion to a pure land tax system, the deleterious effects of LVT on wealthy landowners would be mitigated as well. Conceivably, this would make a transition from property tax to a two-rate system more politically feasible (Cohen and Coughlin, 2005).
I. Ideological Arguments for LVT

Two-rate taxation has supporters across the ideological spectrum. However, significant differences persist, with the most relevant issue being how much revenue should be generated from a two-rate system. The answer to this question hinges on how one understands the concept of fairness. The three basic economic approaches to LVT are the Libertarian, Liberal, and Progressive. For the purposes of this paper I will utilize Fred Foldvary for the Libertarian, William Vickrey to represent the Liberal and the South African scholars Hendricks, Lee and Tonkin for the Progressive position. Furthermore, an important Progressive critique from Wyatt will be addressed as well.

The Libertarian point of view hews most closely to Henry George’s conception of LVT, in that it is stuck in a nineteenth century understanding of economics. Libertarian proponents see LVT as an instrument to halt government expansion because it shifts taxation away from taxing production and on to taxing land values. This transition removes the excessive burden that government imposes on the economy. Foldvary states:

LVT would also result in a substantial reduction in the cost of government. The administrative cost of land value taxes would be less than that of existing property taxes (which require a greater inspection of buildings and improvements), and the cost of enforcing income and sales taxes would be eliminated. By improving economic growth and allowing workers to keep all the money they earn, land value taxation would result in higher incomes, reducing the demand for government welfare programs would further reduce the amount needed to fund government (Foldvary, 2006).

LVT is a solution to government intrusion; it is a purer tax that eliminates dead-weight loss – economic distortions created by taxes – and provides taxes in a lump sum for government so that it is able to provide the most essential of services to its citizens without it getting in the way of human freedom. For Libertarians the fairest government/society is the one that distorts the
market the least. LVT is an instrument of liberty and freedom. Of course, Foldvary’s prescription for freedom and fairness looks almost nothing like 21st Century America, especially its large cities where most residents are renters, not property owners and the demands of access and equity require considerable government intervention. As previously mentioned, the desires of the marketplace and the public often conflict when it comes to the provision of transit.

LVT can be used as a tool for shrinking government and market efficiency, but it can also be used as a strategy for greater government involvement and flexibility. The liberal approach, championed by William Vickrey shows the way. Vickrey’s basic economic theory calls for greater direct financial contributions from users of government provided services, in particular utilities and transit infrastructure. Vickrey argues that too often users do not pay the marginal costs of the products they use. This is especially true in the case of landowners who experience increases in land value from their proximity to transit infrastructure:

In a world where prices of goods and services imported to cities and exported from them are established by competition among cities, there is no shortage of sites suitable for the monopolistic position. It can be shown that these site rents generated by the availability of foods and services at prices reflecting marginal social cost (over and above the rent on peripheral rural land) will be just sufficient, no more and no less, to provide the needed subsidies (Wenzer, 1999).

Requiring landowners to pay back a portion of the value they earn from public infrastructure is simply a matter of fairness. Municipalities are often overwhelmed with debt, but are not provided with the mechanisms to pay down their debt equitably. A consequence of this is that the debt becomes so consuming that municipalities can no longer finance construction on their own, instead turning to the private sector to provide resources that should be owned by the government. Vickrey argues that the shift to a land-tax would increase efficiency and revenue so that this tactic would not be necessary. More importantly, he believes that LVT would permit the
“subsidizing of activities with positive externalities or strong economies of scale or density so as to permit their prices to be brought closer to the efficiency-promoting level of short-run marginal social cost,” (Wenzer, 1999).

Finally, the need to maintain revenue neutrality is eliminated in Vickrey’s form of LVT. As Batt indicates in his article on the theoretical ability of LVT to pay for the capital costs of segments of New York State’s Thruway, distortionary effects are sometimes in the best interest of the public. This is the case in LVT and transportation where a tax can alter behaviors that may result in negative consequences. For example, Batt argues that the use of LVT in the construction of the New York State Thruway would have created denser, more environmentally sustainable residential patterns. The distortionary effect of increased land value would encourage developers to change the types of housing they build (Batt, 2001).

Vickrey sees an important role for government in the lives of its citizens. Governments have the power and size to provide important services that would be too costly for individuals to attempt on their own. Unlike Libertarian LVT supporters who see it as a strategy for reducing government involvement overall, Vickrey describes LVT as a strategy to enhance the power of government and reduce their reliance on the private sector to provide these services. This is a more clear-eyed analysis of politics, economics and society than Foldvary’s and it certainly speaks to questions of basic fairness that Henry George would trumpet. For this reason Vickrey’s version of LVT captures the spirit of Henry George much more than the Libertarian perspective.

The liberal conception of LVT speaks to fairness; however definitions of fairness can be greatly extended. Hendricks, Lee and Tonkin extend the rationale for LVT beyond that of fairness to make a claim for justice. Vacant land, held in reserve by speculators who pay nothing
in property tax are “places of tremendous inequity, poverty and exclusion,” they also “challeng[e] role-players to find sustainable approaches [that] . . . reduce poverty and inequality,” (Hendricks et. al, 2010). The authors’ motivations differ from that of Vickrey, justice versus efficiency and debt reduction; however the practical implementation of LVT is similar. In essence this suggests that the difference between progressive arguments and liberal arguments is a political one. Which one is more likely to persuade policymakers and/or citizens? Professional politicians may be more convinced by efficiency, while citizens would be cheered by progressive ideas that encourage greater participation and democracy.

Progressive economists are not monolithic in their support of LVT. Wyatt offers an argument against LVT indicating that it does not provide the benefits that it promises. Wyatt critiques three major rationales for LVT. According to Wyatt political boundaries that impose limitations on LVT would prevent land use and economic development impacts that reduce sprawl and increase density, LVT would enhance sprawl because developers would choose to build new housing beyond the reach of LVT on greenfield development sites in other municipalities where more traditional property tax regimes predominate and cost less; claims that LVT would reduce the costs of land and therefore increase affordability are also spurious because landlords would most likely pass on the costs to their renters, in fact the costs might increase most in high-demand central cities where LVT was designed to have the greatest positive impact; LVT would exacerbate inequality and further concentrate wealth and land ownership. For Wyatt LVT is inadequate for the needs of the city, instead he argues for a federal progressive property tax that can more precisely redistribute wealth without increasing the tax burden in other areas. Wyatt contends that the ability for the wealthy to move beyond a
municipality’s boundaries reduces the impact of an LVT system. Instead a more progressive federal property tax that taxes income is more valuable (Wyatt, 1994).

Wyatt’s analysis is interesting, but does not really invalidate the arguments for LVT in that many of his criticisms are not with LVT but the realities of implementation and municipal fragmentation. Many of the issues with LVT are a result of municipal boundaries and competition. LVT will be less effective if it stops at a city’s border and the adjacent city maintains a more traditional property tax system. Furthermore, some studies, albeit mostly simulations, indicate that LVT may make a city more competitive relative to its immediate municipal competitors. Perhaps LVT would be more effective if it was part of a general revision of the existing income tax system in America, but claiming that LVT is more harmful than helpful is unconvincing.

II. Impacts of Land Value Taxation

LVT supporters identify four main impacts of the tax: it provides a new or replacement revenue stream for municipalities; increases housing affordability; reduces sprawl; increases densities. Unfortunately, given the relative scarcity of LVT in practice many of these claims are supported only through modeling.

a. Financial Impacts

There is a theoretical potential for increased revenue through LVT. Martinez and Viegas model a number of scenarios for the Lisbon metropolitan area and make some interesting findings. For example, their calculations show that a full 55% percent of the asset value of non-residential land is a result of proximity to public transit. Theoretically, considerable revenues can be generated from taxing a portion of this land value, as it is a direct result of public investment.
The authors do indicate certain tax burdens may displace residents and companies from certain parts of the city (Martinez and Viegas, 2012). I would argue, however that these requirements for relocation may be offset by increased transit access as a result of the land tax.

Another simulation was performed by Gihring who devised a model that utilized LVT to pay for the construction of new transit infrastructure in the Seattle region. In this simulation bonds were issued to finance the construction of transit. These bonds were paid for using revenues collected through an LVT. First the prevailing tax system was changed to a two-rate system. Second a mechanism to capture the value created by transit was devised. Once this was done bonds were issued and two possible options for financing were considered. One that captured the anticipated total balance of annual total gain in land values within the area; the second just the incremental increase that exceeded normal growth levels. Gihring’s study area was a single station stop on the new rail line. According to Gihring’s simulation, the more radical approach would generate $118 million whereas the incremental approach $24 million. While interesting, a couple of key points should be considered. In order to approach these figures Gihring assumes that the land will be brought to its “best use” through zoning and other interventions, more importantly the political will for changing the tax regime and making these zoning modifications must be present (Gihring, 2001).

Modeling is illustrative, but not entirely compelling. Rather, studies that examine actual impacts are more persuasive. Gatzlaff and Smith provide some insight into the real world capacity for transit to increase land value, a necessary factor for LVT to be successful. A land tax is only as good as the improvement infrastructure provides. If land values do not increase with the provision of transit infrastructure LVT suddenly becomes less appealing. In their study of Miami’s Metrorail and land value Gatzlaff and Smith found only a weak connection between
residential value and their proximity to new Metrorail stations. While land may increase in value there was no connection to distance to the station (Gihring and Smith, 1993).

Gatzlaff and Smith’s paper does not provide a substantial case for the connection between land value and transit, however this may also be a result of other factors outside the scope of the study. This is especially true considering Smith and Gatzlaff’s extensive annotated bibliography that details a number of studies that, to varying degrees, does show a connection between land values and transit. Many of the studies are from other countries that have different governance structures that may not be applicable to America, but the basic point is well taken.

b. Spatial Impacts

i. Housing

The effects of LVT on housing are equally uncertain and also rely on modeling. Even using simulations the results are highly variable. Anderson writes that in a decentralizing city the move to a two-rate system will speed the development and increase the amount of capital landowners will devote to their land. In a developing city the results are unclear, they may be similar to that of the decentralizing city but only if the rate on improvements is low enough to encourage development while offsetting the high land tax rate’s pressures to reduce investment (Anderson, 1999). Anderson’s answer to the question of will LVT bring new development and consequently increases in housing is a resounding maybe. This conclusion is pervasive in the literature; witness Carlton’s paper on the spatial effects of a tax on housing and land. The final conclusion is that spatial outcomes are reliant on a number of factors and depending on the specific configuration of factors one may benefit or suffer.

Speirs offers less ambiguity. He suggests that LVT reduces the yearly salary one needs in order to qualify for a home loan. This in turn lowers monthly mortgage payments and increases
housing affordability. Moreover, the incentive to build quickly created by LVT also incentivizes the construction of more multi-family homes, which increases affordability (Speirs, 2010).

ii. Sprawl/Density

Speirs makes a related argument for density as well. A landowner’s need to build quickly and to maximize his investment relative to the land tax will encourage multi-family homes. In addition to increasing affordability this also increases densities. Furthermore, landowners would be encouraged to build on previously vacant land so they do not bear such a heavy tax burden. This also would increase density and reduce sprawl. Again, this is merely a theoretical conversation that does not provide critical information like data or evidence.

Part of the reason that these authors provide models and theory is that very few places have implemented LVT. The United States only has one real closely examined case of LVT: Pittsburgh. In 1979-80 Pittsburgh raising the tax rate on land to more than five times the rate on structures. Prior to that, from 1913-1979, Pittsburgh had a system where the tax rate on buildings was twice the rate on land (Cohen and Coughlin, 2005).

A review of Pittsburgh after its change in tax rates offers a qualified endorsement of LVT. Following the rate changes Pittsburgh experienced a building boom far greater than any of the surrounding municipalities in the region. This increased economic development was mostly in commercial building activity, residential development lagged behind, though this was during a depressed housing market. This office construction consisted of a cluster of major new office buildings in the CBD and was a response to Pittsburgh’s economy transforming from a manufacturing into a service economy. This success can partly be attributed to LVT in that it maintains neutrality that does not create the adverse fiscal incentives that accompany other
revenue measures. This is important because business location decisions and economic growth are often connected to these revenue generation mechanisms (Oates and Schwab, 1997).

The evidence for a relationship between transit infrastructure and density is firm. Robert Cervero has identified the rise in costs of land around transit stations as a major influence on density. This is true in both residential developments as well as commercial projects. Though some of this increased density can be attributed to siting development in areas of pre-existing high demand and higher value, the presence of transit in these development locations increases the densities beyond what would have been constructed if transit were not present (Cervero, 1992). The link between transit, land value and density provides support for the potential of LVT to increase revenue and change spatial relationships, however it is still more supposition than anything else since the existing funding strategies for transit and related development do not utilize these forms of value capture.
Value Capture and Transit Finance

Instituting a citywide LVT is politically difficult. We have seen this borne out in the relative scarcity of municipalities that have made the transition from property tax to a two-rate system. However, utilizing transit agencies as the mechanism for capturing the increased value of the infrastructure they construct is one possible solution to this political Gordian knot. Transit agencies have significant bargaining power because they are providing a service that landowners want and are willing, at least in part, to make concessions to receive.

Rick Rybeck and Robert Cervero identify significant steps in creating a mechanism that would allow for transit agencies to capture the increased value in land created by their transit infrastructure. While Rybeck puts forward the ideal version of value capture, the two-rate tax system to pay for Washington, DC’s Metrorail system, he acknowledges the practical difficulties of implementing such a strategy, and offers a pragmatic solution in the form of the construction of a new metro station in Northeast Washington.

In this example the capital costs of the new station greatly exceeded the funds available for construction and local landowners were told that a new station would only be possible with their direct investment. Initially, property holders offered to pay $25 million upfront in lieu of property taxes once the station was completed. DC’s government countered arguing that even the mention of a new station substantially increased land values. DC’s government was extremely hesitant to shift the burden back to the public sector. As a result, landowners agreed to contribute $25 million without the requirement that this replace future property tax payments; instead increases in value were captured to pay for the $25 million contribution, though only to a point.
There are two significant limitations to this approach: first property owners contributed a small percentage of the overall cost of construction, the rest being borne by the public. Only a portion of the increased value was captured and, over the long-term, the increases in property value will most likely surpass their contribution. Second, this outlay was only for the capital costs, no mechanism to ensure reliable maintenance funding was elaborated. The presence of a transit station will have a lasting positive impact on the property values of the area, while the long-term use of the system will inevitably degrade the infrastructure and require considerable expenditures to maintain good working order. Washington, DC’s experience with this train station provides a partial strategy to capture value for construction costs, but it offers only immediate relief (Rybeck, 2004).

Robert Cervero’s paper on the complementary impacts of siting new development in transit corridors with the collaboration of private developers and transit agencies is also an important element of a transit agency’s ability to re-capture value from its infrastructure. Among the advantages to joint development are increases in office rents coupled with increases in transit ridership; increases in commercial and residential densities; small contributions from private developers to the construction costs of transit infrastructure, for example over a ten-year period New York’s MTA received over $62 million. This amounts to a small drop in a very large bucket, but it does show that developers are willing to contribute because of the very clear advantages to being close to transit (Cervero, 1992)

Put together these two papers offer a third alternative that ensures not just sufficient funds for capital construction, but also ongoing maintenance. The key is for transit agencies to not just develop in conjunction with private developers, but to serve as a developer in its own right to keep the increases in value in the public’s hands. While the development is privately constructed
and managed the public retains the underlying land. Transit agencies can rent out developments to private entities at the after construction value. This is not a new concept, Hong Kong and other cities have been using it for years, but no American city has attempted such a strategy. Why is this the case and how can agencies make a transition to this model?

This paper studies New York’s MTA in order to find answers to these questions. It includes an examination of its budget, its current method for disposing of real estate in its portfolio, in particular large-scale projects. Considers what deals were negotiated with developers; the money that was exchanged; the property tax liabilities incurred; what, if any, value was captured and returned to the MTA. It also examines Hong Kong’s existing system and places it in contradistinction to the MTA. Finally, it offers steps forward for the MTA to begin the process of re-configuring its approach to real estate and development.
Methodology

In order to answer these questions I have conducted research into the MTA’s real estate division. Studied their documents on land disposition and acquisition and compiled a list of their existing real estate portfolio. Second I have investigated previous, large-scale projects like Hudson Yards and Atlantic Yards. This research was performed through a careful examination of the public record, RFPs, contracts, public statements by MTA and other officials as well as private entities that were a party to the negotiations. In order to provide a concrete comparison with Hong Kong I have reviewed the existing literature that carefully details its mechanism for property development. I also have identified specific cases that can illustrate these differences as well, for example the development of the Tsing Yi Station.

While my research is focused specifically on New York City, its real estate development processes and the MTA, the need for transit agencies across the country to identify new revenue streams that do not weaken the concepts of public access is ever present and the concepts that I discuss have broad applicability.
Discussion

I will discuss my findings in the following order: First a brief discussion of the MTA’s current finances, what its existing budget is, where its revenues come from, how it finances debt. Understanding the MTA’s budgeting process and any operating deficits is important when discussing the necessity for generating new revenues.

Second a description of the MTA’s management of its existing real estate portfolio; how it presently disposes of its real estate properties; a listing of all potential real estate development sites; the potential benefits to real estate disposition as well as challenges.

Third I will proceed to a discussion of two examples of large-scale real estate disposition by the MTA: Hudson Yards and Atlantic Yards. In this discussion I will address a number of key considerations: how the disposition of these properties aligns with the explicit goals and policies of the MTA’s real estate division; the negotiations that went into the disposition of the land; financial arrangements constructed to ensure completion of these projects and winners and losers in the projects.

Fourth I will discuss an alternative method of transit agency property ownership and development. Specifically the Railway and Property Development Model (R & P) utilized by Hong Kong’s transit agency MTR. Within this discussion will be a case study of a recent project the MTR has undertaken that highlights the advantages of R & P.

Finally, I will offer a series of critiques of the MTA’s real estate disposition process and offer recommendations as to how the MTA can, in part, introduce elements of the MTR’s R & P model while becoming more independent of other government entities.
The MTA’s Budget

In February 2013 the MTA adopted a budget of $13,244,000,000. Eighty-two percent went to pay for the operational costs of the many MTA divisions. The overwhelming majority, 53%, went to paying for New York City Transit and the Staten Island Railroad. Trailing far behind was debt service with 18% and the MTA reserve fund at 1%. The MTA budget assumed that spending on debt service would continue to increase in the coming years as the MTA continued to issue debt for capital projects. To offset these expenditures the MTA budgeted that it would bring in $13,527,000,000. These revenues can be broken down into a number of categories: revenues generated from the fare box; toll revenues generated from MTA bridges and tunnels; dedicated taxes including the payroll mobility tax and taxes on commercial and residential real estate transactions in the MTA region and state and local subsidies. The majority of revenues came from the fare box, which has been an increasing source of revenue as fares have increased considerably over the past few years far outstripping inflation. The primary reason for this is that other sources, such as state subsidies have declined (MTA, 2013).

The budget indicates two significant things about the state of the MTA’s finances. The first is how much of the budget is shouldered by the riders of the transit system. The overwhelming majority of revenues are generated through the fare box. Relying on riders to pay for operational costs is a losing bet, since few transit systems in the world are able to cover costs just through the fare box. Rather, other dedicated funding streams are required to fill the gaps. This leads to the second important aspect of the MTA budget: the MTA does not have a long-term strategy to address the increasing costs of operations and debt service. One may argue that this is the fault of the MTA, overspending when it does not have the revenues to pay for operations. In actuality, however, this reveals a more fundamental problem the MTA is faced
with: the fickleness of New York politicians who are unwilling to provide the MTA with a reliable funding stream. For example, in 2009 the state enacted a payroll mobility tax (PMT) to bridge the financial gap created by the financial crisis. However, in 2011, bowing to political pressure New York State reduced the PMT for small businesses and eliminated it altogether for businesses with payrolls under $312,000 during any quarter. In order to find the necessary funds the MTA had to tap the only funding stream it had direct control over, fares, while also reducing services (OSC, 2012)

The MTA budget is vast, in scope, in dollar amounts and in the variety of schemes that are utilized to find sufficient revenues. It also shows the tenuous financial ground on which the MTA rests and how reliant the MTA is on the political process for funding. With little direct control of revenue the MTA is forced to rely on the good will of New York’s politicians who can come to the MTA’s rescue as they did in 2009, but can easily damage the MTA just as quickly as they did in 2011. Furthermore, maintaining a reasonable distance from fare hikes and service reductions is politically advantageous. Finding a dedicated funding stream is key to the MTA’s ability to ensure quality transit for the New York region.
The MTA, Real Estate and the Disposition of Property

I. The MTA’s Real Estate Disposition Model

In a 2011 review of its property holdings that identified opportunities for outright disposition, the MTA identified a total of 4,716 entries in its database. It was able to subdivide this list into five categories based on the form of property ownership. The first was property held by the New York City Transit (NYCT). This accounts for over half of the MTA’s total holdings and most of the properties are not owned by the Authority but rather are master leased to the MTA by the City of New York. For properties not owned and leased by the city the MTA is entitled to all revenues from incidental commercial uses that occur on the property. Furthermore, all land master leased by the city that is no longer needed by the MTA must be returned to the city without compensation. The second category is property owned by the Long Island Railroad (LIRR) and includes Penn Station space leased from Amtrak as well as other properties owned, but encumbered or restricted in some manner. Third are Metro-North (MNR) properties, which include two lines that are leased from another company with Grand Central Terminal air rights reserved to the fee owner and no air rights along the Park Avenue right of way (ROW). Fourth are bridges and tunnels that are subject to a statutory reverter to the city. The smallest portion is properties owned outright by the MTA (MTA, 2011).

Regardless of the form of ownership and the MTA’s ability to dispose of the property, the overwhelming majority of these properties were necessary for the ongoing operations of the MTA’s primary goal of providing transportation service to the New York area. Consequently, the MTA excluded 3,944 properties from its analysis including: access roads, billboards, bridges, bus turnarounds, ducts, elevators footbridges, grade crossings, passageways, easements, pending
acquisitions, stairways, stations, towers, tunnels & vents, most NYCT ROWs and NYCT sidetracks. More than simply being integral to the daily functions of the MTA, these properties in and of themselves are not primed for development. Of the 722 remaining properties the following were included: buildings, depots, fan plants, garages, land, offices, parking, shops, stations not in use, substations, warehouses & yards, LIRR and MNR sidetracks (MTA, 2011).

The analysis further reduced its scope and identified a total of 20 properties the MTA considered viable for further real estate development, 15 of which were marked for outright disposition and the remaining five were considered for overbuild situations. When properties are held by a master lease the MTA partners with the city to issue an RFP through the New York City Economic Development Corporation (NYCEDC) to solicit prospective buyers of the land. Otherwise RFPs are issued directly by the MTA. The properties that the MTA identified range in size, from individual buildings like 370 Jay Street to 12-acre Willets Point. Regardless of size or ownership structure, what these properties have in common is an opinion held by the MTA that they are not now, nor will ever be again, necessary for the operations of the MTA’s transit functions and the MTA has chosen to take a one-time payment from this land (MTA, 2011).

The second category of potential property development is overbuild sites that are still important to the MTA’s transit functions, but also offer the potential for additional development. They include the Michael J. Quill Bus Depot, the Brooklyn Battery Tunnel Garage, the Bay Ridge Right of Way, the LIRR Main Line air rights and the LIRR Yards in long Island City. These overbuild sites offer a number of specific challenges that make outright disposition more difficult. The first is that in the case of railyards projects tracks are spaced at distances that make constructing supporting columns for decks more difficult; second these decks require ventilation, lighting and utility relocations; third differences in grade create neighborhood adjacency issues;
fourth overbuilds on existing buildings have structural and access concerns; fifth daily operations of essential MTA functions cannot be interrupted. These concerns mean that overbuild sites are complex and, as a result, more expensive. In order to make overbuild projects cost-effective they often have to be built at high densities that may cause conflicts with the existing zoning on the site or in the surrounding neighborhood (MTA, 2011).

Overbuild sites cannot be disposed of outright, rather they require some form of long-term leasing arrangement with a property developer who is capable of undertaking a complex engineering challenge like building a deck and is also deep-pocketed enough to afford the costs of such a structure. Land ownership is not transferred, but rather the development rights are sold to the developer. Often this transaction cannot occur until as-of-right zoning has been changed so that buildings can be built at a density sufficient for developers to recoup their initial investment. Moreover, because the initial phase of development is the construction of the deck, developers have a long period of time before they begin to see any return. This ultimately means that developers pay the MTA over the length of the lease, rather than in a single lump sum (MTA, 2012).

Regardless of the method of disposition, be it out right ownership transfer, or an overbuild where the MTA still has a stake in the property to ensure uninterrupted transit service, what the MTA’s analysis of its existing property holdings indicates is an inability on the part of the MTA to engage in the development process itself. While the RFP process provides guidelines for potential bidders to consider about the form and other requirements of a site, the MTA has little involvement in the actual development of its site. Furthermore, divesting itself of property no longer necessary to its primary function as a transit provider demonstrates a present-oriented mindset where the MTA receives cash in hand rather than identifying the potential revenues that
would come over the life of the project. Considering how starved the MTA is for revenue, the goal of receiving as much as possible on the front-end of a real estate transaction makes a certain amount of sense. Ultimately, however, it is a shortsighted strategy that only serves to weaken the MTA’s financial future and, in turn, the MTA’s ability to provide quality transit for its riders. Moreover, as the MTA’s own analysis indicated, the overwhelming majority of its property holdings have no potential for revenue generation, this means that maximizing revenue should be a primary strategy for the MTA’s real estate division. Recent history and this analysis demonstrate otherwise.

The MTA has undertaken two significant real estate negotiations in the past decade that clearly demonstrate its tendency to look at the money sitting on the table rather than the possibilities of future revenues: the Atlantic Yards in Brooklyn and the West Side Railyards in Manhattan. The particulars of these two cases are very different and the overall revenues negotiated are significant, however on a number of levels the MTA was unable to think more dynamically about revenue generation in its negotiations with developers and significant potential revenues have been lost for the MTA and ultimately its riders.

In the following two sections I will discuss the history of the negotiations between the MTA, the potential developers and other governmental agencies regarding the disposition of these overbuild opportunities. I will highlight the failures on the part of the MTA to maximize its potential revenues, and also address significant limitations within the MTA’s real estate division’s structure that rendered a more advantageous deal more difficult. I will discuss how outside pressures and other parties worked to undermine the MTA’s position. Finally, I will discuss how the difference between public and private ownership influenced the deals.
II. Atlantic Yards

On December 10, 2003 the Chairman and CEO of Forest City Ratner Companies (FCRC), Bruce Ratner announced a $2.5 billion commercial and residential project for Downtown Brooklyn. Its centerpiece an arena for the Ratner owned Nets basketball team designed by architect Frank Gehry. The plan called for the development of 21-acres centered on the MTA’s 8.5 acre LIRR Vanderbilt Yards located at the intersection of Flatbush Avenue and Atlantic Avenue. Ratner’s proposal required the acquisition of MTA land and the relocation of the train yard further east. Even though Ratner’s project required coordination with the MTA on a number of levels they were not included in the initial presentation and the MTA made no public statements about the potential sale of the Vanderbilt Yards. While the MTA was absent from the presentation, New York City mayor Michael Bloomberg was in attendance and Ratner identified Brooklyn Borough President Marty Markowitz as the inspiration for both purchasing the Nets and moving them to Brooklyn. Also on board was New York State Governor George Pataki. From the very beginning FCRC had the very public backing of top New York officials and implicitly the agencies over which they had control (Bagli, 2003).

Over the next two years FCRC proceeded to acquire privately held land and entered into negotiations with the city and state to detail the specifics of the project. On February 18, 2005 a non-binding memorandum of understanding (MOU) was signed between FCRC and the coordinating agencies for the city and states, the NYCEDC and the Empire State Development Corporation (ESDC). Included in the MOU was a section identifying the three tax blocks owned by the MTA FCRC would acquire, these lots constituted the Vanderbilt Yards. FCRC also promised to build a replacement yard further east and to construct a switching track. Missing
from the MOU was any mention of costs FCRC would incur for the acquisition of the Vanderbilt Yards (NYCEDC, 2005).

One week later the MTA responded to the initial MOU. First, it acknowledged FCRC’s intent to purchase the Vanderbilt Yards and second promised to “cooperate with FCRC as it develops its plan to implement the Project.” The MTA attached a number of conditions as well. Most importantly the MTA reserved the right to conduct a competitive bid process to determine the fair market value of the property and that any transactions would be based on this value. This fair market determination would take into consideration payments in lieu of sales and use taxes and mortgage recording taxes or equivalent amounts pursuant to an agreement between the MTA and the Public Parties and payments in lieu of real property taxes (PILOT) or equivalent amounts to the City and the MTA.

The MTA also acceded to FCRC’s promise to relocate the existing yard and to install a new switching track, while also requiring the FCRC to absorb any operational or capital costs associated with this work. It also reserved the right to establish base line levels of service for transit riders that FCRC had to ensure. The MTA’s comments generally established the premise that as long as a satisfactory financial arrangement could be reached and its liability in regards to cost overruns and increases in operation costs was reduced, it would be willing to enter into a deal with FCRC.

The MTA’s comments to FCRC are important because of what they imply about the MTA’s perspective on land disposition. FCRC approached the city, state and MTA to develop the Atlantic Yards; the MTA had not issued an RFP for the development of the site. From reading the MTA’s letter it is clear that the MTA perceived FCRC as offering money for
something that the MTA had previously not considered sellable. Moreover, it is reasonable to conclude that the MTA was also working under the assumption that the overwhelming support from the city and state meant that the project would proceed. By entering into a MOU, FCRC was attempting to dissuade any other potential developers from considering entering any future bidding process, perhaps precluding an RFP altogether. The role of politics and the relationship between the mayor and the governor and FCRC is critical to understanding why the MTA fails to receive true value for its land in this negotiation (MTA, 2005a).

The size and location of Atlantic Yards quickly generated considerable public opposition and FCRC and the city’s attempts at preventing a competitive bidding process were soon quashed. On May 24, 2005 the MTA issued an RFP for the Vanderbilt Yards site. The RFP requested potential developers to present bids that would “maximize the economic benefit to MTA for improvement of the public transportation facilities . . . and minimize the economic and environmental risk to MTA.” These goals were mitigated by four considerations

1. The economic development, planning, and civic needs and desires of the City and the State
2. Consideration of the interests of the surrounding community
3. The Selection of a developer or development team with the experience, reputation, and creditworthiness appropriate for the successful development of a project of this magnitude and importance
4. Consistency with the LIRR’s need to continually operate critical transportation services within the Vanderbilt Yard and related support facilities

The MTA anticipated entering into a 99-year lease with whichever developer offered fair market value for the land and/or air rights of the yards. Moreover, the MTA assumed that the site would be re-zoned to reflect the zoning of the recently expanded Downtown Brooklyn Special Purpose District. Also, the developer would make payments to the MTA in the form of payments in lieu of property taxes. All bids were to be submitted by July 6, 2005 (MTA, 2005b).
Once again the most telling elements of this RFP are the ways in which the MTA undercut its position as a landowner seeking to dispose of its own land while “maximiz[ing]” its property. Two examples: first the MTA gave developers six weeks to respond to the RFP. Considering how large and complex the site and financing would be, it would be extremely difficult for developers other than FCRC to put forward realistic bids. The second example is the MTA’s requirement that proposals are coordinated with the “needs and desires of the City and the State.” This is a clear reference to the city and state’s involvement in the FCRC Atlantic Yards plan. Written into the MTA’s RFP was FCRC’s trump card. The MTA would select the developer who presented a plan that aligned with the needs and desires of the city and state; considering that FCRC had the support of Bloomberg and Pataki, the outcome of the RFP process was clear from the beginning.

When the bids came in, two companies presented proposals, FCRC’s well-developed Atlantic Yards plan and Extell’s rival plan that was, given the circumstances under which it was created, preliminary. Nevertheless when dollar amounts were revealed, Extell outbid FCRC by $100 million. It offered $150 million and restricted its development so as to appeal to opposition politicians and members of the community; not using eminent domain for land acquisition, smaller scale development (Bagli, 2005b). The MTA’s selection process was further complicated by the results of an independent real estate appraiser who determined that, even after the construction of a deck, the value of the Vanderbilt Yards was $214,500,000 (Lane, 2005).

The MTA was ultimately saved by the structure of its RFP; Extell’s bid was less developed and its financials suggested greater subsidies from public agencies. It was also able to respond to critics that cited the independent appraisal as proof the MTA was not receiving fair value, by pointing out that neither developer was willing to offer the appraised value and that the
appraisal was inaccurate. It was on these pretexts that the MTA was able to disqualify Extell and, after further negotiations where FCRC raised its bid by $50 million, came to an agreement with FCRC in September 2005 and the MTA’s role in Atlantic Yards was presumably finished (Bagli, 2005c).

With an agreement signed, FCRC turned to completing its environmental review and to addressing a myriad of legal challenges that questioned the legal basis of a number of aspects of the Atlantic Yards project, including the use of eminent domain and FCRC’s access to tax-exempt bonds. During this period financial markets tightened considerably and Brooklyn’s real estate market changed markedly. FCRC claimed it was no longer able to comply with the original terms of its agreement with the MTA and turned to the MTA board to make changes. FCRC proposed that instead of a lump-sum payment of $100 million, it would pay a $20 million down payment and would pay an addition $80 million through 2031 (MTA, 2009).

The willingness of the MTA to change the specifics of its agreement with FCRC further illustrates the point that the MTA was not overly concerned with the financial aspects of the deal and that maximizing its revenues was secondary. More important was preserving the Atlantic Yards as a viable development for the city and the state. Once again the needs and desires of the city and state triumphed over the potential for revenue generation. Furthermore, in the eyes of the MTA board, a majority of who were appointed by the mayor and the governor, an unsolicited offer of $100 million dollars was still $100 million dollars regardless of how it was structured. This change in the deal was contested in court, but for a number of reasons was upheld.

Once all was said and done the MTA negotiated $100 million dollars for the transfer of development rights of the Vanderbilt Yards, the construction of a new, smaller rail yard further
east and a new $50 million subway entrance at Atlantic Ave. An analysis of the arena’s impact on city and state budgets by New York City’s Independent Budget Office (IBO) identified a number of lost opportunities that would have increased the overall revenues generated for the city, state and the MTA. Most of this was in the form of lost tax revenues that would trickle down to the MTA, though the IBO also considered the MTA’s acceptance of FCRC’s lower bid, counting this as a subsidy of sorts. Moreover, because the MTA transferred the Vanderbilt Yards’ development rights rather than selling the land outright, the land’s tax exemption remained and a complex leasing arrangement that would approximate property tax through PILOTs was created. The IBO determined that using PILOTs instead of actual property taxes was a loss for the city, state and MTA (IBO, 2009).

Even in this careful analysis of financial costs and benefits the IBO failed to identify the largest MTA missteps, because they were not strictly financial ones. In fact, taken as a single land deal completed during the worse financial crisis since the Great Depression, one could argue that any deal was better than none. The MTA’s two problems are structural. First, the MTA was not a wholly independent agency imbued with the authority to negotiate in its own best interest. Instead, the MTA was obligated to take into consideration the needs of the city and the state and in situations where these were in direct conflict with the MTA’s priorities was expected to concede to the ESDC and NYCEDC. The MTA Board’s structure made this easier. Second the MTA has, at best, a muddled conception of what is in its best interest. In official statements, both the comments on the MOU and its RFP, the MTA indicates that its primary function is to provide high quality transit service for its riders and it uses its real estate holdings to generate one-time cash payments that can pay for capital costs.
For the MTA land is an illiquid rainy day fund that can be monetized when the financial situation calls for it. In Atlantic Yards the true source of revenue was not in the land sale, but in the land’s development. A project that was originally priced at $2.5 billion and ballooned over time to be $4.9 billion was considerably more valuable than what the MTA ever estimated. Increases in land value through development are the true form of maximizing revenue; this is the best way to ensure high quality transit service for riders. It is also a way of preserving true public ownership of a public asset. Furthermore, the IBO’s concern over the shortfalls generated by PILOTs would be ameliorated in a situation in which the MTA could control development and determine a pre-development value and a post-development land value and pass this increase onto any private developer with whom the MTA partners.

The value of this post development price can be approximated through an examination of the PILOT bonds that were issued on behalf of the project. Because these bonds serve as stand-ins for general property taxes they provide a baseline value level. It is important to note that PILOTs are issued to pay down the debt issued on bonds and consequently are temporary. In 2009 FCRC and its public partners issued $511 million dollars in tax-exempt bonds that were backed with PILOTs with debt service payment commencing in 2010 and closing in 2047. The bond issue estimated the total PILOTs at $1,487,120,088 over the course of 45 years. The PILOTs amount to approximately $33,000,000 a year. Once the bond is paid off normal property tax assessments are made of which the MTA would only receive a percentage. If, on the other hand, the MTA had not sold its stake, but instead rented the land to FCRC over the course of a 99-year lease, once the bonds had been repaid, the PILOTs could be converted to rent to the MTA (Goldman Sachs, 2009).
III. Hudson Yards

In the case of Atlantic Yards the issue is not the low dollar amount the MTA received for the sale of Vanderbilt Yards, but rather the fact that the MTA divested itself of its ability to have a more muscular stake in the development of the land. Perhaps the outside pressure of the mayor and the governor limited the MTA and the opportunity to press for a different arrangement was unavailable. In the case of the Hudson Yards, where the MTA had considerably more autonomy in its financial negotiations, it made a concerted effort to maximize the revenues from the land transaction, but it still could not project itself as anything more than a property owner disposing itself of unusable, though extraordinarily valuable, land.

The development of Hudson Yards could easily have followed a similar trajectory to that of the Atlantic Yards if New York City had won community support for its attempt to build a new football stadium for the New York Jets. Like the Atlantic Yards, the West Side Railyards development would have been centered on a sports stadium and, more significantly, the development would not have been initiated by the MTA. What did happen was a marked improvement over the Atlantic Yards.

In 2007 the city and the MTA announced a preliminary proposal for the redevelopment of the 26-acre site over the West Side Railyard. From the start the MTA exercised greater control over the site and reserved its right to make changes as it saw fit over the course of the proposal process. One major difference between the Hudson Yards and Atlantic Yards was the decision to leave the mix of residential and office space open depending on prevailing market conditions. The MTA hoped that by not requiring a certain mix of residential and commercial uses it would attract higher bids. The development of the West Side Yards was planned in conjunction with the
extension of the no. 7 subway line; the MTA would fund the extension using PILOTs generated from the development of the Hudson Yards (Brown, 2007).

The MTA’s control of the RFP process and its aggressive push to lease the development rights through a competitive bidding process was in stark contrast to the Atlantic Yards process where a developer and air rights transfer structure were in place well before an RFP was generated. With Hudson Yards the mayor and governor did not exert the same pressure and the MTA was given the freedom to seek a more beneficial deal. Regardless of this newfound interest in maximizing revenues, the MTA still suffered from some of the same mistakes as Atlantic Yards. Foremost was the assumption that revenues generated by the sale of the Railyards would be used to pay for MTA capital construction projects. Furthermore, PILOT bonds issued to finance the construction of the no. 7 train extension were also connected to the real estate deal. However, these transit specific funds would disappear once the capital costs were paid off, leaving the MTA to figure out how to pay for the operational costs of the extension. Once again the MTA viewed its holding of the Hudson Yards development as a chance to divest itself of a valuable piece of property that was no longer critical to its mission of quality transit provision (Friedlander, 2007).

The MTA issued its RFP for the development of the West Side Railyards in two parts: one for the development of the eastern side and another for the development of the western yards. Despite dividing its property into two, the MTA planned to accept a single bid for both sites. The Hudson Yards’ RFP process was very different from that of Atlantic Yards. The MTA announced a future RFP in May 2007 and provided a baseline dollar amount it was expecting of $1 billion. This dollar amount is close to the $1.5 billion determined by an independent appraisal in 2006, which did not consider the costs of decking over the existing yards. When the RFP was
issued in July 2007 the MTA provided additional details and set expectations. The MTA required the winning bidder to construct a platform of the LIRR tracks without disrupting existing services; permitted developers to build approximately 12 million square feet of residential and commercial; required a cultural building; a provision for shops; open park spaces; integration into the surrounding neighborhood and all developments would require ULURP approval (Bagli, 2007b).

Unlike Atlantic Yards, the MTA gave all potential bidders substantially more time to create and submit developed bids, closing the process in October. Once again we can see how being able to operate independently of other government agencies and their specific interests created an environment that would maximize the potential bids. Unlike Atlantic Yards where the RFP process was more formality than true bidding process, developers interested in the Hudson Yards were given equal and ample amounts of time to create proposals. Moreover, because no developer was singled out as the preferred choice of the selecting agency more developers were willing to enter the process. This put the MTA in a commanding negotiating position.

Because of the MTA’s upfront requirements in the RFP, when the five potential bids came in and were presented to the public, the debate was not over the dollar amount each developer offered, but rather the specifics of the design, how the Hudson Yards would fit within the design guidelines the MTA established and the financial health of the prospective developers and their capacity to fully fund the project. This was in stark contrast to the Atlantic Yards where much of the debate after the RFP was about the subsidies the developers would require from public entities and the hastiness of the entire process.
In March 2008 the MTA entered into preliminary negotiations with Tishman Speyer to sell a 99-year lease to develop the West Side Railyards. Tishman Speyer was favored because it was able to find an anchor tenant for its development. The deal for $1.004 billion also required the developer to construct a $2 billion platform over the existing yards and to pay $18.8 million for the eastern yard and $24.7 for the western yard in the near future. The deal was announced amid a tightening real estate market and just a few months before the financial crisis. These circumstances proved to be too difficult to overcome and by May 2008 negotiations between the MTA and Tishman Speyer broke down. Tishman Speyer sought to change the terms of revenue flow to the MTA in the coming years by delaying initial payments until land review was completed and demanded the right to walk away from the deal if the real estate market did not improve (Bagli, 2008d). The MTA was unwilling to make these concessions and the deal fell through. It is interesting to consider that while the MTA was driving a hard bargain in the Atlantic Yards it was working out exceptionally favorable arrangements for FCRC at Atlantic Yards.

Once the initial deal fell through the MTA went back to the remaining bids and began to negotiate. Six days later the MTA struck a deal with Related Companies. The MTA made some concessions, in particular allowing Related to delay payments for up to two years based on the real estate market, however it was able to impose penalties on Related if it chose to delay payments. More importantly, the $1 billion payment for the development rights did not change (Bagli, 2008e).

This was not the end of the negotiations. The final deal was not completed until May 2010 when Related and the MTA agreed to a delay in rent payments until a number of triggers were reached:
1. Midtown office space availability rates hit 11 percent, according to brokerage CB Richard Ellis
2. Manhattan co-op and condo sales price achieve an average $1,200 a square foot for a sustained period
3. The architectural billings index\(^1\) must pass 50 for the commercial sector

The MTA also reserved the right to call in the deal at any point, giving Related 90 days to begin payment or walk away. If Related were to walk away the MTA would be forced to re-open bidding (Brown, 2010). Related did not ultimately break ground until the end of 2012.

This deal is striking for its dissimilarities to the MTA’s negotiations with FCRC in 2009. With FCRC the MTA conceded on changing the size of the replacement yard and allowed FCRC to reduce its upfront payment from $100 million to $20 million. With Hudson Yards, though the MTA allowed Related to delay the initial payment start date, it did not grant them permission to modify the terms of the payment. While the gross numbers are considerable, more important is the perception of the MTA as a tough negotiator. The MTA negotiated with Related for two years through the financial crisis and was unwilling to give in on its basic demand for a fair market value for its property. It is true that the concessions the MTA did make were extremely advantageous to Related, nevertheless the MTA did not concede on its fundamental position. It is difficult to square the argument that FCRC was unable to pay $100 million upfront when we compare it to Related’s deal. Clearly, non-financial decisions weighed more heavily with Atlantic Yards than at Hudson Yards.

The Hudson Yards deal is interesting because it shows how formidable the MTA can be in negotiating real estate deals when it is free to determine the specifics of the deal without the influence of other agencies or political considerations. However it also shows the limitations of

\(^1\) The Architectural Billings Index (ABI) is based on a monthly survey of the American Institute of Architects (AIA) that tracks business conditions. The ABI is a leading indicator of non-residential construction.
the MTA’s land negotiations. True, the MTA recognized the West Side Yards were valuable real estate and the transfer of development rights and the subsequent PILOTs generated by the development could pay for the construction of the no. 7 extension. What it was unable to do was negotiate a pay structure that recognized the connection between the transit infrastructure and the inherent increase in land value it generates. Once the bonds are paid and the capital costs are eliminated, the PILOTs simply become a stand-in for property tax and the added value of being located near transit is privatized. This is true in the Atlantic Yards as well. When the MTA does not capture this additional value it fails to maximize its revenues on the back end of any real estate negotiation. One solution to this is for the MTA to become a more active participant in the development process and utilize the increased value generated over time by proximity to transit infrastructure to pay for the recurring operational costs of transit.

Hudson Yards and Atlantic Yards align with two of my three assumptions. The developments approved are extremely dense and are transit friendly, they also maintain public ownership of transit infrastructure. They do not however, permit the transfer of private land rights to the public; namely the ability to take unearned increases in land value and transfer them to the public coffers.

In order to achieve this third assumption the MTA can look to Hong Kong for an example of a transit agency as developer. Hong Kong’s MTR has a fully developed system called the Railway and Property Development Model. Hong Kong’s development model also bolsters my three assumptions that transit infrastructure should be publicly owned, development should be dense and private property can be taken for the public good.
Hong Kong, the MTR and Land Valuation

I. The Rail and Property Development Model

The MTR was created by the Hong Kong government in the 1970s with the intention of creating an intra-urban rail transit system that would run through the densest sections of Hong Kong and has continuously expanded in the subsequent decades. In 2003 the MTR system was 87 km long and carried over 2.24 million passengers on an average weekday. These trips accounted for 24.4% of all public transport trips. In 2007 the MTR merged with the more suburban Kowloon-Canton Railway Corporation further expanding the system to 168 km. Stations are spaced at an average of 2 km, making the MTR system one of the most densely constructed rail transit systems in the world (Tang, 2004). This finely grained transit network is paired with extremely dense urban development to create the most heavily used transit system in the world (Cervero, 2009).

MTR’s stated mission is to construct, operate and maintain a modern, safe, reliable and efficient mass-transit railway system. It would have been unable to do so if it relied solely on fare revenues to pay for the high depreciation and financing costs associated with operation and construction. Instead, it has focused on maximizing its non-fare income, which account for nearly 50% of the total operating costs (Tang, 2009).

The MTR’s inability to pay for its operating costs with fares is a familiar problem to transit operators. In order to fill in the gaps transit systems often receive some form of subsidy from local and federal governments. For example, gas tax revenues or congestion pricing strategies can be used to supplement revenues. The MTR, however, does not receive any government cash subsidies. Instead, the MTR is granted the exclusive rights of property
development above railway stations and depots without having to go through a public auction. The MTR purchases the land below market value and at a pre-rail price. The MTR then sells the rights to develop the land to a list of qualified bidders at a marked up after-rail price. The differences between the pre- and the post-rail price are substantial and are able to cover the costs of railway construction. MTR also negotiates a share of future property development profits and/or a co-ownership position from the private developer. This means that it receives an upfront payment for the land and a back end share of the revenues over time (Cervero, 2004). In 2009 property development revenues and incomes from rentals and managements accounted for 50% of the railway operating revenue and made up 90% of all profits (Tang, 2009).

MTR’s aggressive property development is motivated by two key factors: the first is its stated goal of providing a low-cost, high-quality transit system to Hong Kong residents. The second is market pressures created by the MTR’s governance structure. From inception through 2000 MTR was owned solely by the Hong Kong Special Administrative Region (HKSAR). In 2000 HKSAR offered 23% of MTR’s shares to private investors on the Hong Kong stock market. Private ownership of MTR has exerted considerable market discipline on the system and has forced MTR managers to think more entrepreneurially and creatively about revenue generation. Cervero argues that the partial privatization of the MTR has in fact improved the public benefits of the MTR. Not only is a stable financial model established, but also broader planning goals like transit-oriented development (TOD) that increases density are encouraged. TODs fit into the model because increasing densities maximizes land uses and increases revenues (Cervero, 2009).

The MTR’s development model also positions the transit agency at the center of real estate and property development. In part this is because when the property development and the railway are managed by the same entity, construction processes like the timing of necessary
infrastructure such as foundations, utilities and internal roads can be coordinated more efficiently. Furthermore, single management creates “clear definition[s] of responsibilities that safeguard the safety and operational aspects of the railway and a proper management of the interface between property development and the railway,” (Tang, 2004). MTR’s development model is a form of public-private partnership that greatly diverges from the more traditional models in that it privileges the transit agency in negotiations between itself and private developers. This means that the specific goals of the private developer are suborned by the broader goals of the public.

The MTR’s central position in the model ultimately reduces the transaction costs of development. The MTR functions as a conduit of information that also controls planning processes. Unlike other models in which government regulations, i.e. zoning and buildings forms, dictate the final product of a development, in the MTR model these policies frame, but do not mandate a project’s specifics. Instead, details are coordinated by MTR in consultation with government departments and developers. This also allows the MTR to be more responsive to market needs and adjust the type of development necessary to a specific site; something government agents manage poorly (Tang, 2004).

The exclusive development rights given to the MTR incentivize the MTR to develop sites so as to maximize revenues and retain all potential benefits created by the railway and property development. The MTR serves as the point of conflict resolution between itself, government and the private sector. The MTR is able to connect the strongest aspects of government planning processes and private sector urban design and market responsiveness. The MTR internalizes “the otherwise external benefits to the separate parties . . . [and] can maximize the synergistic effects associated with the integration of railway and adjoining property development,” (Tang, 2004).
II. Rail & Property Development Process

Unlike the MTA’s development process where RFPs for real estate development are not necessarily connected to transit development, Rail & Property (R & P) projects are implemented alongside plans for the extension of existing or construction of new MTR lines. The initial stages of planning require identifying specific rail alignments and station locations. MTR identifies property development opportunities that maximize revenues and promote the long-range planning objectives of Hong Kong’s planning department. MTR managers determine the feasibility of development projects by factoring the value of land, density potential and project size and scale. Once minimum requirements are identified the MTR is granted the exclusive development rights to specific sites including defining tower locations, permissible uses and plot-ratio-densities. Next a master layout including siting and massing of buildings, block designs, building quality standards and locations of vehicle access points. The MTR also obtains the necessary planning approvals from the city (Cervero, 2004).

Once all of these pre-conditions for development are sorted, the MTR will seek bids from developers taking into consideration the financial offers, the developer’s experience, its management capabilities, etc. Developers are given the opportunity to recommend and negotiate some modifications to the site. Included in the bid is a percentage of future profits or equity stake in the development. For example, in some commercial developments the MTR has negotiated ownership of a number of floors in high-value commercial buildings. Most important in the negotiation is arriving at an after-rail price for the land that will fully fund the capital construction costs of the rail line and the station. A significant difference between the MTR’s after-rail price and the MTA’s proposed bids for Atlantic Yards and Hudson Yards is that there is
a clear connection between the cost of the land and the transit infrastructure that underlies it (Cervero, 2004).

Unlike the MTA where, after the land sale the transit authority no longer plays an active role in the actual construction of the development, the MTR oversees project design, engineering and construction and often serves as the property manager. The MTR’s proactive involvement at all stages of the development process provides continuity, reliability and transparency to the entire process. Moreover, the MTR’s desire to maximize revenues establishes confidence with tenants that the construction and on-going maintenance and operations of the development will be of a high quality. The advantage to having the MTR engaged in every stage of development and serving as the “master planner, master designer, and master architect” creates base line standards to which all parties must adhere. The MTR’s role as a real estate developer is fundamental to its mission of providing high quality transit, not a burden it would prefer to rid itself of.

Though the specifics of development sites vary in Hong Kong, residential versus commercial, higher versus lower densities, retail or no, the overall process is straightforward and highly iterative. Nevertheless, it is important to examine one of these developments.

III. Rail & Property Model in Action

a. Tsing Yi Station

The Tsing Yi Station is a mid-point stop on the Airport Express line opened in 1999. MTR was granted 50-year development rights and immediately sold them to pay for construction of the station and parts of the airport line. Tsing Yi station is a relatively small development located on Tsing Yi Island; the station is 5.4 hectares and has 291,870 square meters of
residential and commercial space. The development has a 12 building, 3,500 unit residential component called Tierra Verde and a 46,170 square meter commercial mall called Maritime Square. The station has interchange points for buses, minibuses and taxis and landscaped open spaces (Tiry, 2003). The station is noted for its seamless integration of uses and the creation of 24 hour programming that attracts visitor and residents. Residents in Tierra Verde are connected to both the MTR station and the shopping center via internal connections that do not require them to venture outside. Moreover, Maritime Square is a regional shopping destination (Cervero, 2009).

Proximity to rail transit has a considerable impact on the Tsing Yi development. Cervero has identified significant price premiums for units in the condominium development Tierra Verde as compared to other, non-MTR developed projects. The pricing premium is representative of the value generated by rail transit. Furthermore, through the development deal negotiated by the MTR a portion of this increased value is returned to the transit agency. As a result, the recurring operational costs of the rail system are accounted for and the unearned increase in land value is removed from private control and placed in the hands of a public entity that has broader planning concerns in mind (Cervero, 2009).

The Tsing Yi development shows the advantages of property development to the MTR. Not only does it receive a substantial upfront payment that funds the construction of the transit infrastructure, it also has a built-in mechanism for capturing land values and returning them to the public interest. By ensuring a steady revenue stream to maintain operational costs, the MTR reduces the government’s burden to further subsidize the transit system or to seek out other forms of revenue generation such as the outright transfer of publicly owned transit infrastructure to private developers and private operations. Moreover, MTR’s goal of maximizing revenue
increases densities and reduces urban sprawl. The MTR’s R & P development model more closely fits into my three assumptions of transit infrastructure finance and development. My next section will address possible strategies for the New York’s MTA can integrate some of the concepts of MTR R & P development into its real estate development strategies.
Conclusions and Recommendations

This review of the MTA’s recent experience with large-scale land disposition in Atlantic Yards and Hudson Yards demonstrates the limitations of the MTA’s approach to real estate and property development. Most significantly, how the MTA’s inability to look beyond current conditions and its present-day needs for capital construction funds weakens its ability to create opportunities for long-term revenue generation necessary to pay for the operational costs of the transit system. Moreover, MTA’s own analysis of its real estate portfolio indicates that despite its best efforts to provide a high quality transit experience for its riders, the MTA has a conservative understanding of how best to provide that service. The MTA is unable to harness the connection between land and transit. Real estate ownership and, more importantly, development, are integral to the MTA’s primary goal of providing transit services.

What is the cause of the MTA’s present-minded, conservative outlook on land? Is the MTA as naïve as it seems when it comes to property negotiation? I would argue that the answers lies not with the MTA itself but in its governance structure and overall lack of autonomy; one that reduces the independence of the MTA and allows for constant interference by other government entities, particularly from the mayor and the governor who appoint the majority of the MTA’s governing board. This is borne out most powerfully by the Atlantic Yards case where state and city agencies intervened and made decisions counter to the MTA’s best interest. This interference compromised the MTA’s authority and hindered negotiations. The MTA does understand that it is not getting full value for its land, but it is constrained by the wants and desires of politicians who are more interested in erecting legacies to themselves.
The necessity of an autonomous MTA board is also seen in the Hudson Yards where, because the mayor and the governor had less of a stake in the negotiations, the MTA was able to drive a harder bargain with developers. Even in this situation, however, the MTA’s autonomy was limited to the single role as landholder and lessor. If, on the other hand the MTA was empowered to actively develop its own land, like the MTR in Hong Kong, it would be more capable of fusing the concepts of land value and transit accessibility. Given that the MTA’s primary goal is quality transit provision, it would be motivated to maximize its revenues by utilizing the efficient strategy of dense development.

The key to the MTA functioning more as a land developer in land negotiations is the elimination of interference from other agencies and the ability to make decisions that are in the best interest of the agency not the mayor, or governor. What might this look like? Again we can look at Hong Kong’s MTR for a potential alternative. In order to function as a developer the MTA could privatize elements of its real estate division and create a clear separation between its transit functions and its real estate holdings. The MTA could turn all of its properties inessential for its transit operations over to a privately operated development branch that is subject to a market discipline that requires the consistent push to maximize revenues, both upfront and over time. This could create significant new revenues. This new alignment would free the MTA from political interference. Furthermore, the new structure would reinforce the primacy of the MTA as the key facilitator for developing both transit infrastructure and the adjacent development. By privatizing its real estate division the MTA would no longer make property decisions based on political realities but rather on market forces. Furthermore, the privatization of public land ensures greater access to and sustainability of a public good.
Creating an MTA that is fully independent from other political forces may be politically unrealistic. While the MTA can work to change its structure it should also consider strategies that are more immediately implementable. For example, the MTA should think proactively about development opportunities rather than wait for developers to approach them with proposals they have negotiated with other government agencies that have interests that do not align with the MTA. By actively engaging the development community the MTA has the potential to change the existing power structure. Moreover, by asserting itself as a land developer, the MTA will become the mediator between private developers and government agencies.

Recognizing that land adjacent to transit infrastructure is more valuable than land further away has important implications for the structure of potential land deals the MTA may make. In addition to seeking large lump-sum payments for the transfer of development rights on land parcels, the MTA should also assess a surcharge to the land based on its proximity to transit infrastructure. This goes beyond the concept of PILOTS because it acknowledges that the benefits to developers do not disappear when the capital construction costs of transit infrastructure are paid off. To the contrary, long after the bonds are repaid the land’s proximity to transit continues to add value and, consequently, the developers continue to benefit. With the MTA acting as developer it would have greater flexibility in reclaiming this value and using it to pay for operational costs.

The MTR’s governance structure offers insight into other potential benefits for the MTA as well. Rather than being one of a number of government agencies the city or state must coordinate with, if the MTA were allowed to develop its own property it would assume the role of primary facilitator. We have seen how this role enhances both revenue generation and site design in Hong Kong. The potential for this can be seen to some extent in the MTAs RFP for the
Hudson Yards. It required development with high floor area ratios (FAR)\(^2\) and gave individual developers leeway in determining the right combination of commercial and residential development based on prevailing market conditions. A notable limitation exists here as well. Unlike in Hong Kong where the MTR is the developer of the transit station and the land above and is able to integrate the planning and construction of both projects to maximize efficiency and improve pedestrian flows, the MTA is only actually constructing the transit infrastructure. Consequently, opportunities for greater efficiency and integration are missed.

Considerable differences exist between the MTR and the MTA that mitigate the impact of real estate development for the MTA. Most importantly is the availability of developable land in New York City. While HKSAR is able to give MTR land in undeveloped areas, the MTA’s transit system is far more mature than MTR and the MTA’s capacity for expansion is limited. Even in cases where the MTA is expanding the subway network, like the Second Avenue Subway, it is building new lines in developed areas where large lots are not available. The MTA could extend other subway lines to less dense parts of the city, however even here land acquisition would be difficult. Either the MTA would have to purchase the land or have the city acquire parcels through eminent domain that it would be able to redevelop at greater densities. Either way the financial costs would cut into the MTA’s revenues. Important differences in government power and its ability to distribute land limit the MTA’s ability to follow the MTR’s basic form of land development.

The MTA’s alternative is to utilize its available land and engage in a more limited form of land development. Further research on the potential for development on MTA owned parcels that correspond to MTR principles of revenue generation like increased densities and expanded

---

\(^2\) Floor Area Ratio is the ratio of total building floor area to the area of the zoning lot.
commercial offerings should be pursued. The MTA’s real estate department should examine the existing zoning around these parcels and work to get its property re-zoned in order to encourage development. Alternatively, in industrial areas the MTA should work with New York City’s Department of City Planning to create revised zoning districts that encourage development. These areas may also be opportunities for the MTA to purchase land at cheaper prices. A majority of the land parcels identified by the MTA’s real estate department are within walking distance of subway lines. These parcels have great potential to benefit from land value increases created by transit infrastructure that would otherwise stay in private hands. The MTA should work to identify how these increases should be quantified and incorporate this into any negotiation it has with potential developers. The MTA should make explicit the impact transit has on land value and make this a cornerstone of all future real estate negotiations.

We can get a better understanding of the potential loss in revenue from outright disposition by looking at some of the MTA’s current properties marked for sale. The MTA has identified four large-scale property holdings that could be zoned to allow densities of an FAR of 10 or greater as well as one fully developed property currently zoned at an FAR of 10:
<table>
<thead>
<tr>
<th>Property</th>
<th>Lot Size</th>
<th>Square Footage with FAR of 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willets Point, Queens</td>
<td>522,720 sq ft</td>
<td>5,227,200 sq ft</td>
</tr>
<tr>
<td>Michael J. Quill Bus Depot - 11th Avenue between 40th and 41st Streets, Manhattan</td>
<td>158,000 sq ft</td>
<td>1,580,000 sq ft</td>
</tr>
<tr>
<td>Brooklyn Battery Tunnel Garage, Brooklyn</td>
<td>106,500 sq ft</td>
<td>1,065,000 sq ft</td>
</tr>
<tr>
<td>LIRR Railyards, Long Island City</td>
<td>≈500,000 sq ft</td>
<td>5,000,000 sq ft</td>
</tr>
<tr>
<td>370 Jay Street, Brooklyn</td>
<td>45,900 sq ft</td>
<td>459,000 sq ft</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>1,331,220 sq ft</td>
<td>13,331,200 sq ft</td>
</tr>
</tbody>
</table>

Taken together these developments total just over 13,000,000 square feet of developable space.

In September 2012, the average price per square foot for commercial space in Class A and Class B office buildings in Manhattan was $57.24. Though some of these developments are in existing commercial sections of New York City, others are not, so, assuming that on average potential MTA developments could bring in $33 per square foot the total would amount to $439,929,600. This calculation does not account for a couple additional factors. An FAR of 10 is conservative, 15 is more likely in some of these developments. In addition, new development would be geared toward Class A development and average rents would be higher. More importantly, these rents have no connection to the transit infrastructure located nearby. The true value of the land is most likely greater than average rents indicate (Sammons, 2012).
In addition to these large-scale projects the MTA has a number of other smaller developments totaling over 211,000 square feet. While these areas would be developed with smaller FARs given their location in outer borough, residential neighborhoods, by selling outright the MTA loses potential revenues it could generate over time as well as any surcharges it might impose based on proximity to transit infrastructure. The potential for the MTA to reap significant revenues from its landholdings is significant.

The MTA does not have to be a property developer to benefit from the increases in land value that transit infrastructure creates. In fact, existing transit stops, particularly, subway and commuter rail stations, have the capacity to increase revenues through their impacts on land value. Property closer to transit stations is more valuable than land farther away. In the Lisbon example cited above a full 55% of all land value was directly attributable to transit. Presently, the landowner privatizes this increase in value. An alternative would be to reclaim this unearned value and return it to public hands. This could be achieved by the MTA lobbying the state to create a transit access surcharge that would impact property owners located within a 10-minute walk of a transit station. This usage fee would require landowners to return the unearned value generated by transit infrastructure back to the MTA and could be assessed progressively, the closer to the station the greater the access charge. The advantage of the access surcharge is that it does not require the MTA to perform the role of landowner and developer, while providing a steady form of revenue for ongoing operational costs. This additional charge has some of the characteristics of the two-rate tax system advocated by LVT proponents. It does not penalize improvements, i.e. the labor of the landowner; instead it encourages more intense, denser development.
One significant criticism of this surcharge is that property owners would most likely shift the burden of the access charge on to their tenants. This is a real concern, however as Hong Kong’s MTR has shown, by creating new revenue that contributes to improve transit operations and increases overall transit system access, housing affordability becomes less of a concern.

Real estate development is not a silver bullet for the MTA; it will not provide sufficient funding for capital and operational costs. Nevertheless, as it currently stands the MTA is sitting on billions of dollars of untapped revenue that it sorely needs to provide the type of transit experience for which it strives. All new revenue streams are critical to ensuring that a necessary public good stays in the public’s hands and provides critical access to the city for everyone. Furthermore, creating a new dedicated revenue source would be greatly beneficial to the MTA, which currently struggles to find funding from both the city and the state. Moreover, denser development that reduces sprawl has positive environmental and sustainability consequences. More generally, the MTA should be working to find ways to preserve the benefits of public transit as public good, rather than allowing them to enter the private market. Whether this is through new forms of property management or the creation of an access surcharge, the MTA must work to ensure that communally created value supports all users. This is not just a task for the MTA; all of the major American transit systems struggle with finding enough money to pay for the daily operations of its infrastructure. Like the MTA, these transit systems also have a number of potential properties that can be developed, whether it is park and rides in the San Francisco Bay or rail yards in Boston, transit agency owned land adjacent to existing transit infrastructure has considerable unrealized value.


Lane, Daniel P. Appraisal of LIRR Vanderbilt Yards. 2005.


New York State, Empire State Development Corporation. Determination and Findings by the New York State Urban Development Corporation d/b/a Empire State Development Corporation Pursuant to EDPL, Section 204 with Respect to the Atlantic Yards Land Use Improvement and Civic Project. New York, 2007.

New York State, Metropolitan Transportation Authority. *Request for Proposals: For the sale or lease of all or some of the air space and related real property interests in one or more of the three parcels known as Vanderbilt Yard*. New York, 2005.


