Estimated Fiscal Impact of the Atlantic Yards Project on the New York City and New York State Treasuries

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I. Introduction

This report offers an analysis of the likely fiscal impact on the budgets of the City of New York and State of New York from the Forest City Ratner Companies (FCRC) arena, commercial and community development project at Atlantic Yards in Brooklyn. To perform this analysis I use a similar approach to the one that I and other academic economists have used to evaluate the economic and fiscal impact of other sports facility projects.

The general conclusion that has come out of the academic literature on this subject is that a city, county or state should not anticipate a positive economic or fiscal impact from a new sports facility. That is, a new sports facility by itself should not be expected to raise employment or per capita income levels in a community. The primary reasons for this outcome are fourfold.

First, despite their large cultural presence, sports teams are modestly-sized businesses. In 2002-03, for instance, the average NBA team generated approximately $85 million in revenue. This equals less than 0.02 percent of the disposable income of New York City.

Second, most families have a relatively fixed budget for leisure activities. If a family spends $250 going to a basketball game, it is $250 it does not have to spend at local theaters, bowling alleys or restaurants. Thus, a good share of money spent at sporting contests is money that is not spent elsewhere in the local economy – one form of entertainment expenditure substitutes for another.

Third, there are generally larger leakages out of the local economy associated with the professional sports dollar. For instance, NBA players earn about 60 percent of league revenue. The average NBA player earns around $4.5 million in salary. His nominal, federal marginal tax rate is close to 40 percent and he normally has a high savings rate. Less than one-third of NBA players make their permanent residence in the same city in which they play.[1] Federal taxes, of course, go to Washington and leave the local economy. Savings enter the world's money market, and, generally, also leave the local economy. A significant share of a player's income finds its way back to his hometown. Thus, a higher share of the money spent at entertainment venues other than professional sports stadiums and arenas stays in the city.

Fourth, in the vast majority of cases, arena and stadium projects create a budgetary gap. This is because over the last fifteen years approximately 80 percent of the development costs for the average professional sports facility has been publicly funded and the typical lease

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[1] John Siegfried and Andrew Zimbalist, "A Note on the Local Impact of Sports Expenditures," *The Journal of Sports Economics*, vol. 3, no. 4 (December 2002).

has shared little facility revenue with local government.[2] When sports facilities create a budgetary gap, this gap must be compensated for by either higher taxes or a reduction of services – either of which puts a drag on the local economy.

As a result of this general analysis, over the years I have advised citizen groups, political representatives and government officials that it made little sense to support a stand-alone arena or stadium project with public funds as an economic investment. Supporters of sports facilities invariably have produced reports from hired guns that claim handsome economic benefits. In my view, these reports are performed with a faulty methodology and make unrealistic assumptions.

The FCRC project at Brooklyn's Atlantic Yards, I believe, distinguishes itself from the standard sports facility project in at least two

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[2] Quantifying the public share in facility construction is complex for a number of reasons, including whether or not the estimate includes land, infrastructure, environmental remediation, maintenance, property and fiscal subsidies, and so on. The most careful, comprehensive and current source of stadium and arena financing is Judith Grant Long, "Full Count: The Real Cost of Public Funding for Major League Sports Facilities and Why Some Cities Pay More to Play," Ph.D. dissertation, Harvard University, Department of Urban Planning, April 2002, especially Chapter Four. The 80 percent share refers to total development costs and to all of the 65 professional stadiums and arenas built since 1990.

important ways. First, New York City and New York State will benefit from a recapture of tax revenues presently generated in New Jersey. According to my estimates, which I discuss in detail below, this recapture from the team and the arena will be worth approximately $12.7 million to the public coffers in 2008 and $730.4 million in aggregate revenues over thirty years. The present value in 2005 of this recapture over thirty years equals $257.5 million.[3]

Second, the FCRC project is not a standalone arena, rather it encompasses a 21-plus acre mixed-income residential and commercial community. Among other things, the project will add at least 4500 net new residential units. Given the housing shortage in New York City, it seems reasonable to assume that close to 4500 new households will reside in the city when the project is fully built out. Along with the new households, taxable income and sales will grow and make a fiscal contribution. When all these units are built, I estimate that they will add additional gross tax receipts to New York City and New York State equal

[3] Throughout this report I calculate present values back to 2005 based on 30 years of revenues and a 5.5 percent discount rate. Since the construction period for the arena and infrastructural projects lies between 2005 and 2008, one could make a case for calculating the present value for a midway date (between 2006 and 2007). Thus, my decision to take the present values back to 2005 is conservative and puts a downward bias in my estimate.

to $62.0 million annually and the present value in 2005 of this tax revenue stream over the subsequent thirty years equals $869.6 million. As I shall elaborate, several other sources of new tax revenue will also be created by the project.

II. New Sales and Income Tax Revenue from the Arena Project

In a typical case, a community builds a facility either to retain an existing team or attract a new team to the area. In either case the lion's share of the money spent at the new arena or stadium is diverted from existing local expenditures, i.e., it does not constitute additional consumer spending. In a broad sense, the same is true with the proposed Nets arena in Brooklyn; the difference in this instance is that while the spending in the larger media market is mostly reshuffled within the area, it is relocated from one tax jurisdiction to another. Tax collections that presently go to New Jersey (and used to go to New York during the Nets early years) will now go to New York City and New York State.

In particular, incomes of Nets players, executives and staff will be taxed in New York State and partially in New York City (if the individual lives in one of the five boroughs). Further, part of the spending at Nets games and other events at the Atlantic Yards arena will be new to New York City and New York State and sales taxes collected from this spending will be net increments to the public coffers.

The issue is not whether or not there will be new tax revenues for New York, but how large these incremental revenues will be. To make a reasonable estimate of this increment, it is necessary to make a variety of assumptions. Since the Atlantic Yards arena is projected to be completed for the 2007-08 season, the first assumption involves the payroll for the Nets in that year. Based upon the team's existing payroll commitments and roughly a 5 percent growth in average salaries, it is estimated that the Nets payroll in 2007-08 will be $65.5 million.[4] I assume that 30 percent of the Nets players will live in the five boroughs. These players will pay New York City as well as New York State income tax. The remaining 70 percent will pay only New York State tax. At the players' high income levels, based on the existing effective rates, I project an effective income tax rate of 4.04 percent for New York City and of 6.46 percent for New York State.

[4] Many of the numbers used in this report concerning Nets attendance, ticket prices, construction costs and other items come from projections done by or for FCRC. I have discussed these estimates with FCRC and they seem reasonable to me. FCRC projects that the arena will not host an NHL team and that it will host 224 events during the year (assuming the eventual closing of CAA, no new arena in Newark, no NHL and no minor league hockey events at the Atlantic Yards arena.) FCRC projects out three scenarios over time based on aggressive, moderate and conservative assumptions. I use the estimates from their moderate scenario.

Players spend approximately 75 percent of their active season (including both playing and practice time) in New York State and, hence, pay taxes on only 75 percent of their salary in New York. The rest they pay to the states where they play their road games. Compensating for this in part, visiting team players must pay an income tax in New York State for that share of their income that is earned in the state. Thus, I take 25 percent of the projected average NBA team payroll in 2007-08 to estimate state taxes paid by visiting team players.

Similarly, I then make assumptions about the salary levels and residence for Nets executives and staff in order to estimate the income taxes they pay to New York City and New York State.[5] Finally, I estimate the income taxes paid by the arena workers at the Atlantic Yards arena.[6] To estimate the latter, I only include that share of the arena workers taxes that I consider to be based on new spending in New York.[7]

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5 Following FCRC projections, I assume that executive salaries in 2007-08 will total \$9.9 million and that 20% of executives will live in New York City. I also assume that staff salaries in 2007-08 will total \$5.6 million and that 50 percent of the staff will live in New York City.

6 I assume that the arena worker salaries will be \$7.06 million and that 75 percent of the arena workers will live in the city.

7 This share is the estimated portion of spending at the arena that is new to New York. As is explained below, this portion is different for spending at Nets games than it is for spending at other arena events. Thus, I take the

Table One below summarizes the estimated income tax collections from the FCRC project in 2008 as well as the present value (PV) in 2005 of all collections during the thirty-year period between 2008 and 2037. To estimate these values during 2008-2037, a variety of different assumptions are made about annual growth rates.[8] A more detailed explanation is provided in the spreadsheet that is attached in the appendix to this report.

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share of new spending for Nets games and multiply it by the share of total arena ticket revenue generated by the Nets as opposed to other events at the arena. The resulting share is 48 percent. Thus, 48 percent of the arena workers' taxes are considered to be based on new spending in New York.

[8] Assumed annual growth rates are as follows: salaries of players, executives and staff, 4.7 percent; salaries of arena workers, 3 percent. Effective tax rates in the city and the state are also assumed to be constant.

Table One

Estimated New Income Tax Revenue

(millions of dollars)

	Players	Executives	Staff	Arena	Total
2008	4.88	0.71	0.36	0.38	6.33
PV [9]	110.91	12.37	6.09	6.67	136.04
Annuity[10]	7.63	0.85	0.42	0.46	9.36

The second part of new tax collections for New York from the Atlantic Yards arena will come from sales taxes. The key to estimating this value lies in identifying what expenditures at the arena are new to New York and what part are diverted from expenditures at other entertainment venues in New York.

The first step is to estimate how many fans on average who presently attend games at the Continental Airlines Arena (CAA) will also attend games at the Atlantic Yards Arena. The average attendance for the first 32 Nets home games at CAA for the 2003-04 season is available. It is

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9 This represents the present value in 2005 of the revenues generated from 2008 through 2037, using a weighted average cost of capital (WACC) of 5.5 percent.

10 Annuitized value, using a WACC of 5.5 percent.

14,538. The average attendance at CAA for the first 32 games last season was 14,992. For the past two years, then, the average is 14,765.

Of this number, how many will attend games at the new Brooklyn arena? I have figures for the state of residence of current Nets season-ticket holders. On an adjusted full-season basis, 67.9 percent of these holders reside in New Jersey. The large majority of the remaining holders live in New York, with a small proportion living in Connecticut and even smaller share in Pennsylvania. I do not have Nets data on the state of residence for the fans who are not season-ticket holders, but I do have data on the state of residence of fans who attend New York Jets games at the Meadowlands.[11] I use these proportions for the balance of Nets fans.

Many Nets fans who live in New Jersey will not make the trip to Brooklyn to see the team. Out of interest in and loyalty to the team, however, others will attend games in Brooklyn. Some fans from New Jersey who live south of the Goethals Bridge or Outer Bridge Crossing may even find it as easy to travel to Brooklyn as to the Meadowlands. There are no available surveys which estimate the share of New Jersey

[11] These proportions are: 51 percent from New Jersey, 44.7 percent from New York and 4.3 percent from Connecticut.

fans who intend to attend games in Brooklyn.[12] Thus, I have to estimate this proportion.

My base assumption is that 30 percent of New Jersey fans of the Nets will also attend games in Brooklyn.[13] Because this figure may either be too low or too high, I also did a sensitivity analysis for different proportions.

For current Nets fans from Connecticut and New York, I assume that if they are willing to attend games in New Jersey, they will also be willing to attend games in New York. To be sure, even if some New York fans of the Nets do not follow the team to Brooklyn, there will still be roughly the same new tax revenues for the state and city. Such New Yorkers will now have the entertainment funds previously spent at CAA to spend in New York. The only other assumption I make is that of the 27 current season-ticket holders from Pennsylvania, none of them will buy season tickets or otherwise travel to Brooklyn to watch the Nets.

With these assumptions, then, of 8,936 New Jerseyans who attend a typical Nets game at CAA, 2,681 will attend a typical game in Brooklyn.

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[12] Even if such surveys existed at present, their reliability would be suspect because many New Jersey fans are likely to have an initial negative emotional reaction to the move.

[13] It will be recalled that 32.1 percent of Nets season-ticket holders are from outside of New Jersey.

Of the 5,829 current Nets attendees from outside New Jersey, 5,802 will attend a typical Nets game in Brooklyn.

FCRC projects that over the first five years of the Atlantic Yards arena, the average attendance will be 17,191 (or 90.48 percent of the arena's 19,000 capacity for basketball games.) From the above estimate, 49.3 percent of these fans will come from among those who attended games at CAA. These fans will be bringing new revenue to the New York economy.

Table Two
Composition of Attendees at Atlantic Yards

Average Nets Attendance In New Jersey			Average Nets Attendance In Brooklyn			
	From			From		
Total	NJ	Outside NJ	Total	NJ	Outside NJ	New NY Fans
14,765	8,936	5,829	17,191	2,681	5,802	8,708

The balance of the 17,191 attendees at the Atlantic Yards arena, or 8,708 people (50.7 percent), will be New Yorkers who previously did not attend games at CAA. The money they spend at the new Brooklyn arena will be largely recirculated within the New York economy, and for the most part will not represent new revenues.

However, some of these expenditures will be new either to the New York City or the New York State economy or both. The sources of this new money are the following. First, some people from out of state (principally from New Jersey and Connecticut) will be new Nets fans. They will be attracted either to the new Frank Gehry-designed arena, to new players on the team or to the team itself. Second, other attendees will attend Nets games as an add-on to their leisure expenditures. Primarily, these individuals will be from upper income brackets who do not need to reduce other leisure-time expenditures in order to be able to afford Nets games. Third, others may attend Nets games and reduce out-of-town leisure spending. Fourth, some corporations may purchase premium seating and catering services as an add-on to their entertainment budgets. Fifth, some of the spending at the Atlantic Yards arena will come from fans in Nassau County, Suffolk County, or Westchester County who did not attend games at CAA. Together these three counties have a population of 3.74 million. When these fans spend money at the new Atlantic Yards arena on tickets, concessions, or novelties, it will bring new sales tax revenue to New York City (though not to New York State.)[14]

Overall, for the New Yorkers attending Nets games in Brooklyn who did not previously attend the team's games at CAA, I estimate that 20 percent of the spending will be new to the New York economy. Thus, I

[14] I leave parking out of my analysis because the plans for constructing and managing arena parking are not yet finalized.

add 20 percent of the estimated 50.7 percent new Nets fans from New York (or 10.1 percentage points) to the 49.3 percent to arrive at a 59.4 percent share of spending at the Atlantic Yards arena being new to the New York economy. I then multiply all sales tax revenue derived from Nets games at the arena by .594 to estimate the net increment in sales tax collections provided to the city and state treasuries. Next, I use the same 20 percent to estimate the share of non-Nets arena spending that is new to New York. That is, all sales taxes derived from estimated spending at concerts, family shows and other sporting events at the arena are multiplied by 0.2. New sales taxes derived from the Nets and non-Nets events are then added together. These calculations are summarized in Table Three below.

Table Three

Estimated New Sales Tax Revenue

(millions of dollars)

	Admissions	Concessions	Novelties	Total
2008	5.2	0.93	0.28	6.43
PV [15]	100.5	16.2	4.8	121.5
Annuity[16]	6.9	1.1	0.33	8.33

When I alter the assumption that 30 percent of current Nets attendees from New Jersey also attend games at the Atlantic Yards arena, the following results obtain. When the share is lowered to 25 percent, new sales tax revenues fall from $6.43 million in 2008 to $6.26 million, or a decrease of 2.6 percent. When the assumed share is raised to 35, the sales tax revenues grow to $6.62 million in 2008, or an increase of 2.9 percent.[17]

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[15] This represents the present value in 2005 of the revenues generated from 2008 through 2037, using a WACC of 5.5 percent.

[16] Annuitized value, using a WACC of 5.5 percent.

[17] If we assume that only 20 percent of Nets fans from New Jersey come to Brooklyn, the projected 2008 sales tax revenues fall to $6.08 million. In contrast, if 40 percent come, the 2008 revenues rise to $6.80 million.

III. New Sales and Income Tax Revenue from the Housing Project

The FCRC Atlantic Yards project will eventually create between 4500 and 4800 net new household residential units.[18] Given the housing shortage in New York City, I assume that these new units will allow the number of the city's residential units to also grow by the same amount. While it is true that some of the new residents in the Atlantic Yards community will have relocated from elsewhere in the city, it is also true that the vacated units will now be available for other occupants. If the vacated units are dilapidated and earmarked for condemnation, then presumably they would have been condemned with or without the additional units at Atlantic Yards.

It might also be objected that the new units will simply attract relocated New Yorkers and that their previous residences will lie vacant. To the extent that this occurs in the short run, it will put downward pressure on city rents which eventually will cause the number of residents to rise.

[18] These figures are net of the approximately 150 units that are projected to be condemned and relocated. Because the number of units and residents to be relocated will not be known with certainty until ESDC is named the lead agency and an official survey is conducted, I choose to be conservative and use the lower end (4500) of projected net units.

Based on the mixed-income specifications of the project and the combination of low income (20 percent of the rental units), middle income (30 percent of the units) and market (50 percent of the rental units) and condominiums, in 2004 dollars I project that the average annual income of households in the new community will be between $80,000 and $90,000.[19] Using the conservative estimates of 4500 new housing units and $80,000 income per household unit, the total amount of income earned in the community would be $360 million a year, once the community is fully built out.

This income is subject to both New York City and State taxes (with average effective rates of 3.3 percent and 5.2 percent respectively at this income level). Further, based on research by AKRF[20], for households with before-tax income of $80,000, roughly one-third of their before-tax income will be spent on taxable, local items.

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[19] The current income upper limit for a family of three to qualify as "low income" is $28,250 and to qualify as "middle income" is approximately $142,000. Assuming the average low income household in the project has an income of $20,000, the average middle income household has an income of $75,000 and the average market household has an income of $120,000, the average income of project households would be $86,500.

[20] AKRF is an economic consulting firm in New York City that has done modeling and tax estimates in connection with this project.

Since these units are new to the New York City housing stock, most of this income is new to New York City and New York State. The share that is not new to New York State will be the share of households that have relocated to Atlantic Yards from elsewhere in the state. In the base case, I assume this share to be 40 percent.[21] I also assume that 10 percent of the workforce from among the Atlantic Yards households will work outside of New York City and, hence, not be responsible for paying New York City income taxes. Apartment buildings and condominium buildings will be added at a rate of approximately two per year between 2006 and 2009, and one per year between 2010 and 2013.

Because new income is generated, there is also a multiplier effect on the New York economy. That is, the new income yields new consumer spending at new and existing retail outlets. This spending yields new income for the retailers and their local suppliers, which, in turn, engenders more local spending. And so on.

Assuming a combined marginal tax rate of .30, a marginal propensity to save of .05 and a marginal rate of import into the New York economy of .50,[22] I estimate a local multiplier of 1.5.

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[21] I also conducted a sensitivity analysis on this assumption. Results are reported below.

[22] A local marginal propensity to import of .50 is used in the academic literature on the economic impact of sports facilities. In this case, it is conservative both because of the larger size of New York City than the

Based on these parameters, I estimate the new annual tax revenue from the 4500 housing units as follows.

Income = \$360 million

Gross State Income Tax = (\$360 million) x (.0522) = \$18.79 million

Net State Income Tax = (\$18.79 million) x (.6) = \$11.28 million

After Multiplier, (\$11.28 million) x (1.5) = \$16.91 million

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typical city and because I am using the same import propensity (and, hence, multiplier) for New York State. The import propensity is likely to be lower and the multiplier higher for the state. Hence, the procedure in the text is likely to underestimate the fiscal income tax capture. The estimate is also conservative because it does not include the positive income impact on the city's and state's economy from the net new revenue flowing into the public treasuries. Assuming these revenues are spent, they would raise area income and, thereby, also raise subsequent tax capture. To a smaller extent, there is also a modest overestimate built into my method; when New Yorkers divert some of their leisure spending from non-professional sport activities to the Nets, they will be shifting to activities with a larger leakage out of the local economy. This latter effect is certain to be smaller than the two previously mentioned factors.

City Income Tax = ($360 million) x (.0332) = $11.95 million

Net City Income Tax = ($11.95 million) x (.9) = $10.76 million

After multiplier, ($10.76 million) x (1.5) = $16.14 million

Thus, when fully built out, the housing project will provide an estimated annual flow of $16.91 million in new income tax revenues to the state and of $16.14 million in new income tax revenues to the city.

In addition, using the AKRF estimate that approximately one-third of before-tax income will be spent on taxable goods in New York City, I can estimate that $120 million will be spent on such goods from residents in the housing development once the project is fully built out. The combined state sales tax rate (including the MTA tax) is 4.5 percent. Since I am assuming that 60 percent of the project's residents are new to New York State, new sales tax revenues for the state will be $3.24 million annually in the first round and $4.86 million annually after all the rounds (including the effect of the multiplier) once the project is fully built out. The similar computation for New York City yields $7.43 million annually. (These figures are all in 2004 dollars.)

To be realistic, however, the foregoing estimates must be adjusted downward since the new housing units will be built gradually over time. In each year between 2006 and 2010, the plan is to build approximately 14.22 percent of the total units; and, for each year between 2011 and 2014, the plan is to build an additional 7.22 percent of the units. Thus, in 2006, the total new income tax revenue to the city and state would be $4.70 million (or 14.22 percent of the $33.05 million fully built-out figure); and the total new sales tax revenue to the city and the state would be $1.75 million (or 14.22 percent of the $12.27 million fully built-out figure.)

Assuming that household income will grow by 4 percent in nominal terms over time and that the city's and state's weighted average cost of capital (discount rate) is 5.5 percent, I then calculate the present value of the new tax revenues for the city and state. The present value (in 2005) of these tax revenues is $869.6 million.[23]

If one assumes that 50 percent of Atlantic Yards households previously lived in New York State, then the incremental tax revenues

[23] For this estimate there is no difference between sales or income generated on the 21-plus acres of the Atlantic Yards project and that generated elsewhere in New York City. To be sure, some of the new retail activity in the project area will simply replace presently existing activity.

would equal $800.0 million.[24]

IV. New Sales and Income Tax Revenue from the Commercial Buildings

The FCRC Atlantic Yards project will eventually create 1.9 million square feet of first-class office space. Since 1988, downtown Brooklyn has absorbed an average of 600,000 square feet of new office space per year. As of early April 2004, the vacancy rate of class A office space built in Brooklyn since 1985 was less than one percent.[25]

While some of the new office space from this project will likely substitute for older or more expensive office space in Manhattan, a significant share of it will enable New York City to accommodate

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[24] In contrast, if 30 percent of the households previously lived in New York State, then the tax revenues would be $939.2 million. A sensitivity analysis of the percent of households previously living in New York State is presented in the table below.

Percent of Households Previously Residing in New York State	Present Value of Income and Sales Tax Revenues from Housing Units ($ in millions)
20%	$1,008.9
30%	$939.2
40%	$896.6
50%	$800.0
60%	$730.4
70%	$660.8

[25] The precise vacancy rate was 0.61 percent.

additional businesses. The increased supply of office space at Atlantic Yards will also put downward pressure on commercial rents in the NYC market.

To the extent that the new office space brings new businesses and workers to New York City and/or New York State, there will be additional income generated in the local economy.[26] This income, in turn, will generate additional tax revenue. It will also engender new local sales that will raise public collections via the sales tax. Below I estimate these fiscal gains.

The construction plans call for the 1.9 million square feet of office space to be added in equal increments of 633,333 square feet respectively in 2007, 2009 and 2011. Using a standard ratio of one employee per 250 square feet, there would be 2533 employees added at Atlantic Yards in 2007, 2533 in 2009 and 2533 in 2011.

I make the following assumptions. First, for the base case I assume that only 30 percent of the businesses are new to New York City

[26] Naturally, to the extent that workers in the commercial space at Atlantic Yards also reside in the new housing development, there will be an overlap in the new income that I estimate. My estimate below adjusts for this possibility.

and New York State.[27] Second, of the new businesses' employees, I assume in the base case that 60 percent are new to the workforce in New York State[28], 100 percent live in New York State, 60 percent live in New

[27] I subsume those who possibly overlap by both living and working in Atlantic Yards within the 70 percent of businesses not considered to be new to the city and state.

I suspect 30 percent is a low estimate of the percent of Atlantic Yards businesses that are new to New York. If I assume that the percent of Atlantic Yards businesses that are new to New York is 40 percent (rather than 30 percent), the estimated new income tax revenues to the city and state rises to $199.5 million. If I assume 50 percent are new, the estimate increases to $249.3 million. At 20 percent, the estimate would be $99.7 million.

[28] The assumption that 60 percent of the Atlantic Yards office employees are new to the New York economy also is conservative. There are five options for these employees: one, they moved into the area, in which case they are new workers; two, they were previously unemployed in the area, in which case they are new; three, they were previously employed in the area and they are replaced in by another worker in the job they vacate, in which they case they constitute a net addition to the NYC labor force; four, they were previously employed in the area and they are not replaced in their former job which was slated for near-term elimination, in which case their Atlantic Yards job is a net addition to the NYC economy; five,

York City, and 30 percent of this group lived previously in New York City. I assume that the average salary of Atlantic Yards employees is $66,000. My method implicitly assumes that all the employees were previously employed at the same average salary. To the extent that some of the employees were previously unemployed or working at a lower salary (which is likely since something attracted them to work at Atlantic Yards), my estimate of tax revenues will be too low. Further assuming that the average salary will grow at 3 percent annually and that the multiplier, as above, is 1.5, the present value in 2005 of the income tax revenues to the city and state over 30 years is $149.6 million.

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they are not replaced because their prior job was slated for elimination by attrition. It is only in the latter case that the Atlantic Yards employment is not a direct net addition to the local labor force and even in this case it is productivity enhancing in the short run and job creating in the long run. Thus, 60 percent appears to be a very conservative proportion. A sensitivity analysis (in present value of tax revenues) of the percent of employees that are new to the workforce is presented below.

Percent of Employees That Are New to the State Workforce	Income Tax (millions)	Sales Tax (millions)	Total (millions)
40%	$115.3	$51.3	$166.6
50%	$132.4	$57.8	$190.3
70%	$166.8	$70.9	$237.7
80%	$183.9	$77.4	$261.4

Retaining the same assumptions from the base case, AKRF estimates that the average individual with a $66,000 income will spend 40.6 percent of that in New York City. Following the same procedures to estimate the new sales tax collections as above, I estimate the 2005 present value of new sales tax collections resulting from the commercial office employees at Atlantic Yards to be $64.38 million.

V. Property Tax from Improvements and Ground Rent

Under New York's Industrial and Commercial Incentive Program (ICIP), the commercial buildings at Atlantic yards will qualify for tax abatement. During the first sixteen years, there will be no property tax due on the improved value of the real estate. During the next nine years, the tax is phased in. Thereafter, the full property tax is levied. Setting the improved value at 10 percent above the current average value for class A office space in downtown Brooklyn, I use $55 per square foot. This value is "inflation protected" under ICIP through year 13. Thereafter, I increase the $55 per square foot improved value by 2.5 percent annually, which is the overall growth rate in real estate taxes over time. To this, I apply the property tax rate of 12.5 percent and derive the 2005 present value of the taxes collected through 2034. This present value estimate is $47.2 million.

Further, the project will pay ground rent to the public sector equal to the site's fair market value, estimated initially at $1.70 per square foot.[29] This rate is projected to increase to $2.04 after 15 years and by an additional 7.5 percent every five years thereafter. The present value in 2005 of these projected ground rent payments through 2034 is $114.8 million.

In addition to the estimated tax revenues from the arena, the residential and commercial developments, the property taxes on improvements and the ground rent, the project will generate the following tax revenues that are not included in my estimate: (a) property taxes collected on the residential buildings at Atlantic Yards; (b) increased property taxes from the increase in property values in the surrounding neighborhood;[30] (c) to the extent that FCRC purchases private land and buildings on the site, the city and state will receive a 3.25 percent transfer tax and, for buildings of over $1 million in value, a 1 percent mansion tax as well; (d) increased taxes from the increased economic activity resulting

[29] $1.70 per square foot is the amount FCRC is paying to the MTA for the Bank of New York building, opening in May 2004, that is directly across the street from the Atlantic Yards project site.

[30] One recent study ("Ring Around the Rose Bowl: The Spatial Economic Impact of Stadiums and Arenas," 2003) by Brad Humphreys and Dennis Coates, using data from the 1990 U.S. Census, estimated that property values within one-quarter mile of a basketball arena were 68 percent higher than the average values within a 2.5 mile radius of the facility. This estimate is statistically significant at the .01 level.

from the privately-financed (and part of the publicly-financed) portion of the construction at Atlantic Yards;[31] (e) income taxes from the Nets profits (which pass through to the owners' individual income taxes) and the other businesses which will locate within the commercial and retail portion of the project;[32] and, (f) sales taxes on the expenditures of visiting teams and acts on city hotels, restaurants and transportation. Even though they are

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[31] The amount of the increased activity will be a function in part of the degree to which the local construction industry is operating at capacity. If the local construction industry is at full employment, then the Atlantic Yards project will only generate new income to the extent that it encourages new, local workers or new capital to enter the sector. To the extent that Atlantic Yards construction is financed out of new tax revenue generated by the project, it increases the level of local economic activity. However, whether the city or state spends the extra revenue on helping to build a basketball arena in Brooklyn or on repairing the FDR Drive makes little, if any, difference to the city's economy. Of course, the increased tax revenues from the project lead to higher government outlays which also generate increased activity, and, subsequently, more tax revenues.

[32] This number, of course, would have to net out the reduced taxes from the lost income of the condemned businesses if they were not relocated elsewhere in New York City.

not estimated, these additional sources of tax revenue are likely to be quite substantial.

Considering only the new revenue sources that I was able to estimate, over thirty years the total addition to the city's and state's tax revenues from the Atlantic Yards project amount to $4.1 billion. The annuitized value of these new revenues is $103.5 million and their present value is $1.5 billion. Table Four below summarizes the present value of tax generation from these different sources.

Table Four

Estimated Present Value in 2005 of Tax Revenue Generation by Source [33]

Millions of Dollars

	Present Value	**Annuity**	**30-Year Aggregate Tax Revenues**
Team/Arena:			
Income	136.0	9.4	396.9
Sales	121.5	8.4	333.5
Residential:			
Income	634.1	43.6	1735.0
Sales	235.5	16.2	644.3
Commercial:			
Income	149.6	10.3	383.9
Sales	64.4	4.4	165.2
Property Tax on Improvements	47.2	3.3	179.4
Ground Rent	114.8	7.9	267.3
Other	not estimated	not estimated	not estimated
TOTAL	1503.1 plus	103.5 plus	4105.5 plus

[33] Again, the present value is based on revenue flows over 30 years. Both the present value and annuity assume a WACC of 5.5 percent.

VI. Projected Contributions to the Project from NYC and NYS

According to public information, the city and state will each contribute $9 million per year toward the debt service of the arena bonds. This payment will continue at the same level for the life of the bonds (thirty years). Part of the payment is for use rights for public events at the arena. Further, the needed infrastructural work (including the platform over the rail yards and utilities upgrade/relocation) and eminent domain takings are estimated to cost $162.73 million. To be cautious, I add $25 million in contingency funds, yielding $187.73 million. Using a 5.5 percent discount rate, the present value of these combined costs to the city and state treasuries is $449.34 million.

In addition to the direct financial contributions to the Atlantic Yards project, it is to be anticipated that the city will incur certain ongoing costs connected to infrastructural maintenance, sanitation and security. Further, city services, such as public schools and fire protection, will also be extended to cover more citizens. As a general rule, the provision of these services involves large fixed costs and relatively small variable costs. That is, as the population grows the incremental costs are minor relative to the large investment expenditures in the initial infrastructure and plant. Tax collections, in contrast, are at the same level as those for other citizens at the same level of income.

FCRC has made an initial estimate of the city's operating expenses at Atlantic Yards. Based on conversations with former budget officials, FCRC concludes that the increment in fire and police budgets would be negligible. Commercial sanitation services are paid directly by the affected businesses. Residential sanitation for the projected Atlantic Yards population is estimated based on the per capita sanitation budget of the city. The present value of these costs (over thirty years at a 5.5 percent discount rate) is $5.4 million. The incremental schooling costs are estimated based on a per capita educational allocation from the city budget. The present value of these costs over thirty years is $213.8 million.[34] The present value of the total estimated operating costs, then, is $219.2 million. To be conservative, I augment this figure by 10 percent to

[34] This is based on the share of the NYC population in public schools and an average variable cost of $11,000 per student per year. As suggested above, marginal costs are likely to be below average costs. For instance, if a classroom with a capacity of 25 students has only 18 students enrolled, then 7 students can be absorbed without adding a teacher. The estimate here is based on average cost and, therefore, is likely to overstate the actual incremental costs. The educational district for Atlantic Yards is presently at 60 percent of physical capacity and the five-year projections do not call for this to change. Hence, it does not seem that the Atlantic Yards development will necessitate the construction of any new school buildings.

arrive at my estimated present value of incremental public operating expenses due to the FCRC Atlantic Yards project of $241.1 million.

VII. Net Fiscal Impact from the Atlantic Yards Project

The present value in 2005 of the estimated new tax revenues over a 30-year period to the city and state from the Atlantic Yards project is at least $1.503 billion.[35] On the cost side, the present value of direct fiscal contributions is estimated to be $449.34 million, while the present value of the other operating costs associated with the project are estimated at $241.1 million. The estimated present value of all public sector costs, then, is $690.44 million.

By these estimates, there is a net positive fiscal impact with a present value of $812.7 million. (Alternatively, the estimated aggregate tax revenues over the thirty years are $4.1055 billion, while the estimated aggregate public costs are $1.2865 billion, yielding a net aggregate tax gain in current dollars of $2.819 billion over the thirty years.) This is the

[35] This result is based on the assumption that 40 percent of the households in Atlantic Yards previously lived in New York State. If we assume that 50 percent previously lived in the state, the estimate falls to $1.43 billion. If we assume that 60 percent previously lived in the state, the estimate becomes $1.36 billion. At 30 percent, the estimate rises to $1.57 billion.

base case estimate, and, as indicated above, does not include several sources of additional tax revenue to the city and state. Further, more fiscal revenues for the city and state will result in more government spending, which, in turn, will increase the level of economic activity and, consequently, lead to additional tax revenues. Even under the least favorable assumptions in my sensitivity analyses, then, the fiscal impact of the Atlantic Yards project is a significant plus for the New York City and New York State treasuries.

Appendix I

Spreadsheet Detailing Fiscal Impact of Nets and Arena

$ in thousands	**Annuity**	**2005 NPV**	**Aggregate**
ADMISSIONS SALES TAX			
Non-Premium Ticket Sales Tax	$3,812	$55,406	$152,309
Premium Ticket Sales Tax	$2,494	$36,249	$99,647
Suite Sales Tax	$609	$8,856	$24,345
Total Admissions Sales Tax	$6,916	$100,510	$276,300
CONCESSIONS SALES TAX			
Non-Premium Concessions Sales Tax	$785	$11,403	$31,046
Premium Concessions Sales Tax	$331	$4,806	$13,084
Total Concessions Sales Tax	$1,115	$16,209	$44,130
NOVELTY SALES TAX			
Non-Premium Novelty Sales Tax	$289	$4,201	$11,436
Premium Novelty Sales Tax	$42	$608	$1,654
Total Novelty Sales Tax	$331	$4,808	$13,091
TOTAL CITY & STATE SALES TAX	$8,362	$121,528	$333,522
NETS WAGE TAXES			
Player Salaries	$7,631	$110,907	$326,159
GM, Coaches, and Scouts	$851	$12,372	$33,207
Team Staff Salaries	$419	$6,091	$16,246
Total Nets Wage Taxes	$8,901	$129,369	$378,765
ARENA WAGE TAXES	$459	$6,672	$18,165
TOTAL WAGE TAXES	$9,360	$136,041	$396,930
EVENT PARKING TAXES	$0	$0	$0
TOTAL CITY AND STATE TAXES GENERATED	$17,722	$257,570	$730,452

$ in thousands	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2
ADMISSIONS SALES TAX														
Non-Premium Ticket Sales Tax	$2,885	$3,020	$3,161	$3,309	$3,465	$3,627	$3,798	$3,976	$4,096	$4,219	$4,345	$4,475	$4,610	$4,
Premium Ticket Sales Tax	$1,888	$1,976	$2,068	$2,165	$2,267	$2,373	$2,485	$2,601	$2,680	$2,760	$2,843	$2,928	$3,016	$3,
Suite Sales Tax	$461	$483	$505	$529	$554	$580	$607	$636	$655	$674	$694	$715	$737	$
Total Admissions Sales Tax	$5,234	$5,479	$5,735	$6,003	$6,285	$6,580	$6,889	$7,213	$7,430	$7,653	$7,882	$8,119	$8,362	$8,
CONCESSIONS SALES TAX														
Non-Premium Concessions Sales Tax	$653	$672	$692	$713	$734	$757	$779	$803	$827	$851	$877	$903	$930	$
Premium Concessions Sales Tax	$275	$283	$292	$301	$310	$319	$328	$338	$348	$359	$370	$381	$392	$
Total Concessions Sales Tax	$928	$955	$984	$1,014	$1,044	$1,075	$1,108	$1,141	$1,175	$1,210	$1,247	$1,284	$1,323	$1,
NOVELTY SALES TAX														
Non-Premium Novelty Sales Tax	$240	$248	$255	$263	$271	$279	$287	$296	$305	$314	$323	$333	$343	$
Premium Novelty Sales Tax	$35	$36	$37	$38	$39	$40	$42	$43	$44	$45	$47	$48	$50	
Total Novelty Sales Tax	$275	$283	$292	$301	$310	$319	$329	$338	$349	$359	$370	$381	$392	$
TOTAL CITY & STATE SALES TAX	$6,437	$6,717	$7,011	$7,318	$7,639	$7,975	$8,326	$8,693	$8,953	$9,222	$9,499	$9,784	$10,077	$10,
NETS WAGE TAXES														
Player Salaries	$4,884	$5,115	$5,357	$5,659	$5,925	$6,203	$6,495	$6,800	$7,265	$7,628	$8,009	$8,410	$8,830	$9,
GM, Coaches, and Scouts	$709	$742	$778	$821	$860	$900	$943	$987	867	893	919	947	975	1,
Team Staff Salaries	$358	$374	$392	$414	$434	$454	$475	$498	421	433	446	460	473	
Total Nets Wage Taxes	$5,951	$6,232	$6,526	$6,895	$7,218	$7,557	$7,913	$8,285	$8,675	$9,084	$9,511	$9,959	$10,428	$10,
ARENA WAGE TAXES	$382	$393	$405	$417	$430	$443	$456	$470	$484	$498	$513	$529	$544	$
TOTAL WAGE TAXES	$6,333	$6,625	$6,932	$7,312	$7,648	$8,000	$8,369	$8,755	$9,159	$9,582	$10,024	$10,487	$10,972	$11,
EVENT PARKING TAXES	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TOTAL CITY AND STATE TAXES GENERATED	$12,769	$13,342	$13,942	$14,630	$15,287	$15,975	$16,694	$17,448	$18,112	$18,804	$19,523	$20,271	$21,049	$21,

$ in thousands	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	203
ADMISSIONS SALES TAX													
Non-Premium Ticket Sales Tax	$5,037	$5,188	$5,344	$5,504	$5,669	$5,839	$6,015	$6,195	$6,381	$6,572	$6,769	$6,973	$7,1
Premium Ticket Sales Tax	$3,295	$3,394	$3,496	$3,601	$3,709	$3,820	$3,935	$4,053	$4,175	$4,300	$4,429	$4,562	$4,6
Suite Sales Tax	$805	$829	$854	$880	$906	$933	$961	$990	$1,020	$1,050	$1,082	$1,114	$1,14
Total Admissions Sales Tax	$9,138	$9,412	$9,694	$9,985	$10,285	$10,593	$10,911	$11,238	$11,575	$11,923	$12,280	$12,649	$13,0
CONCESSIONS SALES TAX													
Non-Premium Concessions Sales Tax	$1,017	$1,047	$1,079	$1,111	$1,144	$1,179	$1,214	$1,250	$1,288	$1,327	$1,366	$1,407	$1,4
Premium Concessions Sales Tax	$428	$441	$455	$468	$482	$497	$512	$527	$543	$559	$576	$593	$61
Total Concessions Sales Tax	$1,445	$1,488	$1,533	$1,579	$1,627	$1,675	$1,726	$1,777	$1,831	$1,886	$1,942	$2,000	$2,0
NOVELTY SALES TAX													
Non-Premium Novelty Sales Tax	$375	$386	$397	$409	$422	$434	$447	$461	$474	$489	$503	$518	$5
Premium Novelty Sales Tax	$54	$56	$57	$59	$61	$63	$65	$67	$69	$71	$73	$75	$7
Total Novelty Sales Tax	$429	$442	$455	$468	$482	$497	$512	$527	$543	$559	$576	$593	$61

TOTAL CITY & STATE SALES TAX	$11,012	$11,342	$11,682	$12,033	$12,394	$12,765	$13,148	$13,543	$13,949	$14,368	$14,799	$15,243	$15,70
NETS WAGE TAXES													
Player Salaries	$10,222	$10,733	$11,270	$11,833	$12,425	$13,046	$13,698	$14,383	$15,102	$15,858	$16,650	$17,483	$18,35
GM, Coaches, and Scouts	1,066	1,098	1,131	1,165	1,200	1,236	1,273	1,311	1,350	1,391	1,433	1,476	1,52
Team Staff Salaries	517	533	549	565	582	600	618	636	655	675	695	716	73
Total Nets Wage Taxes	$11,970	$12,534	$13,124	$13,741	$14,388	$15,065	$15,775	$16,517	$17,295	$18,109	$18,961	$19,853	$20,61
ARENA WAGE TAXES	$595	$613	$631	$650	$670	$690	$710	$732	$754	$776	$799	$823	$84
TOTAL WAGE TAXES	$12,565	$13,146	$13,755	$14,391	$15,058	$15,755	$16,485	$17,249	$18,048	$18,885	$19,760	$20,677	$21,46
EVENT PARKING TAXES	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
TOTAL CITY AND STATE TAXES GENERATED	$23,577	$24,488	$25,437	$26,424	$27,451	$28,520	$29,633	$30,791	$31,997	$33,252	$34,559	$35,919	$37,16

Appendix II

Spreadsheet Detailing Fiscal Impact of Residential Units

$ in thousands

	Annuity	2005 NPV	Aggregate
INCOME TAX			
State	$17,121	$248,825	$632,369
City	$16,333	$237,385	$603,294
Total Income Tax	$33,454	$486,210	$1,235,663
After Application of Multiplier	$50,181	$729,315	$1,853,495
Adjustment for Real Units Built	$43,632	$634,132	$1,734,972
SALES TAX			
NY State Sales Tax	$4,642	$67,462	$171,448
MTA Sales Tax	$273	$3,968	$10,085
NY City Sales Tax	$7,509	$109,129	$277,343
Total Sales Tax	$12,423	$180,559	$458,876
After Application of Multiplier	$18,635	$270,839	$688,314
Adjustment for Real Units Built	$16,203	$235,491	$644,300
TOTAL REVENUES FROM INCOME AND SALES TAX	$59,835	$869,623	$2,379,272

$ in thousands

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
INCOME TAX															
State	$11,275	$11,726	$12,195	$12,683	$13,190	$13,718	$14,267	$14,837	$15,431	$16,048	$16,690	$17,358	$18,052	$18,774	$19,525
City	$10,757	$11,187	$11,635	$12,100	$12,584	$13,087	$13,611	$14,155	$14,721	$15,310	$15,923	$16,560	$17,222	$17,911	$18,627
Total Income Tax	$22,032	$22,913	$23,830	$24,783	$25,774	$26,805	$27,878	$28,993	$30,152	$31,358	$32,613	$33,917	$35,274	$36,685	$38,152
After Application of Multiplier	$33,048	$34,370	$35,745	$37,175	$38,661	$40,208	$41,816	$43,489	$45,228	$47,038	$48,919	$50,876	$52,911	$55,027	$57,228
Adjustment for Real Units Built	$4,700	$9,776	$15,251	$21,148	$27,493	$31,496	$35,776	$40,348	$45,228	$47,038	$48,919	$50,876	$52,911	$55,027	$57,228
SALES TAX															
NY State Sales Tax	$3,057	$3,179	$3,306	$3,439	$3,576	$3,719	$3,868	$4,023	$4,184	$4,351	$4,525	$4,706	$4,894	$5,090	$5,294
MTA Sales Tax	$180	$187	$194	$202	$210	$219	$228	$237	$246	$256	$266	$277	$288	$299	$311
NY City Sales Tax	$4,945	$5,143	$5,349	$5,563	$5,785	$6,016	$6,257	$6,507	$6,768	$7,038	$7,320	$7,613	$7,917	$8,234	$8,563
Total Sales Tax	$8,182	$8,509	$8,849	$9,203	$9,572	$9,954	$10,353	$10,767	$11,197	$11,645	$12,111	$12,596	$13,099	$13,623	$14,168
After Application of Multiplier	$12,273	$12,764	$13,274	$13,805	$14,357	$14,932	$15,529	$16,150	$16,796	$17,468	$18,167	$18,893	$19,649	$20,435	$21,252
Adjustment for Real Units Built	$1,745	$3,631	$5,664	$7,854	$10,210	$11,696	$13,286	$14,984	$16,796	$17,468	$18,167	$18,893	$19,649	$20,435	$21,252
TOTAL REVENUES FROM INCOME AND SALES TAX	$6,446	$13,407	$20,915	$29,002	$37,702	$43,193	$49,062	$55,332	$62,025	$64,506	$67,086	$69,769	$72,560	$75,462	$78,481

$ in thousands

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
INCOME TAX															
State	$20,306	$21,118	$21,963	$22,841	$23,755	$24,705	$25,694	$26,721	$27,790	$28,902	$30,058	$31,260	$32,511	$33,811	$35,163
City	$19,372	$20,147	$20,953	$21,791	$22,663	$23,569	$24,512	$25,493	$26,512	$27,573	$28,676	$29,823	$31,016	$32,256	$33,547
Total Income Tax	$39,678	$41,266	$42,916	$44,633	$46,418	$48,275	$50,206	$52,214	$54,303	$56,475	$58,734	$61,083	$63,526	$66,067	$68,710
After Application of Multiplier	$59,518	$61,898	$64,374	$66,949	$69,627	$72,412	$75,309	$78,321	$81,454	$84,712	$88,101	$91,625	$95,290	$99,101	$103,065
Adjustment for Real Units Built	$59,518	$61,898	$64,374	$66,949	$69,627	$72,412	$75,309	$78,321	$81,454	$84,712	$88,101	$91,625	$95,290	$99,101	$103,065
SALES TAX															
NY State Sales Tax	$5,505	$5,726	$5,955	$6,193	$6,441	$6,698	$6,966	$7,245	$7,534	$7,836	$8,149	$8,475	$8,814	$9,167	$9,534
MTA Sales Tax	$324	$337	$350	$364	$379	$394	$410	$426	$443	$461	$479	$499	$518	$539	$561
NY City Sales Tax	$8,906	$9,262	$9,632	$10,018	$10,418	$10,835	$11,269	$11,719	$12,188	$12,676	$13,183	$13,710	$14,258	$14,829	$15,422
Total Sales Tax	$14,735	$15,324	$15,937	$16,575	$17,238	$17,927	$18,644	$19,390	$20,166	$20,972	$21,811	$22,684	$23,591	$24,535	$25,516
After Application of Multiplier	$22,102	$22,987	$23,906	$24,862	$25,857	$26,891	$27,967	$29,085	$30,249	$31,459	$32,717	$34,026	$35,387	$36,802	$38,274
Adjustment for Real Units Built	$22,102	$22,987	$23,906	$24,862	$25,857	$26,891	$27,967	$29,085	$30,249	$31,459	$32,717	$34,026	$35,387	$36,802	$38,274
TOTAL REVENUES FROM INCOME AND SALES TAX	$81,620	$84,885	$88,280	$91,811	$95,484	$99,303	$103,275	$107,406	$111,703	$116,171	$120,818	$125,650	$130,676	$135,903	$141,340

Appendix III

Spreadsheet Detailing Fiscal Impact of the Commercial Buildings

$ in thousands

	Annuity	2005 NPV	Aggregate
INCOME TAX			
State	$4,726	$68,683	$176,252
City	$2,136	$31,050	$79,680
Total Income Tax	$6,862	$99,733	$255,932
After Application of Multiplier	$10,293	$149,600	$383,898
SALES TAX			
NY State Sales Tax	$1,699	$24,690	$63,359
MTA Sales Tax	$100	$1,452	$3,727
NY City Sales Tax	$1,154	$16,775	$43,047
Total Sales Tax	$2,953	$42,917	$110,132
After Application of Multiplier	$4,429	$64,376	$165,199
TOTAL REVENUES FROM INCOME AND SALES TAXES	$14,723	$213,976	$549,096

$ in thousands

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
INCOME TAX															
State	$0	$0	$1,445	$1,488	$3,063	$3,154	$4,854	$4,999	$5,149	$5,304	$5,463	$5,627	$5,796	$5,970	$6,149
City	$0	$0	$653	$673	$1,385	$1,426	$2,194	$2,260	$2,328	$2,398	$2,470	$2,544	$2,620	$2,699	$2,780
Total Income Tax	$0	$0	$2,098	$2,161	$4,447	$4,581	$7,048	$7,260	$7,477	$7,702	$7,933	$8,171	$8,416	$8,668	$8,928
After Application of Multiplier	$0	$0	$3,147	$3,241	$6,671	$6,871	$10,572	$10,890	$11,216	$11,553	$11,899	$12,256	$12,624	$13,003	$13,393
SALES TAX															
NY State Sales Tax	$0	$0	$519	$535	$1,101	$1,134	$1,745	$1,797	$1,851	$1,907	$1,964	$2,023	$2,083	$2,146	$2,210
MTA Sales Tax	$0	$0	$31	$31	$65	$67	$103	$106	$109	$112	$116	$119	$123	$126	$130
NY City Sales Tax	$0	$0	$353	$363	$748	$770	$1,185	$1,221	$1,258	$1,295	$1,334	$1,374	$1,416	$1,458	$1,502
Total Sales Tax	$0	$0	$903	$930	$1,914	$1,971	$3,033	$3,124	$3,218	$3,314	$3,414	$3,516	$3,622	$3,730	$3,842
After Application of Multiplier	$0	$0	$1,354	$1,395	$2,871	$2,957	$4,549	$4,686	$4,827	$4,971	$5,120	$5,274	$5,432	$5,595	$5,763
TOTAL REVENUES FROM INCOME AND SALES TAXES	$0	$0	$4,501	$4,636	$9,541	$9,827	$15,122	$15,576	$16,043	$16,524	$17,020	$17,530	$18,056	$18,598	$19,156

$ in thousands

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
INCOME TAX															
State	$6,333	$6,523	$6,719	$6,920	$7,128	$7,342	$7,562	$7,789	$8,023	$8,263	$8,511	$8,767	$9,030	$9,301	$9,580
City	$2,863	$2,949	$3,038	$3,129	$3,222	$3,319	$3,419	$3,521	$3,627	$3,736	$3,848	$3,963	$4,082	$4,205	$4,331
Total Income Tax	$9,196	$9,472	$9,756	$10,049	$10,351	$10,661	$10,981	$11,310	$11,650	$11,999	$12,359	$12,730	$13,112	$13,505	$13,910
After Application of Multiplier	$13,795	$14,208	$14,635	$15,074	$15,526	$15,992	$16,471	$16,966	$17,474	$17,999	$18,539	$19,095	$19,668	$20,258	$20,865
SALES TAX															
NY State Sales Tax	$2,277	$2,345	$2,415	$2,488	$2,562	$2,639	$2,718	$2,800	$2,884	$2,971	$3,060	$3,151	$3,246	$3,343	$3,444
MTA Sales Tax	$134	$138	$142	$146	$151	$155	$160	$165	$170	$175	$180	$185	$191	$197	$203
NY City Sales Tax	$1,547	$1,593	$1,641	$1,690	$1,741	$1,793	$1,847	$1,902	$1,959	$2,018	$2,079	$2,141	$2,205	$2,272	$2,340
Total Sales Tax	$3,957	$4,076	$4,198	$4,324	$4,454	$4,588	$4,725	$4,867	$5,013	$5,163	$5,318	$5,478	$5,642	$5,812	$5,986
After Application of Multiplier	$5,936	$6,114	$6,298	$6,486	$6,681	$6,882	$7,088	$7,301	$7,520	$7,745	$7,978	$8,217	$8,463	$8,717	$8,979
TOTAL REVENUES FROM INCOME AND SALES TAXES	$19,731	$20,322	$20,932	$21,560	$22,207	$22,873	$23,559	$24,266	$24,994	$25,744	$26,516	$27,312	$28,131	$28,975	$29,844

Executive Summary

This report offers an analysis of the likely fiscal impact on the budgets of the City of New York and State of New York from the Forest City Ratner Companies (FCRC) arena, commercial and community development project at Atlantic Yards in Brooklyn.

The FCRC project at Brooklyn's Atlantic Yards distinguishes itself from the standard sports facility project in at least two important ways. First, New York City and New York State will benefit from a recapture of tax revenues presently generated in New Jersey. Second, the FCRC project is not a standalone arena, rather it encompasses a 21-plus acre mixed-income residential and commercial community. Among other things, the project will add at least 4500 net new residential units (with 20 percent for low-income and 30 percent for middle-income families) and 1.9 million square feet of class A office space.

In a typical case, a community builds a sports facility either to retain an existing team or attract a new team to the area. In either case, the lion's share of the money spent at the new arena or stadium is diverted from existing local expenditures, i.e., it does not constitute additional consumer spending. In a broad sense, the same is true with the proposed Nets arena in Brooklyn; the difference in this instance is that while the spending in the larger media market is mostly reshuffled within the area, it is relocated from one tax jurisdiction to another. Tax collections that presently go to New Jersey will now go to New York City and New York State.

In particular, incomes of Nets players, executives and staff will be taxed in New York State and partially in New York City (if the individual lives in one of the five boroughs). Further, part of the spending at Nets games and other events at the Atlantic Yards arena will be new to New York City and New York State and sales taxes collected from this new spending will constitute net increments to the public coffers. Taking care to omit recirculated revenue, this study estimates that over thirty years the aggregate revenue generated for the city and state from the team and arena will be $730.4 million, with a present value of $257.5 million (using a 5.5 percent discount rate.)

Given the housing and commercial office space shortage in Brooklyn and New York City, the Atlantic Yards development will permit increments to the number of people living in and businesses working in New York. These increments will bring new income and sales, and, consequently, new tax revenues, to the city and state. This additional tax revenue from the residential and commercial developments at Atlantic Yards is estimated to total $2.93 billion over thirty years, or a present value of $1.08 billion.

The study also estimates the property tax on improvements (after the abatement program) and ground rent. The thirty-year aggregate revenue on these two taxes comes to $446.7 million, or a present value of $162 million. Several sources of additional tax revenue from the project are not estimated. The total estimated increment to city and state tax revenues from the project comes to $4.1055 billion over thirty years, or a present value of $1.503 billion. The total construction and operating costs to the city and state from the project are estimated at $1.2865 billion over thirty years, or a present value of $690.4 million. Thus, the net fiscal benefit to the city and state from the Altantic Yards project is estimated to be at least $2.819 billion over thirty years, or a present value of at least $812.6 million.