

**CREATING AFFORDABLE HOUSING
THROUGH A
DENSITY BONUS PROGRAM**

**FINANCIAL ANALYSIS
FOR THE JP/ROX STUDY AREA**

CITY OF BOSTON

Boston Redevelopment Authority

Department of Neighborhood Development

Boston Housing Innovation Lab

PURPOSE AND METHODOLOGY

Purpose. The goal of this modeling exercise is to help guide the discussion as to how to optimize affordability in unsubsidized rental and homeownership projects, through the use of a density bonus. In this exercise, the BRA and DND are seeking to balance affordability goals expressed by residents of Jamaica Plain and Roxbury, with the financial feasibility of market-based projects. This analysis looks at the market conditions in the PLAN JP/ROX corridor, a “mid-market” area of Boston that is neither a high-priced downtown community, nor a lower-priced area where the market still furnishes some degree of affordability.

Acknowledgement. This analysis is based on the financial modeling developed by the Byrne-McKinney consulting firm, an authority on development finance that has consulted for many large and small corporate and governmental entities on residential and commercial development finance. Staff at the Department of Neighborhood Development and the Boston Redevelopment Authority have worked together to fine tune the model to reflect the local conditions in the corridor and to model the feasibility of a range of policy options. To do so, project details, sales prices, and rental prices in the area were used as comparables, and was complemented by a survey of developers operating in the area.

Study Method. This analysis uses the “value sharing” methodology to analyze density bonuses. When government allows increased density, economic value is created from that density. That value goes to some or all of three parties: 1) the developer through higher rates of return, 2) the landowner through higher real-estate prices, or 3) the public through increased public benefits such as infrastructure or affordable housing. This analysis seeks to maximize that amount of value that goes to the public in the form of affordable housing while still ensuring the financial feasibility of development. For this document, “affordable housing” refers to housing units that are deed restricted for income eligible tenants or buyers.

KEY DEVELOPMENT UNDERWRITING PRINCIPLES AND ASSUMPTIONS

Creating a proforma (a document outlining proposed sources and uses) for a development, whether for a modeling exercise such as this, or for a real-world development, is an art, not a science. While developers try to use the best data available, such as comparable sales or rents, anticipated construction costs, lending costs, etc., before proposing a development, every development faces unique conditions and costs that can change rapidly because of site conditions or changes in interest rates, rents, or construction costs. As a result, this feasibility model can only describe what the expected conditions are at this time, and does not attempt to outline what may be possible in future if conditions change.

Assumptions used in this model fall under the following categories.

- General Project Details
- Zoning Conditions
- Income
- Operating or Marketing Expenses
- Development Costs
- Development Returns

These assumptions were applied to both a “model” project, as well as to a series of parcels in the JP/Rox study area to get a wider sense of how a change in an assumption might affect a range of different parcels with a range of development conditions.

General Project Details

General project details include unit sizes, unit types, and parking.

Unit Sizes and Unit Types. Market preference for particular unit types and sizes can vary dramatically by neighborhood and by changes in demographics. A community with good schools may require larger, family sized units, while young professionals may be willing to live in studios. In addition, as rents and sales prices have increased, families and individuals appear more willing to squeeze into a smaller space than once was the case. In setting the assumption for unit sizes (net square footage, or NSF), minimum unit sizes for neighborhood projects, established by the BRA in 2009 for use with the Inclusionary Development Policy (IDP) was used:

- Studios: 500 square feet
- One-Bedrooms: 750 square feet
- Two-Bedrooms: 900 square feet
- Three-Bedrooms: 1,200 square feet

While this is a minimum for neighborhood projects, projects adjacent to transit can and do create units that are smaller than these standards, while some developers may choose to create larger units.

In terms of unit types, projects vary considerably in the types of units provided. The extremes can be seen most in affordable projects, where a specific population may be targeted (e.g., large units for families or small units for seniors). The current trend in market rate rental developments is towards studio units. This trend is based on both demand and the fact that the dollar per square foot of living space is maximized. Creating an assumption about the mix of unit types is difficult. In this instance, a survey of area developers provided the following breakdown for rentals:

Unit Type	Share of total	NSF/Unit
Studio	21%	500
1	27%	750
2	32%	900
3	17%	1,200
ALL	100%	800

Combining the share by bedroom type and the net square footage results in a total square footage assumption of 800 net square feet. This square footage is similar to the results of our survey, though slightly smaller than the recommendation provided by Byrne McKinney (810 square feet).

In order to convert this net square footage to the gross square footage (GSF) required for calculating construction costs, this figure is divided by the industry-standard assumption construction efficiency rate of 85%, equaling 941 gross square feet per unit. This adjustment takes into account space outside of units including hallways, stairwells, etc.

A similar exercise was undertaken to create an assumption for condominiums. Based on feedback from developers, studios are generally undesirable for homeownership, and there is more demand for two- and three-bedroom units. As a result the typical unit size is 946 net square feet.

Unit Type	Share of total	NSF/Unit
Studio	2%	500
1	24%	750
2	44%	900
3	30%	1,200
ALL	100%	946

Using the same construction efficiency percentage of 85%, as above, the resulting average gross square footage is 1,113 square feet per unit for condominiums.

Parking. While parking ratios are commonly set within the zoning code, developers can and do set the parking ratio through the Article 80 process. In rental projects adjacent to transit, a parking ratio of 0.5 parking spaces per unit is now common, and served as the assumption.

For condominiums, it is common to think that a one-to-one ratio is still expected. However, the developers surveyed indicated a ratio of 0.8 was more common, and indeed, in a transit oriented development, could be lower. Also, given that the BRA does not require that income restricted units be provided parking (rental or homeownership), this ratio appears to be realistic.

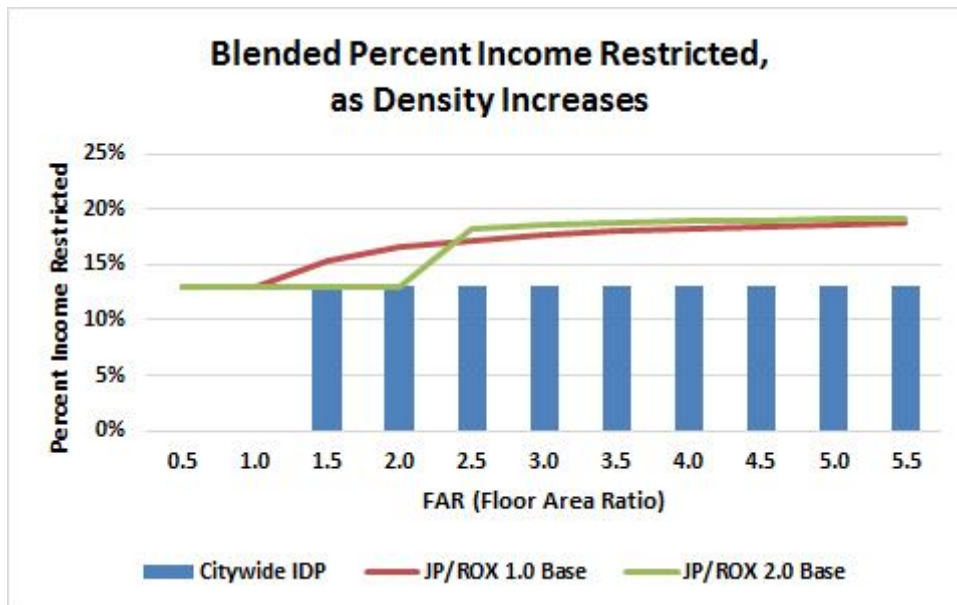
Zoning Conditions

Zoning conditions that contribute to the model include the Floor Area Ratio and the Density Bonus.

Floor Area Ratio (FAR). The Floor Area Ratio is calculated by dividing the total floor area of the building by the land area of the parcel. FAR is frequently used in zoning codes to allow for some variation in height, while still regulating the overall density allowed on a parcel. In the case of the JP/Rox study area, the current zoning allows a maximum FAR of 1.0. In some locations, an FAR of 2.0 is allowed. As part of the planning process, BRA Planning staff have proposed an FAR, which may be higher or lower than that which is currently allowed, for 24 parcels in the study area, based on proposed setbacks and heights.

Density Bonus. A density bonus needs to be a bonus over some base condition, over which there is value to be shared and applied to public benefits. For the JP/Rox study area, the BRA is proposing that the density bonus is triggered once a project exceeds the base, as-of-right FAR, which is 1.0 in most of the study area, but 2.0 for some parcels. When the density bonus is triggered at 1.0 instead of 2.0, the percent of the added density that can support affordable

housing is smaller, because units created under the density bonus will be more deeply affordable than those created under the traditional IDP, and because the density bonus requires a higher percentage of the area for affordable housing than under IDP. For this reason, the percentage of the density bonus applied to affordable housing is lower for projects with a base FAR of 1.0 than for projects with a base FAR of 2.0. Applying a different density bonus percentage based on the as-of-right FAR actually results in a similar outcome in terms of the total affordability from projects across the study area. The following chart depicts how the affordability outcomes are similar when the density bonus percentage is adjusted (in this case, from 20% of the bonus density with a base FAR of 1.0, to 25% where the base FAR is 2.0), when the FAR at which the density bonus is triggered, varies.



The community expressed a strong desire that benefits accruing from a density bonus should focus on housing. As a result, non-housing community benefits were not calculated for this exercise. While zoning will establish certain other benefits related to setbacks and lot coverage (which can be used to create open space), to the extent other non-housing benefits are to be obtained, they would need to be secured through a method other than the density bonus.

Income

Income comes in the form of rents, sales prices, and parking fees.

Market Rents.The market rent should be based on new construction units, ideally within the study area. After research into available rentals within the SPA, it was found that the new rentals at the MetroMark at 3611 Washington Street provide a strong signal as to what is achievable for market rents in the area. The following are the average rents and average rents per square foot for MetroMark units available on 6/15/2016 in this example development:

Unit Type	Average Rent	Average Rent per Sq Ft
Studio	\$2,087	\$4.14
1	\$2,538	\$3.68
2	\$2,983	\$3.04
3	\$3,818	\$3.13

When these rents are combined with the distribution of unit types outlined above, the per square foot rent per month is \$3.41 for the overall project. This is lower than the \$3.56/sf rent proposed by Byrne-McKinney, but higher than the rents found in the developer survey (\$2.87/sf). Getting the market rents “correct” is extremely difficult, and even a small change in the rents are the key to the feasibility/infeasibility of a project. Other factors can also significantly impact rents such as a project next to a subway stop and a project only a short distance away on a less desirable street can command very different rents.

Affordable Rents. Rents for income restricted units are established by the BRA annually, based on HUD defined Area Median Incomes (AMI).¹ Below are [2016 BRA rents](#) established for units created under the Inclusionary Development Policy.

Unit Type	30% AMI	40% AMI	50% AMI	60% AMI	70% AMI	80% AMI	100% AMI
Studio	\$456	\$608	\$760	\$913	\$1,065	\$1,216	\$1,521
1	\$532	\$710	\$887	\$1,065	\$1,242	\$1,419	\$1,774
2	\$608	\$811	\$1,013	\$1,216	\$1,419	\$1,622	\$2,027
3	\$684	\$912	\$1,140	\$1,369	\$1,597	\$1,825	\$2,281

Using the distribution of unit types with the BRA rents provides a schedule of average rent per square foot for each level of the Area Median Income (AMI). the following are the rents for AMIs ranging from 30% up to 100%, as well as for the market rents in the study area.

AMI	Monthly Rent, Per Square Foot
30%	\$ 0.69
40%	\$ 0.92
50%	\$ 1.15
60%	\$ 1.38
70%	\$ 1.61

¹ Area Median Income, or AMI, is established for the Boston-Cambridge-Quincy, MA-NH HUD Metro FMR (Fair Market Rent) Area. In affordable housing, this measure provides a common measuring rule for determining program guidelines and participant eligibility.

80%	\$	1.84
90%	\$	2.07
100%	\$	2.29
Market	\$	3.41

Market Sales Prices. Ideally, the market sales price assumption should be based on newly constructed units within the study area. Few such recent listings were available, however. Data on sales during 2015 and the first half of 2016 reveals that sales prices ranged from \$200 to \$620 per square foot, with a median price of \$395/sf. Taking into account that newer units are clustered at the top of the range, the price at the 75th percentile of sales was \$506/sf. Given the unreliability of this data, the feedback of developers was important, who provided a range of \$450 to \$600 a square foot. In addition, one recent development and Byrne McKinney used \$650/sf. It was decided for this model to use \$600 a square foot, which may be possible for projects that are planning to sell their units two or more years from now.

Based on this assumption, and the unit sizes discussed earlier, the typical sale prices would be:

Unit Type	Expected Price
Studio	\$300,000
1	\$450,00
2	\$540,000
3	\$720,000

Affordable Sales Prices. Just as with rentals, a dollar per square foot sales price can be determined for affordable condominium sales. Below are BRA published sales prices for a range of incomes/AMI.

Unit Type	50% AMI	60% AMI	70% AMI	80% AMI	90% AMI	100% AMI
Studio	\$64,900	\$90,600	\$116,300	\$141,800	\$167,500	\$191,300
1	\$86,200	\$116,300	\$146,100	\$175,900	\$202,500	\$228,500
2	\$107,600	\$141,800	\$175,900	\$206,100	\$236,000	\$265,800
3	\$128,900	\$167,500	\$202,500	\$236,000	\$269,600	\$303,100

Based on BRA published sales prices and the anticipated distribution of units types, the dollar per square foot, by AMI, is as follows:

AMI	\$ Per Square Foot
50%	\$ 114

60%	\$	150
70%	\$	186
80%	\$	218
90%	\$	250
100%	\$	282
Market	\$	600

Parking Fees/Prices. Unlike the downtown neighborhoods, there are few comparables, but \$200/month per space seemed to be common. Developers reported a range, from \$75 to \$200, and McKinney suggested \$250. Given that fewer parking spaces will be provided than units, the higher estimate of \$200 was assumed. For condominiums, there was also a range of responses, from \$20,000 to \$35,000. For this model, \$25,000/space was assumed.

Operating or Marketing Expenses

Operating costs and reserves are two key assumptions in the cost of maintaining rentals, while marketing expenses are related to the cost of selling condominium units.

Operating Costs. Operating costs include maintenance, utilities, insurance, taxes, and management fees. Some developers break out these items separately, others do not, and rely on a rule of thumb, such as 25% to 30% of effective rental income. While the survey response was limited, it appears that a \$8,000 to \$9,000 per unit per year is typical, which is approximate to 30% of effective income. As part of the efforts to update the Inclusionary Development Policy, and in this exercise, these costs are divided into three categories, which together add up to approximately \$8,700 per unit per year (30% to 31% of effective rental income). the three categories were:

- **Operating Costs:** Assumed to be \$5,500 under the 2015 IDP financial analysis, it was initially set at \$7,500 in this model. After reviewing the total cost per unit given other assumptions, the per unit cost was set at \$6,000 per unit, per year.
- **Taxes:** Taxes were set at 7% of gross income.
- **Management Fee:** The management fee was set at 2.5% of gross rental income.

Vacancy Rates. Byrne McKinney initially recommended a seven percent vacancy rate for market-rate units, and a zero vacancy rate for affordable units, given the high demand for such units. Anecdotal evidence suggested that both vacancy rates should be higher, as some lenders may be look for a ten percent vacancy rate as part of their underwriting, and despite the demand for income restricted housing, the marketing and approval processes for these units can create some short-term vacancies. Given the lack of comprehensive data, however, it was decided to keep the initial assumptions.

Reserves. Reserves are in addition to rental operating costs, and are important to the long term health of the property. Survey responses ranged widely on this question, providing little support for defining an assumption. As a result, this analysis relies on the reserve requirement established by MassHousing and other lenders for affordable housing, of \$325 a unit per year.

Brokerage and Marketing Costs. Brokerage and marketing costs are relevant to the sale of condominiums. While our initial model split out these two costs, feedback from developers indicated that for projects of the size that are likely to be seen in the JP/Rox study area, marketing costs are rolled into the brokerage fees, and are likely to be 5.5% of the sales prices.

Development Costs

Land Costs. Byrne-McKinney suggested \$70 per square foot for land. Developers surveyed offered a range of responses, averaging \$110 per square foot. Sales from late-2014 to mid-2016 in the study area ranged dramatically, from \$14/sf to \$284/sf. Excluding the lowest and highest figures, the average cost was \$90/sf. These sales were typical of what is being re-developed in the study area, even if they have a current use. While some developers have land that was purchased long ago at very low prices, the \$90/sf assumption seemed reasonable in today's market. In addition, a developer can face significant site costs in the form of demolition and environmental remediation. Given the difficulties of estimating these costs, no added costs were applied to the model, and some developers may be effectively including some of this cost in the price they pay for land.

Construction Costs. The initial model relied on Byrne-McKinney estimates for mid-market construction and models were provided for both "stick over podium" mid-rise construction (which is possible for projects up to 70 feet), as well as for high-rise steel construction. For "stick over podium" construction, developers and Byrne McKinney were close in their estimates, of around \$250 per square foot. Steel construction can easily reach \$350 per square foot.

Parking Costs: Construction of parking is generally defined separately from the living area of the building. Byrne McKinney suggested \$35,000 per unit, and estimates provided by developers ranged widely, from \$25,000 to \$85,000 per unit, though this difference could also reflect different assumptions about whether the parking was below or at grade. For this exercise, \$35,000 per space was assumed.

Cash-in-Lieu Payments. Under the Inclusionary Development Policy, developers can, under certain circumstances, opt to contribute to the IDP Fund instead of providing the units on-site ("cash-in-lieu"). The City of Boston prefers that units be on-site as this ensures income diversity in the building as well as in the neighborhood and ensures that affordable units come online at the same time as market units. For the rental model, the current cash-in-lieu payment required for Jamaica Plain of \$300,000 was assumed for both the "model" parcel and for those parcels in the scenario located in Jamaica Plain. For those parcels in the scenario located in Roxbury, the payment requirement is \$200,000.

Soft Costs. Soft costs include a range of costs including architecture, permitting fees, legal fees, carrying costs during construction, and other non-construction costs of development. The rule of thumb in the development industry that these costs are 20% of the hard (construction) costs.

While this assumption was used in this exercise, some developer reported lower soft costs, with an average of 16%.

Development Returns

For the purposes of defining feasibility, Byrne-McKinney established a floor internal unlevered rate of return criteria (“Entrepreneurial Return”) of 6.0% for rentals. This Entrepreneurial Return is a common threshold investors or bankers require in order to fund a development². This return rate provides lenders/investors with a necessary margin of comfort such that that even if rents are lower or vacancies are higher than planned, the project will remain financially viable and their capital is not at undue risk. Recently, New York City, in looking at project feasibility under its new Mandatory Inclusionary Policy, also used a 6.0% return.³ While some projects have access to cheaper forms of capital and can succeed with a lower rate of return, most developers would be unable to finance their project and will need to hold their property until market conditions improve or sell to a speculator that will wait for the better market.

For condominiums, a higher rate of return is expected, both because of the additional risks associated with condominiums, as well as the potential holding time that can occur between completion of construction and the sale of all or a portion of the units. As a result, return of anywhere to 25% to 30% has been suggested, and the current model relies on the lower assumption of 25%. It should be noted, however, that if a particular parcel is not feasible as a condominium, a rental project may still be possible.

THE QUESTIONS THE MODELING EXERCISE SEEKS TO ANSWER

The above assumptions set the stage for a deeper examination into how two, interrelated policy decisions affect project feasibility. The two policy questions are:

- 1) What should be the level of affordability (AMI) for the density bonus units?**
- 2) What percentage of the bonus density can be attributed to affordable housing?**

These two questions are linked, as the lower the rents of the affordable units, the fewer affordable units that can be provided by the private market. In other words, as the rents are lowered, the density bonus percent must also decrease. The difficult challenge is determining the balance of these two measures in order to meet two important, but competing goals:

- 1) Create the maximum number of affordable units at AMIs desired by the community (as a percent of units created in each building), and**
- 2) Allow some level of development to continue in order to increase overall housing supply.**

Incorporating Developer Decision Making into the Analysis

For a developer making a decision about a specific piece of property, a number of factors play into the final decision what, and if, to build:

² Some sources suggest the threshold is higher, in the 7% range:
<http://www.fantinigorga.com/publications/Feasibility.pdf>

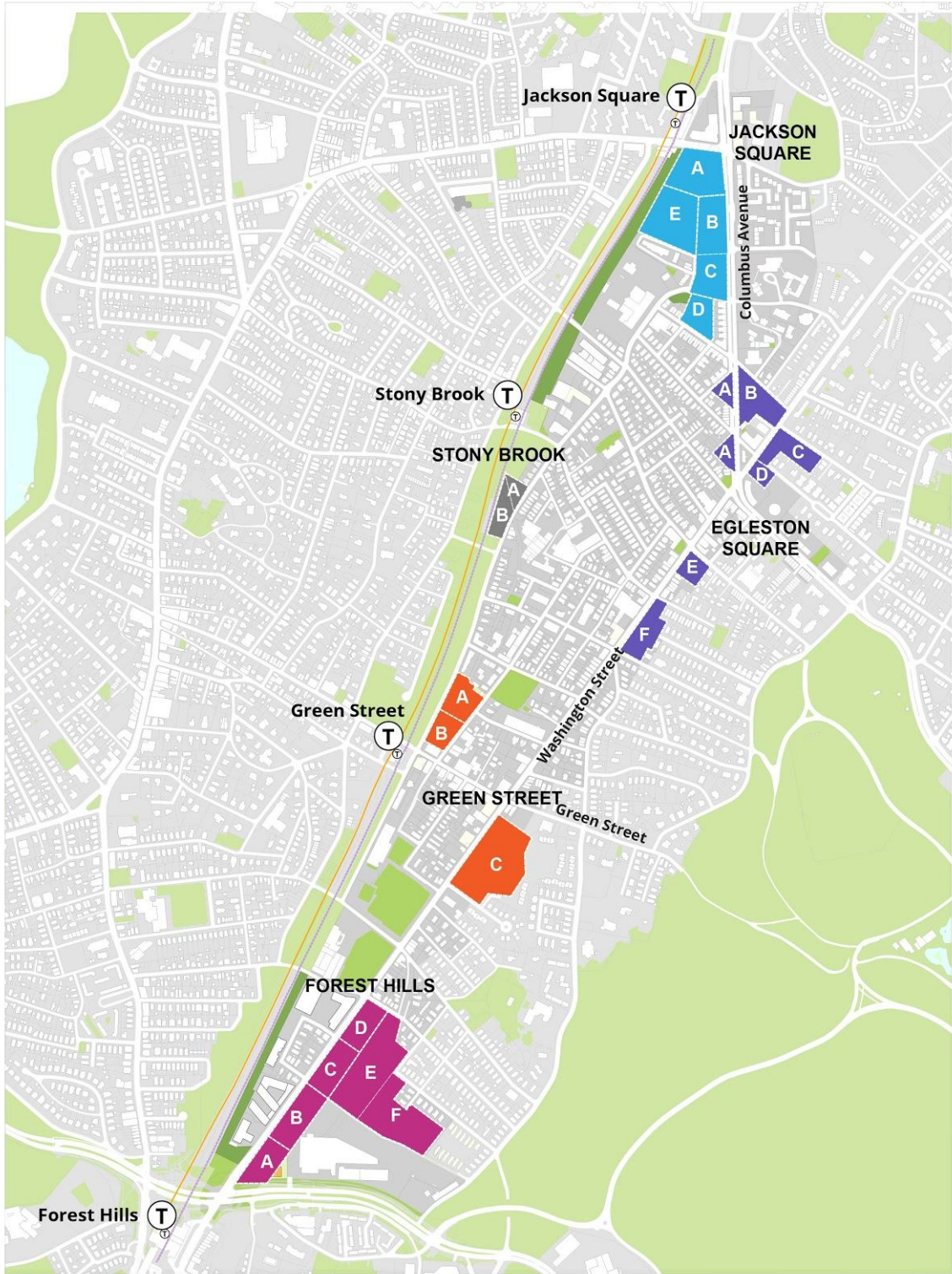
³ Please see page 44 of the NYC Mandatory Inclusionary Housing Market and Financial Study, at
http://www1.nyc.gov/assets/planning/download/pdf/plans-studies/mih/bae_report_092015.pdf.

- Condo versus rental: There are some developers who only build rental buildings, and some who only build condominiums, but assuming that a developer is willing to do whichever is more financially feasible, rental projects are considered a safer investment than condominiums. As a result, the expected rate of return can be lower on a rental than for homeownership, and when high levels of affordability is required, rentals may be the preferred option.
- Density of the Development: If the affordability rate and income targeting results in a lower entrepreneurial return than the base (as-of-right) option, then the developer will chose to build the as-of-right option. In some cases, the as-of-right option is not feasible or does not allow a residential use. In these cases, the developer will choose to build a nonresidential use, or chose not to build, and wait for conditions to change.

APPLYING THE DENSITY BONUS TO POTENTIAL DEVELOPMENT IN THE JP/ROX STUDY AREA

Methodology. Early in the PLAN JP / ROX planning process, the community and City collaborated to identify parcels and areas that were “likely to change” and where folks would “like to see change”. This exercise resulted in the identification of five clusters or focus areas principally consisting of underutilized and underdeveloped commercial/industrial parcels. Drawing from the Community Vision and the specific ideas and recommendations emerging from the Community Workshops, the BRA prepared a series of development scenarios within the focus areas to illustrate the form and character of potential new uses and buildings. To further understand each illustration, the potential site and building area was calculated. The table on the next page and map outline these 24 potential building sites. Together, these parcels make up one scenario for how and where housing might be built, but developers may choose to propose new development on different sites. **As a result, this scenario informs the modeling exercise, but are for illustrative and analysis purposes only, and do not represent City policy with respect to the development of any site.**

An excel worksheet was created for each of these parcels, as well for a “model” parcel. The assumptions above were built into the model, and a series of runs were completed on the model, shifting two dials: 1) Average AMI for density bonus units, and 2) Percent of the Density Bonus attributed to affordable housing. Runs also were completed assuming all development was either condo or rental. The results of these runs are presented here, and examples of the spreadsheet for the model parcel are presented in the appendices.



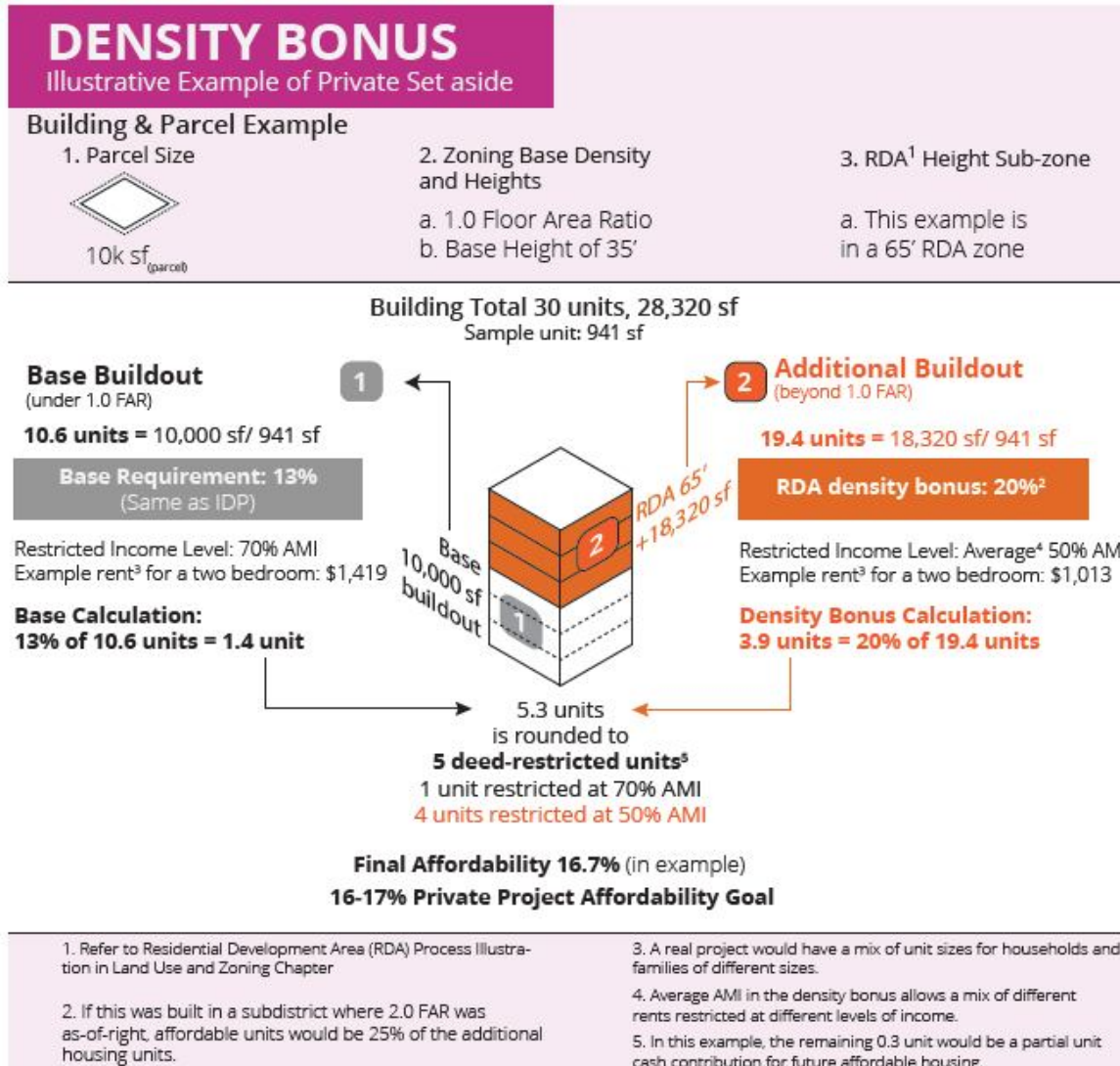
JP/ROX Scenario Parcels

Site	Site Square Footage	Residential Square Footage	Potential Rental Units	Potential Condo Units	Proposed FAR	Base FAR
EGLESTON SQUARE						
Egleston A	26,507	53,016	56	48	2.0	2.0
Egleston B	64,734	152,405	162	137	2.4	1.0
Egleston C	44,015	71,345	76	64	1.6	1.0
Egleston D	20,010	49,130	52	44	2.5	1.0
Egleston E	33,608	22,800	24	20	0.7	1.0
Egleston F	26,490	37,985	40	34	1.4	1.0
GREEN STREET						
Green A	34,807	43,233	46	39	1.2	1.0
Green B	56,154	49,860	53	45	0.9	1.0
Green C	211,394	279,925	298	252	1.3	1.0
FOREST HILLS						
Forest Hills A	76,144	130,000	138	117	1.7	1.0
Forest Hills B	83,092	205,750	219	185	2.5	1.0
Forest Hills C	74,072	157,000	167	141	2.1	1.0
Forest Hills D	58,278	115,200	122	104	2.0	1.0
Forest Hills E	151,323	90,000	96	81	0.6	1.0
Forest Hills F	95,918	84,000	89	75	0.9	1.0
JACKSON SQUARE						
Jackson A	26,507	53,088	56	48	2.0	1.0
Jackson B	28,220	65,210	69	59	2.3	1.0
Jackson C	35,644	75,435	80	68	2.1	1.0
Jackson D	67,722	166,070	177	149	2.5	1.0
Jackson E	54,282	84,515	90	76	1.6	1.0
Jackson F	31,398	81,475	87	73	2.6	2.0
Jackson G	51,018	90,285	96	81	1.8	2.0
STONY BROOK						
Stony Brook A	12,245	12,225	13	11	1.0	1.0
Stony Brook B	25,890	36,195	38	33	1.4	1.0
TOTAL SCENARIO	1,389,472	2,206,147	2,344	1,984		

Model Results: Rental Housing

The baseline condition is a scenario where developers build to existing FAR and only trigger zoning relief because the parcel will residential rather than another allowed use, such light industrial, have to meet the current standards set by the Inclusionary Development Policy (IDP) of 13% of the units set aside for households with a maximum income of 70% of AMI. Under this scenario, the average entrepreneurial return was 5.90%. As this return is less than 6.0%, some

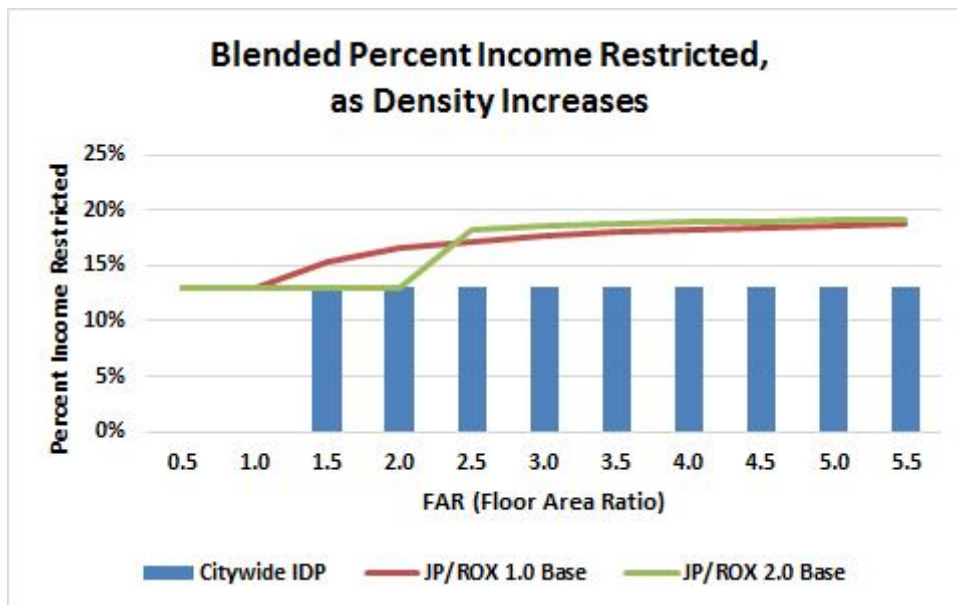
project sites may already be unfeasible for housing development. In this respect, any density bonus will have the effect of making additional sites unfeasible, at least given the assumptions here. Again, individual developers may face more feasible conditions, and these sites may become feasible in the future. Indeed, it is anticipated that future land/property sales will factor in the IDP and Density Bonus in the land purchase, making additional projects feasible in the future.



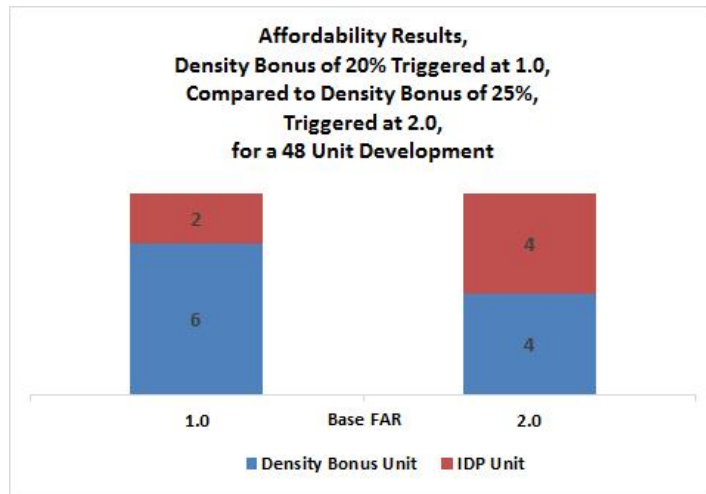
The density bonus, is a combination of the 13% of units in the base zoning, and an additional percentage of units created from the added density. As a result, the total number of affordable units will be a blend of these two percentages. For example, where the as-of-right (“base”) FAR is 1.0 for a building, and the density bonus is 20% of the bonus area, the total affordability in a particular project will be approximately 17% of the total units, though this percentage increases with density. The above diagram shows an example of a 30 unit building with a base FAR of 1.0. In this scenario 5 of the 30 units (17% will be deed restricted affordable), 1 unit restricted at 70% AMI from the base zoning and 4 units restricted at 50% AMI from the bonus area gained through

the density bonus. This method maximizes the number of deed restricted units with the lower AMI requested by the community.

For the vast majority of sites in JP/ROX, the as-of-right FAR is 1.0. Where the FAR is 2.0, the density bonus percentage is modeled at 25% of the additional density area, five percentage points more than the FAR of 1.0. When the density bonus is triggered at 1.0 instead of 2.0, the percent of the added density that can support affordable housing is smaller, because units created under the density bonus will be more deeply affordable than those created under the traditional IDP, and because the density bonus requires a higher percentage of the area for affordable housing than under IDP. For this reason, the percentage of the density bonus applied to affordable housing is lower for projects with a base FAR of 1.0 than for projects with a base FAR of 2.0. Applying a different density bonus percentage based on the as-of-right FAR results in a similar outcome in terms of the total affordability from projects across the study area. The following chart depicts how the affordability outcomes are similar when the density bonus percentage is adjusted (in this case, from 20% of the bonus density with a base FAR of 1.0, to 25% where the base FAR is 2.0), when the FAR at which the density bonus is triggered, varies.



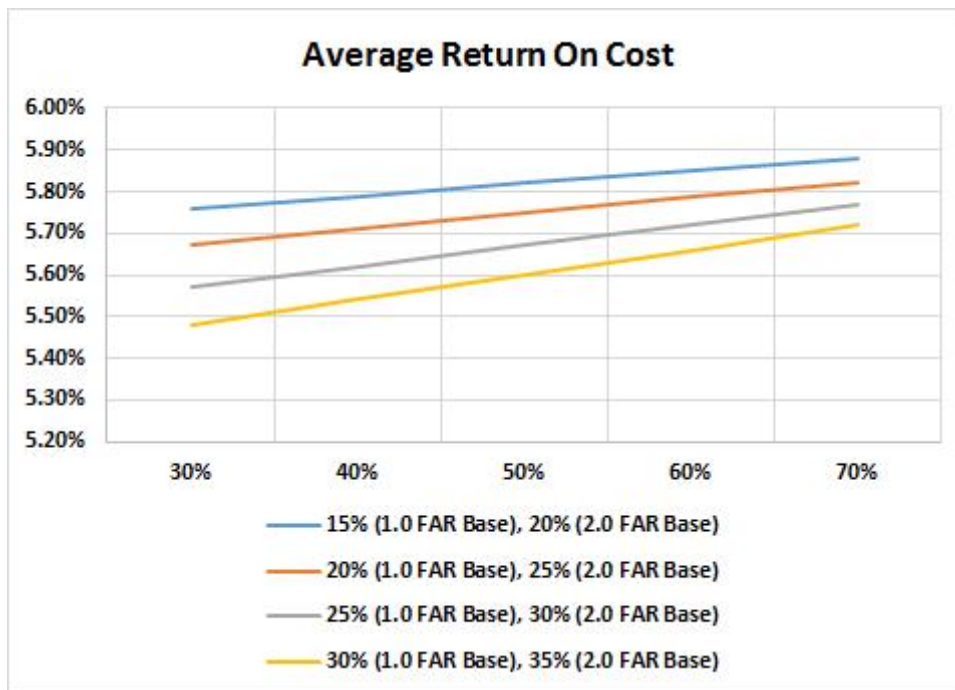
This adjustment assures that the resulting total affordability percentage is close to 17% across the study area, regardless of the base FAR. The below table provides an example of what occurs when the density bonus is higher, depending on at what FAR the bonus is triggered. The total number of affordable units created remains constant, but the ratio between the density bonus units and the IDP units is different. As a result, the density bonus is triggered at the lowest FAR possible, so as to maximize the density bonus units.



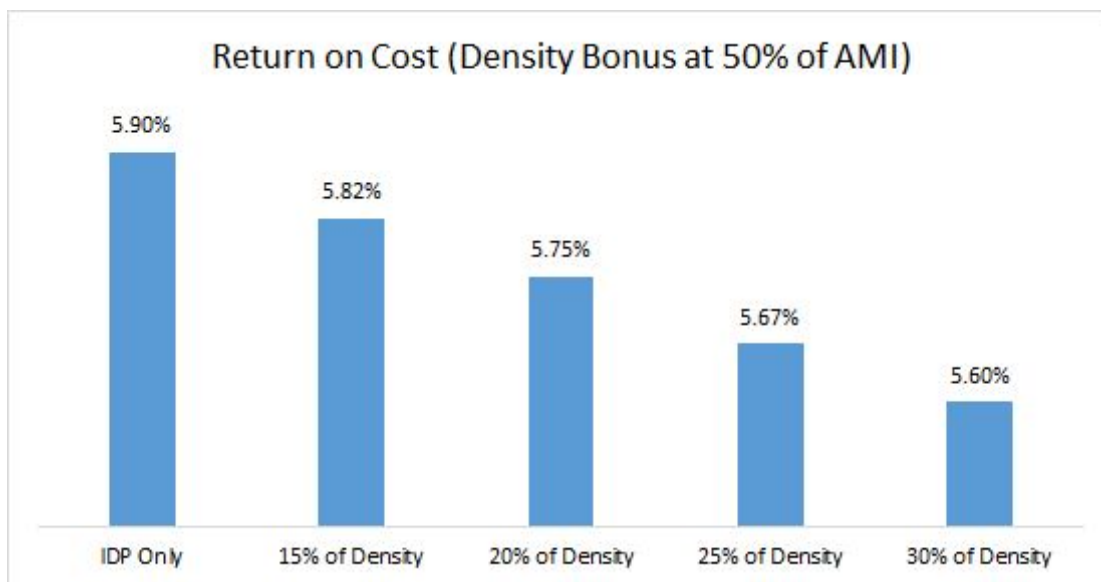
Varying the AMI of the Density Bonus Units, alongside the percent of units under the bonus, resulted in the following, average entrepreneurial returns for the scenario, and is outlined in both the table and chart below.

Average Return, by AMI and Density Bonus Percentage

Percent Set Aside of Density Above Base FAR	Average AMI of Density Bonus Units				
	30%	40%	50%	60%	70%
15% (1.0 FAR Base), 20% (2.0 FAR Base)	5.76%	5.79%	5.82%	5.85%	5.88%
20% (1.0 FAR Base), 25% (2.0 FAR Base)	5.67%	5.71%	5.75%	5.79%	5.82%
25% (1.0 FAR Base), 30% (2.0 FAR Base)	5.57%	5.62%	5.67%	5.72%	5.77%
30% (1.0 FAR Base), 35% (2.0 FAR Base)	5.48%	5.54%	5.60%	5.66%	5.72%
IDP Only					5.90%



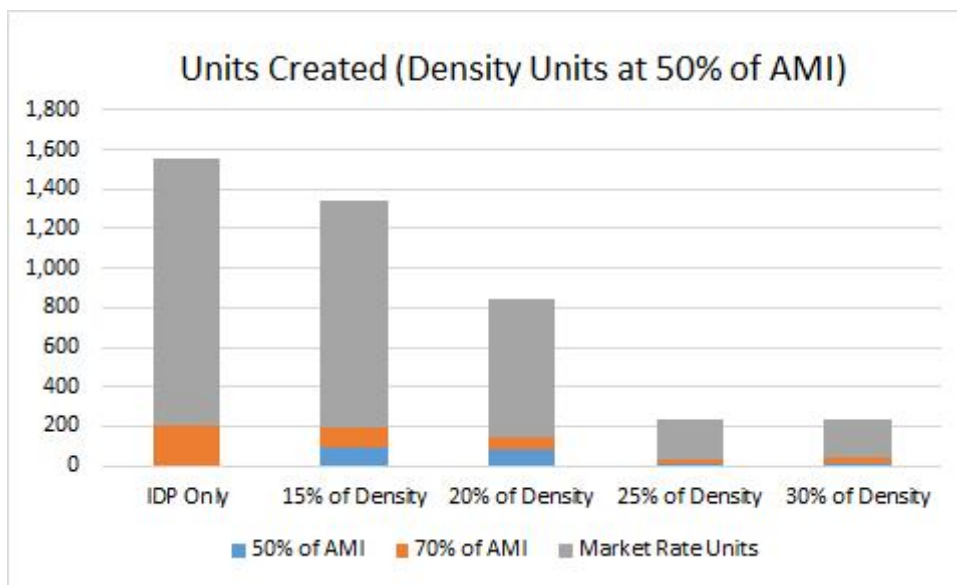
Focusing on the Density Percentage. While the table and chart above provides feasibility returns on both the AMI and density percentage dimensions, it is helpful to break it down and look at one dimension at a time. In this case, given the community feedback supporting a 50% of AMI for the Density Bonus units, let us first look at the outcomes when the average AMI is set at 50%, and the density percentage varies.

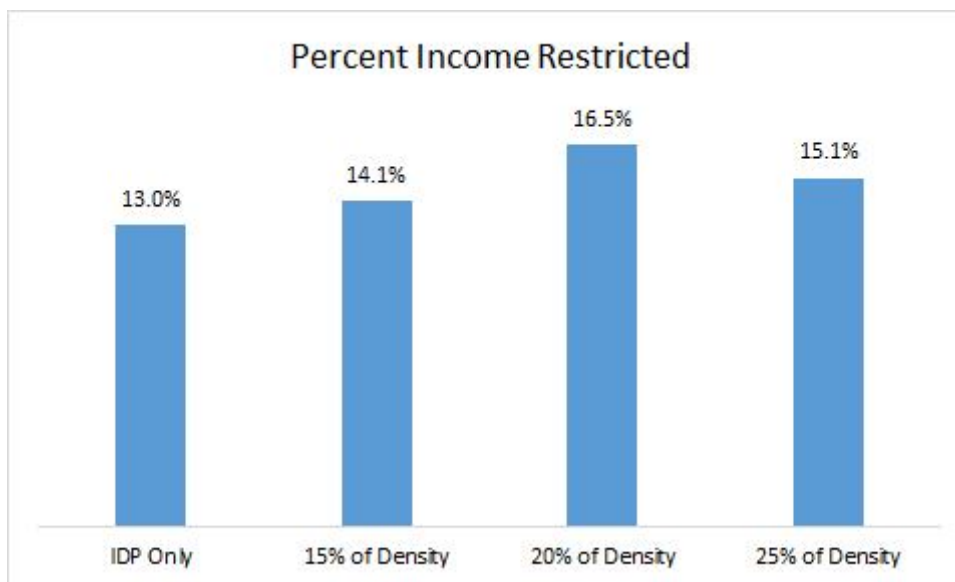
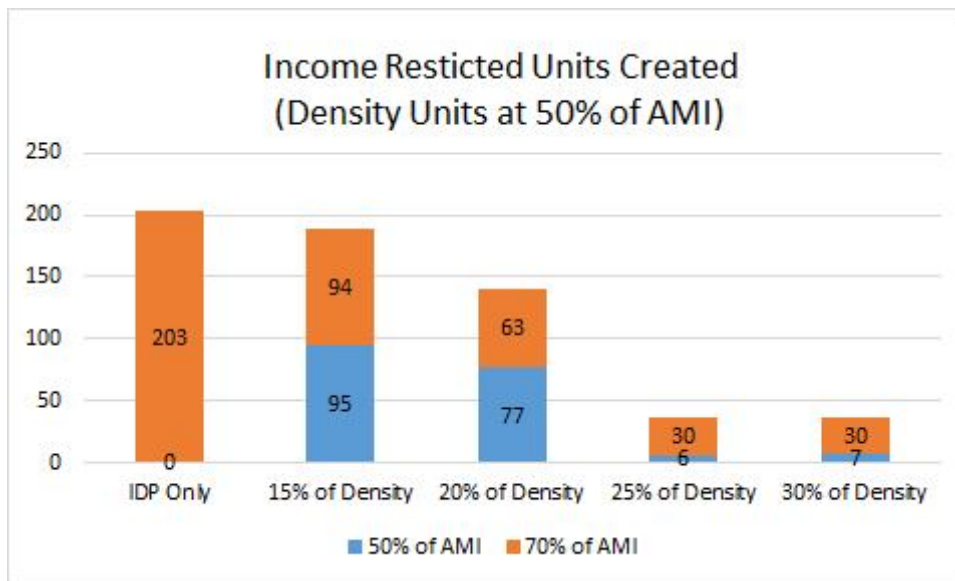


With each five percentage point increase in the density percentage, the average feasibility declines 0.07 to 0.08 percentage points. While this difference is small, a small change can lead to dramatically different outcomes in terms of what is actually built.

- At the baseline IDP, 1,557 units would be created, of which 203 (13.0% of the units) would be at 70% AMI.
- At a density percentage of 15%, 1,343 units would be created, of which 189 would be income restricted (14.1% of the units). Of these units, 95 would be at 50% AMI and 94 would be at 70% AMI.
- At a density percentage of 20%, 849 units would be created, of which 140 would be income restricted (16.5% of the units). Of these units, 77 would be at 50% AMI and 63 would be at 70% AMI.
- At a density percentage of 25%, only 239 units would be created, of which 36 would be income restricted (15.1% of the units). Of these units, six would be at 50% AMI and 30 would be at 70% AMI. There was a dramatic drop off in the number of feasible parcels between the 20% and 25% density bonus, but no similar drop off between 25% and 30%. Of the projects that were still feasible, they were largely projects that would not be accessing the density bonus.

The following charts outline the outcomes in terms of total units, income restricted units, and the percentage of units that were income restricted. There is a significant drop in units created with set asides greater than 20%, indicating that less of the developments were feasible.

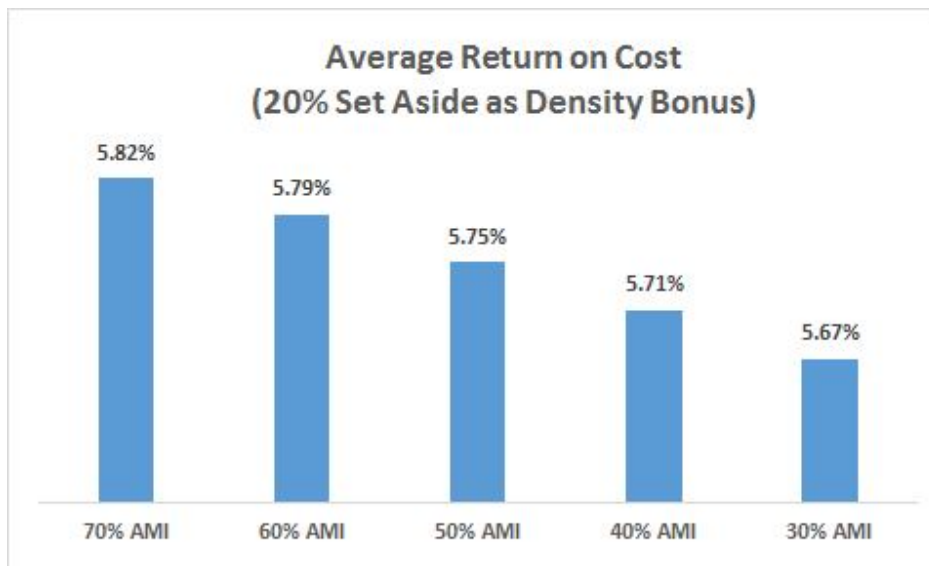




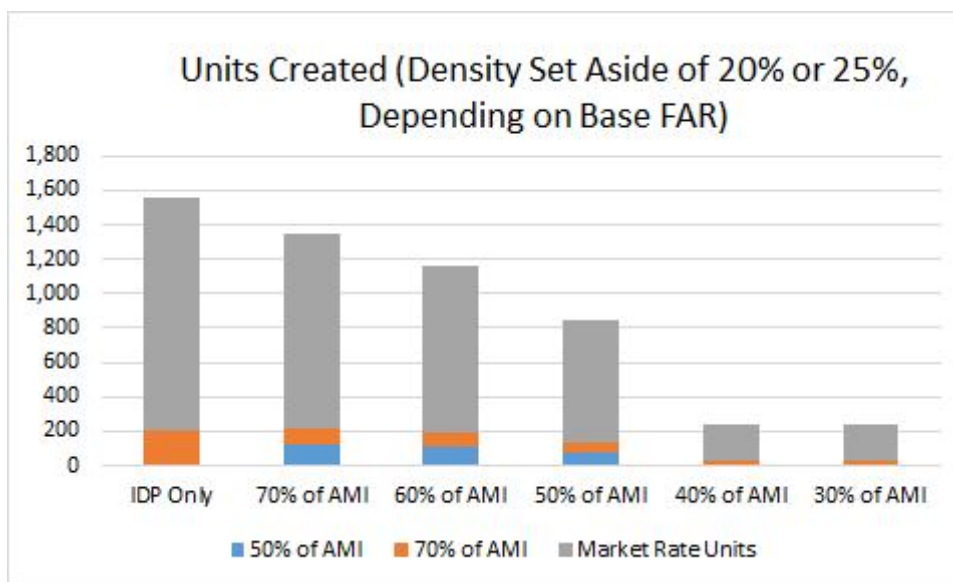
As you can see in final chart, the affordability percent is maximized at 20% of the bonus density, and given what it is currently feasible, it also maximized the percentage of income restricted units that were at an average of 50% of AMI, as a percentage of the income restricted units (55%). Many in the community support maximizing the affordability, and even though the number of units that would be created in the short term is less at 20% than at 15%, over the life of the plan, a higher number of affordable units would be created at the 20% set aside than at 15%.

Focusing on the AMI of Density Bonus Units.

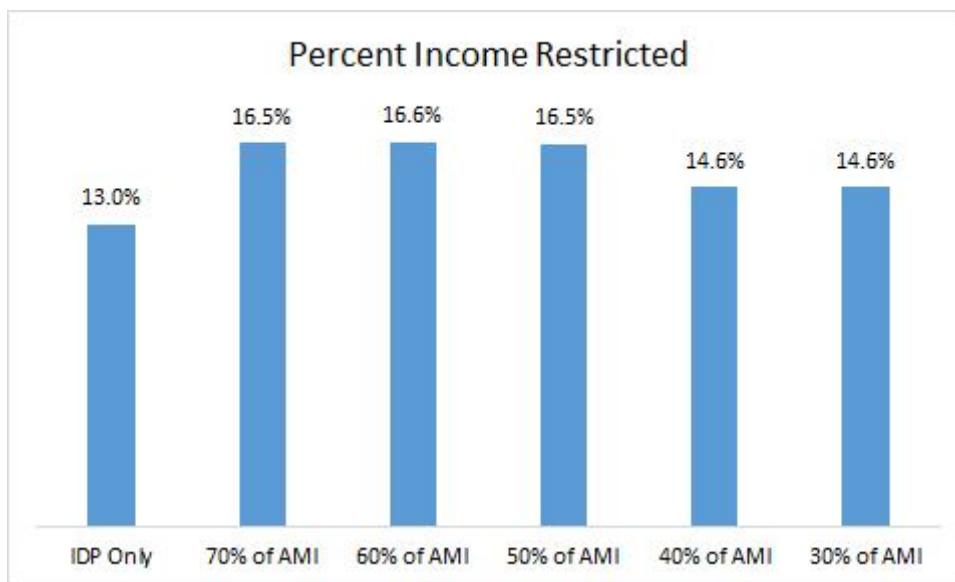
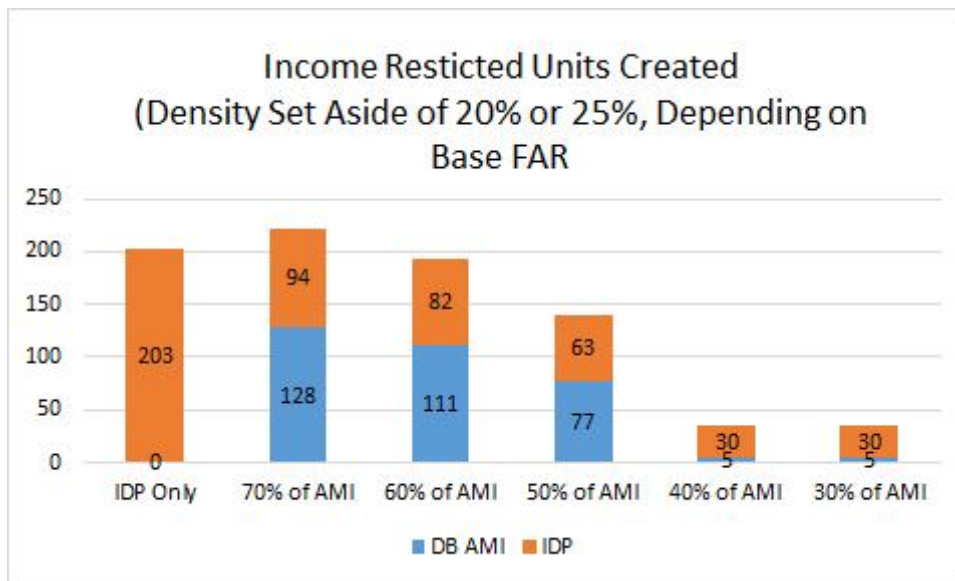
As with the increase in the percent of density that is affordable/income restricted, the average feasibility of the scenario parcels declines as the average income/AMI of the density bonus units declines.



The number of projects that are feasible, and therefore the number of units created, also declines along with the decline in AMI, declining from 1,557 units under the baseline IDP, to 849 units at 50% AMI, and then dropping precipitously to 239 units at 30% AMI.



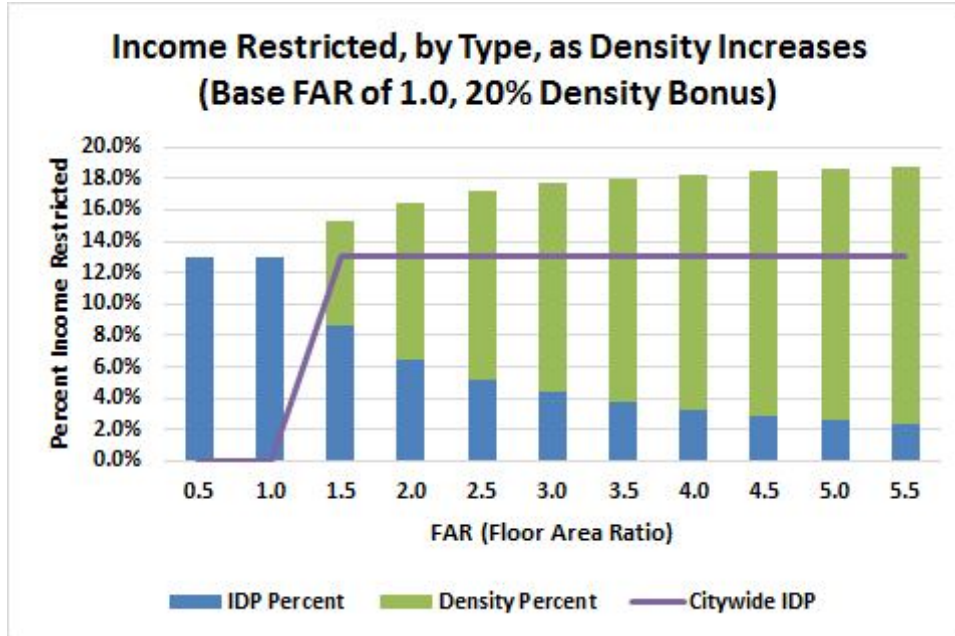
In line with the decline in overall units, the number of income restricted units declines from 70% of AMI to 50% of AMI, declining from 222 income restricted units (all at 70% AMI), to 193 units (111 at 50% of AMI and 82 at 70% of AMI). At 30% of AMI, few projects would go forward, creating only 35 income restricted units, with only five at 30% of AMI.



It is important to look at the percent of units that would be income restricted from this group of parcels, which was maximized at 60% of AMI, but the result is only marginally different than for 50% AMI. There is a distinct drop off when the AMI is decreased to 30% or 40%.

For an individual project, however, the affordability would continue to increase as density increased, though the major gains in affordability, both as a total percentage of the project and in terms of the density bonus units as a percentage of the project, occur

up to a density/FAR of 3.0, at which point the increase in affordability begins to level off.



Model Results: Condominiums

Under the assumptions used in this modeling exercise, only three of the 24 scenario parcels were feasible as condominiums when only IDP was expected. As soon as a density bonus was applied, even at a 15% set aside and 80% of AMI for the density bonus units, the number of feasible projects fell to zero. The entrepreneurial return for the modeling is as follows:

Average Return, by AMI and Density Bonus Percentage, Condos

	Average AMI of Density Bonus Units		
	60%	70%	80%
Percent of Density Above Base FAR			
15% (1.0 FAR Base), 20% (2.0 FAR Base)	15.1%	15.4%	15.8%
20% (1.0 FAR Base), 25% (2.0 FAR Base)	13.7%	14.1%	14.6%
25% (1.0 FAR Base), 30% (2.0 FAR Base)	12.2%	12.8%	13.3%
IDP Only			16.5%

Given these parcels and assumptions, if the 20% density bonus is applied, none of the parcels would be developed as condominiums, but some could still be feasible as rentals. Again, if a developer faces lower costs or if market prices increase, a condominium development could still be feasible.

RECOMMENDATION

From this analysis it becomes clear that some projects may not be feasible now under the current Inclusionary Development Policy, and that introducing a density bonus would only further erode feasibility. The community is seeking increased affordability, both in terms of the percent of units created and the incomes that are targeted. As a result, the recommendation is largely a policy decision, though it is still informed by the analysis, which points to dramatic declines in affordability in rental projects when the AMI is less than an average of 50% and the density set aside is higher than 20% (at FAR of 1.0). The recommendation is:

The density bonus should be triggered at the base allowed floor area ratio (FAR), and where that base is 1.0, the affordable set aside should be 20% of the added density. Where the base FAR is 2.0, the set aside should be 25%. For rentals, the average AMI should be 50% of AMI, and for condominiums, the average AMI should be 80% of AMI.

ADDITIONAL CONSIDERATIONS TO THE DENSITY BONUS POLICY

Providing Density Bonus Units at More than One AMI

Under the New York City Mandatory Inclusionary Housing program, a developer can provide units at more than one AMI level, as long as the average AMI meets program goals. Varying the AMI has no effect on overall feasibility of a rental project, and only affects feasibility on condominium projects at lower incomes. As a result, the BRA is proposing that developers be allowed to provide units at up to three tiers of AMI:

- For rentals, the average AMI would be 50% of AMI, with a minimum income of 30% of AMI, and a maximum income of 70% of AMI.
- For condominiums, the average AMI would be 80% of AMI, with a minimum income of 60% of AMI, and a maximum income of 100% of AMI.

Such a policy would provide a way for the density bonus to meet the needs of a broader range of incomes.

Alternatives to Meeting the Affordability Requirement On-Site

Under the 2015 IDP, developers may seek to meet their affordable housing obligations through either a contribution to the IDP Fund, or through the creation of off-site units. It is anticipated that the requirements for these options, as set out in the IDP, will be translated to the JP/ROX study area, in conjunction with the density bonus units.

Contribution to the IDP Fund. Under the 2015 IDP, projects in Jamaica Plain seeking to “buy-out” of their IDP on-site obligation would have to contribute a minimum of \$300,000 per unit,⁴ based on 18% of the project’s units. This 18% represents 138% of the

⁴ For condominiums, there is a formula whereby \$300,000 is the minimum in Jamaica Plain (\$200,000 in Roxbury), but the developer may pay more per unit. The condo formula requires a payment is that is

initial units required. When translating the IDP policy to the density bonus program, the developer would be required to pay the contribution based on 138% of the units that would have been expected on-site. As an example, for a 100 unit property:

Total On-Site Affordability (including density bonus): 18 units
Adjustment for Contribution: 18 units x 1.38 = 24.84 units
Actual contribution (rental in Jamaica Plain): 24.84 units x \$300,000 = \$7,452,000

For developments in Roxbury, the minimum payment per unit is \$200,000, based on 15% of the total units. For a 100 unit property located in Roxbury the math would be as follows, though the adjustment factor would be 1.15 instead of 1.38 :

Total On-Site Affordability (including density bonus): 18 units
Adjustment for Contribution: 18 units x 1.15 = 20.7 units
Actual contribution (rental in Roxbury): 20.7 units x \$200,000 = \$4,140,000

The contribution option can only be used after the BRA completes a feasibility analysis and determines that on-site units would not be feasible. One question is whether or not a developer would actually take the contribution option. Given the assumptions used in this model, developers in Jamaica Plain would choose to keep the units on-site, as the cost of the contribution (\$300,000/unit) is higher than the cost of keeping the unit on-site. For the small number of scenario parcels in Roxbury, these developers would seek the contribution option, but again, the BRA preference is for on-site units.

Condominium projects must pay out on a formula which could yield a higher payment per unit. This higher payment is only possible for units priced for approximately \$850,000 or higher, so most condominium developers in the study area, at this time, would face the minimum \$300,000 payment, and also choose to keep the units on-site.

Off-Site Units. Under the 2015 IDP, off-site units would be allowed, within ½ mile of the sponsoring project. The formula used above to determine the number of units for the contribution would be the same for off-site units. Where the off-site units are a smaller size than the on-site units, a square footage comparability would be expected. As development costs are approximately \$350,000 per unit, even with the ability to carry some debt, the savings to the developer is not significant. Citywide, the projects that are seeking the off-site option are high-rise, downtown condominium developments facing significant losses for both the on-site or contribution options. In this respect, off-site units are not the expected choice in the JP/ROX study area, but the BRA would consider on a case-by-case basis.

Steel/High-Rise Construction

one-half of the difference between the market value of the condo and the price that would be charged for an income-restricted unit. At the current sales prices in Jamaica Plain, most developers would only pay the minimum contribution per unit.

Steel/high-rise construction costs were assumed to be \$350 per square foot. This is the only change in assumptions from the low-rise/stick built model. With this one increase in costs, all the parcels had a negative return when constructed as condominiums, even under the base IDP only model. Only when condominium prices rose above \$675/square foot (instead of the assumed \$600/square foot) did returns become positive for some projects, and prices would have to be above \$875/square foot for the average feasibility to reach the threshold of 25 percent. For rentals where only IDP was required, the average return given current rent assumptions was 4.5 percent, well below expected returns of 6.0 percent. Returns only reached 6.0 percent (15 of 24 project sites were feasible) at \$4.43 per square foot (\$3,997 per month for a two bedroom apartment). As a result, while the plan could allow for heights of 14 stories or more adjacent to Forest Hills or Jackson Square, developers will not build high rises at this time.

The Density Bonus as a Disincentive to Height

The density bonus can be implemented in a number of ways. One way would be to simply require a higher percentage of income restricted units once a particular FAR has been surpassed. In such circumstances, it is in the interest of the developer to build to the highest allowed height. Under the JP/ROX implementation strategy, the building's overall affordability increases with density. In this respect, there is also a point where feasibility could decline, even if the maximum height has not been reached. On the model parcel, feasibility increased with extra density, up to an FAR of 3.0, where it then began to decline. In JP/ROX, using the density bonus in this way creates both more affordability and a natural limiter to height, meeting the twin goals expressed by the neighborhood, where some new development is desired, but not at a density that feels out of character to the existing neighborhood.

Affordable Financing Options

This modeling exercise was created to analyze affordable outcomes for projects with no public or quasi-public subsidies or financing. While higher levels of affordability are possible with such funding sources, putting affordability requirements on developers that would require these sources would be detrimental if these sources were to become unavailable.

Where significant affordability is required, both in terms of the incomes served and the percentage of units (for example, over 40% of the units are income restricted to 50% AMI), traditional, highly competitive sources of affordable housing finance are required, including, but not limited to:

- Federal funds: the HOME fund, CDBG fund, and nine percent tax credits
- State funds: Housing Innovation Fund, the Affordable Housing Trust Fund, and tax credits
- City of Boston funds: the Neighborhood Housing Trust and the Inclusionary Development Policy Fund

Projects requiring such funding were not modeled in this exercise, and the City's commitment to such project is outlined in the overarching affordable housing document and in the PLAN: JP/ROX document itself.

BRA staff did model scenarios where developers would seek less competitive affordable housing sources. This model includes MassHousing debt as the base conditions, which requires at least 20% percent affordability. Although MassHousing would allow the maximum AMI of these units to be as high as 80% of AMI, given the interest in lower AMIs in this neighborhood, the AMI was assumed to be 50% of AMI. In this model, staff also looked at how a project would benefit if 4% tax credits (which had been uncompetitive, but have become increasingly so recently) were available. It was found that at 20% of units affordable at an AMI of 50%, the model project feasibility declined from 5.9% (IDP only), to 5.55%. Only with 4% Tax credits was feasibility returned to the previously expected level. In this respect, we should encourage developers to take this financing route, though it cannot be required due to the fact that 4% tax credits are becoming increasingly competitive.

The City of Boston's 121A tax incentive was also considered as part of this analysis. Under 121A, a designation is given to certain development projects that serve a public purpose or generate economic advancement in areas that are blighted and minimally marketable for private investment. This designation forms a special partnership between the State, the BRA and the developer that results in a streamlined regulatory process and a negotiated alternative tax payment in lieu of real and personal property taxes. The streamlining of the review process allows the BRA to work more closely with the developer to ensure a high-quality and successful project, and ensures that construction will begin as expediently as possible, and the negotiated tax payment provides the developer with tax certainty and allows the city to rely on a constant stream of tax revenues. Under 121A, the tax payment for a rental project is not based on the assessed value of the building, but instead is set at eight percent of the tenant paid income. In this respect, the 121A does not provide a discount over the property taxes modeled for market-rate developments (taxes were also assumed to be seven percent of income), and therefore 121A cannot be relied on to provide additional levels of affordability.

FINANCIAL ANALYSIS APPENDICES

These appendices show the resulting financial feasibility analysis of a number of affordability options for a “model” parcel, which has a base FAR of 1.0.

Appendix 1 Rental Options

Affordable Units as Percent of Added Density	Average Area Median Income of Density Bonus Units
Base IDP Option, No Density Bonus	No density bonus units, IDP units are at 70% of AMI
20%	30% of AMI
20%	50% of AMI
25%	30% of AMI
25%	50% of AMI
30%	30% of AMI
30%	50% of AMI

Appendix 2 Condominium Options

Affordable Units as Percent of Added Density	Average Area Median Income of Density Bonus Units
Base IDP Option, No Density Bonus	No density bonus units, IDP units are at 80% and 100% of AMI
20%	80% of AMI

Appendix 3 Steel Construction

Rental Option, IDP only
Condo Option, IDP only

APPENDIX 1: JP/ROX DENSITY FEASIBILITY ANALYSIS
Rental Options

Parcel:	Model	Underlying Zoni 1.0	Density Bonus Per Moac-IDP Only
Low Rise IDP Only	Program	Use:	Multi-family Apartment
		Site Area	SF Land 15,000
		Density	FAR 2.0
		Type & FAR (GSF)	Stick Over Podium 30,000
		Units (SF per)	341 32
		Parking Ratio	0.50
	Affordability	IDP Units 70%	4
		Density Bonus 1 70%	4
		Total Income Restricted Units	4
		Income Restricted as Percent of Total Units	12.5%
		Onsite	100%
		Cashed Out	0
		Buyout Cost/Unit	\$300,000
	Off-site Purchase or Production Cost/Unit	\$0	
Test Results	Return on Cost Threshold	6.0%	Results
			6.18%
Gross Potential Income			
Revenues - Private			
		Units	Unit Monthly Rent/SF or Annual Rent
Market Rate Apartments	Market Rate	28 800	\$2,727 \$3.41 \$96,322
IDP Affordable	70%	4 800	\$1,285 \$1.61 \$61,653
Density Bonus Affordable	70%	0 800	\$1,285 \$1.61 \$0
Commercial	Market Rate Retail	0 0	\$0.00 \$0.00 \$0
	Affordable Innovati	0 5,000	\$0.00 \$0.00 \$0
Residential Parking Spaces		16	\$325 \$62,400
RSF Residential		32 25,584	\$1,040,381
Residential Efficiency & GSF		85% 30,000	
Commercial Efficiency & GSF		100% 0	
Vacancy & Collection Losses	Market Rate		7.0% (\$64,143)
	Affordable Units		0.0% \$0
	Market Rate Retail		10.0% \$0
	Affordable Innovation		20.0% \$0
Total Vacancy Loss			(\$64,143)
Effective Gross Income			\$976,239
Non-Reimbursable Expenses			
Residential	Operating		\$6,000 Per Unit (\$192,000)
	RE Taxes	7% of Resi PC	\$2,280 Per Unit (\$72,827)
	Management	2.5% of Resi EC	\$756 Per Unit (\$24,183)
	Reserves		\$325 Per Unit (\$10,400)
Commercial			
Subtotal		31% of EGI	\$3,357 Per Unit (\$293,416)
Net Operating Income		69% of EGI	\$21,151 Per Unit \$676,823
Capitalized Value of Residential On Completion-At Stabilization			
Capitalization Rate		New Construction	5.0% Overall Rate \$13,536,463
			Per GSF \$451
			Per Unit \$423,014
Development Cost			
Land		\$42,188 Per Unit	\$30.00 Per SF \$1,350,000
Buyout or Offsite Cost		\$300,000 Per Unit	0.16 Units \$48,000
Residential			\$250.00 per GSF \$7,500,000
Commercial			\$280.00 per GSF \$0
Parking	Above Grade Garag	16 Spaces	\$35,000 per space \$560,000
Soft Costs (includes financing, fees etc.)			20% of Hard Cost \$1,500,000
			Total Development Cost \$10,358,000
			Per GSF \$365
			Per Unit \$342,438
Entrepreneurial Return	Unlevered Return on Cost (NOI/Cost)	6.2%	Margin (Value-Cost) \$2,578,463

Parcel:	Model	Underlying Zon 1.0	Density Bonus Per 20%			
Low Rise Density Bonus, Base FAR/1.0	Program	Use:	Multi-family	Apartment		
		Site Area	SF Land	FAR	15,000	2.0
		Density	Stick Over Podium	30,000		
		Type & FAR (GSF)				
		Units (SF per)	941	32		
		Parking Ratio		0.50		
		Affordability	IDP Units 70%		2	
			Density Bonus I 30%		3	
			Total Income Restricted Units		5	
			Income Restricted as Percent of Total Units		15.6%	
		Onsite		100%		
		Cashed Out		0		
		Buyout Cost/Unit		\$300,000		
		Off-site Purchase or Production Cost/Unit		\$0		
	Test Results	Return on Cost Threshold	6.0%	Results	5.84%	
Gross Potential Income						
Revenues - Private		Units	Unit	Monthly	Rent/SF or	Annual Rent
Market Rate Apartments	Market Rate	27	800	\$2,727	\$3.41	\$863,537
IDP Affordable	70%	2	800	\$1,285	\$1.61	\$30,829
Density Bonus Affordable	30%	3	800	\$550	\$0.69	\$19,809
Commercial	Market Rate Retail	0	0	\$0.00	\$0.00	\$0
	Affordable Innovati	0	5,000	\$0.00	\$0.00	\$0
Residential Parking Spaces		16			\$325	\$62,400
RSF Residential		32	25,584			\$996,635
Residential Efficiency & GSF		85%	30,000			
Commercial Efficiency & GSF		100%	0			
Vacancy & Collection Losses	Market Rate				7.0%	(\$61,852)
	Affordable Units				0.0%	\$0
	Market Rate Retail				10.0%	\$0
	Affordable Innovation				20.0%	\$0
Total Vacancy Loss						(\$61,852)
Effective Gross Income						\$934,783
Non-Reimbursable Expenses						
Residential	Operating			\$6,000	Per Unit	(\$192,000)
	RE Taxes	7%	of Resi PC	\$2,140	Per Unit	(\$68,378)
	Management	2.5%	of Resi EC	\$710	Per Unit	(\$22,711)
	Reserves			\$325	Per Unit	(\$10,400)
Commercial						
Subtotal			31% of EGI	\$3,172	Per Unit	(\$293,489)
Net Operating Income			69% of EGI	\$20,040	Per Unit	\$641,294
Capitalized Value of Residential On Completion-At Stabilization						
Capitalization Rate			New Construction	5.0%	Overall Rate	\$12,825,878
					Per GSF	\$428
					Per Unit	\$400,809
Development Cost						
Land		\$42,188	Per Unit	\$90.00	Per SF	\$1,350,000
Buyout or Offsite Cost		\$300,000	Per Unit	0.26	Units	\$78,799
Residential				\$250.00	per GSF	\$7,500,000
Commercial				\$280.00	per GSF	\$0
Parking	Above Grade Garag	16	Spaces	\$35,000	per space	\$560,000
Soft Costs (includes financing, fees etc.)				20%	of Hard Cost	\$1,500,000
					Total Development Cost	\$10,988,799
					Per GSF	\$366
					Per Unit	\$343,400
Entrepreneurial Return			Unlevered Return on Cost (NOI/Cost)	5.8%	Margin (Value-Cost)	\$1,837,079

Parcel:	Model	Underlying Zon 1.0	Density Bonus Per 20%		
Low Rise	Program	Use:	Multi-family	Apartment	
Density Bonus, Base FAR/1.0		Site Area	SF Load	15,000	
Density Bonus AMI 50%		Density	FAR	2.0	
		Type & FAR (GSF)	Stick Over Podium	30,000	
		Units (SF per)	941	32	
		Parking Ratio		0.50	
	Affordability	IDP Units 70%		2	
		Density Bonus 1 50%		3	
		Total Income Restricted Units		5	
		Income Restricted as Percent of Total Units		15.6%	
		Onsite		100%	
		Cashed Out		0	
		Buyout Cost/Unit		\$300,000	
		Off-site Purchase or Production Cost/Unit		\$0	
	Test Results	Return on Cost Threshold	6.0%	Results	5.96%
Gross Potential Income					
Revenues - Private		Units	Unit	Monthly	Rent/SF or Annual Rent
Market Rate Apartments	Market Rate	27	800	\$2,727	\$3.41 \$883,597
IDP Affordable	70%	2	800	\$1,285	\$1.61 \$30,829
Density Bonus Affordable	50%	3	800	\$917	\$1.15 \$33,014
Commercial	Market Rate Retail	0	0	\$0.00	\$0.00 \$0
	Affordable Innovati	0	5,000	\$0.00	\$0.00 \$0
Residential Parking Spaces		16			\$325 \$62,400
RSF Residential		32	25,584		\$1,009,840
Residential Efficiency & GSF		85%	30,000		
Commercial Efficiency & GSF		100%	0		
Vacancy & Collection Losses	Market Rate				7.0% (\$61,852)
	Affordable Units				0.0% \$0
	Market Rate Retail				10.0% \$0
	Affordable Innovation				20.0% \$0
Total Vacancy Loss					(\$61,852)
Effective Gross Income					\$947,968
Non-Reimbursable Expenses					
Residential	Operating			\$6,000 Per Unit	(\$192,000)
	RE Taxes	7% of Resi PC		\$2,140 Per Unit	(\$68,378)
	Management	2.5% of Resi EC		\$710 Per Unit	(\$22,711)
	Reserves			\$325 Per Unit	(\$10,400)
Commercial					
Subtotal		31% of EGI		\$9,172 Per Unit	(\$293,489)
Net Operating Income		69% of EGI		\$20,453 Per Unit	\$654,439
Capitalized Value of Residential On Completion-At Stabilization					
Capitalization Rate		New Construction		5.0% Overall Rate	\$13,089,981
				Per GSF	\$436
				Per Unit	\$409,062
Development Cost					
Land		\$42,188 Per Unit		\$30.00 Per SF	\$1,350,000
Buyout or Offsite Cost		\$300,000 Per Unit		0.26 Units	\$78,799
Residential				\$250.00 per GSF	\$7,500,000
Commercial				\$280.00 per GSF	\$0
Parking	Above Grade Garag	16 Spaces		\$35,000 per space	\$560,000
Soft Costs (includes financing, fees etc.)				20% of Hard Cost	\$1,500,000
				Total Development Cost	\$10,988,799
				Per GSF	\$366
				Per Unit	\$343,400
Entrepreneurial Return		Unlevered Return on Cost (NOI/Cost)	6.0%	Margin (Value-Cost)	\$2,101,182

Parcel:	Model	Underlying Zonai 1.0	Density Bonus Per 25%			
Low Rise Density Bonus, Base FAR/1.0	Program	Use:	Multi-family		Apartment	
		Site Area	SF Land		15,000	
		Density	FAR		2.0	
		Type & FAR (GSF)	Stick Over Podium		30,000	
		Units (SF per)	941		32	
		Parking Ratio			0.50	
		Affordability	IDP Units	70%		2
			Density Bonus I	30%		4
			Total Income Restricted Units			6
			Income Restricted as Percent of Total Units			18.8%
		Onsite			100%	
		Cashed Out			0	
		Buyout Cost/Unit			\$300,000	
		Off-site Purchase or Production Cost/Unit			\$0	
	Test Results	Return on Cost Threshold	6.0%	Results	5.68%	
Gross Potential Income						
Revenues - Private						
		Units	Unit	Monthly	Rent/SF or	Annual Rent
Market Rate Apartments	Market Rate	26	800	\$2,727	\$3.41	\$850,871
IDP Affordable	70%	2	800	\$1,285	\$1.61	\$30,829
Density Bonus Affordable	30%	4	800	\$550	\$0.69	\$26,412
Commercial	Market Rate Retail	0	0	\$0.00	\$0.00	\$0
	Affordable Innovati	0	5,000	\$0.00	\$0.00	\$0
Residential Parking Spaces		16			\$325	\$62,400
RSF Residential		32	25,584			\$370,512
Residential Efficiency & GSF		85%	30,000			
Commercial Efficiency & GSF		100%	0			
Vacancy & Collection Losses	Market Rate				7.0%	(\$59,561)
	Affordable Units				0.0%	\$0
	Market Rate Retail				10.0%	\$0
	Affordable Innovation				20.0%	\$0
Total Vacancy Loss						(\$59,561)
Effective Gross Income						\$310,951
Non-Reimbursable Expenses						
Residential	Operating			\$6,000	Per Unit	(\$192,000)
	RE Taxes	7%	of Resi PC	\$2,070	Per Unit	(\$66,087)
	Management	2.5%	of Resi EC	\$686	Per Unit	(\$21,950)
	Reserves			\$325	Per Unit	(\$10,400)
Commercial						
Subtotal		32%	of EGI	\$9,076	Per Unit	(\$290,437)
Net Operating Income		68%	of EGI	\$19,391	Per Unit	\$620,513
Capitalized Value of Residential On Completion-At Stabilization						
Capitalization Rate			New Construction	5.0%	Overall Rate	\$12,410,269
					Per GSF	\$414
					Per Unit	\$387,821
Development Cost						
Land		\$42,188	Per Unit	\$90.00	Per SF	\$1,350,000
Buyout or Offsite Cost		\$300,000	Per Unit	0.06	Units	\$18,011
Residential				\$250.00	per GSF	\$7,500,000
Commercial				\$280.00	per GSF	\$0
Parking	Above Grade Garag	16	Spaces	\$35,000	per space	\$560,000
Soft Costs (includes financing, fees etc.)				20%	of Hard Cost	\$1,500,000
					Total Development Cost	\$10,928,011
					Per GSF	\$364
					Per Unit	\$341,500
Entrepreneurial Return		Unlevered Return on Cost (NOI/Cost)		5.7%	Margin (Value-Cost)	\$1,482,258

Parcel:	Model	Underlying Zoni 1.0	Density Bonus Per 25%			
Low Rise Density Bonus, Base FAR/1.0	Program	Use:	Multi-family		Apartment	
		Site Area	SF Land		15,000	
		Density	FAR		2.0	
		Type & FAR (GSF)	Stick Over Podium		30,000	
		Units (SF per)	941		32	
		Parking Ratio			0.50	
	Affordability	IDP Units	70%			
		Density Bonus I	50%			
		Total Income Restricted Units				6
		Income Restricted as Percent of Total Units				18.8%
	Onsite				100%	
	Cashed Out				0	
	Buyout Cost/Unit				\$300,000	
	Off-site Purchase or Production Cost/Unit				\$0	
	Test Results	Return on Cost Threshol	6.0%	Results	5.84%	
Gross Potential Income						
Revenues - Private						
		Units	Unit	Monthly	Rent/SF or	Annual Rent
Market Rate Apartments	Market Rate	26	800	\$2,727	\$3.41	\$850,871
IDP Affordable	70%	2	800	\$1,285	\$1.61	\$30,829
Density Bonus Affordable	50%	4	800	\$317	\$1.15	\$44,018
Commercial	Market Rate Retail	0	0	\$0.00	\$0.00	\$0
	Affordable Innovati	0	5,000	\$0.00	\$0.00	\$0
Residential Parking Spaces		16			\$325	\$62,400
RSF Residential		32	25,584			\$988,119
Residential Efficiency & GSF		85%	30,000			
Commercial Efficiency & GSF		100%	0			
Vacancy & Collection Losses	Market Rate				7.0%	(\$59,561)
	Affordable Units				0.0%	\$0
	Market Rate Retail				10.0%	\$0
	Affordable Innovation				20.0%	\$0
Total Vacancy Loss						(\$59,561)
Effective Gross Income						\$928,558
Non-Reimbursable Expenses						
Residential	Operating			\$6,000	Per Unit	(\$192,000)
	RE Taxes	7%	of Resi PC	\$2,070	Per Unit	(\$66,087)
	Management	2.5%	of Resi EC	\$686	Per Unit	(\$21,950)
	Reserves			\$325	Per Unit	(\$10,400)
Commercial						
Subtotal		31%	of EGI	\$9,076	Per Unit	(\$290,437)
Net Operating Income		69%	of EGI	\$19,341	Per Unit	\$638,120
Capitalized Value of Residential On Completion-At Stabilization						
Capitalization Rate			New Construction	5.0%	Overall Rate	\$12,762,407
					Per GSF	\$425
					Per Unit	\$398,825
Development Cost						
Land		\$42,188	Per Unit	\$30.00	Per SF	\$1,350,000
Buyout or Offsite Cost		\$300,000	Per Unit	0.06	Units	\$18,011
Residential				\$250.00	per GSF	\$7,500,000
Commercial				\$280.00	per GSF	\$0
Parking	Above Grade Garag	16	Spaces	\$35,000	per space	\$560,000
Soft Costs (includes financing, fees etc.)				20%	of Hard Cost	\$1,500,000
					Total Development Cost	\$10,928,011
					Per GSF	\$364
					Per Unit	\$341,500
Entrepreneurial Return		Unlevered Return on Cost (NOI/Cost)		5.8%	Margin (Value-Cost)	\$1,834,395

Parcel:	Model	Underlying Zoni 1.0	Density Bonus Per 30%			
Low Rise	Program	Use:	Multi-family		Apartment	
Density Bonus, Base FAR/1.0		Site Area	SF Land		15,000	
		Density	FAR		2.0	
		Type & FAR (GSF)	Stick Over Podium		30,000	
		Units (SF per)	941		32	
		Parking Ratio			0.50	
	Affordability	IDP Units	70%			2
		Density Bonus 1	30%			5
		Total Income Restricted Units				7
		Income Restricted as Percent of Total Units				21.3%
		Onsite			100%	
		Cashed Out			0	
		Buyout Cost/Unit			\$300,000	
		Off-site Purchase or Production Cost/Unit			\$0	
	Test Results	Return on Cost Threshold	6.0%	Results	5.50%	
Gross Potential Income						
Revenues - Private		Units	Unit	Monthly	Rent/SF or	Annual Rent
Market Rate Apartments	Market Rate	25	800	\$2,727	\$3.41	\$818,145
IDP Affordable	70%	2	800	\$1,285	\$1.61	\$30,829
Density Bonus Affordable	30%	5	800	\$550	\$0.69	\$33,014
Commercial	Market Rate Retail	0	0	\$0.00	\$0.00	\$0
	Affordable Innovati	0	5,000	\$0.00	\$0.00	\$0
Residential Parking Spaces		16			\$325	\$52,400
RSF Residential		32	25,584			\$944,389
Residential Efficiency & GSF		85%	30,000			
Commercial Efficiency & GSF		100%	0			
Vacancy & Collection Losses	Market Rate				7.0%	(\$57,270)
	Affordable Units				0.0%	\$0
	Market Rate Retail				10.0%	\$0
	Affordable Innovation				20.0%	\$0
Total Vacancy Loss						(\$57,270)
Effective Gross Income						\$887,119
Non-Reimbursable Expenses						
Residential	Operating			\$6,000	Per Unit	(\$192,000)
	RE Taxes	7%	of Resi PC	\$1,990	Per Unit	(\$63,796)
	Management	2.5%	of Resi EC	\$662	Per Unit	(\$21,189)
	Reserves			\$325	Per Unit	(\$10,400)
Commercial						
Subtotal		32%	of EGI	\$8,981	Per Unit	(\$287,386)
Net Operating Income		68%	of EGI	\$18,742	Per Unit	\$599,733
Capitalized Value of Residential On Completion-At Stabilization						
Capitalization Rate			New Construction	5.0%	Overall Rate	\$11,994,660
					Per GSF	\$400
					Per Unit	\$374,833
Development Cost						
Land		\$42,188	Per Unit	\$90.00	Per SF	\$1,350,000
Buyout or Offsite Cost		\$300,000	Per Unit	0.00	Units	\$0
Residential				\$250.00	per GSF	\$7,500,000
Commercial				\$280.00	per GSF	\$0
Parking	Above Grade Garag	16	Spaces	\$35,000	per space	\$560,000
Soft Costs (includes financing, fees etc.)				20%	of Hard Cost	\$1,500,000
				Total Development Cost		\$10,910,000
					Per GSF	\$364
					Per Unit	\$340,938
Entrepreneurial Return		Unlevered Return on Cost (NOI/Cost)		5.5%	Margin (Value-Cost)	\$1,084,660

Parcel:	Model	Underlying Zoni 1.0	Density Bonus Per 30%			
Low Rise Density Bonus, Base FAR/1.0	Program	Use:	Multi-family	Apartment		
		Site Area	SF Land		15,000	
		Density	FAR		2.0	
		Type & FAR (GSF)	Stick Over Podium		30,000	
		Units (SF per)		941	32	
		Parking Ratio			0.50	
	Affordability	IDP Units	70%		2	
		Density Bonus 1	50%		5	
		Total Income Restricted Units			7	
		Income Restricted as Percent of Total Units			21.9%	
	Onsite			100%		
	Cashed Out			0		
	Buyout Cost/Unit			\$300,000		
	Off-site Purchase or Production Cost/Unit			\$0		
	Test Results	Return on Cost Threshold	6.0%	Results	5.70%	
Gross Potential Income						
Revenues - Private						
		Units	Unit	Monthly	Rent/SF or	Annual Rent
Market Rate Apartments	Market Rate	25	800	\$2,727	\$3.41	\$818,145
IDP Affordable	70%	2	800	\$1,285	\$1.61	\$30,823
Density Bonus Affordable	50%	5	800	\$317	\$1.15	\$55,023
Commercial	Market Rate Retail	0	0	\$0.00	\$0.00	\$0
	Affordable Innovati	0	5,000	\$0.00	\$0.00	\$0
Residential Parking Spaces		16			\$325	\$62,400
RSF Residential		32	25,584			\$966,397
Residential Efficiency & GSF		85%	30,000			
Commercial Efficiency & GSF		100%	0			
Vacancy & Collection Losses	Market Rate				7.0%	(\$57,270)
	Affordable Units				0.0%	\$0
	Market Rate Retail				10.0%	\$0
	Affordable Innovation				20.0%	\$0
Total Vacancy Loss						(\$57,270)
Effective Gross Income						\$909,127
Non-Reimbursable Expenses						
Residential	Operating			\$6,000	Per Unit	(\$192,000)
	RE Taxes	7%	of Resi PC	\$1,990	Per Unit	(\$63,796)
	Management	2.5%	of Resi EC	\$662	Per Unit	(\$21,183)
	Reserves			\$325	Per Unit	(\$10,400)
Commercial						
Subtotal		32%	of EGI	\$8,981	Per Unit	(\$287,386)
Net Operating Income		68%	of EGI	\$19,429	Per Unit	\$621,742
Capitalized Value of Residential On Completion-At Stabilization						
Capitalization Rate			New Construction	5.0%	Overall Rate	\$12,434,832
					Per GSF	\$414
					Per Unit	\$388,589
Development Cost						
Land		\$42,188	Per Unit	\$90.00	Per SF	\$1,350,000
Buyout or Offsite Cost		\$300,000	Per Unit	0.00	Units	\$0
Residential				\$250.00	per GSF	\$7,500,000
Commercial				\$280.00	per GSF	\$0
Parking	Above Grade Garag	16	Spaces	\$35,000	per space	\$560,000
Soft Costs (includes financing, fees etc.)				20%	of Hard Cost	\$1,500,000
					Total Development Cost	\$10,910,000
					Per GSF	\$364
					Per Unit	\$340,938
Entrepreneurial Return		Unlevered Return on Cost (NOI/Cost)		5.7%	Margin (Value-Cost)	\$1,524,832

APPENDIX 2: JP/ROX DENSITY FEASIBILITY ANALYSIS

Condominium Options

CONDO OPTION						
Low Rise IDP Only	Program	Use:			Multi-family	Condo
		Site Area	Acres	1.0	SF Land	15,000
		Density	Base FAR	1.0	FAR	2.0
		Type & FAR (GSF)			Stick Over Podium	30,000
		Units (SF per)			1,034	29
		Parking Ratio				0.80
	Affordability	Base Onsite @ 100%				2
		Base Onsite @ 80%				2
		Rate on Bonus Units				0%
		Bonus Onsite @ 0%				0
		Onsite Affordable Units				4
		Total Affordability (Onsite+Cash) Rate				13.8%
		Average AMI				90%
		Buyout Units				0
		Buyout Cost/Unit				\$300,000
		Off-site Purchase or Production Cost/Unit				\$0
	Test Results	Margin (Value-Cost)		30.0%	Results	21.4%
		Market Price		\$600 Per SF		
Gross Potential Income						
Revenues		Units	Unit Size	Sales Price	\$/SF	Total Income
Unit Sales	Market Rate	25	879	\$527,160	\$600	\$13,179,000
	IDP Upper Tier	2	879	\$203,600	\$280	\$407,200
	IDP Lower Tier	2	879	\$189,662	\$216	\$379,325
	Density Bonus	-	879	\$128,334	\$146	\$0
	Parking Spaces	23		\$25,000		\$580,000
Total Revenues						\$14,545,525
Marketing/Sales Expense	Brokerage				5.5%	(\$800,003.86)
	Marketing				0.0%	\$0.00
Total Marketing/Sales Expense						(\$800,004)
Value of Residential On Completion						\$13,745,521
					Per GSF	\$458
					Per Unit	\$473,983
Development Cost						
Land		\$46,552 Per Unit		\$90.00 Per SF		\$1,350,000
Buyout or Offsite Cost		\$300,000 Per Unit		- Units		\$0
Residential				\$250 per GSF		\$7,500,000
Parking	Above Grade Garage	23 Spaces		\$35,000 per space		\$812,000
Soft Costs (includes financing, fee etc.)				20% of Hard Cost		\$1,662,400
				Total Development Costs		\$11,324,400
				Per GSF		\$377
				Per Unit		\$390,497
Entrepreneurial Return		Unlevered Return on Cost (NOI/Cost)		21.4% Margin (Value-Cost)		\$2,421,121
				Return On Investment		21.4%

CONDO OPTION						
Low Rise	Program	Use:			Multi-family	Condo
Density Bonus Study		Site Area	Acres	1.0	SF Land	15,000
20% Set Aside, at 80% of AMI		Density	Base FAR	1.0	FAR	2.0
		Type & FAR (GSF)			Stick Over Podium	30,000
		Units (SF per)			1,034	29
		Parking Ratio				0.80
	Affordability	Base Onsite @ 100%				1
		Base Onsite @ 80%				1
		Rate on Bonus Units				20%
		Bonus Onsite @ 80%				3
		Onsite Affordable Units				5
		Total Affordability (Onsite+Cash) Rate				17.2%
		Average AMI				84%
		Buyout Units				0
		Buyout Cost/Unit				\$300,000
		Off-site Purchase or Production Cost/Unit				\$0
	Test Results	Margin (Value-Cost)		30.0%	Results	18.4%
		Market Price		\$600 Per SF		
Gross Potential Income						
Revenues			Units	Unit Size	Sales Price	\$/SF Total Income
Unit Sales	Market Rate		24	879	\$527,160	\$600 \$12,651,840
	IDP Upper Tier		1	879	\$203,600	\$280 \$203,600
	IDP Lower Tier		1	879	\$189,662	\$216 \$189,662
	Density Bonus		3	879	\$189,662	\$216 \$568,987
	Parking Spaces		23		\$25,000	\$580,000
Total Revenues						\$14,194,090
Marketing/Sales Expense	Brokerage					5.5% (\$780,674.93)
	Marketing					0.0% \$0.00
Total Marketing/Sales Expense						(\$780,675)
Value of Residential On Completion						\$13,413,415
					Per GSF	\$447
					Per Unit	\$462,532
Development Cost						
Land		\$46,552	Per Unit	\$90.00	Per SF	\$1,350,000
Buyout or Offsite Cost		\$300,000	Per Unit	-	Units	\$0
Residential				\$250	per GSF	\$7,500,000
Parking	Above Grade Garage	23	Spaces	\$35,000	per space	\$812,000
Soft Costs (includes financing, fee etc.)				20%	of Hard Cost	\$1,662,400
					Total Development Costs	\$11,324,400
					Per GSF	\$377
					Per Unit	\$390,497
Entrepreneurial Return		Unlevered Return on Cost (NOI/Cost)		18.4%	Margin (Value-Cost)	\$2,089,015
					Return On Investment	18.4%

APPENDIX 3: JP/ROX FEASIBILITY ANALYSIS
Steel Construction

Parcel:	Model	Underlying Zoni	1.0	Density Bonus Per	None-IDP Only	
High Rise-Steel Density Bonus, Base FAR/1.0	Program	Use:		Multi-family	Apartment	
		Site Area		SF Land	15,000	
		Density		FAR	2.0	
		Type & FAR (GSF)		Stick Over Podium	30,000	
		Units (SF per)		941	32	
		Parking Ratio			0.50	
	Affordability	IDP Units	70%		4	
		Total Income Restricted Units			4	
		Income Restricted as Percent of Total Units			12.5%	
		Onsite			100%	
	Cashed Out			0		
	Buyout Cost/Unit			\$300,000		
	Off-site Purchase or Production Cost/Unit			\$0		
	Test Results	Return on Cost Threshold	6.0%	Results	4.64%	
Gross Potential Income						
Revenues - Private		Units	Unit Size	Monthly Rent	Rent/SF or /Space	Annual Rent
Market Rate Apartments	Market Rate	28	800	\$2,726	\$3.41	\$316,035
IDP Affordable	70%	4	800	\$1,285	\$1.61	\$61,659
Commercial	Market Rate Retail	0	0	\$0.00	\$0.00	\$0
	Affordable Innovati	0	5,000	\$0.00	\$0.00	\$0
Residential Parking Spaces		16			\$325	\$62,400
RSF Residential		32	25,584			\$1,040,094
Residential Efficiency & GSF		85%	30,000			
Commercial Efficiency & GSF		100%	0			
Vacancy & Collection Losses	Market Rate				7.0%	(\$64,122)
	Affordable Units				0.0%	\$0
	Market Rate Retail				10.0%	\$0
	Affordable Innovation				20.0%	\$0
Total Vacancy Loss						(\$64,122)
Effective Gross Income						\$375,972
Non-Reimbursable Expenses						
Residential	Operating			\$6,000 Per Unit		(\$192,000)
	RE Taxes	7% of Resi PC		\$2,280 Per Unit		(\$72,807)
	Management	2.5% of Resi EC		\$756 Per Unit		(\$24,182)
	Reserves			\$325 Per Unit		(\$10,400)
Commercial						
Subtotal		31% of EGI		\$3,356 Per Unit		(\$293,369)
Net Operating Income		69% of EGI		\$21,143 Per Unit		\$676,583
Capitalized Value of Residential On Completion-At Stabilization						
Capitalization Rate		New Construction	5.0%	Overall Rate		\$13,531,656
				Per GSF		\$451
				Per Unit		\$422,864
Development Cost						
Land		\$42,188 Per Unit		\$30.00 Per SF		\$1,350,000
Buyout or Offsite Cost		\$300,000 Per Unit		0.20 Units		\$60,000
Residential				\$350.00 per GSF		\$10,500,000
Commercial				\$280.00 per GSF		\$0
Parking	Above Grade Garag	16 Spaces		\$35,000 per space		\$560,000
Soft Costs (includes financing, fees etc.)				20% of Hard Cost		\$2,100,000
				Total Development Cost		\$14,570,000
				Per GSF		\$486
				Per Unit		\$455,313
Entrepreneurial Return		Unlevered Return on Cost (NOI/Cost)	4.6%	Margin (Value-Cost)		(\$1,038,344)

CONDO OPTION--STEEL						
Low Rise	Program	Use:			Multi-family	Condo
IDP Only		Site Area	Acres	1.0	SF Land	15,000
		Density	Base FAR	1.0	FAR	2.0
		Type & FAR (GSF)			Stick Over Podium	30,000
		Units (SF per)			1,034	29
		Parking Ratio				0.80
	Affordability	Base Onsite @	100%			2
		Base Onsite @	80%			2
		Rate on Bonus Units				0%
		Bonus Onsite @	0%			0
		Onsite Affordable Units				4
		Total Affordability (Onsite+Cash) Rate				13.8%
		Average AMI				90%
		Buyout Units				0
		Buyout Cost/Unit				\$300,000
		Off-site Purchase or Production Cost/Unit				\$0
	Test Results	Margin (Value-Cost)		30.0%	Results	-7.9%
		Market Price		\$600 Per SF		
Gross Potential Income						
Revenues			Units	Unit Size	Sales Price	\$/SF Total Income
Unit Sales	Market Rate		25	879	\$527,160	\$600 \$13,179,000
	IDP Upper Tier		2	879	\$203,600	\$280 \$407,200
	IDP Lower Tier		2	879	\$189,662	\$216 \$379,325
	Density Bonus		-	879	\$128,334	\$146 \$0
	Parking Spaces		23		\$25,000	\$580,000
Total Revenues						\$14,545,525
Marketing/Sales Expense	Brokerage					5.5% (\$800,003.86)
	Marketing					0.0% \$0.00
Total Marketing/Sales Expense						(\$800,004)
Value of Residential On Completion						\$13,745,521
					Per GSF	\$458
					Per Unit	\$473,983
Development Cost						
Land		\$46,552	Per Unit	\$90.00	Per SF	\$1,350,000
Buyout or Offsite Cost		\$300,000	Per Unit	-	Units	\$0
Residential				\$350	per GSF	\$10,500,000
Parking	Above Grade Garage	23	Spaces	\$35,000	per space	\$812,000
Soft Costs (includes financing, fee etc.)				20%	of Hard Cost	\$2,262,400
					Total Development Costs	\$14,924,400
					Per GSF	\$497
					Per Unit	\$514,634
Entrepreneurial Return		Unlevered Return on Cost (NOI/Cost)		-7.9%	Margin (Value-Cost)	Return On Investment (\$1,178,879)
						-7.9%