

Report to the New York City Public Advocate: Affordable Housing in New York City

Part Two: Inclusionary and Related Zoning Approaches to Affordable Housing: A Reference Manual

April 1, 2005

Report to the New York City Public Advocate: Affordable Housing in New York City

- Part One: The Context of Affordable Housing in New York City
- Part Two: Inclusionary and Related Zoning Approaches to Affordable Housing: A Reference Manual
- Part Three: Affordable Housing Policy Options
- Part Four: The New York City Affordable Housing Atlas
- Part Five: Affordable Housing Compendium: New York City & National Affordable Housing Programs

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Part Two: Inclusionary and Related Zoning Approaches to Affordable Housing: A Reference Manual

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Preface

This Report has been prepared by the Steven L. Newman Real Estate Institute of Baruch College under assignment to the Public Advocate of the City of New York, and on behalf of the City Council. This Report consists of five documents which together enumerate descriptively and quantitatively the state of New York City's affordable housing, historic problematics of housing support programs, policy considerations currently in play, and thus provides recommendations as to how need can be met through innovative production, financing and incentive mechanisms.

Part One of the Report exposes the gap between the demand for and supply of affordable housing in New York City. It presents the trends, dimension and basic reasons for the affordable housing crisis, and an inventory of programs now available to produce affordable housing.

Part Two of the Report presents the key elements and trade-offs associated with inclusionary zoning and related zoning options to promote new housing development, and particularly affordable housing development, in New York City.

Part Three of the Report provides recommendations not only on the inclusionary and related zoning options, but also presentation of an ambitious concept to vastly expand affordable housing production.

Part Four of the Report is a new atlas of the City of New York, showing by census tract the availability of land for redevelopment. This is a joint effort of the Newman Institute and the Center for Advanced Research of Spatial Information of Hunter College.

Part Five of the Report is a compendium presenting the affordable housing programs of jurisdictions from across the nation.

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Executive Summary

Basic Considerations

1. Although financial analysis informs the design of an inclusionary zoning program, it cannot be the final determinant as to the perfect combination of mandates and incentives. Market and financing conditions vary from site to site and from time to time, so no set formula will be optimal for every situation. Ultimately, public officials must make an informed political judgment that may vary by condition and change over time, and work well under most but not all situations.
2. The most successful inclusionary housing programs will employ generous annualized profit rates. Housing developers must quickly recover their capital or they will not long be housing developers. Generous profit rates better assure that the program will be applied in a wider number of settings and conditions.
3. A number of large cities have adopted or are considering inclusionary housing programs, including Boston, Chicago, Denver, Los Angeles, San Francisco and Washington, D.C. Earlier precedents are more often from suburban jurisdictions, especially including many in New Jersey, where there is extensive case law and precedent. Since 1987, New York City has had a limited, optional inclusionary zoning program, applicable in R10 zoning districts, only.
4. The Department of City Planning (DCP) advocates employing zoning to regulate use and density, and placing the cost of providing affordable housing on the public generally (through tax incentives or housing subsidies), rather than on developer exactions or incentives. DCP points out that the City's subsidized housing programs are targeted at a range of income groups, while inclusionary housing programs in other municipalities have generally benefited middle-income families above others. Recently, DCP has endorsed compromises combining inclusionary housing incentives with public subsidies.

Incentives or Mandates

5. Our analysis of a generously sized hypothetical site indicates that a bonus program could not generally

work without relaxation of other zoning constraints, in particular on-site parking requirements. (Interestingly, underground and structured parking proved viable on sites large enough for efficient layouts, in locations where there is market support for garage fees.) Only in the highest density zoning districts—R9 and R10—could a 20% FAR bonus be generally utilized without changes to parking, bulk or height restrictions.

6. Developers point out that for zoning (and financial) incentives to work in concert with an as-of-right zoning regime, they would have to be significant, timely and predictable. The table below summarizes our analysis of a Quality Housing midrise in a lucrative outer borough setting. It shows that an incentive ratio of one more market rate unit for every one affordable unit provides far too little incentive in and of itself.
7. Economic theory suggests that the added cost of mandatory inclusionary housing will eventually lead to lower land values, as developers back into lower purchase prices for land. In the short term, the marketplace will be disrupted, as alternative uses appear more competitive, developers who already own sites realize lower revenues than anticipated, and landowners hold out for their earlier, higher expectations of land value. In our financial analysis of a Quality Housing mid-rise in a lucrative outer-borough setting, a set aside as low as 10% reduced land value by a substantial amount (more than 50% for rentals). That suggests that non-residential uses of property will become more attractive and that such a mandate will have an adverse effect on housing creation.
8. Affordable housing mandates could confound developers venturing into new market settings and building on waterfront and formerly industrial sites. New market settings require higher profits to offset greater risks. Waterfront sites involve higher costs for required public amenities and infrastructure. Industrial and many commercial (e.g., gas station) sites have premium and unpredictable expenses for environmental remediation. These compounding costs are not incremental—i.e., easily absorbed within the anticipated range of construction costs. They are structural and thus affect the developer's assessment of land value and risk.

Opt-Out and Off-Site Provisions

9. Opt-out provisions allow the developer to pay into an affordable housing fund in lieu of providing the required units directly. It is, in effect, a “linkage fee” that raises money for local housing programs. Off-site provisions allow the developer to build the affordable housing units on another (usually lower-cost) site within a set geographic range.
10. Opt-out and off-site provisions offer welcome flexibility. The entire property can be built for market-rate housing, allowing the developer to realize a greater value. The complication of providing affordable units in an ownership project is avoided. The opt-out option is especially appealing by virtue of its transactional simplicity. However, for project financing to be improved, the cost to the developer for opt-out and offsite must be less than the total cost of development for the affordable units. (The financial analysis prepared for this study assumes the full cost burden.) Otherwise, it is more advantageous to provide the affordable units on-site so as to recapture at least some of their costs (even if at lower margins).
11. The opt-out and off-site options also provide the ability to promote small developments, infill housing, housing rehab, and other programs where federal and State sources are not easily employed. The opt-out option could provide added revenue for affordable housing programs. The off-site provisions would lead to more joint ventures involving not-for-profit housing developers.
12. The optimal geographic constraints for the opt-out and off-site options hinges on the relative importance of providing the maximum number of units (which argues for the widest possible geographic range to reach less expensive sites), or of offsetting local gentrification and promoting economic and racial integration (which argues for a smaller geographic range shaped by community board or neighborhood boundaries). Other technical, but surmountable details involve safeguards that the opt-out fee remains current; that the off-site option is in fact carried out; and that these fees do not simply disappear within the City’s overall budget.

Rental Programs, Ownership Programs, Permanently Affordable Housing, Flexible Income Targeting

13. Most jurisdictions that have inclusionary zoning programs apply them to both rental and ownership developments. Affordability is usually defined as rents not exceeding 30% of a household’s gross income. Income eligibility is determined by municipal policy goals, but generally range from 50% to 200% of Area Median Income (AMI), with 80% and 100% of AMI most common. In New York City, the AMI is presently \$62,800 for a family of four.
14. Inclusionary housing programs that treat rentals and condominiums equally will likely tip the housing market further toward condominiums, according to our financial analysis. Counterweights will prove tricky and pose trade-offs. The market is now singularly favorable to condominiums; yet, the reverse has often been the case. Many developers may prefer the simplicity of condo development; others are interested solely in rental housing due to their financing sources. It is often easier to market rental projects in new market areas. Rental programs are better suited than ownership programs for reaching lower-income households. Ownership programs provide low- and moderate-income households an opportunity to obtain the equity appreciation of homeownership, if the affordability of units is not mandated for an extended time. Home ownership has also been found to be associated with other neighborhood and family benefits.
15. The duration of affordability also involves trade-offs. Some argue that since the housing development (with its extra density) is permanent, so should the affordability mandate. On the other hand, permanent affordability may dampen enthusiasm of rental developers (who would look askew at a permanent obligation), and also affordable homebuyers (since they, too, would not realize increases in value from the turnover of affordable units).
16. “Flexible targeting” involves a menu of options where the higher the income for the targeted population, the greater the obligation for the development. Flexible targeting is especially useful in developments involving financial funding sources that have their own income eligibility requirements.

(For example, NewHOP targets households earning no more than 165% of AMI; while the federal tax-exempt bond program targets households earning no more than 50% of AMI.)

Parking, Height and Bulk Controls

17. Zoning is a restrictive regulation. If more housing is wanted, it is necessary to relax the restrictions. Different observers and communities will have different preferences for relaxing parking, height, setback or open space requirements. This consideration is especially important if a bonus approach is used to promote inclusionary housing (though it also relates to housing production in general). The ability of sites to accommodate FAR bonuses as large as 20% differs from district to district and from site to site. An expanded voluntary inclusionary program would require significant additional research and modeling to see which other zoning controls are best relaxed in which districts.

18. Parking requirements represent an underappreciated zoning constraint. They limit the ability of development to realize the full FAR of their sites; often create less efficient building layouts; and in certain circumstances even count as floor area. The Zoning Resolution decreases the amount of parking required as permitted density increases, with parking being altogether optional in Manhattan below 96th Street. Parking requirements are reduced for small zoning lots in R6 districts, housing for the elderly, Quality Housing development, and government-assisted housing. Thus, there is precedent for reducing the parking requirement for inclusionary housing units. This would, however, add to the inconvenience of neighborhood residents as an increased number of residents join in the search for on-street parking.

19. The underground parking alternative is very expensive (typically \$30,000 per space), as well as inefficient on smaller sites. Underground parking might itself require incentives in areas outside Manhattan, where the market rate for rental of parking spaces is not as lucrative. Less expensive above-ground solutions pose design challenges: lower-floor layout inefficiencies; blank streetwalls; and less or worse open space for residents. Design guidelines can be used to offset these problems.

20. Shared parking could be promoted where there is a mix of uses. Offsite parking could be allowed, close or even far from the development. The two might be combined. After all, one-third of the city's car owners do not use their vehicle for commuting purposes. Offsite parking raises concerns about shifting the environmental and visual impacts of parking from one area to another.

21. Easing setback requirements or adding height can create additional floor area and units. Other municipalities have different means of achieving their setback and open space objectives; but none to our knowledge have explicitly eased such requirements in connection with affordable housing. Relaxing height restrictions is a more common tool for encouraging affordable housing. In New York City, potential ways to relax height range from allowing floor area in attics in lower density districts, to easing sky exposure planes, to simply allowing additional floors—which can increase project revenue by creating more units with views. The benefit of the incentive must be weighed against an urban design impact that might create structures that do not conform to the local context.

Comparison of Residual Land Value under Different Scenarios
R6 Zone; 30,000 SF lot yielding a building of 90,000 ZSF
(Dollars per maximum buildable ZSF)

<u>Scenario</u>	<u>Rental Apartments</u>	<u>For-Sale Condominium</u>
Baseline	\$ 31.00	\$ 91.00
20% Bonus, 10% Inclusionary, @ 80% AMI	\$ 19.00	\$ 73.00
20% Bonus, 10% Inclusionary, @ 135% AMI	29.00	84.00
10% Mandatory Inclusionary, @ 80% AMI	\$ 15.00	\$ 67.00
10% Mandatory Inclusionary, @ 135% AMI	\$ 24.00	\$ 78.00
10% Off-site Inclusionary, @ 80% AMI	\$ 9.00	\$ 72.00
Baseline with Structured Parking	\$ 27.00	\$ 90.00
10% Mandatory Inclusionary, @ 80% AMI with Structured Parking	\$ 11.00	\$ 66.00
20% Bonus, 10% Inclusionary, @ 80% AMI with Structured Parking	\$ 15.00	\$ 71.00

The table above summarizes the results of a test case involving a Quality Housing mid-rise in a lucrative, outer-borough setting. The table tests the residual land value (on a per buildable square foot basis) of different assumptions. Residual land value was picked since it can represent a constant measure of value. The baseline assumes market-rate housing, with no inclusionary

or other requirements. The table shows that for-sale condominium development far exceeds rental housing; and that inclusionary housing has some dampening effect on project finances. With either a zoning bonus or higher incomes, it is possible to recapture some of the lost value. See Appendix 4.C. for explanation of assumptions.

Introduction

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Introduction

Background

This Manual presents the key elements and trade-offs associated with inclusionary zoning and related zoning options to promote new housing development, and particularly affordable housing development, in New York City.

The Manual is the second in a series of five documents being prepared by the Steven L. Newman Institute of Baruch College, under assignment to the Public Advocate of the City of New York, and on behalf of the City Council. The other documents are:

- Part 1 Report—A briefing book presentation of the trends, dimension and basic reasons for the affordable housing crisis; and an inventory of the programs now available to produce affordable housing.
- Part 3 Report—Recommendations not only on the inclusionary and related zoning options considered in this report, but also presentation of an ambitious concept to vastly expand affordable housing production.
- Part 4 Atlas—A new atlas of the City of New York, showing by census tract the availability of land for redevelopment. This is a joint effort of the Newman Institute and the Center for Advanced Research of Spatial Information of Hunter College.
- Part 5 Anthology—A compendium presenting the affordable housing programs of jurisdictions from across the nation.

A team of housing, financial, design and planning experts recruited by the Newman Institute prepared this Manual. The key inputs were:

- Prototypical building designs under different zoning assumptions.
- Cost estimates for these building prototypes.
- Financial analyses (“proformas”) for both rental and condominium housing.
- Examination of the regulatory approaches of other municipalities.
- Review of recent reports and studies prepared by government agencies, policy and advocacy groups, in particular the NYC Department of City Planning’s Zoning to Facilitate Housing Production (1996).
- Review and comment from a Developers Advisory Panel and a Community Development Advisory Panel. (Refer to the above list of panel members.)

- Comment by City agency staff and civic leaders as the report was prepared

The team’s interdisciplinary approach has allowed an integrated focus on a variety of issues. How does New York City’s as-of-right zoning regime compare with techniques used in other large cities or by suburban jurisdictions? What major zoning controls, such as height, setback and open space requirements, would have to change in order to facilitate additional housing creation? What strategies can be pursued to reconcile the city’s chronic shortage of automobile parking with its need for affordable housing? What inclusionary housing policies are technically feasible and financially viable?

Throughout, we have striven for an understandable presentation of the regulatory alternatives and their trade-offs. The City of New York has developed an elaborate structure of zoning controls and construction codes; its particular components are aimed at promoting the safety and comfort of residents or at minimizing the adverse impacts of new development on nearby properties. Every regulation has, or once had, a political logic that compelled its adoption. It is unrealistic to think that any reforms that could have a material effect on housing creation would be costless. In this document we have sought to identify honestly the potential benefits and costs of different reforms, and to analyze who would realize those benefits and bear those costs.

This Manual offers no recommendations and articulates no policy preferences. It is intended to establish a foundation of agreed-upon facts and unbiased analysis to inform the decisions of elected officials, to lay a groundwork for future work of the Newman Institute, and to facilitate the public debate on affordable housing. In each section, we have identified the most significant policy variables and presented the regulatory options and their benefits and costs in a systematic manner. Part 3 of the Report, now under preparation by the Newman Institute, will offer ideas and recommendations for encouraging new market-rate and affordable housing development.

How to Use This Manual

Zoning reform to encourage affordable housing presents a formidable challenge to New York. The City’s zoning ordinance is perhaps the most complex in the

nation; construction costs are much higher than the norm; the city does not have one but many different housing markets; and many community districts have the population, size and political individuality of a small American city.

It is our expectation that should the City politic chooses to aggressively promote affordable housing creation through zoning and land use reform, it will not be with a single palliative but with a kit of tools that provides the needed flexibility to respond to different design, zoning district, neighborhood and market variables. That is where this Manual comes into play.

The focus is on “inclusionary zoning” tools, with consideration of related zoning techniques. (Standardized building codes and liberalizing the Multiple Dwelling Law are discussed in Appendix 4.A. as they bear on—but are not central to—the discussion of zoning options). These include:

- Incentives versus mandates to build affordable housing in connection with market-rate housing (inclusionary zoning).
- Off-site and opt-out options to provide developers with other outlets to satisfy their affordable housing obligations under inclusionary zoning.
- The rental and ownership, duration-of-affordability and income-mixing options under inclusionary zoning.
- Relaxing height, setback, open space and especially parking regulations that constrict the ability to take advantage of inclusionary housing incentives. (Note that these rules also restrict housing production in general.)

A regimen was employed for each zoning element discussion. Each tool is defined and explained. The likely marketplace repercussions are discussed, followed by an analysis of how the costs would be distributed—since nothing comes free or without consequence. This leads to a summary of the trade-offs, with frequent reference to how the benefits may be amplified and the disadvantages offset. Local and national precedents are enumerated, though their applicability to New York City will vary widely. None of these municipalities combine New York City’s range of market settings, high construction costs, complex zoning, yet as-of-right zoning regime.

This Manual has been designed and illustrated so that users can focus on particular options and issues. It is

intentionally brief and dispassionate. One purpose of the precedents is to make it easier for the Manual’s users to pursue further research. The Manual’s key value is to establish a mutual understanding of the terminology, elements and trade-offs associated with each alternative.

The zoning tools discussed represent the current “state of the art.” As the city and nation gain experience, our collective knowledge of their efficacy and unintended consequences will be enriched. This implies that this Manual can and should be updated periodically.

Specifically, the following planning considerations should be explored, and potentially will be in Report 3: mixed-use buildings in commercial corridors; transit-oriented development; the rezoning potential of manufacturing districts and other areas; neighborhood planning and community revitalization issues; an assessment of the effect on the built context resulting from the relaxation of the parking, height and setback and density regulations; the development characteristics of the R5 and possibly R8 zoning districts; and the relevance of green architecture, handicapped access and several similar issues for affordable housing production.

Key Assumptions

In order to allow comparison of the trade-offs of each alternative, we have adopted a common set of design, cost and financial assumptions. These relate in particular to the diagrams and proformas employed in this report. These assumptions are as follows:

The financial (proforma) analysis tests an R7 Quality Housing development, employing the prototype described later. This midrise prototype was selected since R7 is prevalent in the outer-borough areas where real estate pressures are now pronounced. The Quality Housing regime was selected since it is generally preferred over its tower alternatives.

The profit ratio for developers is not variable; i.e., we assume that profit requirements are determined by competitive pressures and risk factors that are not subject to influence by public policy. Developers vary widely in terms of their profit expectations—which are shaped by risk, investment alternatives, financial conditions, and individual or corporate financial goals. Those factors cannot be influenced by local policy. If

a developer's financial goals cannot be met by developing housing in New York City, they can and will apply their capital and expertise to activities elsewhere.

A profit rate of 30% annualized return on equity was posited. This is a relatively generous assumption, but our investigation indicates that it is a realistic "hurdle rate" for housing development to be undertaken. It must be realized that housing development is a business fundamentally unlike manufacturing or public utilities—housing developers must quickly recover their capital or they will not long be housing developers, nor are the profit requirements analogous to returns on passive investments. A large part of a developer's profit represents returns to the specialized skill and entrepreneurial energy of the developing organization. Furthermore, if our assumed returns are somewhat higher or lower than the true industry standard, it will not seriously disrupt our analysis, insofar as the qualitative and quantitative analysis of the impacts of policy choices will remain similar.

Conservative hard costs were employed. We assumed non-union labor for low- and mid-rise construction; union wages for high-rise construction; and 10% higher construction costs on condominiums than rentals (to reflect the typically greater amenities and higher grade finishes demanded by the for-sale market). These assumptions are consistent with common practice in New York City. Developers consistently argue that there are no "standard" costs of housing construction—each site and project is different and presents unique construction challenges. We sought to incorporate cost estimates that allow for the idiosyncrasies of individual projects while still providing a realistic basis for evaluating housing economics.

Typical soft costs were employed at 20% of construction cost for rental, and somewhat less for condos since the cost of permanent financing is borne by purchaser rather than by the developer. It should be noted that we did not increase soft costs commensurate with the added complexity and risk associated with mixed-income housing or the added transaction costs for off-site, opt-out and other innovations.

Unusual site conditions were not included in the construction costs. Platforms, new infra-structure, brownfield remediation, park amenities, traffic mitigation, etc. are "ground costs" that vary widely from site

to site. Usually, developers will deduct these costs from the bid that they would otherwise make for the property. Sometimes, ground costs can be offset through public investment, e.g., for needed sewer and water lines. Often, these costs affect the developer's assessment of risk as much as his or her estimate of construction cost.

Apartment rents and sales values are based on those expected in the most marketable communities of the outer boroughs (such as Park Slope). These sites represent the new frontier for housing development in the city. It is assumed that if policy reforms are economically viable in those areas, they will also be viable in prime sections of Manhattan. On occasion we have tested the economic feasibility of certain policies in less-marketable, lower-income communities. That is to ensure that policies modeled for the city's most affluent markets do not have unforeseen adverse effects on the development of less-advantaged communities.

Residual land value served as the bottom line indication of project viability. "Residual land value" represents what a developer will bid for a property, after consideration of costs and revenues, under conditions of normal market risk. Where the residual land value is negative, a project is patently infeasible without direct subsidy. Where the residual value is low, a project is likely to be less profitable than alternative uses (e.g., offices in Lower Manhattan, parking in Midtown, and taxpayer retail or industry in the outer boroughs) and will probably not be undertaken. Where it is high, a project is likely to be pursued since, as noted, we have adopted generous profit ratios and conservative cost estimates. There is, however, no magic residual land value above or below which certain actions will occur—every landowner will have unique and unobservable expectations for each development parcel.

The financial analysis tests a 10% set-aside at 80% and 135% of Area Median Income (AMI), which in New York City is \$62,800 for a family of four. These targets are relatively modest compared to what many proponents are arguing for, but are fairly consistent with what a great many municipalities employ.

The financial analysis generally assumes minimal cost recovery from the affordable units, with the exception of the off-site scenario where no cost

recovery is assumed. Cost recovery refers to the revenue (rental or sales) generated by the affordable units. The off-site option excludes cost recovery based on a worst-case assumption that developers will pay the full freight in terms the development costs of the affordable units. In fact, this amount may be negotiated.

In some cases it may be advantageous for developers to couple inclusionary rental programs—with or without a density bonus—with federal tax-exempt financing or local tax incentives. Whether they can do this depends on the inclusionary zoning rules and regulations and prevailing market and financial conditions. However, our mid-rise, outer-borough test case analysis indicates that under the conditions prevailing in New York City in late 2004, if a 10% inclusionary requirement were imposed at 80% or 135% of AMI, developers would not generally benefit from seeking tax-exempt financing, which requires 20% of the units to be affordable at 50% of AMI. These stricter proportions and income requirements seem to work only under the most favorable conditions, as found in Manhattan.

For zoning analysis, a single prototypical site was defined—comprised of 150-foot deep lot, spanning the entire 200-foot width of an average city block. At 30,000 square feet, this site is large enough to accommodate a small low-rise development, 90,000 square foot contextual mid-rise development, and typical contextual high-rise development. As a generous corner lot, this prototypical site provides design flexibility. Admittedly, such sites are rare in New York, although assemblages of that size may be found in areas rezoned from industrial uses. More importantly, it is a conservative analytical assumption; any difficulties encountered with accommodating existing or additional density on those sites would only be greater for smaller and mid-block sites. Moreover, the use of a single site eases visual and analytical comparison of different density and design regimes. (The prototypical site is illustrated on the last page of this chapter.)

Only four out of the City's 40+ residential zoning classifications were tested from a design perspective: R4 low-density, R6 and R7 mid-density, and R9 high-density. These four districts are common to the entire city (unlike, for instance, R8, which is relatively rare, and which has been amply looked over in connection with the proposed rezoning of Greenpoint/Williamsburg).

The Quality Housing regime was employed for the mid-rise prototypes, since it is more prevalent than its tower alternative. The parking obligation was estimated at 50% of the units, consistent with zoning, with the discounting forgiven as to the number or arrangement of parking. This is strictly private, for-profit ventures, albeit with an affordable housing component.

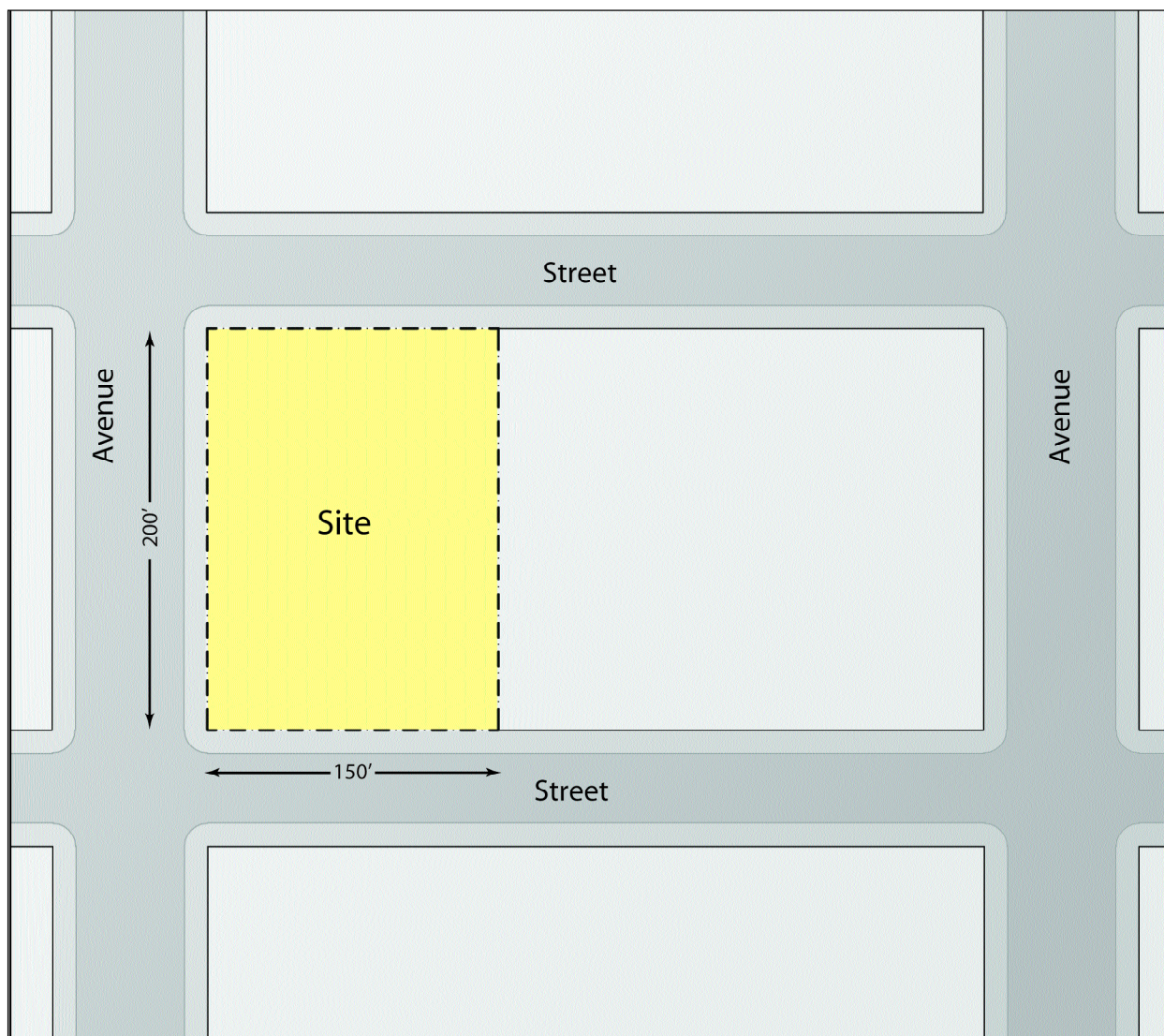
Three basic design archetypes are illustrated, corresponding to typical low-rise (for the R9), mid-rise (for the R6 and R7) and high-rise (R9) housing. Even with only four zoning districts applied to only one prototypical site, the alternative designs could have been infinite in their variety—but for one factor: developers have fallen into patterns in how they maximize the amount of building bulk and dwelling units on a given site, as well as the generally preferred construction methods for that particular form. Existing buildings could have been pictured, but then the Manual's user would have been prejudiced by design taste. While each design can be elaborated upon, the diagrams ease comparative viewing of the alternatives.

Diagrams and cost estimates were not prepared for adaptive reuse and rehabilitation. Most loft buildings exceed the existing the Floor Area Ratios (FAR) that set density, and most rehabilitation does not involve new penthouses or additions. There is no real "before" and "after" to illustrate. Also, there is a world of difference between the costs of remediation of a building used for furniture or chemical storage; or between the costs of a building in sound or derelict condition. The user of this Manual could, however, infer some cost and financial assumptions from the pro formas prepared for the mid-rise option. Generally, loft conversions (the most common form of adaptive reuse) and substantial rehab (the most relevant form of rehabilitation) cost somewhat less than new construction; and the unusual costs (e.g., for landmark restoration, fixing sick building syndrome, etc.) can analytically be ascribed to the ground cost.

There is an intentional omission of case studies and references to specific projects. Case studies have an important role to play in public policy analysis, but to achieve the purposes of this document we adopted a more generalized approach. We sought to define a baseline of policy analysis that would be applicable in every area of the city and could be used to evaluate the effects of policy choices in each.

Economic and planning issues—not just affordable housing considerations— are illuminated. The principal focus of this project, as defined by the Public Advocate, is affordable housing. Yet affordable housing policies must be made in the context of a dense and complex city, in which the quality of neighborhood environment for all residents must be considered.

Prototypical Site



Zoning diagrams in this report place low, midrise and high-rise buildings on a generic site of 30,000 square feet with a width along an avenue of 200 feet and a depth along two streets of 150 feet. Sites of this size and simple rectangular configuration are becoming rare in New York City's residential zones, though they are prevalent in industrial and waterfront areas now targeted for rezoning and redevelopment. Sites otherwise tend to be smaller, irregularly shaped, or mid-block. Thus, any difficulties encountered with this prototypical site would surely apply to the others; though the converse might not have been the case. The buildings shown using this prototypical site are not specific recommendations on building mass and bulk, but rather illustrations of general ideas of mass-

ing to illustrate various zoning concepts. R4, R6, R7 and R9 zoning districts were chosen for study in that these districts correlate with low-, mid- and high-rise buildings respectively.

1: Inclusionary Zoning

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1: Inclusionary Zoning

Background

Inclusionary zoning is a technique for encouraging private development of affordable housing through local zoning policy. The nation's earliest inclusionary zoning programs date from the 1970's; they are most common in suburban areas of California, Massachusetts, and New Jersey. Initially, they were seen as a means of offsetting housing price barriers that had exclusionary effects, thereby promoting racial and economic integration. With booming real estate prices since the mid-1990s, many municipalities began to see inclusionary zoning primarily as a means of creating affordable housing. Recently, a number of large cities have adopted or began considering inclusionary zoning programs, including Boston, Chicago, Denver, Los Angeles, San Diego, San Francisco, and Washington, D.C. New York City has had a limited inclusionary zoning program, applicable in R10 zoning districts only, in effect since 1987.

Inclusionary zoning programs typically require a certain percentage of the dwelling units or square footage of a residential development to be affordable to households earning under a certain percentage of the Area Median Income (AMI, in New York City currently \$62,800 for a family of four). The programs can be either voluntary or mandatory, rental or ownership, on-site or off-site. Affordability requirements can be temporary or permanent, fixed or flexible. Both voluntary and mandatory programs often offer developers density bonuses as an incentive or cost offset. Many programs allow payments in-lieu of actual construction. These policy variables can be combined numerous ways, creating a wide variety of municipal approaches.

This section analyzes key inclusionary housing policy variables in the New York City context, emphasizing the way the programs can be structured, the trade-offs involved in different approaches, the probable market impacts, and how the costs are shared.

Although financial analysis can inform the legislative or planning body devising the inclusionary program, it cannot determine for certain what combination of policy variables is the "right" one. That is because market and financing conditions vary from site to site and

from time to time, so no set formula will be optimal for every situation. Ultimately, planning officials must make an informed political judgment when devising program parameters.

In the financial calculations supporting this analysis we have adopted a "land residual" approach. This conforms to economic theory and experience that suggests that much of the cost of a mandatory inclusionary zoning program, or much of the benefit of a voluntary one, will be capitalized into land values. It is a simplification of real-world circumstances that cannot be interpreted literally; all of the costs or benefits may not be capitalized into land prices, for reasons discussed on the following pages. Still, it is an analytical device that permits a consistent basis for comparison among alternative scenarios.

Similarly, for our architectural analysis of inclusionary bonus options, we have evaluated a standardized site in several standardized zoning districts. (Refer to the Prototypical Site Diagram at the end of the Introduction.) In practice, there are many zoning districts and subdistricts, and many different site configurations, producing an innumerable set of combinations. Our analysis is therefore only indicative of the types of issues that will arise if an inclusionary zoning program is widely implemented in New York City.

A. Voluntary Inclusionary Programs

The most significant—and controversial—policy variable in inclusionary housing programs is whether the program is voluntary or mandatory. Generally, housing developers prefer voluntary programs because they retain their existing development rights while receiving additional incentives to meet social needs. Those incentives, however, may entail fiscal or other costs to the jurisdiction, leading many of them to adopt mandatory programs (see next section).

A variety of incentives are used by localities to encourage participation in voluntary inclusionary housing programs. Most frequently offered are tax abatements, fee waivers, expedited permits and approvals, reduced parking requirements, relaxed height and setback rules, and zoning density bonuses. Federal tax-exempt bond financing and New York City's 421-a tax abatement program within core Manhattan, both of which require 20% of dwelling units to be affordable, are familiar examples of tax-based inclusionary housing. Our discussion relates only to programs that offer density bonuses through zoning codes, which will be referred to as "inclusionary zoning."

Elements of Voluntary Programs

The simplest form of density bonus is a percentage increase in the allowable number of housing units or buildable square feet on a site. In general, the density bonus must be significantly greater than the affordable housing requirement, or it doesn't provide an incentive for builders to voluntarily participate. For example, a program could offer a 20% increase in the allowable units on a site or within a subdivision in return for 10% being set-aside for affordable housing. Or it could offer a 20% increase in buildable floor area in return for 10% of the floor area set aside for affordable housing. Density incentives based on the number of dwelling units are usually expressed in round percentages (i.e., 5%, 10%) that correspond to distinct set-aside requirements (one-in-twenty, one-in-ten, etc.), while those expressed in buildable square feet can be set at virtually any ratio.

Another form of density bonus permits a set number of additional square feet of buildable area per square foot of affordable housing. For example, in addition to the normally allowed floor area ratio (FAR) on a site, a

developer could build three additional square feet of floor area for each additional square foot reserved for affordable housing. The total number of affordable housing square feet provided must, of course, be no less than the minimum size of a legal dwelling unit under the relevant codes or program standards. The total amount of bonused square feet would then be limited to, say, 20% of the underlying FAR.

One variable involves the targeted income group. Programs are designed to target households at a certain percentage of Area Median Income (AMI). These range from 50% to 200%, with the most common being 80% and 100% of AMI. (The proforma analysis presented later posits 80% and 135% of New York City's present AMI of \$62,800 for a family of four, equal to roughly \$50,000 and \$85,000 per family.)

In voluntary inclusionary programs, public subsidies may be coupled with density bonuses to make them more attractive to developers. (This is in fact the approach proposed by the Department of City Planning in Greenpoint/Williamsburg, as of this writing.)

Probable Market Impacts

Voluntary inclusionary zoning programs are unlikely to have any adverse impact on housing development because a developer can choose not to participate in the program and opt for the pre-existing zoning (assuming the underlying zoning is not changed when the inclusionary zoning provision is adopted).

In general, the more generous the density bonus, the larger the impact on housing production. In most plausible scenarios a voluntary program will add some increment to housing production because at least some developers will choose to participate in the program even if others do not. The maximum increment to production, however, is not necessarily the same as the incremental bonus. For example, a 20% density bonus can add more than 20% to housing production levels if the bonus makes more projects feasible.

Our financial analysis (see Proforma 1.A.1.) shows that under current market conditions, condominiums are the financially dominant form of market-rate housing development in mid-rise neighborhoods of New York City. The imputed land value for our baseline condominium development is \$91 per zoning (buildable)

square foot, compared to only \$31 for a conventionally-financed rental project, both assuming a “hot market” neighborhood outside of Manhattan. An inclusionary FAR density bonus of 20%, with a required 10% set-aside for households at 80% of AMI (in effect, where half of the additional density must be affordable), reduces the residual land value of the rental project by 39% and the condominium project by 20%. Our financial analysis also shows, for instance, that if the 10% set-aside is for households at 135% of AMI, the residual land value is reduced by 7% for the prototypical rental project and 8% for the condominium project.

We interpret these findings as suggesting that a bonus of this type would not be attractive to most and especially rental housing developers. In order to make a voluntary program attractive, either the affordable-set aside would have to be reduced below that in our hypothetical case, or the bonus density would also be increased, though that might incur community opposition, especially, as is discussed below, our analysis indicates that even a 20% bonus could generally not be used without relaxation of other zoning constraints.

As another option, inclusionary housing bonuses could be combined with financial incentives. There are many incentives that could be offered. We have analyzed the case where a developer would couple a 20% density bonus with tax-exempt bond financing, which requires a 20% affordability set-aside at 50% of AMI. We find that in our hypothetical Quality Housing case sited in a prime outer-borough area, where the FAR bonus imposes a 10% set-aside at 80% of AMI, a developer would not benefit from utilizing tax-exempt financing due to its stricter affordability requirements. The value of the land residual is about one-third lower than in the conventional financing case.

It should be noted that advantage of condominiums over rentals shown by our analysis is based on market and financial conditions prevailing in late 2004. Those conditions are subject to change. In particular, many housing analysts believe that an increase in interest rates is virtually inevitable in coming years, and that may bring the rental and ownership markets into a more familiar balance. Furthermore, demand for ownership housing relative to rental housing varies with the particular characteristics of each neighborhood.

Who Bears the Cost?

Builders will not bear any cost because they can choose not to participate in the program and landowners will not suffer because the market value of their land will be no less than the underlying zoning warrants. Buyers of market rate housing, either on the site or in the community at large, would similarly be unharmed and may even benefit, if increases in housing production due to the density bonuses are great enough to moderate prices throughout the local housing market.

The potential negative impacts of greater density are not likely to fall evenly on all members of the community. Some may live in areas in which the built environment and infrastructure can easily accommodate the additional density, while others may live in areas where the additional density is a noticeable disamenity. Furthermore, residents who live nearby a bonused project will more likely experience the adverse effects of greater density (if any) than those who live a greater distance from it.

Advantages of Voluntary Programs

The primary advantage of voluntary inclusionary zoning programs is that they can increase production of affordable housing without jeopardizing the creation of market-rate housing. If the incentives are not favorable, developers will simply choose not to participate. If the incentives are generous, production of both affordable and market-rate housing can be increased.

If the incentives are exclusively in the form of density bonuses and other zoning privileges, voluntary programs impose no direct monetary costs on landowners, developers, purchasers of market rate housing, or local government.

If greater building density is seen as a desirable policy goal given the City’s shortage of affordable housing and developable land, a voluntary inclusionary zoning program has the additional advantage of increasing housing density. Because the bonuses are awarded only to developers who commit to providing some affordable units, communities may be more receptive to the density increase than they would be to a conventional upzoning with no affordability guarantees.

Voluntary programs are unlikely to be challenged in

court, whereas mandatory programs are often subject to legal challenge. There is currently no clear legal doctrine in New York State relating to mandatory inclusionary zoning. Case law from other jurisdictions provides no clear direction. (This issue is addressed in Part 1 of the Report, published separately.)

Disadvantages of Voluntary Programs

Relaxing height and bulk controls in order to accommodate greater FAR would run counter to the general trend favored by communities toward contextual zoning and lower-density development. Furthermore, if greater housing density is a disamenity, the cost of it will be borne disproportionately by residents of nearby sites, rather than being shared equally by all of the jurisdiction's residents.

Our analysis of hypothetical site and building prototypes indicates that a bonus program could not generally be used by developers in New York City without relaxation of other zoning constraints. In fact, in some situations, parking, open space and setback requirements prevent developers from utilizing all the FAR they are currently entitled to as-of-right. (See accompanying Diagrams 1.A.2. through 1.A.9.) In mid-rise districts such as R6, although the allowable Quality Housing building envelope would generally permit the additional floor area, the bonus could not be used unless underground parking were provided, which raises building costs. In an R7 district, in addition to the parking constraints, a 70-foot height limit would also prevent a developer from utilizing a FAR bonus. In the highest density zoning district we modeled, R9, a 20% FAR bonus could generally be utilized on a generous site as depicted, but on mid-block sites lower height limits and lower lot coverage ratios would probably prevent the full bonus from being used. In some lower-density districts a FAR bonus may have economic value to developers. The need to carefully model the implications of density bonuses for other zoning parameters, and to alter or waive some of them in order to accommodate the additional FAR, is a significant disadvantage of the voluntary approach.

What New York City Does

New York City's existing inclusionary zoning program (sec. 23-90), which pertains to R10 zoning districts only, is a voluntary program that provides different FAR bonuses for different types of affordable housing. For on-site affordable units, it awards a developer 3.7

additional square feet of total floor area for each square foot of affordable housing provided. For off-site new construction the ratio is 4:1, and for off-site substantial rehabilitation the ratio is 3.7:1.

What Other Places Do

Austin, Texas implemented in 2001 a voluntary program that provides full or partial fee waivers and expedited approvals for projects with various percentages of housing affordable to households below 80% of AMI. Projects with 40% affordable units receive 100% fee waivers.

Denver's inclusionary program is voluntary for rental housing (Colorado law prohibits rent controls) and for projects of less than 30 units; density bonuses of up to 10% and reduced parking restrictions are available. Denver also provides subsidies of \$5,000 for inclusionary units affordable to households earning 65% to 80% of AMI, and \$10,000 for units affordable to households earning under 65% of AMI.

The City of Irvine, California had one of the nation's oldest voluntary inclusionary zoning programs, but it made its program mandatory in 2002.

Mamaroneck, New York, has a purely voluntary program that offers developers one additional market rate unit in return for each affordable unit provided, up to a maximum of 20% of the underlying zoning.

1.A.1. Proforma: Financial Comparison of Buildings without and with FAR Bonus

	Sources and Uses of Financing	Rental Apartments		For Sale Condominium	
		Total	/ZSF	Total	/ZSF
Baseline without Inclusionary	Sources				
	Debt	20,317,662	226	20,317,662	226
	LIHTC	-	-	-	-
	Subsidy	-	-	-	-
	Equity	3,400,000	38	10,600,000	118
	Total	23,717,662	264	30,917,662	344
	Uses				
	Land (Residual)	2,753,639	31	8,196,114	91
	Hard Costs	15,277,500	170	17,498,250	194
	Financing Costs	1,356,754	15	419,713	5
	Insurance/Taxes/Interest	704,578	8	704,578	8
	Other Soft Costs	1,719,372	19	2,033,412	23
	Development Overhead	1,905,820	21	2,065,595	23
	Total	23,717,662	264	30,917,662	344
20% Bonus, 10% Inclusionary, @ 80% AMI	Sources				
	Debt	22,953,221	213	22,953,221	213
	LIHTC	-	-	-	-
	Subsidy	-	-	-	-
	Equity	3,900,000	36	11,800,000	109
	Total	26,853,221	249	34,753,221	322
	Uses				
	Land (Residual)	2,104,886	19	7,878,872	73
	Hard Costs	18,333,000	170	21,001,050	194
	Financing Costs	1,532,598	14	473,024	4
	Insurance/Taxes/Interest	788,191	7	788,191	7
	Other Soft Costs	1,844,697	17	2,168,961	20
	Development Overhead	2,249,849	21	2,443,123	23
	Total	26,853,221	249	34,753,221	322
20% Bonus, 10% Inclusionary, @ 135% AMI	Sources				
	Debt	23,980,226	222	23,980,226	222
	LIHTC	-	-	-	-
	Subsidy	-	-	-	-
	Equity	4,000,000	37	12,100,000	112
	Total	27,980,226	259	36,080,226	334
	Uses				
	Land (Residual)	3,104,874	29	9,119,495	84
	Hard Costs	18,333,000	170	21,001,050	194
	Financing Costs	1,601,230	15	493,684	5
	Insurance/Taxes/Interest	820,773	8	820,773	8
	Other Soft Costs	1,858,954	17	2,194,248	20
	Development Overhead	2,261,396	21	2,450,976	23
	Total	27,980,226	259	36,080,226	334

Refer to Appendix 4.C. for explanation of the assumptions

This proforma is based on a Quality Housing mid-rise apartment buildings in an R6 zone located in a lucrative, outer-borough location (refer to Diagram 1.A.2.). R6 was picked as it is the most prevalent medium-/high-density district in the city; the Quality Housing regimen was picked since it is more often used from the tower alternative; and the outer boroughs were picked as they represent a new frontier for development.

Our analysis of a hypothetical site and financial proto-

type indicates that with today's favorable market conditions and low interest rates, mixed-income housing—indeed all apartment development—is far more profitable under condominium than rental arrangements. The impact of a 10% inclusionary housing requirement—even with a 20% zoning incentive—is much greater for rental than condominium development. Note that at a 20% bonus and 10% requirement, and assuming equal unit size, one market-rate unit is created for each affordable unit.

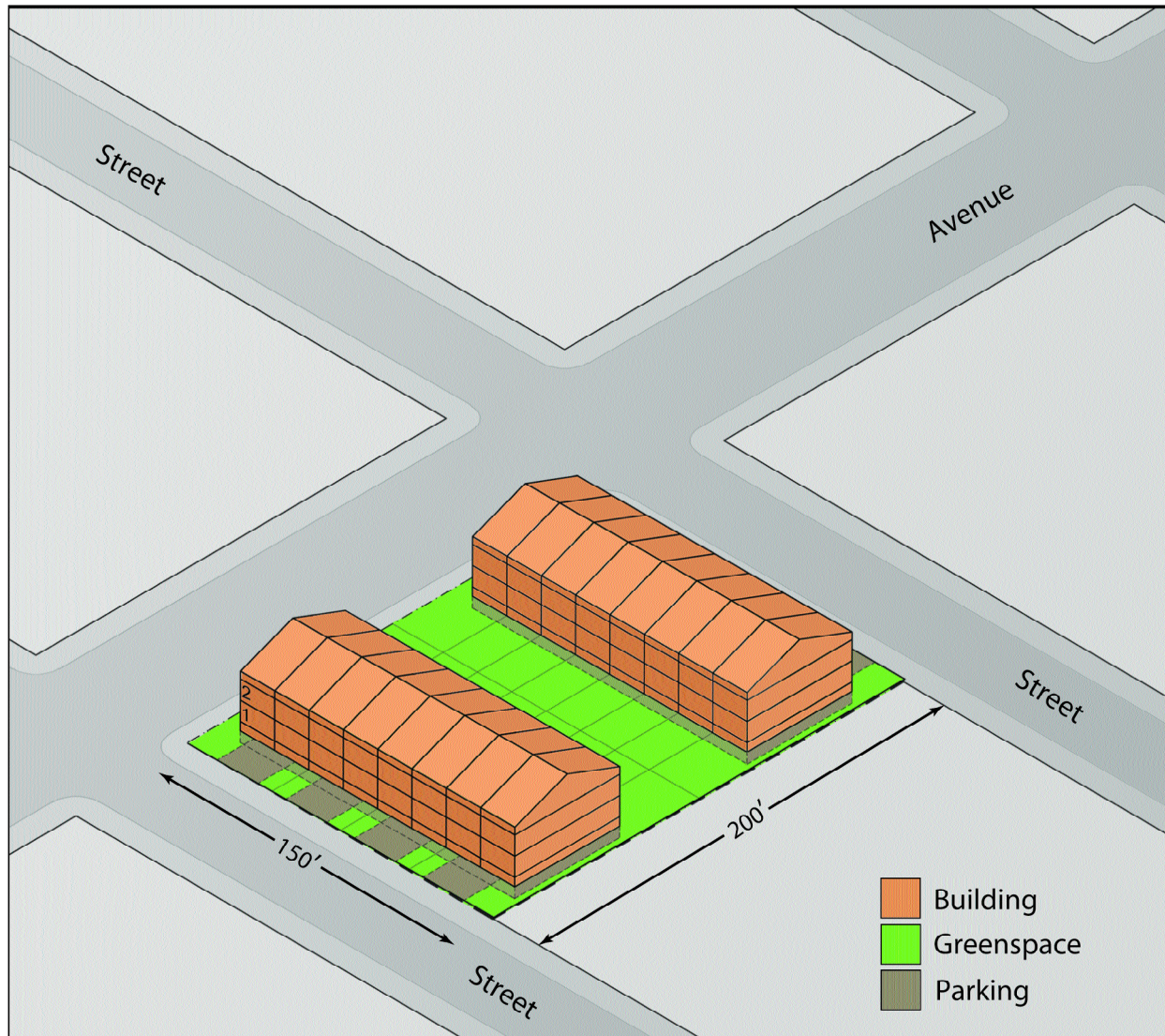
Inclusionary Zoning Bonus Diagrams

The following diagrams illustrate how concepts of providing a 20% bonus (additional floor area) in Voluntary Inclusionary Programs could manifest themselves in physical form. Using zoning districts R4, R6, R7 and R9, the diagrams show the massing of buildings under current zoning regulations in comparison to buildings designed with a 20% increase in allowable floor area. One prototypical site was employed (see the diagram at the end of the Introduction).

Our analysis of this hypothetical site and building prototypes indicates that a bonus program could not generally be used by developers in New York City without relaxation of other zoning constraints. In fact, in many situations, parking, height, open space and setback requirements prevent developers from utilizing all the FAR they are currently entitled to as-of-right. Only in the highest density zoning districts studied —R9— could a 20% floor area be generally utilized. In mid-rise districts, such as R6, the bonus would often be superfluous, with parking requirements the most serious constraint particularly given how rare underground parking is with these moderate-scaled developments. In some lower-density districts, an FAR bonus may create additional units and have some economic value to developers, again assuming the relaxation of some zoning controls. The need to carefully model the implications of density bonuses for other zoning parameters, and to alter or waive some of them in order to accommodate the additional FAR, is a significant disadvantage of the voluntary approach for the near term.

These diagrams are based upon the requirements of the current Zoning Resolution; though not all the diagrams comply with all requirements of the Resolution. The development scenarios presume that each project will be undertaken by for-profit developers without public assistance of any kind except those benefits currently available through as-of-right real property tax abatements and under the tax exempt bond financing scheme, from Federal income tax benefits provided to the bondholders. The Zoning programs of a Predominantly Built-Up Area and Quality Housing have been utilized in that they allow for the maximization of floor area in market-rate developments.

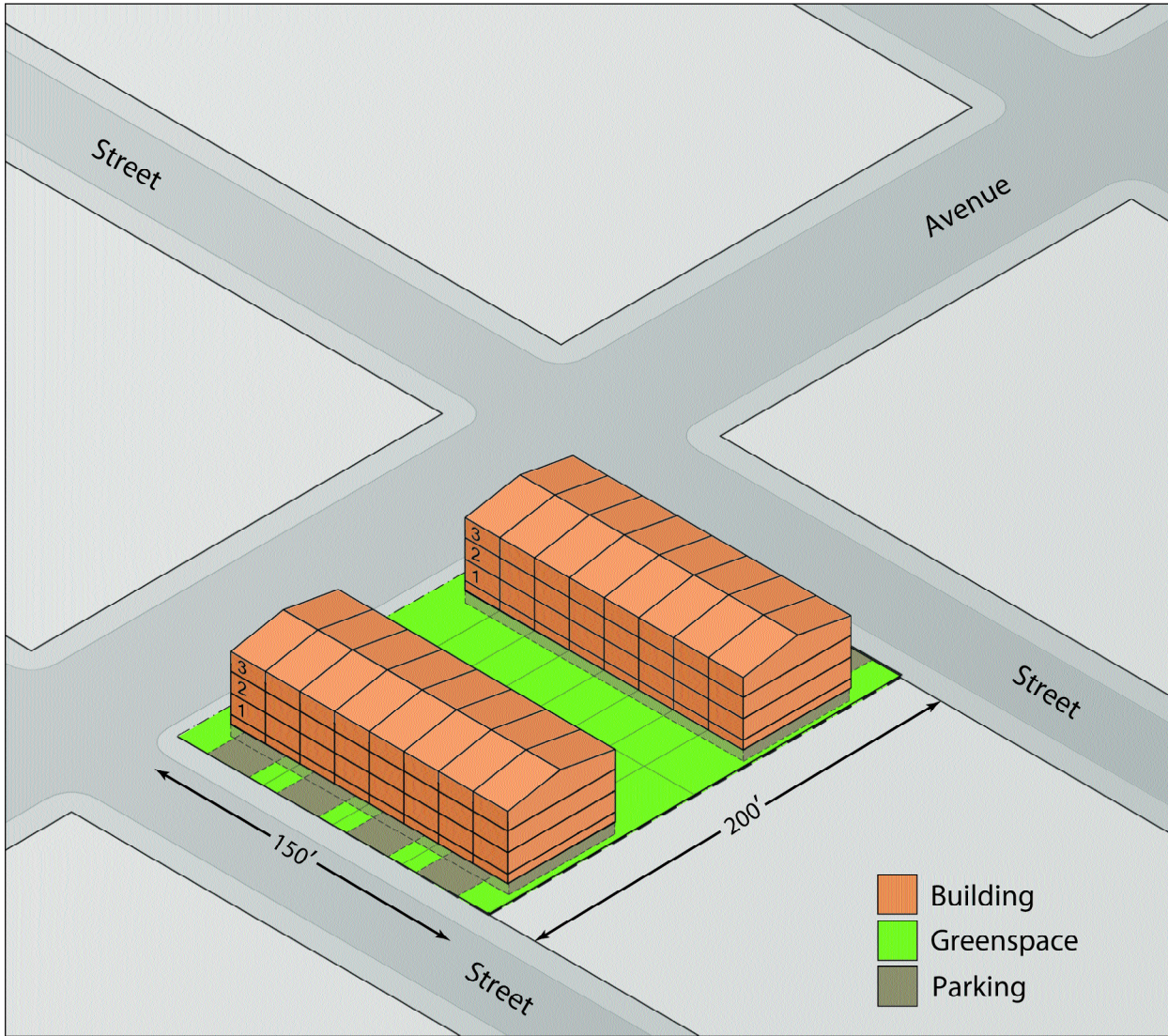
1.A.2 Diagram: R-4 Predominantly Built-Up Area without Inclusionary Bonus



The zoning category of a Predominantly Built-Up Area allows for 50 percent more floor area and dwelling units and less parking than the standard controls of a basic R4 district. Since many of the R4 districts are in Predominantly Built-up Areas, new infill development can take advantage of these possibilities as-of-right and is therefore in compliance with current zoning requirements. Here the number of required parking spaces is 66% of the number of dwelling units.

- R4 Predominately Built-Up Area Zoning District .
- 40,000 sq. ft. floor area, 2500 sq. ft. per house.
- 45 dwelling units in 16 attached houses: all are 3-family with the exception of three 2-family houses.
- 890 sq. ft. per unit.
- 20 parking spaces required, 20 supplied.
- Probable 3-family unit distribution: 0Br in basement, 1Br in first floor, 3Br in second floor & attic.
- 25% of units in 3-family houses must be accessible.
- In compliance with current zoning requirements.

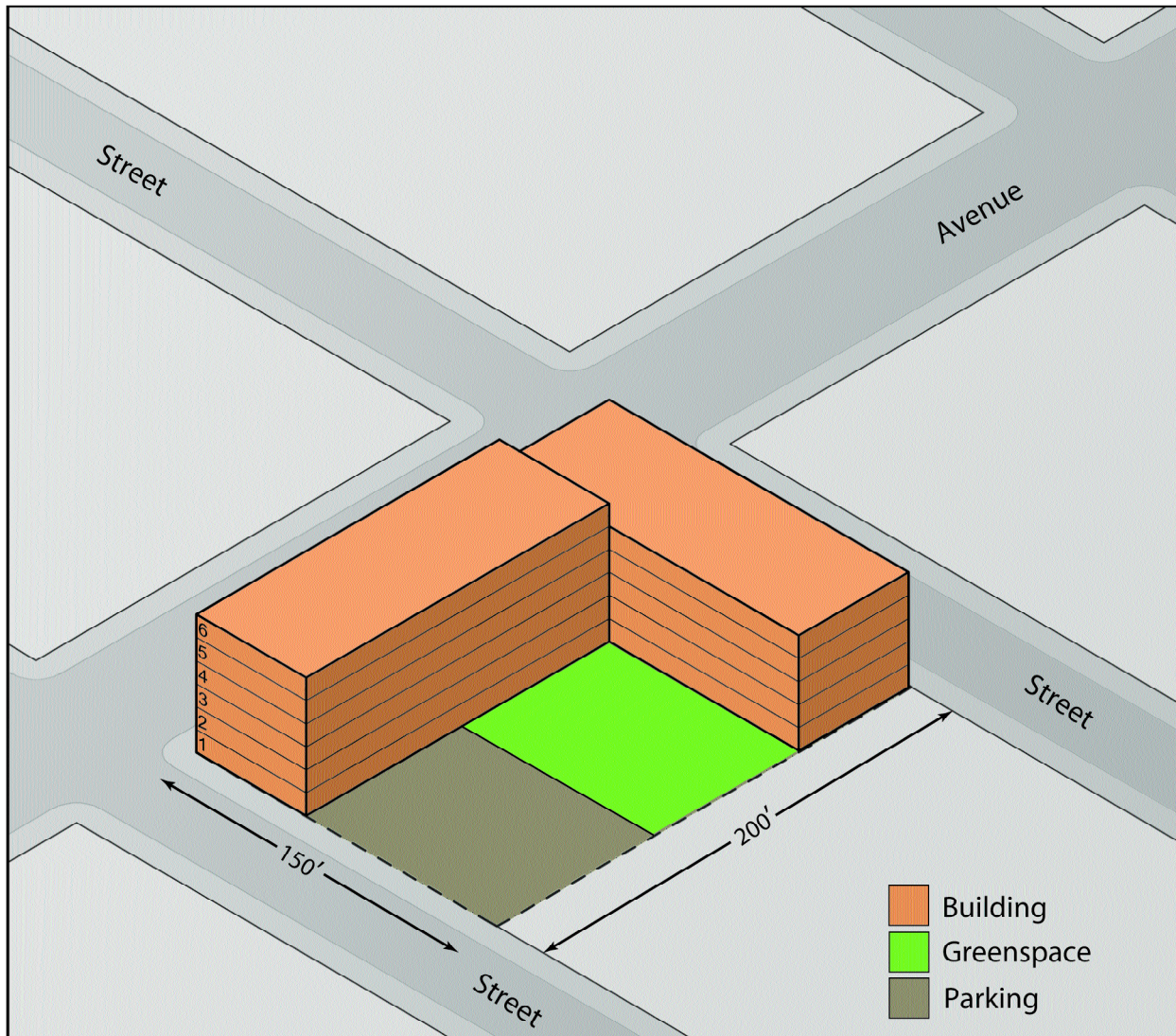
1.A.3 Diagram: R-4 Predominantly Built-Up Area with Inclusionary Bonus



This option shows 20 percent more floor area and dwelling units and less parking than than an R4 Predominantly Built-Up Area district resulting from an Inclusionary Bonus. To accommodate this additional floor area, zoning controls would have to be relaxed including the current maximum 25 feet Perimeter Wall Height would be raised to 28 feet and the Ridge Line changed to allow a portion of the roof to be non-sloping at a height of 35 feet. Here the number of parking spaces provided is 50% of the number of dwelling units, which is less than the requirements of the Zoning Resolution.

- R4 zoning district.
- 48,000 sq. ft. floor area, 3000 sq. ft. per house.
- 54 dwelling units in 16 attached houses—six to be 4-family and ten to be 3-family houses.
- 890 sq. ft. per unit.
- 20 parking spaces required, 16 supplied.
- Probable unit distribution: 4-family unit: 0Br in basement, 1Br in first floor, 1Br in second floor and 3Br in third floor & attic. 3-family unit: 0Br in basement, 1Br in first floor and 3Br in second floor & attic.
- Not in compliance with current zoning requirements.

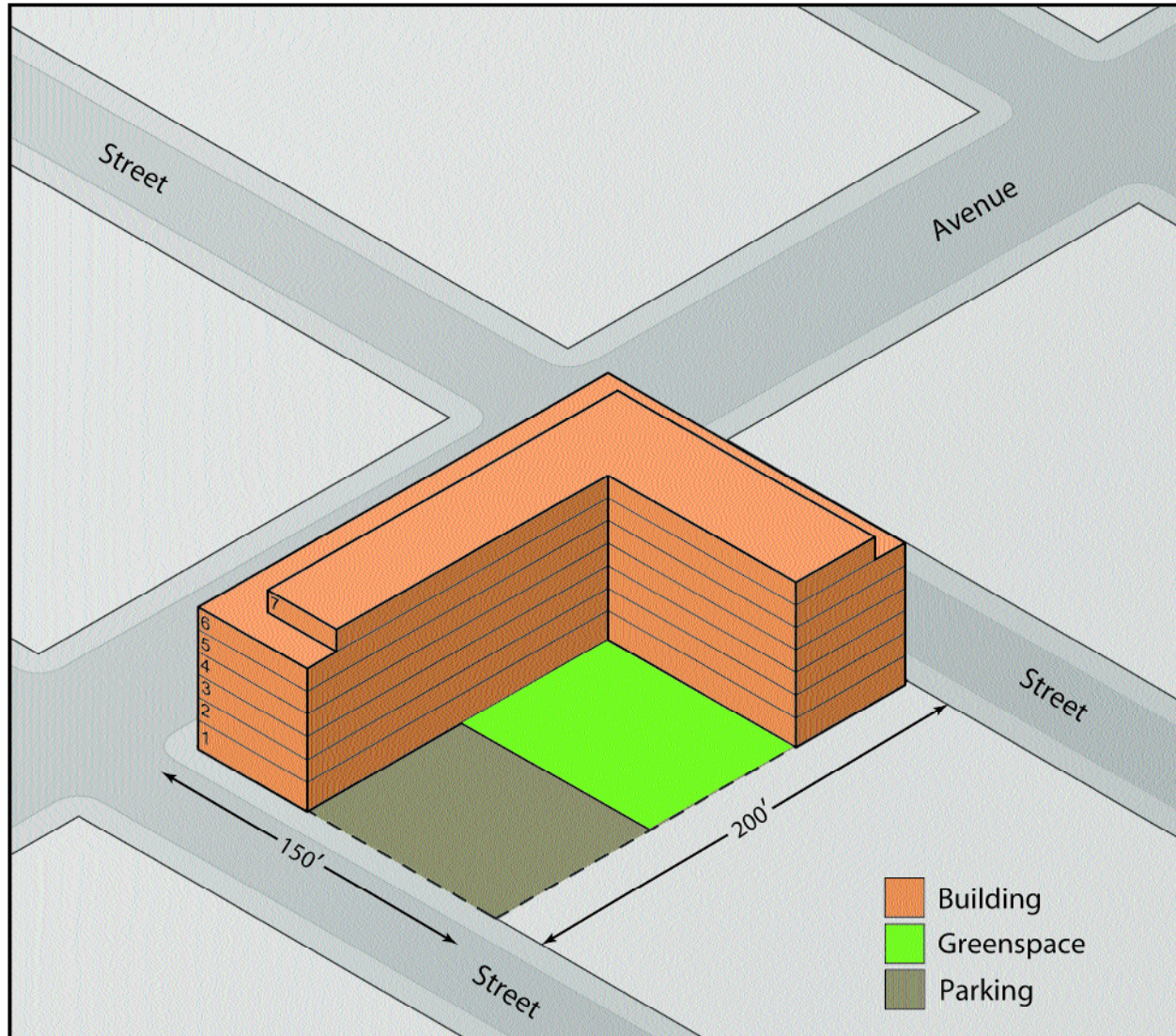
1.A.4 Diagram: R-6 Quality Housing without Inclusionary Bonus



This L-shaped building, designed per Quality Housing requirements, is primarily 6 stories on the Avenue and 5 stories at the Street and contains 99 apartments based on an average of 900 square feet per dwelling unit. The building (at 89,000 square feet) is 1000 square feet less than the maximum floor area allowed by the Zoning Resolution. The number of required parking spaces is 50% of the number of dwelling units, resulting in 50 spaces. In this option, where the number of dwelling units is maximized, parking at-grade can only be provided for 22 to 30 spaces, falling short of the required number. Due to zoning regulations, this shortfall cannot be accommodated by using more of the greenspace for parking.

- R6 Quality Housing Zoning District.
- 89,000 sq. ft. floor area.
- 99 dwelling units.
- 900 sq. ft. per unit.
- 50 parking spaces required, 22-30 spaces provided.
- Complies with Quality Housing requirements with the exception of parking controls.

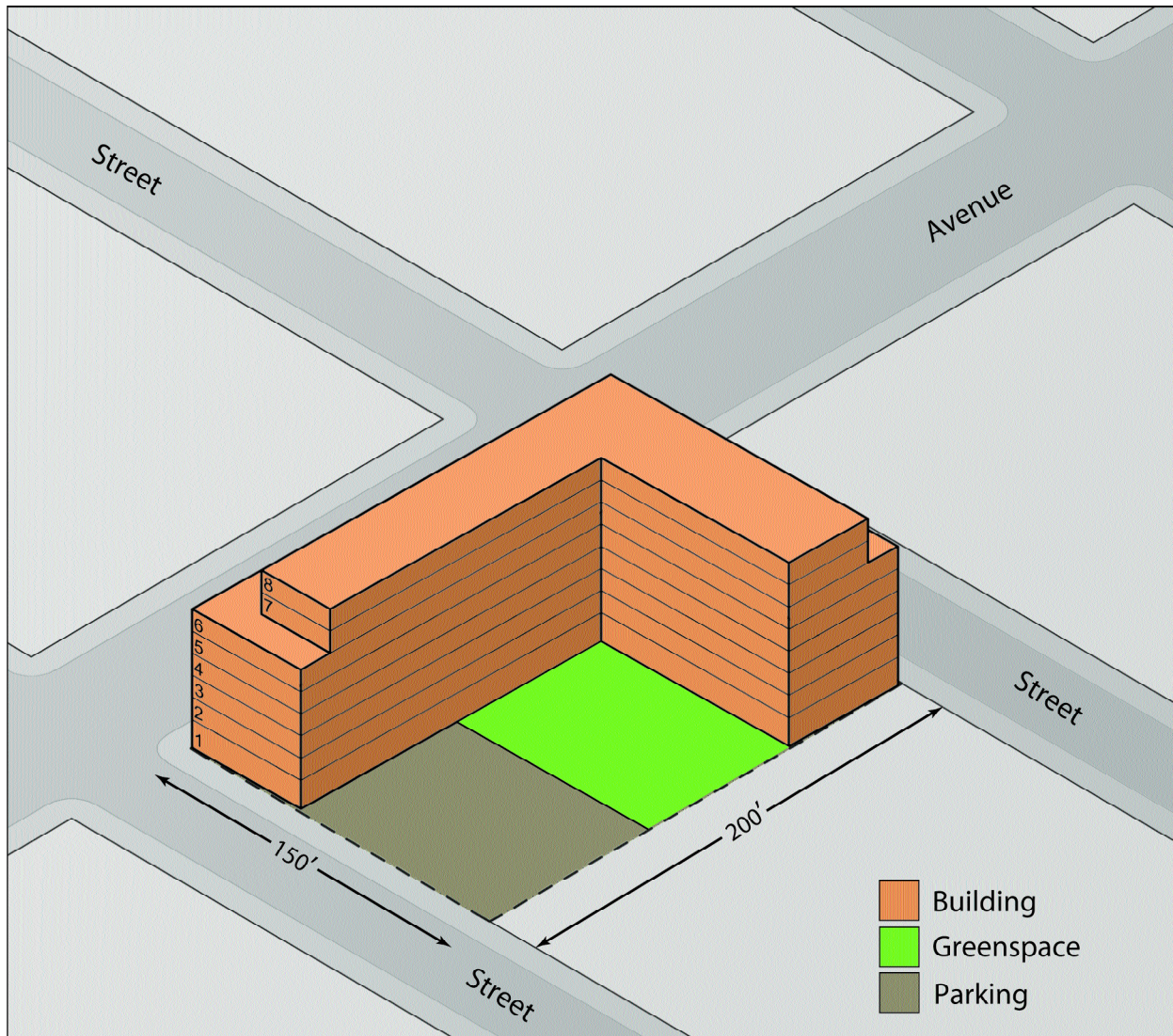
1.A.5 Diagram: R-6 Quality Housing with Inclusionary Bonus



This 7-story L-shaped building, set back at the 7th floor, contains 119 apartments based on 900 square feet per dwelling unit. The building includes 20% more floor area than the current FAR controls in a R6 district. It has 107,000 square feet, 1000 square feet less than the maximum floor area allowed by zoning regulations. In this option, where the number of apartments is maximized, the amount of parking spaces is assumed to be 50% of the number of dwelling units, which is 60, falling 48 spaces short of the what the site can accommodate.

- R6 Quality Housing Zoning District.
- 107,000 sq. ft. floor area.
- 119 dwelling units.
- 900 sq. ft. per unit.
- 60 parking spaces required.
- Complies with Quality Housing requirements with the exception of FAR and parking controls.

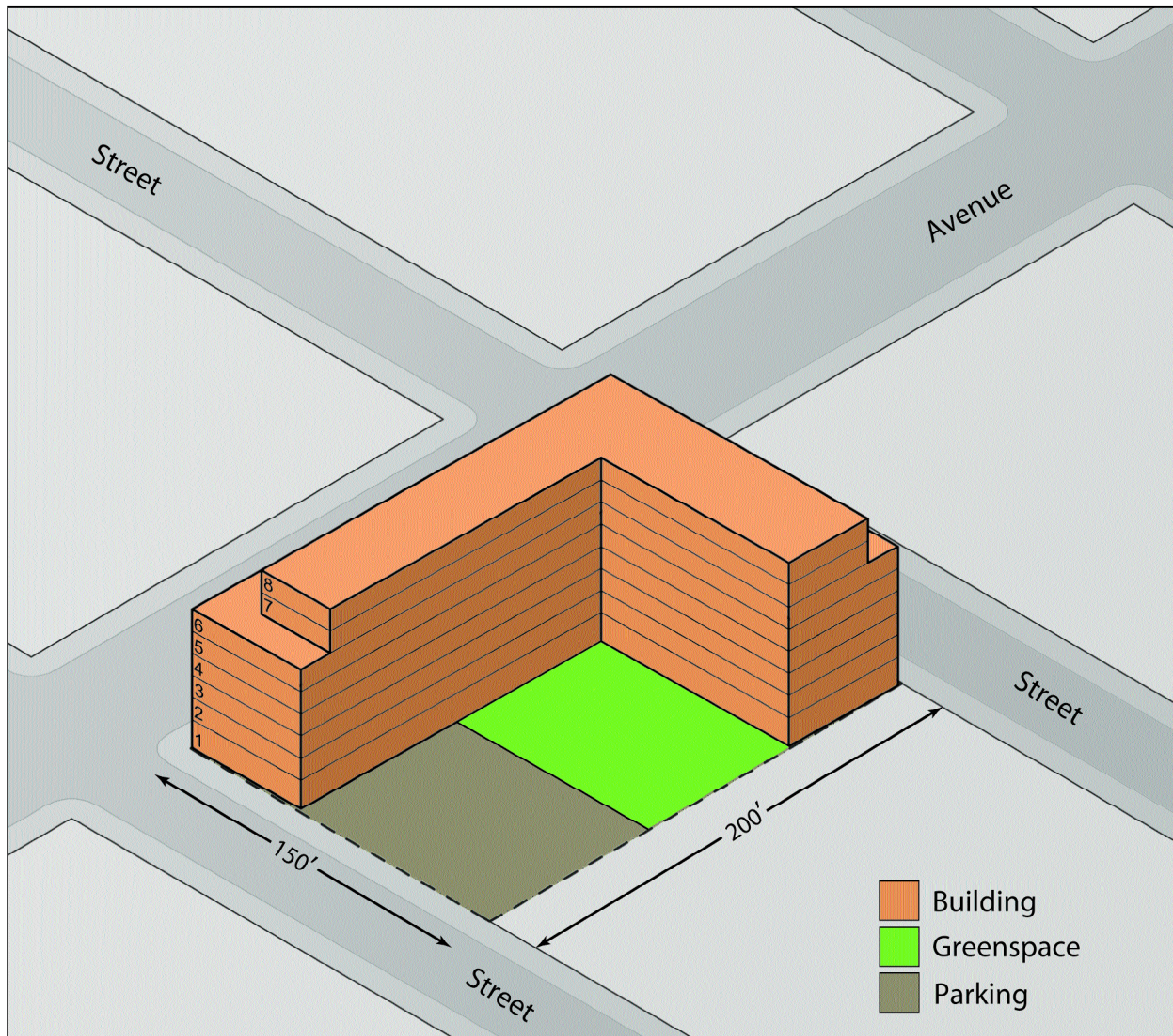
1.A.6 Diagram: R-7 Quality Housing without Inclusionary Bonus



This 8-story L-shaped building, designed per Housing Quality requirements, is set back at the 6th floor, contains 129 apartments, based upon 900 square feet per dwelling unit. The building, at 117,000 square feet, is 3,000 square feet less than the maximum floor area allowed by zoning regulations. In this option, where the number of apartments is maximized, 65 parking spaces are required based on current regulations. Here, the at-grade open space available for parking accommodates between 22 and 30 cars, falling far short of the required 65. Due to zoning regulations, this shortfall cannot be accommodated by using green-space for parking.

- R7 Zoning District: Quality Housing outside the Manhattan core.
- 117,000 sq. ft. floor area.
- 129 dwelling units.
- 900 sq. ft. per unit.
- 65 parking spaces required, 22-30 provided.
- Complies with Quality Housing Requirements, with the exception of parking controls.

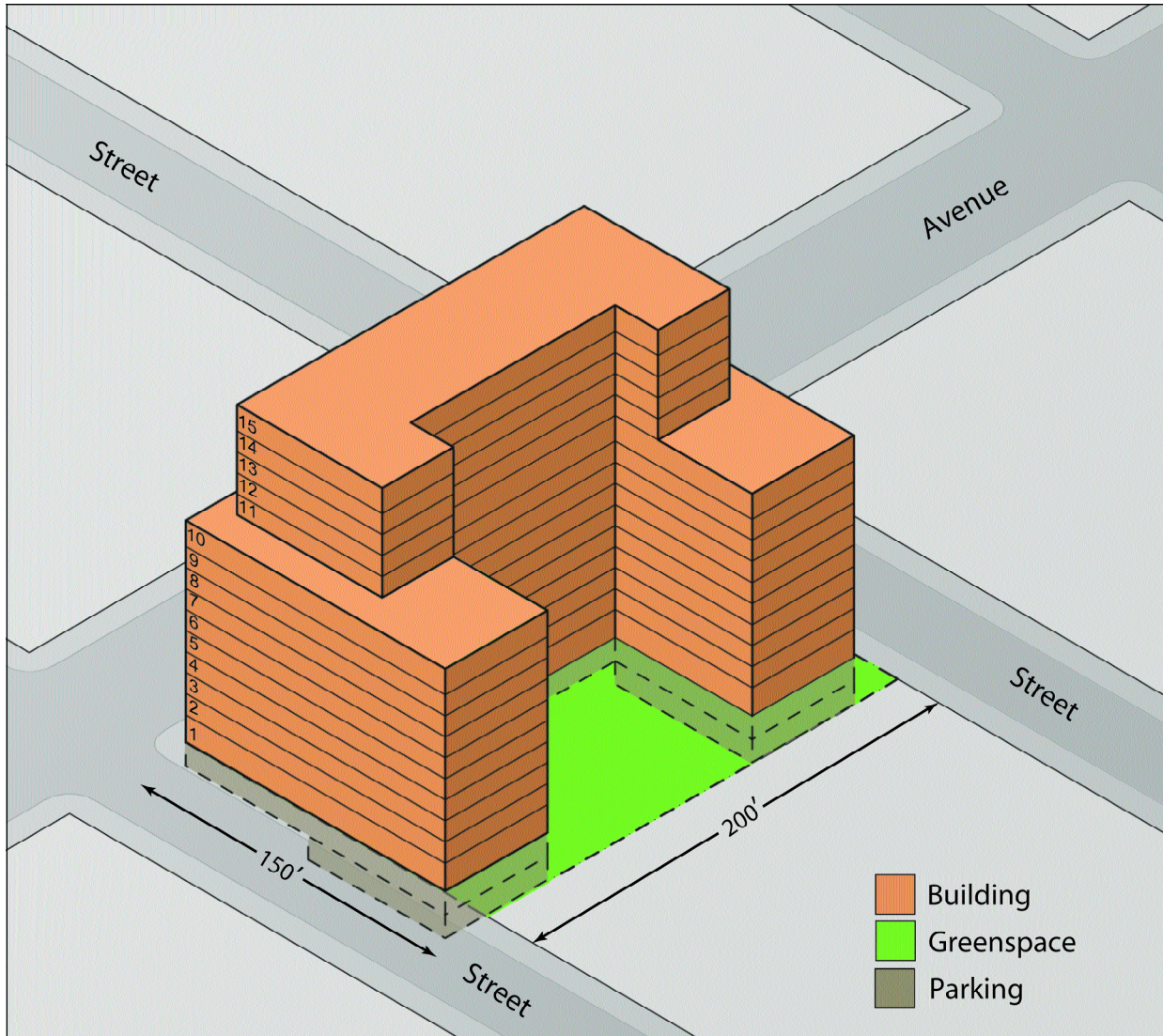
1.A.7 Diagram: R-7 Quality Housing with Inclusionary Bonus



This Quality Housing building, with an Inclusionary Bonus, at 117,000 square feet is the same square footage and configuration as the previous R7 building without the Inclusionary Bonus. While the bonus increases the building's potential floor area to 144,000 square feet, height restrictions prohibit making the building any taller than a building without an Inclusionary Bonus. Technically a building at 144,000 square feet could provide 159 units requiring 80 parking spaces. The additional units and parking spaces however cannot be accommodated based upon current zoning regulations.

- R7 Zoning District: Quality Housing outside the Manhattan core.
- 117,000 sq. ft. floor area.
- 130 dwelling units.
- 900 sq. ft. per unit.
- 65 parking spaces required, 22-30 spaces provided.
- Complies with Quality Housing Requirements, with the exception of parking controls.

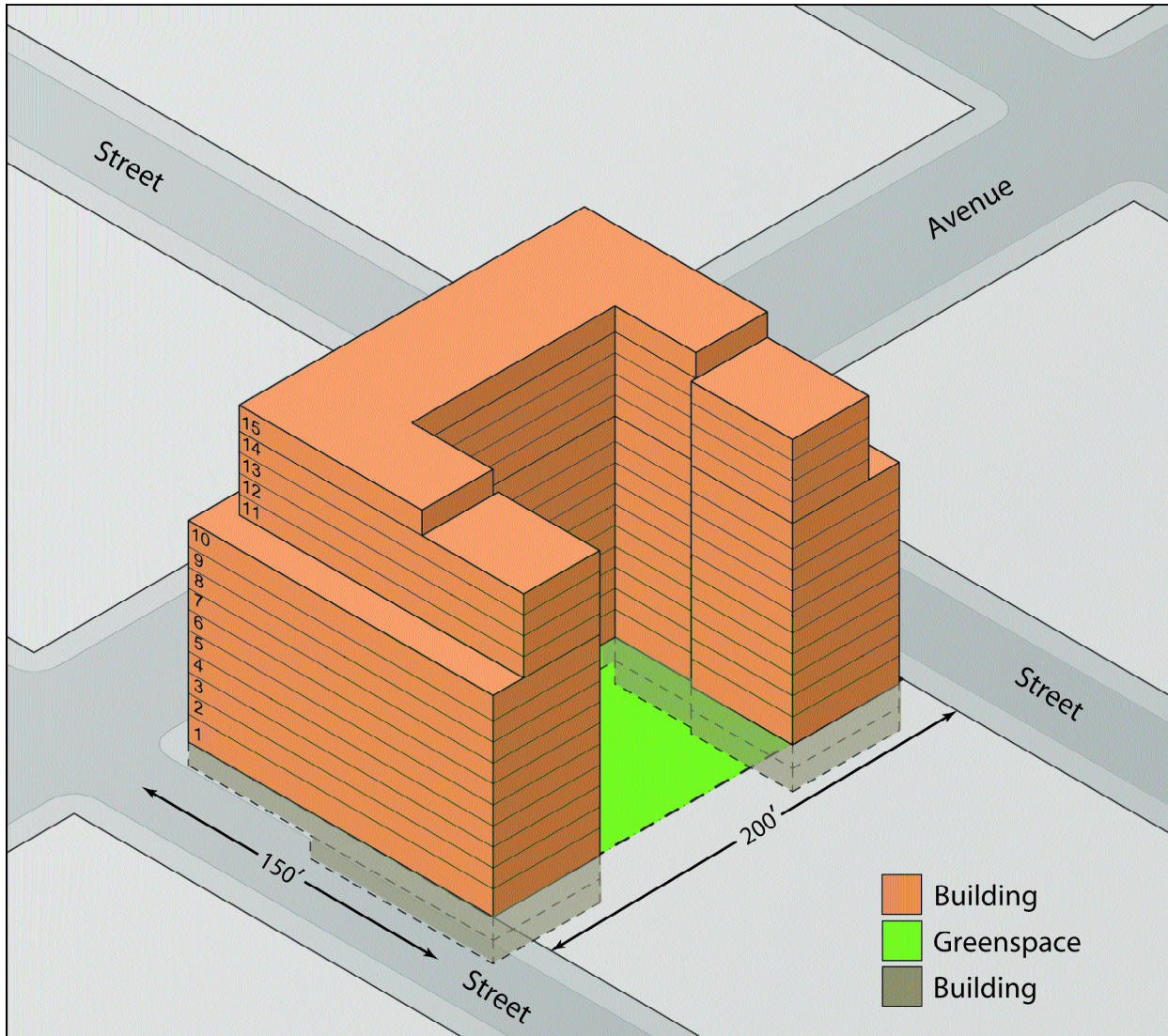
1.A.8 Diagram: R-9 Quality Housing Without Inclusionary Bonus



This 237,000 Quality Housing building of 15 stories meets current zoning regulations and contains 237 dwelling units based upon 1000 square feet per dwelling unit. The number of parking spaces is 25% of the number of apartments, resulting in 59 parking spaces. Given the scale of development, the parking could most probably be cost-effectively located in an underground Group Parking garage, with 300 square feet allocated per parking space. All of the remaining land could then be allocated for green space resulting in 11,300 square feet of recreational open area.

- R9 Quality Housing zoning district .
- 237,000 sq. ft. floor area.
- 237 dwelling units.
- 1000 sq. ft. per unit.
- 59 parking spaces required, 59 provided.
- Group Parking below grade.

Diagram 1.A.9: R-9 Quality Housing With Inclusionary Bonus



This Quality Housing building of 15 stories meets current zoning regulations, with the exception of allowable floor area. The building contains 284 dwelling units, based upon 1000 square feet per dwelling unit. At 284,000 square feet, the building includes 20% more floor area than the current controls. The number of required parking spaces is 25% of the number of apartments, resulting in 71 spaces. Given the scale of development, the parking could most probably be cost-effectively located in an underground garage. All of the remaining land can be allocated for green space, resulting in 8,700 square feet of recreational open area.

- R9 zoning district: Quality Housing.
- 284,000 sq. ft. floor area.
- 284 dwelling units.
- 1,000 sq. ft. per unit.
- 71 parking spaces required, 71 provided.
- Group Parking below grade.

B. Mandatory Inclusionary Programs

As opposed to voluntary inclusionary housing programs, mandatory programs require developers to set-aside some units for sale or rent at below-market prices. Mandatory programs may or may not offer cost offsets such as fee waivers, density bonuses, or even direct subsidies. Not surprisingly, housing developers and property owners often resist mandatory inclusionary housing programs, and in some states and localities have impeded them through legal challenges or legislative opposition. (Part 1 of the Report reviews some of these challenges.)

It should be noted that in jurisdictions that do not have a regulatory concept of “as-of-right” zoning, the line between voluntary and mandatory programs is blurred. In those jurisdictions, most residential developments, or all residential developments above a certain size threshold, must pass through a planning body review in which many aspects of a proposed development are negotiated. In those jurisdictions, developers may in fact prefer set inclusionary requirements that provide predictability and eliminate a contentious aspect of public review.

Elements of Mandatory Programs

Mandatory inclusionary housing programs typically require a fixed amount of the new housing units in a development or subdivision to be set-aside as affordable housing. The most common percentages are between 10% and 15%. Most programs impose the requirements only on projects containing ten or more market-rate units, and in some cases the requirements are limited to rental or to for-sale housing.

The set-aside requirements will usually establish income targets as well. Affordability targets are usually expressed as rents or selling prices affordable, by standard definitions, to households earning no more than a specified income. Income targets in municipal inclusionary programs range from 50% to 200% of Area Median Income (AMI), with the most common being 80% and 100% of AMI. (Proforma 2.B.1. analysis presented later posits 80% and 135% of New York City’s AMI of \$62,800 for a family of four, equal to roughly \$50,000 and \$85,000 per family.) Since from the housing developer’s standpoint, there is a financial trade-off between the number of units set aside and the incomes at which they must be affordable, some

jurisdictions establish lower set-aside requirements if inclusionary units are made affordable to households with lower incomes.

In many cases mandatory inclusionary zoning programs couple requirements with cost offsets such as density bonuses. Such programs, in effect, increase the underlying zoning as a quid pro quo for imposing the inclusionary requirements. Conversely, inclusionary requirements can be imposed in cases of substantial upzoning, in which case they are the quid pro quo for increasing the zoning density.

Probable Market Impacts

The principal risk of mandatory inclusionary programs is that they may adversely affect overall housing production. Advocates for mandatory programs argue that the cost of producing the affordable units will be capitalized into lower land prices, leaving the economics of new housing development, and consequently housing production levels, unchanged. While there is a solid basis for this argument in economic theory, the inevitability of “full capitalization” is often over-stated. Real-life land markets may not work as efficiently as theorists or advocates presume, and even if they do, inclusionary requirements can make residential development less attractive relative to other land uses or types of investment. In either case, new housing construction may be diminished.

A number of studies purport to find that mandatory inclusionary zoning programs have, or have not, had an adverse effect on housing development where they have been implemented. None of those we have reviewed, however, utilize the rigorous statistical methods generally considered necessary for convincing policy research. While there are no studies, in our view, that convincingly demonstrate that mandatory inclusionary programs do not adversely affect new supply, there is also no evidence that mandatory programs have anywhere caused an abrupt decline in new housing construction.

Consequently, it is impossible to predict what effect imposition of a mandatory inclusionary zoning program would have in New York City, either on the amount of market-rate or affordable housing produced. The effects would depend on in which neighborhoods it is imposed, on the parameters of the program, on the efficiency with which the market for

vacant land works, and on the financial attractiveness of other land uses, including the speculative holding of vacant land. It is likely that in areas of the city where industrial, retail or other commercial uses are permitted and are viable, mandatory set-asides would have a larger adverse impact on new construction than in areas where housing is the only profitable land use.

Our financial analysis for a generic R6 Quality Housing development in a prime outer-borough area indicates that imposition of a requirement that 10% of units be affordable to households at 80% of AMI would reduce the value of land for rental housing by more than 50%, if all of the costs were capitalized into the land. (Refer to Proforma 1.B.1.) The value of land for condominium developments would be reduced by about one-quarter, but it would not fall to a level that would make condominium development generally non-viable. This suggests that imposition of a mandatory inclusionary set-aside, if set equally for rentals and condominiums, would make rental housing even less competitive with ownership housing than it is under current conditions in market viable-neighborhoods. At 135% of AMI the reduction in land value would be on the order of 7% to 8%, for both rental and condominium. In other words, as market rate is approached, the skewing of the financial outcomes decreases. (In affluent Manhattan neighborhoods, the impact would be less. In lower-income neighborhoods, neither rental nor condominium development is currently feasible without subsidy, and an inclusionary mandate would not change that circumstance dramatically.)

Who Bears the Cost?

Any mandatory inclusionary set-asides would, without financial or other incentives, add to the cost of development without adding a compensatory sum to revenue. For all practical purposes, this additional cost would be spread over the market-rate units. In our test case (predicated on no density bonus or subsidies, for an R6 Quality Housing development in a prime outer-borough area), a 10% mandatory inclusionary set-aside would raise the cost of developing the market-rate units by approximately 11% if the affordable units are earmarked for households earning no more than 80% of AMI. Some observers have likened this added per-unit cost to “an entry tax”; others have likened it to a “cost of doing business.”

Both advocates and opponents of mandatory inclu-

sionary zoning agree that most, or all, of the cost would eventually be borne by landowners: over time, land prices will adjust since developers will bid less for sites knowing that the project must support the added cost of providing the affordable units. Developers themselves will not realize lower profits, because competition among them usually ensures that profit levels are only as high as is necessary to offset the risk. When housing developers already own a site in anticipation of developing it, however, a capital loss will be incurred on their land values, which may affect their profits, ability to finance the intended project, and/or timetable.

There are, however, circumstances in which the marketplace for all housing will be disrupted. It is unlikely that all landowners immediately adjust prices to reflect diminished value. If, then, developers do not bid or landowners remove their sites from the residential pool (either for alternative uses or in hopes of future price increases), less market-rate housing will be produced. The decrease in supply will then cause housing prices to be higher than they otherwise would be. In that sense, both buyers of market-rate units in inclusionary projects, as well as all buyers and renters in the market, will pay higher prices than they otherwise would.

(Technically, the elasticity of the supply of land with respect to land prices, and the elasticity of demand for housing with respect to housing prices, jointly determine the degree to which the inclusionary costs will be divided between landowners and housing consumers. The assumptions that the supply of residential land is highly inelastic and the demand for housing is highly elastic underlie the expectation that most costs will be borne by landowners.)

In many areas of New York City, there are few profitable alternatives to residential land use, so housing construction may not be harmed significantly. In other areas, however, where there are attractive commercial or industrial alternatives, or where the land value with inclusionary zoning is negligible, land may be withdrawn from the residential market.

Advantages of Mandatory Programs

The advantage of mandatory inclusionary zoning programs is that affordable housing can be produced with no apparent cost to the community at large. However,

if no density bonuses are made to offset the set-aside, community goals involving contextual zoning or reduced density will be undermined.

A mandatory program with no compensating FAR bonus would not require detailed analysis of other zoning constraints and the possible adverse effects of relaxing those constraints. That is a significant advantage from an administrative viewpoint. Whether it is also an advantage from a policy standpoint depends on one's judgment of the value of those controls.

In cases where land is being upzoned or rezoned to residential use, mandatory programs allow the public to "recapture" some of the land value windfall for public purposes.

Disadvantages of Mandatory Programs

The principal disadvantage of mandatory programs is that they risk suppressing new housing construction. If that is the case, all members of the community will pay more for housing than they otherwise would. To the degree that a mandatory requirement acts as a tax on new market-rate development and it is not fully capitalized into land costs, it will make new housing more expensive relative to existing housing and impede the modernization of the city's housing stock.

A second disadvantage is that mandatory programs are vulnerable to legal challenge. It is highly likely that if New York City imposed a mandatory inclusionary zoning program on any scale, it would be challenged by one or more landowners or by a trade organization representing them. There is currently no clear legal doctrine in New York State regarding mandatory inclusionary zoning programs. (Refer to Part 1 of the Report, published separately.)

What New York City Does

New York City's does not currently have a mandatory inclusionary zoning program.

What Other Places Do

Boston requires at least 10% of the units in housing developments of ten units or more seeking public financing or zoning variances (which covers the majority of new residential projects) to be affordable to low- and moderate-income households. It does not provide explicit density bonuses in return but provides tax relief and relaxation of zoning constraints on a

case-by-case basis.

Denver's program requires a 10% inclusionary set-aside for ownership projects of 30 or more units with household income limits set at 80% of AMI, except for elevator buildings higher than three stories with enclosed parking, for which the income limits are 95% of AMI. Density bonuses of up to 10% are available except in planned unit developments and single-family zoning districts.

Fairfax County, Virginia requires a 12.5% set-aside in single-family home developments and 6.5% in multi-family developments of over 50 units; density bonuses are 20% and 10%, respectively.

Montgomery County, Maryland has mandatory requirements of 12.5% of units in developments exceeding 50 units, and provides density bonuses of up to 22%.

San Diego requires 10% of all units in developments of two or more units (20% in Future Urbanizing Areas) to be affordable to households earning no more than 65% of AMI if rentals and 100% of AMI if for sale. No density bonuses are provided.

In 2002, San Francisco replaced a Planning Commission inclusionary "policy" with a mandatory inclusionary ordinance requiring 10% of all units in developments containing 10 or more units to be affordable to households earning no more than 100% of AMI (the AMI is \$95,000 for a family of four).

Santa Fe, for its inclusionary program, targets households at 120% and 200% of AMI, or \$79,200 and \$132,000 for a family of four.

1.B.1. Proforma: Financial Comparison of Buildings without and with Mandatory Inclusionary

	Sources and Uses of Financing	Rental Apartments		For Sale Condominium	
		Total	/ZSF	Total	/ZSF
Baseline without Inclusionary	Sources				
	Debt	20,317,862	228	20,317,862	228
	LIHTC	-	-	-	-
	Subsidy	-	-	-	-
	Equity	3,400,000	38	10,600,000	118
	Total	23,717,862	264	30,917,862	344
	Uses				
	Land (Residual)	2,753,639	31	8,196,114	91
	Hard Costs	15,277,500	170	17,498,250	194
	Financing Costs	1,356,754	15	419,713	5
	Insurance/Taxes/Interest	704,578	8	704,578	8
	Other Soft Costs	1,719,372	19	2,033,412	23
	Development Overhead	1,905,820	21	2,065,585	23
	Total	23,717,862	264	30,917,862	344
10% Mandatory Inclusionary, @ 80% AMI	Sources				
	Debt	18,894,273	210	18,894,273	210
	LIHTC	-	-	-	-
	Subsidy	-	-	-	-
	Equity	3,200,000	36	9,700,000	106
	Total	22,094,273	245	28,594,273	318
	Uses				
	Land (Residual)	1,308,559	15	6,005,501	67
	Hard Costs	15,277,500	170	17,498,250	194
	Financing Costs	1,261,388	14	389,154	4
	Insurance/Taxes/Interest	659,421	7	659,421	7
	Other Soft Costs	1,699,613	19	1,988,422	22
	Development Overhead	1,889,792	21	2,053,525	23
	Total	22,094,273	245	28,594,273	318
10% Mandatory Inclusionary, @ 135% AMI	Sources				
	Debt	19,750,110	219	19,750,110	219
	LIHTC	-	-	-	-
	Subsidy	-	-	-	-
	Equity	3,300,000	37	9,900,000	110
	Total	23,050,110	256	29,650,110	329
	Uses				
	Land (Residual)	2,156,476	24	6,989,547	78
	Hard Costs	15,277,500	170	17,498,250	194
	Financing Costs	1,318,648	15	406,172	5
	Insurance/Taxes/Interest	686,572	8	686,572	8
	Other Soft Costs	1,711,493	19	2,009,517	22
	Development Overhead	1,899,421	21	2,060,051	23
	Total	23,050,110	256	29,650,110	329

Refer to Appendix 4.C. for explanation of the assumptions

This proforma is based on a Quality Housing mid-rise apartment building in a R6 zone located in a lucrative, outer-borough location (refer to Diagram 1.A.3.). R6 was picked as it is the most prevalent medium-/high-density district in the city. The Quality Housing regimen was picked since it is more often used from the lower alternative; and the outer boroughs were picked as they represent a new frontier for development.

Our analysis of a hypothetical site and financial proto-

type indicates that with today’s favorable market conditions and low interest rates, mixed-income housing—indeed all apartment development—is far more profitable under condominium than rental arrangements. The residual value of the land—i.e., the amount a developer will bid for the land based on cash-flow and profit—is significantly reduced, especially for rental housing, where the decrease is slightly over 50%.

C. Inclusionary Opt-Out

Mandatory inclusionary zoning programs often include opt-out provisions that allow developers to pay into an affordable housing fund in lieu of providing the required units directly. In such cases the inclusionary requirement becomes, in effect, a “linkage fee” that taxes market-rate housing development to fund local government programs that subsidize affordable housing creation. The opt-out provision serves two purposes: it helps to raise money for local housing programs, while providing a “circuit-breaker” if the inclusionary requirements prove too onerous for some projects to meet. Voluntary programs do not need an opt-out provision because the developer could simply choose to forego the voluntary bonus.

Elements of Opt-Out Provisions

Mandatory inclusionary housing programs typically require a fixed amount of the new housing units in a development or subdivision to be set aside as affordable housing. Often they permit the developer to satisfy that requirement by either building the new housing off site (see Section 1.D.) or by paying into a dedicated fund that is used by the municipal housing agency to subsidize new affordable housing development.

In principle, in mandatory programs that do not allow off-site units, the opt-out provision would require payments for each inclusionary unit equal to the cost of producing an on-site affordable unit. If the fee were set lower, the builder would always have an incentive to pay the fee and build a market rate unit on-site. If the fee were set higher, the opt-out provision would be superfluous and the developer would always choose to build the units on-site. If, however, the program also allows off-site inclusionary units, the opt-out fee should be no higher than the cost of developing an off-site unit. In a program that allows the requirements to be satisfied with either on-site or off-site units, the opt-out payments would be equalized through an appropriate program ratio of on-site to off-site units.

Opt-out fees can be expressed in a number of ways. There could be a set fee per dwelling unit built or per affordable dwelling unit required. Alternately, the fee could be expressed on a square foot basis for either the total project or for the affordable units specifically.

Probable Market Impacts

Like any impact fee, linkage fee, or development tax, opt-out payments in mandatory inclusionary programs could have a constraining effect on private housing development. However, they could not have a more constraining effect than the mandatory requirements themselves, since developers would not invoke the opt-out clause unless it was in their interests to do so. By offering developers another means of satisfying their inclusionary requirement, opt-out provisions may temper the adverse effect on housing production resulting from imposition of an inclusionary housing mandate.

Offering developers an opt-out provision may also increase the total amount of housing created, relative to pure inclusionary mandates, by allowing developers to realize the full market potential of their sites while indirectly creating affordable housing elsewhere through local government programs. In this respect they have the same market impacts as off-site inclusionary programs.

Who Bears the Cost?

Like inclusionary mandates, the cost of opt-out provisions may either be borne by landowners or by housing consumers, or shared between them. Economic theory suggests that if there are relatively few alternative land uses and a price-sensitive market for new housing, most or all of the cost will be borne by landowners. If there are attractive land uses other than residential, and housing demand is not very price-sensitive, more of the cost will be borne by purchasers of market rate housing. (Refer to the discussion in the Sections 1.A. and 1.B. dealing with Voluntary and Mandatory Inclusionary Housing.)

Advantages of Opt-Out Provisions

The principal advantage of opt-out provisions in mandatory inclusionary zoning programs is that they may moderate adverse effects on new housing construction. They provide developers an alternative to direct construction of affordable units, and avoid complicating the financing, construction and management of new housing developments. They may also add to the total volume of housing created, relative to a pure inclusionary mandate, by allowing developers to maximize the market-rate potential of a site while indirectly creating additional affordable housing elsewhere.

Another advantage of opt-out provisions is that they can generate a pool of funds for municipal housing programs. Those funds, however, would need to be balanced against the value of the inclusionary housing units foregone.

Disadvantages of Opt-Out Provisions

A disadvantage of opt-out provisions is that if the payments are set too high the provision will be superfluous. If the payments are set too low, all developers will opt-out and the inclusionary program will become a de facto linkage fee program. In addition to the difficulty of setting the “right” level of fees initially, market conditions are always changing, so the opt-out fee will require frequent recalculation. (Proforma 1.D.1. describes, for instance, the outcome of an off-site option that would be the financial equivalent of an opt-out at the full cost of development. It shows that since the developer would not realize any cost recovery from the rental or sale of on-site affordable units, he or she would have little incentive to employ an opt-out option set at the full cost of development.)

Like off-site inclusionary programs (discussed later), opt-out provisions undermine the “inclusionary” aspect of inclusionary zoning. This may be of particular concern in areas that are experiencing gentrification—i.e., significant development activity and rising market rents. Moreover, the municipality typically does not have geographic constraints on its use of funds, so the affordable units are even less likely than off-site inclusionary units to achieve community economic or racial integration. (This disadvantage would be negated by any legal requirements for or policy based on establishing a “nexus” between adopting the inclusionary housing requirement and countering gentrification.)

What New York City Does

New York City’s does not currently have a mandatory inclusionary zoning program, and so does not have an opt-out provision.

What Other Places Do

Boston allows certain projects to pay in-lieu fees. The fee is adjusted periodically; currently it is \$52,000 per unit multiplied by 15% of the market-rate units proposed to be built.

Denver provides an opt-out provision with in-lieu payments established at 50% of the affordable unit price as determined by the local planning and development agency.

Montgomery County, Maryland allows in-lieu payment where on-site provision is non-economic.

San Diego allows developers to pay an in-lieu fee calculated as half the gap between a median priced home and the price affordable to a family of median income, on a square footage basis.

San Francisco provides an as-of-right opt-out option with fees established annually based on an affordability gap formula.

Santa Fe, New Mexico allows in-lieu payments in cases of economic hardship.

D. Off-Site Inclusionary Options

Inclusionary zoning programs, whether voluntary or mandatory, can be made more flexible by allowing the affordability requirements to be satisfied off-site. With an off-site option, a developer can decide whether it is more financially feasible to build the affordable units as part of the market-rate development, or in another location that features less expensive land, a less marketable location, or site conditions that allow more flexibility in configuring the units.

Elements of Off-Site Options

Inclusionary zoning programs may or may not allow the affordable housing requirements to be satisfied off-site, but they rarely, if ever, prohibit them from being on-site. In general, the bonus formulas and/or affordable requirements are structured in the same manner as when the requirement is exclusively for on-site housing.

In the case of voluntary programs, a developer would receive a density bonus that could be used on the primary building site to increase the number of market-rate units, while providing the required amount of affordable units or square feet in another, presumably less expensive or less marketable location.

When an off-site option is provided, geographical restrictions can be, and usually are, imposed. Such restrictions can be set according to distance to the primary site, to zoning district, to demographics of the census tract, or according to other criteria.

When on-site and off-site options are both provided, the affordable housing requirements do not have to be identical. For example, 10% of the project units may be required to be affordable when provided on the primary site, whereas 15% may be required when they are provided off-site. Different requirements may be established to compensate for the cost differential between locations, or to tilt the incentive structure toward one option or the other.

Off-site options can also be used to encourage the preservation of existing affordable units through acquisition and rehabilitation. Inclusionary programs can establish different affordability requirements for on-site new construction, off-site new construction, and off-site rehabilitation.

Probable Market Impacts

The probable market impact of an inclusionary off-site zoning option depends on the level at which the requirements are set and on the relative costs of building off-site. In a voluntary program, if the cost differential is large and the requirements are set appropriately, it can be an attractive option to developers and participation in the voluntary program may be more frequent. Even in mandatory programs, however, off-site options may promote more housing creation than on-site programs because developers can maximize the number of market-rate units on the primary site while satisfying the affordability requirements elsewhere. Assuming that costs and cost recovery are the same, project financing is improved. However, the opposite proves to be the case if no cost recovery from the off-site units is assumed, i.e. if developers pay for the full cost producing units off-site, but realize no rental or sales value from those units. (Refer to Proforma 1.D.1. which tests this assumption.)

In areas where there is significant construction activity, off-site programs could increase the cost of vacant land and inflate existing building prices as market-rate developers compete for suitable inclusionary sites.

Who Bears the Cost?

The cost incidence of an off-site inclusionary program will be similar to that of an on-site program. In a mandatory program, the distribution of costs between landowners and buyers of market housing will be determined by the attractiveness of alternative land uses and by the intensity of demand for new housing. In the context of New York City, the majority of the cost can be expected to be capitalized into land values.

In voluntary programs, the cost is a greater building density on the primary site, which may adversely affect nearby residents.

Advantages of Off-Site Options

The primary advantage of an off-site option is that it adds flexibility for developers to comply with affordability requirements. Whether in a mandatory or voluntary program, that flexibility should result in more projects meeting financial viability thresholds and more housing production relative to a program that allows only on-site placement. Higher levels of housing production will also result from allowing developers to maximize the number of market-rate units on the

primary site, while allowing affordable units to be located elsewhere, where marketability would be less of a concern.

A secondary advantage of an off-site option is that it allows the municipality to pursue more varied policy goals. For example, if rehabilitation or preservation of existing affordable housing is desired, the inclusionary housing formulas could be weighted to give developers greater incentive to choose that alternative.

Disadvantages of Off-Site Options

The principal disadvantage of an off-site option is that it dilutes the potential of the program to promote economic and racial integration in new developments. Depending on how the geographic parameters of the program are set, an off-site program may still encourage neighborhood integration. (This disadvantage would be negated by any legal requirements for or policy based on establishing a “nexus” between adopting the inclusionary housing requirement and countering gentrification.)

In New York City, a shortage of suitable sites may constrain use of an off-site option. Further-more, developer competition for suitable sites or buildings may drive up the price of vacant land or moderately priced rental buildings.

What New York City Does

New York City allows off-site satisfaction of affordability requirements in its voluntary R10 inclusionary housing program. The off-site obligation must be in perpetuity, and must be met within the same Community District or in an adjacent district within one-half mile of the primary site. The incentives and market conditions weighted towards off-site new construction, and that is the option most developers have chosen. Developers are permitted 3.7 square feet of additional building area on their primary site for each square foot of affordable housing built either on-site or rehabilitated off-site, and 4.0 square feet of additional FAR for each affordable square foot of new construction built off-site. In addition, on-site obligations are more expensive and complicated when ownership housing is pursued—as is presently the general direction of the marketplace.

What Other Places Do

Boston and Denver allow off-site placement of afford-

able units on a negotiated basis.

Montgomery County, Maryland allows off-site placement if on-site set-asides would be non-economic.

San Diego requires a 10% set-aside whether on-site or off providing the off-site units are located within the same community planning area as the primary development site.

San Francisco allows off-site placement as-of-right, but the requirement increases from the 10% required on-site to 15%.

Santa Fe, New Mexico allows units to be placed off-site in cases of economic hardship.

1.D.1. Proforma: Financial Comparison of Buildings without and with Off-Site Option

	Sources and Uses of Financing	Rental Apartments		For Sale Condominium	
		Total	/ZSF	Total	/ZSF
Baseline without Inclusionary	Sources				
	Debt	20,317,662	226	20,317,662	226
	LIHTC	-	-	-	-
	Subsidy	-	-	-	-
	Equity	3,400,000	38	10,600,000	118
	Total	23,717,662	264	30,917,662	344
	Uses				
	Land (Residual)	2,753,639	31	8,196,114	91
	Hard Costs	15,277,500	170	17,498,250	194
	Financing Costs	1,356,754	15	419,713	5
	Insurance/Taxes/Interest	704,578	8	704,578	8
	Other Soft Costs	1,719,372	19	2,033,412	23
	Development Overhead	1,905,820	21	2,065,595	23
Total	23,717,662	264	30,917,662	344	
10% Mandatory Inclusionary, @ 80% AMI	Sources				
	Debt	18,894,273	210	18,894,273	210
	LIHTC	-	-	-	-
	Subsidy	-	-	-	-
	Equity	3,200,000	36	9,700,000	108
	Total	22,094,273	245	28,594,273	318
	Uses				
	Land (Residual)	1,308,559	15	6,005,501	67
	Hard Costs	15,277,500	170	17,498,250	194
	Financing Costs	1,261,388	14	389,154	4
	Insurance/Taxes/Interest	659,421	7	659,421	7
	Other Soft Costs	1,699,613	19	1,988,422	22
	Development Overhead	1,889,792	21	2,053,525	23
Total	22,094,273	245	28,594,273	318	
10% Off-site Inclusionary, @ 80% AMI	Sources				
	Debt	20,317,662	226	20,317,662	226
	LIHTC	-	-	-	-
	Subsidy	-	-	-	-
	Equity	3,400,000	38	10,700,000	119
	Total	23,717,662	264	31,017,662	345
	Uses				
	Land (Residual)	853,818	9	6,463,850	72
	Hard Costs	17,005,298	189	19,164,210	213
	Financing Costs	1,356,066	15	419,448	5
	Insurance/Taxes/Interest	704,578	8	704,578	8
	Other Soft Costs	1,719,372	19	2,033,412	23
	Development Overhead	2,078,531	23	2,232,165	25
Total	23,717,662	264	31,017,662	345	

Refer to Appendix 4.C. for explanation of the assumptions

This proforma is based on a Quality Housing mid-rise apartment building in an R6 zone located in a lucrative, outer-borough location (refer to Diagram 1.A.2.) R6 was picked as it is the most prevalent medium-/high-density district in the city; the Quality Housing regimen was picked since it is more often used from the lower alternative; and the outer boroughs were picked as they represent a new frontier for development.

Our analysis of a hypothetical site and financial prototype indicates that while the off-site option conceptually confers advantages for both rental and ownership housing, the opposite is the case, unless there is some form of cost

recovery. The number of units on the prime site is increased, and the affordable units can be built on presumably less expensive land. However, the assumptions that underlie the test case proforma include little added transaction cost to carry out the off-site development, the same construction costs as the prime development, and no cost recovery (i.e., unlike on-site affordable housing units, no rental or sales revenue from those units). These factors could, in fact, be designed otherwise or vary from situation to situation, translating into improved financial outcomes. If the developer's financial contribution for the off-site obligation was reduced to yield all or some cost-recovery the proforma would be more favorable.

E. Inclusionary Rental Programs

Most jurisdictions that have inclusionary zoning programs apply them to both rental and ownership developments. In affordable housing programs, there are very distinct considerations relative to each. In New York City, where market conditions may fluctuate in favor of rental housing development or condominium development, it is particularly important to evaluate the design, viability and probable impact of an inclusionary housing program separately on each form of housing.

Elements of Rental Programs

In mandatory inclusionary programs a percentage of the total dwelling units or of the total square footage is required to be affordable to households with incomes below a certain threshold. In voluntary programs the requirement may be expressed either as a percentage of the overall development or as a percentage of the incremental density that is bonused.

Affordability is usually defined as contract rents not exceeding 30% of a household's gross income, with the income eligibility limits determined by municipal policy goals. Income limits are usually expressed as a percentage of Area Median Income (AMI), which in New York City is \$62,800 for a family of four. The program rules will also specify the length of time the units have to be maintained as affordable units.

Inclusionary rental requirements can be satisfied either on-site or off. When the units are on-site, there will usually be regulations regarding their size and placement within the building. When off-site, parameters governing their size and location will usually be established.

Probable Market Impacts

Inclusionary rental programs may have a more inhibiting effect on new housing development than for-sale programs, because rental programs impose an ongoing obligation on building owners. If the income limits and rents are set very low, cash flow from the affordable units may not cover the cost of maintaining and operating them. Even if rents are set initially to cover maintenance and operating costs, there may be a long-term risk that they will not. In contrast, in for-sale inclusionary programs the developer is usually relieved of obligation once the unit is sold.

If the affordability requirements are for a finite period, say 20 or 30 years, developers may want to locate them on the primary site in the expectation that they will eventually recover the units as market-rate rentals. If the dwellings are required to be permanently affordable, however, the developer may prefer to locate them off-site and may seek to sell or deed the affordable building to a not-for-profit group if regulations permit.

Our analysis of a test case (involving a mid-rise Quality Housing development in a prime outer-borough area) indicates that a 10% mandatory set-aside requirement for households earning 80% of AMI would further deteriorate the competitiveness of rental housing relative to condominium development in mid-rise districts, and probably force land prices to levels at which alternatives to rental housing development would become attractive. If the set-aside were targeted at families earning up to 135% of AMI, the imputed land price effect would be much less severe, reducing residual land values by about 7%. (Refer to Proformas 1.A.1. and 1.B.1.)

Who Bears the Cost?

In inclusionary rental programs, the housing provider assumes a risk that the affordable units will not be able to cover their maintenance and operating costs throughout the required period of affordability. In theory, that risk can be priced and capitalized into the land value or passed on to market-rate tenants. It is difficult to predict how housing developers and lenders will evaluate that risk. This factor complicates the general determination of cost sharing in inclusionary programs.

Advantages of Rental Programs

Rental housing with rent and income restrictions on some or all of the units is common in New York City and City agencies have well-established procedures for administering such programs.

Rental programs are better suited than ownership programs for reaching lower-income households because there are no consumer mortgage or housing equity issues involved. Legal issues relating to the condominium common charges and the condominium corporation are avoided. Rental programs are also less complicated than ownership programs in terms of assuring affordability for a set duration.

Disadvantages of Rental Programs

Inclusionary rental programs may be more inhibiting than ownership programs to new housing development, especially if the affordability is permanent and the income and rent limits are set very low.

What New York City Does

New York City's existing inclusionary housing program requires the affordable units to be rentals, although the market-rate units may be for sale. Income eligibility is set at 80% of AMI and the affordability requirements are for the life of the building. On-site affordable units must be distributed throughout the building. The affordability requirements can and are usually satisfied off-site, in which case they must be located within the same Community District or in an adjacent Community District within one-half mile of the primary site. This, among other factors, allows the developer to avoid the complexity of creating rental units in an otherwise ownership project.

What Other Places Do

With the exception of Denver, where Colorado law prohibits rent controls, most jurisdictions that have inclusionary housing programs apply it to rental as well as ownership housing.

Fairfax County, Virginia, has a 12.5% set-aside for single-family home developments and a 6.5% set-aside requirement for multi-family developments.

F. Inclusionary Ownership Programs

Most inclusionary zoning programs are established in suburban communities where subdivision development of single-family homes or townhouses is the most common form of housing construction. In those settings inclusionary ownership programs are relatively easy to design and administer because they are either conventionally-owned homes or rentals. In New York City, where new subdivisions are rare and most new ownership units are condominiums, an inclusionary ownership program entails additional considerations.

Elements of Ownership Programs

Inclusionary ownership programs can be voluntary or mandatory, on-site or off. The requirements and formulas can take the same form as in any other inclusionary housing program.

The critical policy variable is the length of time for which the affordability requirement is maintained. If strict buyer income and price restrictions are maintained upon resale of the affordable units, purchasers will have the responsibilities of ownership without the potential of equity appreciation. If the affordability restrictions are removed, initial buyers of the units may realize an equity windfall upon resale.

Long-term affordability may be maintained, and equity windfalls avoided, by instituting a strict cap on the annual rate of appreciation an affordable dwelling owner may realize upon resale. That cap may be tied to the consumer price index or to some measure of local housing prices. Likewise, there may need to be some restrictions on subletting the units beyond those imposed by the condominium corporation's bylaws.

For example, the New York City Partnership's New Homes Program, public subsidies are treated as a dissipating lien on the property; the initial buyers may keep an increasing percentage of the equity appreciation upon resale the longer they have lived in the unit. If they remain 15 years or more before selling the property, they may keep all of the equity appreciation. No income or price restrictions are imposed upon resale. Those homes are typically in redeveloping areas of the city, however, where the owner is assuming some price risk. In the case of inclusionary units in market-rate condominium developments, the context is quite differ-

ent. By design, there will be a significant and immediate price difference between the affordable units and the market rate units, so the affordable buyer stands to realize a substantial and virtually risk-free windfall even if conventional resale restrictions are imposed.

Probable Market Impacts

In theory, a mandatory, inclusionary ownership program entails approximately the same risks to market-rate housing production as a rental program; a voluntary program will offer approximately the same potential for building expansion. In practice, a widely implemented inclusionary housing program that covers both rentals and condominiums will probably alter the market mix between them in unforeseen ways.

Inclusionary ownership programs may be more attractive to developers than rental programs if the affordability issues are satisfactorily resolved and the developers are relieved of obligation once the units are sold. If the alternative is a permanently affordable rental program, the condominium option may be particularly attractive to developers. Our analysis of a generic mid-rise building in a prime outer-borough area indicates that a mandatory 10% set-aside at 80% of AMI would reduce imputed land values for condominium development by about 27%. A similar 10% set-aside with a 20% FAR bonus would decrease the imputed value of the land by about 20%. At 135% of AMI, the reductions are significantly less. (Refer to Proformas 1.A.1. and 1.B.1.)

Because of legal and marketing considerations, off-site provision of inclusionary units will probably be particularly attractive to condominium developers.

Who Bears the Cost?

In addition to the usual factors determining cost-sharing, in an inclusionary program applying to condominiums, the market-rate shareholders in the condominium corporation will assume a risk that the affordable unit owners will not be able to cover their full common charge fees throughout the required period of affordability. In theory, that risk can be priced and capitalized into the land value. It is difficult to predict how housing developers and lenders will evaluate the risk.

Advantages of Ownership Programs

Because much of New York City's market-rate housing production is currently in condominium form, an own-

ership option will expand the coverage of an inclusionary housing program. This option is also more compatible with the predominant development, and ownership patterns in the lower-density areas of the city.

An inclusionary ownership option can provide low- and moderate-income households an opportunity for asset accumulation and give them access to income tax deductions. Home ownership has also been found to be associated with other neighborhood and family benefits, such as better educational outcomes for children.

Disadvantages of Ownership Programs

In the context of condominium development in New York City, there is the potential for substantial windfalls to be realized by purchasers of the affordable units as soon as they are able to sell their units. If, however, the full income and selling price restrictions are maintained upon resale well into the future, the purchasers will be deprived of the equity appreciation benefits of home-ownership. It is difficult to calibrate the timing and protect against abuses.

Even if the affordable units in an on-site inclusionary condominium are set very low and work-able resale restrictions are imposed, it may not be feasible to reach low-income households. The savings required for down payments is a high hurdle for many low-income households, especially those without the benefit of family or peer group financial support. Some non-profit developers have experimented, as for example with Mutual housing (involving monthly charges to recoup the developer or finance for what is essentially a second mortgage). But these projects are rare, require long-term engagement, and still foreign to most developers, financiers and housing consumers.

Furthermore, apartment owners will be shareholders in a condominium corporation that collects fees to provide common services and maintain common areas of the development. In market-rate condominiums, those fees can be substantial, and low-income owners may have difficulty meeting them. If their fees are set at a preferential rate, other owners will have to subsidize them indefinitely. Preferential status for some owners will complicate the legal terms of the condominium corporation and may raise the monthly fees for the others.

What New York City Does

New York City's existing inclusionary housing program requires the affordable units to be rentals, although the market-rate units may be either for rent or for sale.

What Other Places Do

Boston, San Diego and San Francisco apply their inclusionary housing requirements to both rental and ownership projects.

Because of restrictions in Colorado law, Denver's inclusionary program is voluntary for rental projects and mandatory for ownership developments.

Fairfax County, Virginia requires a higher set-aside for single-family developments.

Irvine, California permits ownership units for households under 50% of AMI to count double towards its 15% minimum.

G. Permanently Affordable Inclusionary Housing

A standard policy variable in affordable housing programs is the length of time the affordability requirement is in effect. When the subsidy or benefits are ongoing, as in tax abatement programs, affordability restrictions are often imposed for the duration of the benefits. In programs where a capital subsidy is provided, the term of the affordability restriction is often fixed by statute or by regulatory agreements between the public agency and the developer. In voluntary inclusionary housing programs, many argue that because the density bonus is permanent the affordability restrictions should be as well. Even in the case of mandatory programs without a bonus, it has been argued that the structure or development itself is permanent, and so the inclusionary requirements should also be.

Elements of Permanent Affordability

In an inclusionary rental program, permanent affordability could be implemented in several ways. The most stringent approach would maintain the initial income and rent restrictions in perpetuity. For example, the apartments could be required to rent to households with annual incomes no greater than 80% of Area Median Income (AMI), with the annual rents set no higher than 30% of that figure; those restrictions could pertain each year the tenant remains in place and for each subsequent tenant who occupies the apartment. (At present, the AMI for New York City is \$62,800 for a family of four.) A less stringent standard would be to establish initial rent levels similarly, but to allow the apartment rent to increase pursuant to Rent Guidelines Board increase for rent-stabilized apartments (with appropriate provisions in the case that the Rent Stabilization is terminated). Alternately, apartment rents could be governed by a strict income and rent formula for a period of time (say, 30 years) and thereafter be brought into the Rent Stabilization system.

In an inclusionary ownership program, permanent affordability would involve restrictions on the resale of the dwelling, under which the condominium or home owner would be able to recover his/her down payment on the unit (if any) and equity accumulated through repayment of mortgage principal, with appropriate adjustments for inflation. Allowing the owner to retain

any real price appreciation of the unit or any of the initial price differential between the affordable price and the market price (as with a dissipating lien) would, over time, erode the affordability of the unit.

Probable Market Impacts

In the voluntary inclusionary rental case, permanent affordability may dampen developer enthusiasm for participation in the program. In several notably successful housing programs, including the state and city Mitchell-Lama programs and the federal Low-Income Housing Tax Credit program, developers are able to recapture the affordable dwellings as market-rate rentals when the program benefits terminate or after a fixed period of time. It is probable that some developers would not have participated in the programs if the affordability requirements were permanent. On the other hand, some housing finance experts argue that additional cash flow 30 or more years distant plays little role in a developer's judgment of new project feasibility or a lender's calculation of its ability to service debt. It is therefore likely that imposition of a permanent affordability requirement would have a negative effect on participation in the program, but the magnitude of that effect is difficult to predict. Moreover, permanent affordability is likely to cause more developers to choose an off-site option, since on-site inclusionary units would only be attractive if they could eventually be recaptured as market-rate rentals.

In the mandatory inclusionary rental case, permanent affordability is likely to suppress new housing construction. If the requirements are imposed without an offsetting density bonus that restores land prices to their former level, some land owners will choose to utilize their properties for non-residential purposes or to hold them vacant in the hopes of future appreciation.

In either the voluntary or mandatory case, permanent affordability also imposes risks on the developer/owner that operating costs will raise faster than the restricted rents or that public policy regarding tenant selection or rents levels will change. It is difficult to know how developers and lenders will evaluate such risk. Some developers and lenders are likely to shun projects that do not offer an eventual "exit strategy," while others are likely to consider the long-term risks of permanent affordability to be a relatively minor consideration.

In the case of ownership inclusionary housing, permanent affordability is not likely to impact housing development adversely. Developers of conventional homes or condominiums will base their feasibility analysis on the initial sales prices of the dwellings; their selling price in future years will be a concern only to the homebuyers.

Who Bears the Cost?

In voluntary rental or condominium contexts, imposition of permanent affordability requirements would have little or no cost implications. In mandatory rental situations, permanent rent restrictions would have a negative effect on the future cash flow of the project, which should in turn be negatively capitalized into lower land values. This effect is likely to be slight, however. For example, the present value of \$100,000 thirty years hence, using a 7% discount rate, is only \$13,100. If a mandatory inclusionary housing program with permanent affordability requirements has a significantly negative impact on new housing construction, however, market rate renters will pay higher rents than they will otherwise.

Advantages of Permanent Affordability

The obvious advantage of permanent affordability restrictions is that the city's stock of affordable housing will be permanently expanded. Another advantage is that the city's neighborhood-by-neighborhood, multi-income character is augmented.

Disadvantages of Permanent Affordability

Permanent affordability requirements may inhibit developer participation in voluntary inclusionary rental programs or suppress new rental housing construction if it is mandatory.

Permanent affordability will make rental housing developers less willing to locate the affordable units on-site (if there is an off-site alternative), undermining the "inclusionary" aspects of the program.

In ownership situations, permanent affordability will limit the asset-building benefits of home-ownership for families who purchase the affordable dwellings.

What New York City Does

New York City's existing inclusionary housing program requires the affordable units to remain affordable to households earning no more than 80% of AMI for the

useful life of the building.

What Other Places Do

Austin's voluntary program requires rental affordability for five years and ownership affordability for one (in effect, no resale restrictions).

Boston requires both rental and ownership inclusionary dwellings to remain affordable for 50 years. The resale price of ownership units cannot increase by more than 5% per year.

Boulder, Colorado requires permanent affordability for 20% of all new rental or ownership units.

Denver's mandatory inclusionary ownership program imposes resale restrictions for 15 years with a minimum of 60% of the price appreciation recaptured by the housing agency.

Fairfax County, Virginia requires 15 years of affordability for ownership housing, 20 years for rental.

Montgomery County, Maryland requires 10 years of affordability for ownership units, 20 years for rentals.

San Diego's program requires affordability for 55 years, with resale restrictions for ownership units.

San Francisco requires 50 years' affordability for both rental and ownership units.

H. Flexible Income Targeting

All affordable housing programs establish income eligibility limits for participating households; the rents or purchase prices affordable to those households in turn serve as affordability constraints for the housing provider. Most federal programs are enacted with statutory income limits, while New York State housing law, which usually enables New York City's housing programs, utilizes more general language regarding the populations served. The income limits in many of the city's housing programs are, therefore, established according to local policy rather than state mandate. Those limits can be adjusted readily as changing market conditions warrant. Because inclusionary zoning programs are embedded in the zoning resolution, however, there are greater barriers to changing them. Consequently, it may be desirable to incorporate flexible income limits in an inclusionary zoning program.

Elements of Flexible Targeting

All income targeting policies have two elements: the income eligibility limits and the percentage of dwellings that must comply. In the federal tax-exempt bond program, for example, 20% of the dwelling units must be affordable to families earning no more than 50% of Area Median Income (AMI), which in New York City is \$62,800 for a family of four. (Refer to Appendix 4.D. for analysis of this option.) In contrast, the city's NewHOP program requires 100% of the units to be affordable to households earning no more than 165% of AMI. Generally, "affordable" is defined as annual housing costs that can be met with no more than 30% of a household's annual gross income.

One way to achieve targeting flexibility in an inclusionary zoning program is to enact zoning text that grants full or partial powers to set income targets to the local housing agency. The agency could then readily adjust the targets to the availability of federal or state subsidy funds or to prevailing market or financial conditions.

Another way to achieve flexibility is to enact zoning text that allows the housing developer to choose from a menu of alternative targeting options, each of which satisfied a public policy purpose. For example, developers may be offered the option of providing 10% of the dwellings for households at or below 80% of AMI, or 20% of the dwellings to households earning 100% of the AMI. If desired, the menu of options could be

expanded into a continuous sliding scale of income and set-aside percentages.

Probable Market Impacts

If flexibility is implemented by authorizing the housing agency to establish income targets, a greater number of market-rate and affordable housing units are likely to be created than under a rigid targeting regime. The housing agency will be knowledgeable of financial, market and funding conditions and will be able to adjust targets accordingly.

If flexible targeting is written directly into the zoning text the market effect is also likely to be positive. Housing developers are likely to know their financial and marketing considerations better than regulators, and will be able choose from the allowable targeting options as circumstances dictate.

Who Bears the Cost?

Incorporation of flexible income targets will reduce the cost of producing inclusionary housing by allowing developers to choose the profit-maximizing alternative, thereby reducing the adverse effect on land prices and minimizing production decreases that raise market prices.

Advantages of Flexible Targeting

The principal advantage of flexible targeting is to minimize the adverse effects of mandatory requirements or to maximize the positive effects of voluntary requirements on housing creation. This is accomplished by allowing the housing agency or individual developers to more easily adjust to changing conditions and to choose the profit-maximizing option that satisfies public policy goals.

Flexible income targeting may create affordable housing opportunities for a greater range of income groups than would rigid targeting.

Disadvantages of Flexible Targeting

The principal disadvantage of flexible targeting is that it reduces the predictability of inclusionary housing creation for any particular income group. This effect may be offset if the positive effects on housing production are large enough.

What New York City Does

New York City's current inclusionary zoning program

provides only one income eligibility level: 80% of AMI. Some flexibility is provided, however, because the density bonus is established as a ratio between incremental affordable square feet and incremental total square feet, allowing the developer to choose the total number and inclusionary housing units that will be provided and the bonus that will be derived from them.

What Other Places Do

Boston requires that one-half of the affordable units be affordable to renters or buyers earning less than 80% of AMI and the other half be affordable to households earning no more than 120% of AMI. Denver imposes different, but fixed, income targets for low-rise and high-rise housing. San Diego imposes different, but fixed, income targets for rental and ownership projects.

Irvine, California provides extra “credits” toward its 15% requirement set-aside if units are affordable to households below 50% of AMI, are 3- and 4-bedroom units affordable to households below 80% of AMI, or are ownership units affordable to households below 80% of AMI.

Santa Fe requires a 16% set-aside if units are affordable at 200% of AMI and 11% if units are targeted at 120% of AMI.

2: Parking Requirements

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2: Parking Requirements

Background

It is an inescapable fact of modern life that new housing development generates a need for additional automobile parking. In suburban areas, or in 1- and 2-family home neighborhoods of the city, parking does not usually create serious site planning complications or add to construction costs. In urban areas characterized by town house development, garden apartments or mid- and high-rise multiple dwellings, however, automobile parking is a critical planning challenge. If on-site or off-site accessory parking is not required, new housing development will create additional demand for curb-side parking, often creating significant inconvenience for existing residents and contributing to community resistance to new housing development. If adequate accessory parking is required to be placed off-street, however, the cost of housing construction is raised and site planning and building design is significantly constrained. In some districts of New York City, required off-street parking is the zoning control most likely to prevent housing developers from realizing legally permitted residential density.

New York City's unparalleled mass transit system reduces substantially auto use and contributes to the city's low rate of auto ownership. Nevertheless, there are over 1.8 million private automobiles registered to city residents and total registrations are growing at a rate of about 1% annually. To the degree that residents continue to prosper, and poverty rates are reduced, even more families will be able to afford automobiles and will need to park them. Even in areas well served by mass transit, many households who can afford cars choose to own them for recreational or other non-commuting purposes. The continued attractiveness of personal automobiles to urban families is exemplified by auto ownership in Manhattan, where auto registrations have been growing more rapidly than in any other borough. There is consequently little chance that transit improvements or technological innovation will significantly reduce the appeal of auto ownership in the foreseeable future.

As a result, parking one's car has become one of the foremost inconveniences of urban life. In a recent

study of New Yorkers' neighborhood satisfaction, undertaken by Baruch College on behalf of the New York City Council, more than half of survey respondents cited insufficient parking as their most bothersome community condition. Such widespread frustrations undermine the appeal of city life and contribute to the flight of the middle class out of the city.

This section analyzes three broad strategies for reconciling the need for automobile parking with the need for a larger, more modern and more affordable housing stock. The strategies include reducing parking requirements overall or for selected types of housing, encouraging enclosed parking on residential sites, and liberalizing rules governing off-site parking. As with other zoning policies aimed at facilitating appropriate housing development, each has its benefits and costs which are distributed unevenly across members of the community.

A. Reduced Parking Requirements

Parking requirements place a severe constraint on housing developers, limiting their ability to configure sites in an efficient and attractive way and often preventing them from realizing the full FAR of their properties. The simplest way to ease this constraint is to reduce or eliminate certain on-site parking requirements. New York City has already done this to some extent—residential buildings in Manhattan are not required to provide on-site parking and are limited in how many parking spaces they may choose to provide. Such parking restrictions may have the added benefit of curtailing auto ownership and improving air quality. The advantages of limiting parking in high-density districts must be balanced against the inconvenience for auto owners both in new housing developments and in the city's neighborhoods. Reflecting the importance of the issue to many residents, New York City recently increased the parking requirements in certain low-density districts of Staten Island.

Elements of Parking Reductions

On-site parking requirements are generally established as a ratio of the number of spaces to the number of dwelling units in a development. In New York City, the number of spaces decreases from one per dwelling unit in R1 single-family districts to 70% in R6 districts and 40% in R8, R9, and R10 districts. Developments qualifying for Quality Housing preferences have lower parking requirements, as do community facilities (which in certain districts require no parking).

Parking requirements need not be reduced to zero in order to have a beneficial impact on housing development. In some cases a relatively small decrease in parking requirements would allow developers to build the full floor allowed in their district, or to build a greater number of dwelling units with a given floor area, while also meeting height and setback requirements. Our analysis shows, for example, that on a prototypical R6 site using Quality Housing rules, if the number of dwellings is maximized and surface parking only is provided, the number of parking spaces falls significantly short of the required ratio. (Refer to Diagram 1.A.4.)

Rather than across the board parking reductions, ratios could be reduced only for affordable housing. In

its 1996 briefing book, *Zoning to Facilitate Housing Production*, the Department of City Planning proposed a schedule of lower parking requirements for affordable housing based on the income of tenants rather than on specific program categories, as is now the case.

Another approach is to reduce parking requirements for transit oriented housing developments. The rationale is that new housing developments within a specified proximity to subway stations or other transit nodes will generate less auto ownership and less parking demand than developments located further away from transit. To some degree, New York City's zoning resolution already recognizes this tendency through its mapping of zoning districts with different densities and parking requirements.

Probable Market Impacts

Reduced parking requirements would probably result in an increase in the number of new housing units constructed as developers would find it easier to realize allowable floor area, especially on smaller sites and those that have irregular shapes. The positive impact on housing construction would be accompanied by an increase in land prices that reflect the greater amount of housing that could be built. Also, some developers may not avail themselves of the lower requirements either because parking rentals are an important part of the building's cash flow or because of marketability concerns.

Lower parking requirements may reduce the average size of dwellings developers choose to build, as parking requirements serve as a control on the number of units that can be built within a building of a given FAR.

Who Bears the Cost?

Off-street parking requirements are intended to mitigate the congestion costs of new development on surrounding properties. If parking requirements are reduced, a greater portion of the costs are borne by the community at large in the form of greater competition for curb-side parking. This results in more time expended searching for parking, longer walking distances from parking to home, and in the most congested areas, inhibited automobile use.

Advantages of Reduced Parking Requirements

In cases where off-street parking would be provided

at grade and unenclosed, reduced requirements would not materially affect the construction costs of new housing but would, in many circumstances, allow developers to realize a greater portion of allowable FAR.

In circumstances where enclosed parking would be provided, either above or below ground, the costs of housing construction would be reduced and greater FAR may be achieved.

If shortages of curb-side and off-street parking make automobile use less convenient or more costly, auto ownership and auto use may be curtailed. While auto ownership is on the rise in New York City—including Manhattan—the rate of increase may be less.

Disadvantages of Reduced Parking Requirements

Reduced parking requirements would shift some of the cost of new housing development from residents of the development to the community at large. The resulting inconvenience may make some neighborhoods of the city less appealing places to live.

The negative impacts of reduced parking requirements may be less if the housing in question serves elderly or low-income populations who are less likely to own cars than residents of market-rate housing. The residents of income-restricted housing may not have permanently low-incomes, however, and their auto ownership rates may rise over time. Many affordable housing projects, moreover, may transition out of income and rent restrictions when their program requirements are fulfilled.

The negative impacts of reduced parking requirements may also be lessened if the housing development is located in close proximity to subway stations or other transit nodes. There are no recent studies of how auto ownership in New York City varies with proximity to mass transit.

What New York City Does

New York City's zoning resolution requires one off-street parking space per dwelling unit in low-density districts (R1 through R4), with decreasing requirements in progressively higher-density districts. In R4 and R5 predominantly built-up areas, off-street parking is required for 66% of the units. In R6 off-street parking is required for 70% percent of the dwellings

and in R7-1 for 60%. When Quality Housing rules pertain, the ratio is 50% in R6 and R7 districts. Each parking stall must be at least 18 feet long and 8 feet, 6 inches wide, and each 300 square feet of standing or maneuvering area (200 if attended) counts as one space. In the recently enacted Staten Island Growth Management Area zoning, 2 parking spaces for single-family homes and 1.5 spaces per dwelling unit for other housing types are required.

The City's zoning regulations currently impose lower parking requirements for certain categories of affordable housing and community facilities. For example, "government assisted housing" in R6 districts is required to provide parking spaces equal to 55% of the number of dwelling units, compared to 70% for market-rate housing in the same district. Housing for the elderly in the same district has a 22.5% parking requirement. When Quality Housing rules are followed, the ratios are 35% and 16%, respectively.

The City does not explicitly apply lower parking requirements to transit-oriented developments. The lower parking requirements for higher-density residential districts, however, combined with the typical mapping of those districts in transit-rich areas, achieves some of the same effect.

In certain districts of Manhattan and Queens there are maximum, rather than minimum, off-street parking requirements. Parking requirements are also reduced for small zoning lots in R6 districts and above.

What Other Places Do

Chicago recently enacted new parking standards within its zoning code. The base rate for new multi-family development is one space per dwelling unit. Any unit that has received government subsidies is eligible for reduced parking requirements depending on the size of the unit. Subsidized units smaller than 600 square feet are required .33 spaces, while those between 600 and 1,200 square feet are required .70 spaces. In designated "transit-served locations" developments are granted a 25% reduction in total parking requirements. Transit-served locations are within 600 feet of a rail station entrance. Chicago also requires one bicycle parking space for every two automobile parking spaces in all multi-family developments.

Seattle mandates between 1.1 and 1.25 spaces per dwelling unit depending on the number of units in the

development. In addition to this base requirement, each dwelling unit exceeding 500 square feet must provide .0002 spaces per square foot in excess of the 500 up to an additional .15 spaces per unit. Units with 4 or more bedrooms are required to have an additional .25 spaces per unit. There are significant reductions to the parking requirement for affordable units, starting at .33 spaces per unit. For units occupied by low-income elderly or disabled households, one space is required for each 5 dwelling units. Stalls are categorized into those for large vehicles, medium vehicles, and small vehicles. The percentage requirement for each stall type depends on number of dwelling units in the development.

More and more cities are reducing the total number of parking spaces required of mixed-use projects if parking for the two or more uses occurs at alternating time periods. Likewise, many cities allow a reduction in parking requirements can be attained if the development undergoes a comprehensive site plan review process intended to promote pedestrian and transit oriented design.

B. Remote Parking Alternatives

In a city as well-served by mass transit as is New York, many residents who choose to own automobiles do not need to use them on a daily basis. For example, while 45% of the city's households own cars, only 32% of the city's resident workers commute to work by car. Many use their automobiles intermittently for shopping, visits to family, or excursions to the country. That raises the possibility that automobiles can be stored in locations distant from the dwellings they serve, freeing up a greater portion of residential sites for additional housing density or recreational and open space.

Elements of Remote Parking

Remote, or off-site parking, can be regulated in much the same way as on-site parking. Parking requirements can be met either on-site or off, or through a combination of the two. The parking can be surface or enclosed, reserved or shared. Design standards for off-site parking facilities can be established, and can even be made more stringent than those for on-site spaces because they would not be constrained by the requirements of housing design.

The critical issues in devising a remote parking policy are: how proximate the parking has to be to the dwellings it serves; in which zoning districts remote parking facilities can be located; what ratios of spaces to dwellings are required for off-site and on-site parking; whether the parking facilities must be owned by the same entity that owns the housing development; what controls on multi-use parking are imposed; and what design standards for remote parking facilities are established.

Probable Market Impacts

A liberalized approach to remote parking would probably add to housing production by creating additional flexibility in site planning. More projects would be financially feasible, especially those on small or irregular sites, and housing developers would find it easier to attain the legally permitted floor area in residential developments.

The economic effects of liberalized remote parking rules would depend on how the various policy parameters are established and on the availability of suitable

sites proximate to developable residential sites. If there is a high demand for local parking by other housing developments, businesses, and the general community, remote parking facilities may be cheaper to provide than on-site parking and may even be attractive investments in their own right. If additional density is permitted in residential developments that provide parking elsewhere, additional housing creation will be encouraged.

Who Bears the Cost?

The monetary costs of providing off-site parking will, like those of on-site parking, be shared by landowners and by residents of the housing development to which it is accessory, unless and to what extent public subsidies are provided in the form of capital or land. It would avoid the shifting of costs, in the form of parking shortages and inconvenience, that would be imposed on the community if parking requirements were simply reduced.

Remote parking raises an important equity issue, however. There are aesthetic and environmental costs associated with parking facilities; those costs would be shifted from the residents of the housing to which the parking is accessory to residents proximate to the off-site facility. Ideally, the off-site facility would be sited in a manner that minimizes the adverse impacts on other community residents, but some degree of cost-shifting is virtually inevitable.

Advantages of Remote Parking

Liberalized remote parking regulations would create more financial options for housing developers, facilitate better housing design, and avoid the congestion costs associated with reducing parking requirements outright.

More easily than on-site parking, remote accessory parking can serve multiple purposes; several different housing developments can utilize the same dedicated parking facility, a portion of the spaces can satisfy local commercial parking needs during business hours and residential needs at night, or parking spots can be rented for general community use. Such opportunities can help ease existing parking and congestion problems in the community.

Disadvantages of Remote Parking

Placement of accessory parking on remote sites shifts

some of the aesthetic and environmental costs from the residents of the housing to which it is accessory to others in the community. Under certain conditions, the remote parking site would otherwise be devoted to housing development or open space. This disadvantage would be offset if the remote parking were also shared with different uses that have different peak demand.

When unattended, parking facilities can be inviting locations for criminal activity such as theft and assault.

What New York City Does

New York City's zoning regulations permit off-site accessory parking in R3 through R10 districts, providing the parking facility is not located in a residential zoning district and is within 600 feet of the housing development. In R7-2, R7A, RZX, R8, R9 and R10 districts the maximum distance is 1,000 feet.

Joint facilities are permitted as long as the total number of spaces provided is not less than the combined number required of the separate uses. Spaces may be rented to nonresidents on a weekly or monthly basis providing that such spaces are made available to a resident within 30 days, upon written request. Furthermore, the spaces must be in the same ownership as the use to which they are accessory and are subject to deed restrictions binding the owner and his heirs to maintain the required number of spaces for the life of the use.

What Other Places Do

Denver allows off-site parking only if the parking lot abuts the development lot or if the development lot abuts a fixed rail transit system, in which case the accessory parking may be up to 200 feet away.

Pittsburgh allows off-street parking requirements to be met off-site. The remote site must be located within 1,000 feet of the development. Developments with ten or fewer required parking spaces can have remote plans approved administratively, while those developments with a requirement exceeding ten spaces must seek approval for remote parking through a public review process overseen by the Zoning Board of Adjustment.

San Francisco allows off-site parking for residential

use if it is within 600 feet of the lot it is accessory to. Joint parking is also permitted, providing the total number of spaces is no less than the combined total of the separate uses. In certain districts, payments into a fund for the creation of municipal parking facilities can be made in-lieu of providing parking on-site.

C. Encouraging Enclosed Parking

The fundamental dilemma regarding parking requirements is that on-site, at-grade parking spaces consume lot area that can be used to increase the floor plate of the residential building or to provide open space for its residents. If parking requirements are reduced, a congestion cost is imposed on other members of the community. One way to reconcile these competing goals is to encourage parking to be provided within the residential structure—either underground, at grade, or on floors above grade. Such solutions will economize on residential land and could have aesthetic advantages, but are generally more costly than open, at-grade parking and would require amending urban design and streetscape rules to address the problem of blank streetwalls.

Elements of Enclosed Parking

Enclosed on-site parking can be mandated by zoning regulations or encouraged through incentives. Incentives can be offered by excluding floor area devoted to accessory parking from FAR calculations, by providing actual FAR bonuses for buildings that provide parking in a manner environmentally and aesthetically preferred by the community, or by relaxing height, setback or other zoning controls.

Underground parking, either within the cellar of the building or beneath the entire residential site, is the alternative that best economizes on land and is generally considered the most aesthetically pleasing. Excluding underground parking from FAR calculations does not have any implications for other zoning controls unless the basement or cellar space would otherwise count as floor area, in which case the building will be proportionally higher or cover proportionally more of the lot. To encourage underground parking, an FAR exclusion is generally not sufficient and an additional FAR bonus will have to be provided to offset the costs of building it.

Parking beneath the building, either at grade or within the first several stories of the residential building, can present design complications for the developer and their architects but will generally be less expensive to construct than underground parking. To encourage this alternative, while not limiting the amount of residential space that can also be built, it is usually necessary to exclude the parking floor space from FAR cal-

culations and often to relax height and setback regulations.

Parking can also be provided in an enclosed structure adjacent to, and/or as part of the residential building. Unless it provides more than one level of parking, or its roof is designed as green space, it will offer no advantages over at-grade, unenclosed parking. If two or more levels are provided it can significantly increase parking capacity at less cost than underground parking, but may complicate building design and limit the number of dwelling units. This alternative can be encouraged through floor area exclusions, but may also require relaxing certain open space and height and setback rules.

The diagrams below illustrate a mid-rise development in which parking is provided in an above-ground structure with rooftop open space, and a mid-rise development in which parking is provided underground. The above-grade option assumes no Inclusionary Bonus, whereas the below-grade option assumes a 20% Floor Area Bonus and thus maximizes the developable bonus. (Refer to Diagrams 2.C.2. and 2.C.3.)

Probable Market Impacts

Mandating enclosed parking alternatives would add significantly to the cost of new housing construction. The degree of the cost impacts would depend on the form of enclosed parking mandated, the options developers are given to meet it, and whether the mandates are coupled with relief from height, setback and open space restrictions. Our cost and financial analysis indicates that, for the prototypical R6 Quality Housing building, underground parking would raise hard construction costs by about 4% and lower the residual land value of rental projects by about 13% and of condominiums by only 1%. (Refer to Proforma 2.B.1.) The increased costs of housing construction with mandated enclosed parking would probably affect negatively housing development in the city, although the effects may not be severe if most of the additional cost is capitalized into lower land prices. Under today's market conditions, such mandates would probably affect construction of rental housing, and housing in marginally marketable neighborhoods, more severely than condominium development in the most marketable locations.

If enclosed parking alternatives are encouraged by

relaxing height, setback, open space or FAR limitations there will be a positive housing supply effect by allowing developers to more easily achieve their maximum legal floor area. The effect will be stronger if positive FAR bonuses are also provided. Some of the positive effect, however, will be offset if land prices rise to reflect the more favorable rules associated with providing required parking.

Who Bears the Cost?

If enclosed parking is mandated the effects will be much like other housing mandates, including inclusionary housing mandates. Building costs will rise, but whether the housing consumer pays most or all of the cost, or most or all of the cost is capitalized into lower land prices, will depend on the price sensitivity of demand for new housing and on the price sensitivity of the supply of residential land.

If height, setback and open space restrictions are relaxed, either to offset the cost of mandatory enclosed parking or to provide incentives for developers to voluntarily build it, there will be a cost imposed on the community at large. That cost will be in the form of greater building bulk reducing sunlight to nearby parcels, and potentially through the disruption of the visual continuity of the neighborhood. Those costs may be offset by a reduction of the congestion costs (if more parking is provided than otherwise) or if enclosed parking is made more aesthetically pleasing than open parking.

Advantages of Enclosed Parking

Enclosed parking can minimize the contribution of new housing development to neighborhood parking shortages and ease site planning constraints for new developments by economizing on the amount of residential land devoted to automobile storage. It may also improve neighborhood aesthetics, depending on the design strategies devised and encouraged by regulations. It may also increase housing production if height, setback open space or FAR restrictions are eased, allowing developers to more easily achieve legally-permitted residential floor area.

Disadvantages of Enclosed Parking

All enclosed parking is more expensive to provide than at-grade, open parking. Underground parking is the most expensive to provide. (The test case assumes \$25,000 per structured parking space.) Even with the

most favorable site conditions it adds significantly to the cost of construction; when bedrock or ground water are reached upon shallow excavation, it can be prohibitively expensive. If enclosed parking is mandated, it would raise construction costs and probably have a negative effect on housing creation.

At grade or multi-level enclosed parking may result in higher or bulkier buildings, with potentially negative environmental or aesthetic effects on nearby properties.

What New York City Does

New York City already has fairly liberal zoning rules regarding enclosed parking. Floor space in basements and in accessory buildings is excluded from FAR calculations if it is used for accessory parking. Generally, floor space within a residential building that is 23 feet or less above curb level is also excluded, although there are a number of qualifications to that exclusion in lower-density districts.

When accessory parking is provided in a residential building or in an auxiliary structure on the same lot the roof of the parking facility may be counted as open space if it is not higher than 23 feet above curb level, if it is directly accessible from the building and meets certain other conditions.

Although the above zoning rules and exclusions generally encourage enclosed parking, there are no corresponding height, setback or lot coverage allowances. Consequently, while floor space devoted to accessory parking will generally not count toward allowable FAR, other zoning constraints may impede a developer from realizing the full FAR potential of the site if enclosed parking is incorporated within the structure.

What Other Places Do

Denver excludes all floor devoted exclusively to the parking of vehicles from maximum floor area limitations. Also, Denver's program requires a 10% inclusionary set-aside for ownership projects of 30 or more units with household income limits set at 80% of AMI, except for elevator buildings higher than three stories with enclosed parking, for which the income limits are 95% of AMI. Density bonuses of up to 10% are available except in planned unit developments and single-family zoning districts.

Hoboken allows above-grade parking, contingent on a number of design guidelines to reduce their negative visual and street life impacts. These include facade treatments, stoops leading to private entries for lower-level apartments, and required rooftop open space.

San Francisco exempts enclosed accessory parking, whether in a basement, story, or auxiliary building, from its FAR density control calculations. Stories within a residential building devoted to accessory parking, however, are not excluded from height limit calculations.

Seattle allows residential developments to enclose parking but does not exclude the floor area devoted to it from allowable floor area or adjust building height limits to accommodate it.

2.C.1. Proforma: Financial Comparison of Buildings without and with Above-Grade Parking

	Sources and Uses of Financing	Rental Apartments		For Sale Condominium	
		Total	/ZSF	Total	/ZSF
Baseline w/ Structured Parking	<u>Sources</u>				
	Debt	20,716,307	230	20,716,307	230
	LIHTC	-	-	-	-
	Subsidy	-	-	-	-
	Equity	3,400,000	38	10,500,000	117
	Total	24,116,307	268	31,216,307	347
	<u>Uses</u>				
	Land (Residual)	2,393,655	27	8,135,099	90
	Hard Costs	15,924,300	177	17,798,550	198
	Financing Costs	1,382,982	15	426,753	5
	Insurance/Taxes/Interest	717,225	8	717,225	8
	Other Soft Costs	1,723,358	19	2,040,388	23
	Development Overhead	1,974,787	22	2,098,292	23
Total	24,116,307	268	31,216,307	347	
10% Mandatory Inclusionary, @ 80% AMI w/ Structured Parking	<u>Sources</u>				
	Debt	19,292,917	214	19,292,917	214
	LIHTC	-	-	-	-
	Subsidy	-	-	-	-
	Equity	3,200,000	36	9,600,000	107
	Total	22,492,917	250	28,892,917	321
	<u>Uses</u>				
	Land (Residual)	946,575	11	5,944,486	66
	Hard Costs	15,924,300	177	17,798,550	198
	Financing Costs	1,287,617	14	396,193	4
	Insurance/Taxes/Interest	672,068	7	672,068	7
	Other Soft Costs	1,703,599	19	1,995,398	22
	Development Overhead	1,958,758	22	2,086,221	23
Total	22,492,917	250	28,892,917	321	
20% Bonus, 10% Inclusionary, @ 80% AMI w/ Structured Parking	<u>Sources</u>				
	Debt	23,494,238	218	23,494,238	218
	LIHTC	-	-	-	-
	Subsidy	-	-	-	-
	Equity	3,900,000	36	11,600,000	107
	Total	27,394,238	254	35,094,238	325
	<u>Uses</u>				
	Land (Residual)	1,616,336	15	7,646,791	71
	Hard Costs	19,210,800	178	21,486,150	199
	Financing Costs	1,568,194	15	482,290	4
	Insurance/Taxes/Interest	805,355	7	805,355	7
	Other Soft Costs	1,850,107	17	2,178,429	20
	Development Overhead	2,343,446	22	2,495,222	23
Total	27,394,238	254	35,094,238	325	

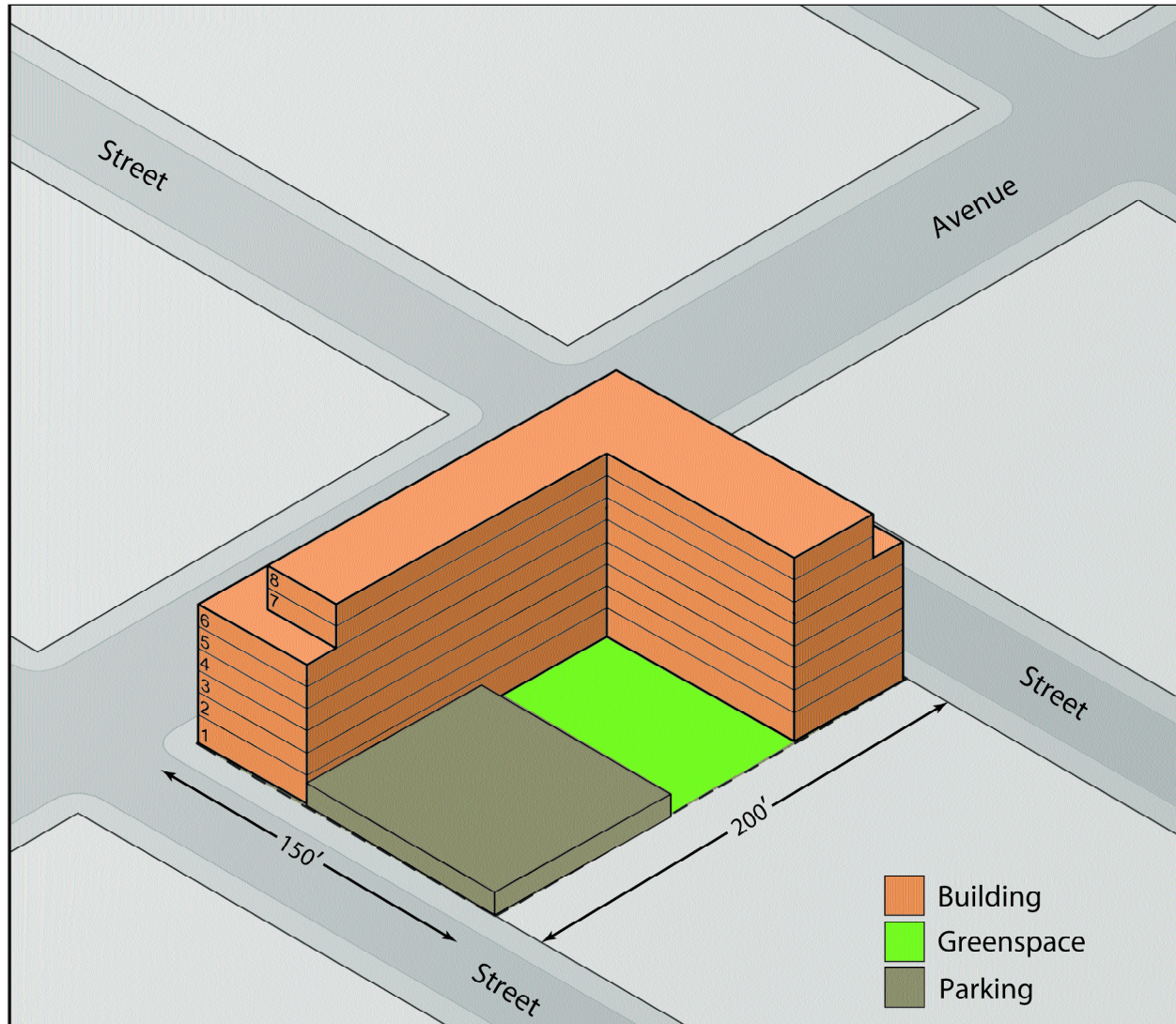
Refer to Appendix 4.C. for explanation of the assumptions

The following proforma is based on a Quality Housing mid-rise apartment building in an R7 zone. The Quality Housing regimen was picked since it is more often used from the lower alternative; and the outer boroughs were picked as they represent a new frontier for development.

Our analysis of a hypothetical site and financial pro-

otype indicates that with today’s favorable market conditions and low interest rates, the residual value of the land—i.e., the amount a developer will bid for the land based on cash-flow and profit—is greatly affected (one-quarter reduction) for rental housing with structured parking, but hardly affects for condominium development with structured parking.

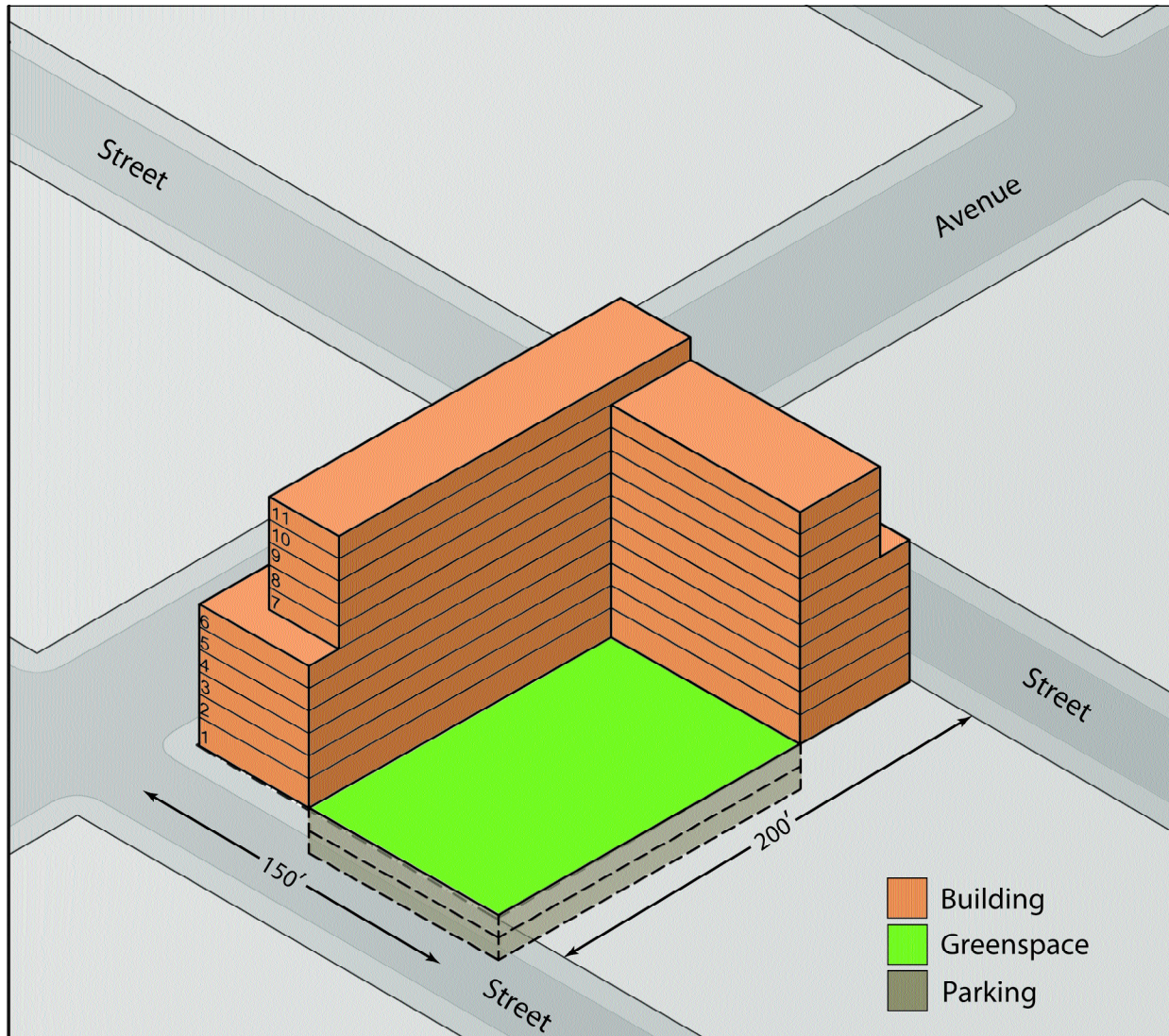
2.C.2 Diagram: R-7 Quality Housing with Above-Grade Parking and without Inclusionary Bonus



This R-7 Quality Housing building, at 117,000 square feet contains 129 dwelling units requiring 65 parking spaces. These spaces are accommodated here by a two-story fully-attended parking structure. Such garages require approximately 200 sq. ft. per car as compared to 300 sq. ft. in a typical garage, allowing for greater parking density. The two levels shown here, one at grade and one directly above, total 15,400 sq. ft., leaving 6,000 sq. ft. of open space, as required by zoning regulations.

- R7 Zoning District: Quality Housing outside the Manhattan core.
- 117,000 sq. ft. floor area.
- 129 dwelling units.
- 6,000 sq. ft. per unit.
- 65 parking spaces required, 65 provided.
- Two levels of fully-attended parking.
- Complies with Quality Housing Requirements.

2.C.3 Diagram: R-7 Quality Housing with Underground Parking and with Inclusionary Bonus



This Quality Housing 144,000 sq. ft. building illustrates the potential bulk of an R7 building with the Inclusionary Bonus, were it not limited by height and FAR controls. The building would contain 159 units. In this scheme, a below grade parking structure provides approximately 80 parking spaces, meeting zoning requirements, and leaving the entire outdoor area as greenspace.

- R7 Zoning District: Quality Housing outside the Manhattan core.
- 143,500 sq. ft. floor area.
- 159 dwelling units.
- 900 sq. ft. per unit.
- 80 parking spaces required, 80 spaces provided.
- Complies with Quality Housing Requirements, with the exception of height and FAR controls.

3: Height and Bulk Controls

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3: Height and Bulk Controls

Background

This section looks at several of the fundamental zoning regulations that control the shape, bulk and placement of residential buildings on their lots. It underscores that zoning is a form of restrictive regulation—that is, it limits what land owners can build on their properties. Any aggressive effort to stimulate the construction of additional market-rate or affordable housing through regulatory reform necessarily has to remove or relax some of the restrictions imposed on development. If there were many useless or contradictory zoning restrictions, the task would be easy and could be undertaken at little cost. In truth, however, the vast majority of zoning regulations impose restrictions on private development in order to achieve a desirable public purpose or to minimize adverse impacts on the community. Consequently, zoning reforms that could potentially result in a large amount of new housing construction will have effects on other aspects of the community's well-being. We attempt to illuminate those trade-offs on the following pages.

The section is divided into three categories, which reflect the groups of zoning regulations that most significantly impact the production of housing: height controls, setback requirements, and open space requirements. The distinctions are sometimes arbitrary, as each of these controls interplays with the others, and in combination they form the basic rules that determine the building "envelope." In modern zoning, a fourth set of rules, mandating and governing off-street parking, play a critical role in determining what is physically feasible on a development site. Parking requirements were analyzed separately in the previous section, but it should be kept in mind that they interact with the controls discussed here.

In recent years there have been several efforts to reform New York City's zoning resolution in order to promote housing development. Some have offered primarily "technical corrections," such as the Department of City Planning's Zoning to Facilitate Housing Production, issued in July 1996. Other proposals have been more sweeping, such as the Unified Bulk proposals in 2001. Many experts and practitioners argue that the Zoning Resolution requires a thorough overhaul—that incremental changes will not effectively address the City's current and future devel-

opment needs. Any such overhaul will need to confront the basic issues raised in this section and the implications of changing them.

In order to keep our analysis clear and understandable, we have focused most of our discussion on mid-rise residential districts. Lower-rise row house districts, however, are the backbone of many New York City neighborhoods. Originally built as one-family homes many of these attached buildings were later converted to multiple dwellings in response to increased upkeep and maintenance costs, shifting populations and changing demographic profiles. These walk-up apartment buildings typically range from 3 to 5 stories in height and today often contain between 2 and 6 units in a four-story structure. Although they constitute some of the City's best and most desirable neighborhoods, developing this attractive housing form today at the existing density is difficult. The vacant land that is available in these low- and medium-density districts is more suitable for smaller infill projects and zoning and building code regulations restrict that possibility. One option would be to permit higher densities, as in the case of predominantly built-up areas, and/or to ease the envelope and egress restrictions for infill lots in both contextual and generic districts.

This section of the Manual purposely does not address two other sets of regulations that have an enormous impact on housing production: density and use. Changing the permitted use, thereby increasing the land area on which housing can be built as a matter of right, increases the potential for housing development, if done in areas for which there is housing market demand. The City has recently undertaken a number of such remapping actions. Likewise, increasing the underlying density of development permitted in any area would naturally increase the potential for development. Administratively, it is easy to upzone areas for greater residential density; politically, there is seldom support for doing so. Consequently, we focus on generic, and in some cases subtle, changes that would be beneficial to housing creation across the board. We focus on those regulations that prevent the full utilization of existing density on a site and those whose practical results conflict with other goals. In short, we focus on the relaxation of the height, setback, and open space requirements that together determine the building envelope.

A. Liberalizing Height Controls

Removing constraints on height is one way to enable more housing to be built on the same sites. This is an especially useful liberalization when done in connection with voluntary inclusionary housing incentives. Not only is the development's yield in units increased, its value is increased even more. Extra height translates into better views, hence greater apartment values/rents in areas of the city where private development is most viable. In lower density areas the extra height would translate into usable attic spaces, lower construction costs, roomier units, and/or additional floors.

The nation's first zoning regulations, adopted by New York City in 1916, controlled building height with limits that were a multiple of the width of the street that the building faced. Setbacks were required at different heights, to provide for light and air to the street, resulting in the stepped back look so familiar in older New York buildings. The City was divided into 9 classes of height districts, 8 of which defined the base height as a multiple of the street width, while the ninth district limited building height to an absolute maximum of 50 feet.

From 1961, reflecting popular thought at mid-century, New York's new zoning resolution encouraged towers in mid- to high-density residential districts in order to provide maximum amounts of open space. These are also known as "height factor" buildings. In most lower-density districts, the height of buildings is controlled by maximum perimeter wall and building heights and either pitched roofs or setbacks.

Over the past two decades, the pendulum of planning opinion has shifted from "towers in a park" to a building type that is felt to be more respectful of the existing built context, which in New York tends to be bulkier and lower-rise, reflecting in large part the legacy of the 1916 zoning laws. "Contextual" zoning districts have been increasingly mapped throughout the City.

Elements of Height Controls

The most direct way to control building height is to impose absolute, quantitative limits. New York, along with many other jurisdictions, employs this simple control in certain circumstances. Pursuant to the Quality Housing program and to contextual zoning districts, for example, residential buildings must provide a minimum base, and must conform to a maximum base

height and a maximum building height. One option for maximizing the construction of housing density, therefore, is to liberalize the height restrictions inherent in contextual zoning. Height limitation could be eased to permit the utilization of all base density, or to permit zoning lot mergers that transfer development potential from adjacent properties. Liberalized height limitations could also be linked to a specific bonus—such as the provision of affordable housing.

Another method of restricting building height is height factor zoning. A height factor building does not have a maximum building height, but instead must step back (see Section 3.B below) at regular intervals, following a sky exposure plane from the point of setback. The stringency of the control is determined primarily by the angle of the sky exposure plane that is mandated. Thus, the maximum height of the building, although theoretically limitless, is constrained by the reality of building ever-smaller floors as it rises in height. Alternatively, a tower could be set back from the street at ground level and then rise up without setbacks to a greater height, at which point an alternate formula for sky exposure planes would mandate the configuration of setbacks of the upper floors. As a practical matter, the limited area available for a building footprint frequently makes it difficult to construct a feasible residential height factor building on smaller sites. Since height factor zoning does not limit building height directly, height factor zoning controls could be eased by modifications to open space, parking, or setback requirements.

Probable Market Impacts

The likely market impact of such changes would be to facilitate the achievement of legally allowable floor area ratios, thereby marginally increasing housing production as well as land values (which could be built to somewhat greater density). Market rents and prices would not be expected to decline, unless the increment in housing produced were sufficient to change the overall demand/ supply balance (an unlikely result in the absence of broader zoning changes).

Added height can increase the value of the additional number of apartments, since there will that many more apartments with views. The increase in value is usually greater in more affluent neighborhoods, where residents have the added disposable income available to pay for such amenities; and in developments where

the views are a key attraction, such as near the waterfront. The greater value of apartments on higher floors may enhance the financial viability of certain projects.

Who Bears the Cost?

The cost of permitting buildings to exceed current height limits or to comply with less demanding sky exposure planes would fall on the surrounding community. In particular, adjacent property owners whose access to light and air may be impaired by the presence of taller buildings will bear the cost, which in some cases may be monetary if property values are reduced.

Advantages of Liberalizing Height Controls

Raising explicit maximum building heights or adopting a less demanding sky exposure plane would allow developers to utilize fully the FAR which the City Planning Commission has determined is appropriate for the site. It may provide for a small number of additional housing units or simply larger sized units within the existing density controls.

Liberalized height controls would be a useful, perhaps necessary, part of a voluntary inclusionary zoning program, helping to ensure that FAR bonuses given to developers for providing affordable housing would actually be useable.

Disadvantages of Liberalizing Height Controls

The New York City Zoning Resolution has consistently restricted the height of building so as to ensure that adequate sunlight is provided to nearby properties. Any relaxation of these restrictions may be viewed as a weakening of the protections previously provided to existing residents and property owners. Whether taller buildings are, in fact, detrimental to adjoining properties when compared to bulkier buildings with the same floor area is a question that requires detailed study. (It should be noted that the 1916 Zoning Resolution solved this problem by permitting the lower portion to penetrate the sky exposure plane, provided the footprint did not cover more than 25% of the lot. A similar device has been suggested by some.)

Relaxed height controls may lead to buildings that are not harmonious with the existing built form of a neighborhood.

What New York City Does

New York City utilizes height factor zoning in residen-

tial districts that are not designated as contextual districts. This method encourages buildings to be built taller, and more open space to be provided, by increasing the floor area permitted to be constructed as the amount of open space on the lot increases. For example, in an R6 district, the highest residential FAR (2.43) is reached in buildings with a residential footprint of approximately 20% of its lot area.

In some cases maximum building heights are explicitly established, as in the City's Quality Housing Program. For example, an R6 Quality Housing Building or a building in an R6A contextual zoning district must provide a base between 30 and 60 feet in height with a maximum building height of 70 feet (Sec. 23-633, Table A). The height limits, when coupled with the lot coverage mandated pursuant to Section 23-145 of the zoning resolution, can, depending upon the configuration of the zoning lot, preclude the use of all of the FAR generated by the site, and as we found, the use of any incentive associated with a voluntary inclusionary zoning program.

Height limits that are subject to Waterfront Regulations (Sec. 62-00) are set as a maximum height above the ground plane, with the possibility through a special permit to exceed the maximum height. The Quality Housing Program permits buildings to exceed the height limits in R10X districts only for a very specific set of circumstances (Sec. 23-633 (c)).

What Other Places Do

San Francisco utilizes explicit height restrictions extensively in its zoning code. Much of the city is divided into special zoning districts which entail contextual height limits, most typically of 26, 40 or 65 feet. The Planning Commission is authorized to provide exemptions to height limits on a district-by-district basis. In many districts, exemptions are available to developers who commit to making some units affordable to households earning under 150% of median income. In one special district, the base limit of 40 feet can be increased to 65 feet provided that all dwelling units on floors above 40 feet are unit units affordable to low- or very-low income households.

B. Relaxing Setback Controls

Setback controls work in combination with parking, open space and height requirements to regulate the shape of a building. Their primary purpose is to maintain the visual uniformity of a district and to mitigate the blockage of sunlight to nearby properties. Although often required, setbacks are frequently prohibited as well, as in contextual zoning districts where planners seek to maintain the continuity of an existing “streetwall” or to preserve the visual coherence of a neighborhood.

Unlike many other zoning controls, setbacks are an architectural feature of a building that is immediately recognizable and often attractive. Many residents and tourists do not realize, for example, that the classic “wedding cake” style of New York high-rises was adopted to comply with zoning regulations, not to make buildings more architecturally distinctive. However pleasing to the eye, setbacks usually add to construction costs and sometimes make apartments difficult to configure. In combination with other zoning restrictions, they may also prevent housing developers from realizing the full permitted floor area of their developments.

Elements of Setback Controls

In suburban areas or in low density districts of the city, setbacks are established primarily by front yard requirements. A building must be set back from the street line at a distance expressed in feet or in terms of its alignment with adjacent buildings. R5 districts require both a front yard and a building setback at the third floor. In medium and high density zoning districts, a building’s shape is set by its base height and the dimensions of the tower above it. A maximum street wall height is often specified in number of stories or feet. After that point, the floorplate of the building must become smaller, in order to permit sunlight to reach the street below. In effect, the building must be set back (“setback”) from the wall of the floor below. A height is eventually reached at which a practical floorplate can no longer be achieved.

More residential floor area can be put on a given site, and generally can be built at a lower per foot cost, if setbacks are minimized. Setbacks can be minimized directly if maximum streetwall heights, where applicable, are increased. Setbacks can also be minimized

indirectly, through changes to front and rear yard requirements and through modifications of sky exposure planes.

Probable Market Impacts

The probable market impact of a relaxation of setback requirements would be a marginal increase in housing density through the full incorporation of a site’s density. In districts where setbacks are necessary to realize allowable FAR, the cost of constructing housing may be reduced, which may in turn stimulate more construction. Architects often find, for example, that for smaller lots, Quality Housing buildings, with their higher lot coverage and bulkier form, are more economical and practical to build. They may also permit use of more—if not all—of the site’s FAR. Some of the cost reduction, however, may simply be capitalized into higher land prices.

Who Bears the Cost?

The cost of relaxing setback requirements would be born by residents of surrounding properties, whose access to light and air may be compromised. To the extent that buildings designed to maximize density were built to the lowest common denominator in terms of design, the neighborhood would bear the costs as well.

Advantages of Relaxing Setback Controls

To the extent that setback requirements are relaxed or sky exposure planes are altered, a development would be able to more fully utilize the mapped density permitted on the site. The result of this would be an overall increase in FAR, although whether it would be expressed as more dwellings or larger units would be a marketing decision of the developer.

Disadvantages of Relaxing Setback Controls

The disadvantage of relaxing setback requirements would be the creation of bulkier buildings whose profiles block more sunlight than those that currently are permitted. This would have negative impact on the surrounding community—in particular on adjacent properties—and would be not be popular with existing residents. It may also produce buildings that are unattractive and architecturally uninteresting, possibly reducing the market value of adjacent properties.

What New York City Does

New York utilizes two parallel setback systems: one for

contextual districts and Quality Housing buildings and the other for height factor buildings. This reflects additions to the zoning resolution over time, with contextual buildings succeeding towers as the preferred option. A required setback can be stated in feet.

For height factor buildings, there is one set of heights, setbacks and sky exposure plane angles that are used if a building rises directly from the street line and another (“Alternate Setback”) that is used if the building is set back from the street line (10 feet on wide streets and 15 feet on narrow streets), providing shallow open space between the building and the sidewalk. For example, pursuant to the NYC Zoning Resolution, the standard setback for a building in an R6-R10 district on a wide street is 20 feet on a narrow street and 15 feet on a wide street above the maximum street wall height. After that point, the profile of the setback is set by a sky exposure plane. Alternately, the setback above the base height can continue to be measured in feet at specific intervals. R5 districts require both a front yard and a building setback at the fourth story.

Quality Housing and contextual districts mandate lower, bulkier buildings that are allowed greater lot coverage in exchange for lower heights. Towers are not permitted. Setbacks are required of at least 10 feet on wide streets and 15 feet on narrow streets (less than 75 feet in width). These setbacks are less than those required for height factor buildings which are envisioned as towers.

What Other Places Do

Denver relies primarily on yard requirements and sky exposure planes (called “bulk plains”) to produce setbacks. In some lower-density districts, the angle of the bulk plain is 45 degrees, producing a maximum building height (depending on the size of the lot). In mid- and high-rise residential districts, a 63-degree bulk plane beginning at 30 or 35 feet is used (produced a pitch of two feet or rise per horizontal foot) until a 90- or 95-foot height is attained, after which the bulk plain is vertical.

Seattle utilizes explicit height limits rather than sky exposure planes, and setbacks other than yard requirements are generally not required. However, facade “modulations,” with a minimum depth of 10 feet, are required for buildings which have a 40-foot or wider frontage.

Stamford, Connecticut allows setback (and other bulk) controls to be eased in connection with affordable housing involving modifications or additions to historic buildings.

C. Relaxing Open Space Requirements

The provision of open space is an important aspect of zoning, provided on public or publicly accessible land such as parks and paths as well as on private sites, where it serves to provide for light and air and to control density. We will only discuss open space provided on private development sites.

Accessible, private open space has long been considered a public amenity for which density incentives are deemed appropriate. Bonuses for covered arcades, through block pedestrian walk-ways, and public plazas have all been offered by New York City's zoning regulations for both residential and commercial buildings.

Elements of Open Space Controls

There are several ways to regulate open space on private development sites. Most frequently, it is regulated through yard requirements: front, rear and side yards that create a buffer between a building and its neighbors. The size and dimensions of required yards vary, thereby reflecting the desired density of a district. Sometimes front yards are not given as a measurement in feet, but as a requirement that the new development align with its neighbors or as a percentage of lot depth.

A second way of regulating open space is through lot coverage restrictions. Lot coverage is defined by the Department of City Planning's Zoning Handbook as "that portion of a zoning lot, which, when viewed from above, is or would be covered by a building or any part of a building." Zoning regulations can mandate that a certain percentage of a development lot remain unbuilt or developed only in ways consistent with open space purposes, or conversely, they can limit the percentage of a lot that can be allotted to built structures.

Yet another way of regulating open space is through the open space ratio ("OSR"), in which the amount of required open space on the lot is expressed as a percentage of the total building floor area. This method may be more appropriate to high-density urban contexts where floor area, rather than lot coverage, is more representative of the permitted residential density.

Open space requirements can be eased across the board simply by lowering front, side and rear yard

requirements, raising maximum lot coverage percentages, or lowering open space ratios. They can also be relaxed selectively in certain districts, or for certain types of housing. Lower open space requirements can also be used as a bonus awarded to, for example, developers who meet certain affordability guidelines. These requirements, however, generally couldn't be relaxed without corresponding changes in accessory parking requirements, which often absorbs most of the open space provided for new housing developments in mid-rise districts.

Probable Market Impacts

The probable market impact of a relaxation of open space requirements would be a marginal increase in housing production, reflecting easier attainment of allowable floor area on certain sites. That increase in realizable floor area would be accompanied by a corresponding increase in land values. It would probably boost the value of smaller residential sites by the greatest amount, allowing more economical building forms to be developed on them. It may lower the costs of construction in certain districts, as less expensive, low-rise forms of housing development become more feasible.

Who bears the cost?

Open space on private lots is generally intended for the recreation (passive or active) of a building's residents and for at-grade parking or drop-offs. The cost of relaxing open space requirements would therefore fall primarily on the residents of new housing developments. While open space in lower-density areas, which is often a front or rear yard enjoyed by another homeowner, is unquestionably an amenity, the value of open space in mid- and high-density contexts is less certain. Its greatest value to residents may, in fact, be as parking. In order to accurately evaluate how reductions in open space would affect residents of multi-family housing, a thorough study of the use of such space needs to be undertaken.

To the degree that reductions in open space requirements reflect less off-street parking, the cost would be shared by nearby property owners and residents in the form of increased competition for curb-side parking. Reductions in sunlight and in visible green space may also diminish the quality of neighborhood environments.

Advantages of Relaxing Open Space Requirements
Relaxation of open space requirements would permit

greater lot coverage, permitting the construction of lower and more economical buildings. It may be particularly useful for smaller lots or those with irregularly shaped footprints.

Disadvantages of Relaxing Open Space Requirements

The provision of open space for the enjoyment of residents has been a popular public goal of the 1961 Zoning Resolution, going back to the concept of the tower in the park. More realistically, open space is frequently used for at-grade parking, rather than as recreational area. Any relaxation of these restrictions may be viewed as a weakening of the protections previously provided to existing residents and property owners. It may be viewed as providing a lower quality of building. It may also be a meaningless reform without corresponding modifications to parking requirements. Public open space provided by private developers, such as plazas, arcades, and waterfront esplanades, are public benefits that have received much public support in the past.

What New York City Does

Open space is the unbuilt portion of zoning lots that is required in certain residential districts, which is expressed as the Open Space Ratio or "OSR." The OSR expresses the amount of required open space as a percentage of total building floor area. The OSR declines as the density of the district increases. A sixteen-story height factor building in an R9 district would have a maximum permitted FAR of 7.52. Open space in an amount that equaled at least 6.6 percent of the building's total floor area would be required in that case.

In lowest density residential districts (R1 through R5), open space is mandated through maximum lot coverage and either yard requirements. In R6 through R9 districts, open space must be provided according to a flexible schedule relating it to height factor and FAR. It must be remembered that density (FAR), open space (OSR) and building height ("Height Factor") are all variables that are balanced on a particular site in order to provide the most development within a marketable framework.

In New York City, open space does not have to be landscaped recreation space. At grade parking is permitted within open space. In addition, there are other mandates for public, rather than private open space.

For example, in medium and high-density waterfront sites, the zoning resolution's Waterfront Regulations mandate the provision of up to 15% of the lot area for publicly accessible open space along and leading to, the water's edge.

Residential buildings constructed pursuant to the Quality Housing Program or in contextual districts must comply with the requirements of the Quality Housing Program regarding recreational space. The Zoning Resolution contains minimum and maximum standards for indoor and outdoor recreational space for use of the residents, as well as landscaping and tree planting requirements.

What Other Places Do

In mid-density districts, Denver requires that 20% of the lot area be provided as unobstructed open space if the residential structure is three stories or less and 30% if the structure is four or more stories. Parking areas can not be counted as open space.

San Francisco expresses its open space requirements in terms of dwelling units. In mid-density residential districts, between 60 and 125 square feet of useable open space must be provided per dwelling unit if it is private and directly accessible from the unit. If it is open space for the common use of all residents of the building, the required quantity is increased by one-third. Roofs or parking garages may be counted as open space if it is made usable.

Seattle has very specific and demanding open space requirements above and beyond its yard requirements. In middle-density residential districts, 25% of the lot area must be provided as open space. Up to one-third of the open space may be in the form of above-ground balconies or decks if the total is increased to 30% of the lot area. If all parking is uncovered and surfaced in permeable material other than gravel, the quantity of required open space can be reduced by 5% of the lot area.

4: Appendix

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4.A: Building Code Restrictions

Background

This study has focused principally on zoning policies that constrain new housing development or that can be used to encourage affordable housing development. There are, however, many municipal laws and regulations that help to shape the business environment in which housing developers operate. Local tax policies affect the financial viability of new housing development and the prices consumers experience in the housing market. Environmental review laws affect the time and cost of planning projects, and often result in additional costs associated with the mitigation of environmental impacts. Rent regulations affect the cash flow and risk calculations of housing developers, and can impede site assembly for new housing projects.

The regulations most closely related to zoning are building codes, which typically govern how a building can be constructed, with which materials, and according to what specifications. There are actually a family of building codes, which include electrical codes, mechanical codes, plumbing codes, energy codes, fire codes, and other specialized elements of building construction. New York City updated its electrical code in 2001, adapting the 1999 National Electrical Code to the special requirements of building construction in New York City. It was the first significant update of the City's electrical code since 1969. Also in 2002, Mayor Bloomberg formed a special commission to study the feasibility of New York City adopting a model building code. The Commission released its report in May, 2003, strongly recommending adoption of the International Building Code. The City Council is now considering two bills, Intro 478, which would provide a timeframe for the adoption of the International Building Code, and Intro 368, which would, as an alternative, adopt the National Fire Protection Association's NFPA 5000 Building Construction and Safety Code.

A body of regulation closely related to building codes is New York State's Multiple Dwelling Law (MDL). The MDL, originally adopted in 1929, replaced the Tenement House Law of 1909. It applies only to cities within the state having a population of 325,000 or more—New York and Buffalo. It covers issues such as light and air, fire protection and safety, sanitation and health, and uses. Consequently, its provisions

substantially overlap with the City's zoning resolution and building codes.

Standardized Codes

Virtually every municipality in the country regulates construction standards, electrical systems, plumbing configurations and the like. Such building codes regulate the structural and interior characteristics of residential buildings, whereas zoning typically regulates their external features and relationship to other properties. Although larger cities often evolved customized building codes built up through decades of ad hoc regulation of construction, many smaller municipalities and suburban jurisdictions adopted standardized codes developed by national or international organizations. States often mandate the adoption of a particular code by jurisdictions within them or authorize jurisdictions to choose among them. New York State adopted a uniform code in 1981, although it is not one of the principal "model" codes and New York City is exempt from it.

Elements of Standardized Codes

What are often referred to as "building codes" are actually interlocking sets of codes that specify techniques, materials and standards for structural designs, dwelling unit characteristics and equipment, and building systems components. Codes for plumbing, mechanical and electrical systems are usually separate from building codes that deal primarily with structural issues. As noted, the two principal code systems now under consideration are the International Code Council's International Building Code and the National Fire Protection Association's 5000 Building Construction and Safety Code.

Each of these would provide a basis for building and related codes that are consistent with those of other jurisdictions and are frequently updated with regard to new standards, techniques, and materials. Either of them could be adopted in their entirety or with amendments.

Probable Market Impacts

Adoption of a standardized code would probably reduce the cost of constructing housing in New York City, although the cost savings may be less than many reform advocates claim. In its 1999 study of construction costs, the Furman Center for Real Estate and

Urban Policy at New York University estimated that, were a model code adopted by the City, materials costs for a 72-unit, R6 residential building would drop by about 10%, resulting in about a 4% decrease in overall development cost.

Such a decrease in building costs would have a modest, positive effect on new housing supply providing developable residential sites are not so scarce that the cost savings are not immediately capitalized into higher land prices.

Who Bears the Cost?

If adoption of a standardized code helps to reduce building costs, land will be worth more and more sites will be feasible to be built. Whether housing consumers realize any cost savings will depend on how much housing construction expands.

If adoption of a standardized building code lowers the barriers to entering the New York City market, more housing development firms from outside the city may be attracted to the market, creating a more competitive environment and lowering developer profit margins.

Advantages of a Standardized Code

Construction costs may decline by a modest amount. New construction techniques will be adopted more quickly by local housing developers. Consumers may benefit from a wider variety of equipment and materials choices. The housing development industry may become more competitive.

Disadvantages of a Standardized Code

From an administrative standpoint, careful amendments will have to be made to adapt a uniform code to the unusually high-density context of New York City. Consumers of new housing may purchase housing built with less expensive housing, but may not realize the cost savings if they are capitalized into higher land values.

What New York City Does

New York City's building codes were first adopted in 1850, and have been modified and expanded on an ad hoc basis. They are considered more stringent than standardized codes, in some respects unnecessarily so. The process for introducing new techniques and materials is arcane and time consuming.

What Other Places Do

San Francisco and Los Angeles both follow the California Building Code, a statewide uniform code, with modifications for local conditions. Seattle adopted the 2003 International Building, Residential, Mechanical and Fuel Gas Codes* (I-Codes), with Seattle amendments, on July 6, 2004.

Liberalizing the Multiple Dwelling Law

The New York State Multiple Dwelling Law (MDL) was first enacted in 1929 by State legislation to improve housing standards in urban areas. It specifically responded to the lack of amenities and poor health and safety conditions in tenement buildings. The law created standards that required multiple dwelling buildings in urban areas to have "sufficient light, air, sanitation and protection from fire hazards," which are "essential to the public welfare" (Art. 1, Sec. 1.: Legislative finding). The Law is also referred to as the New York State Building Code.

Elements of Multiple Dwelling Law

The Multiple Dwelling Law is New York State Law is considered a "general health" law, regulating a range of health and safety conditions in different multiple dwelling types (garden-type apartments, tenements, converted buildings etc). It outlines these conditions in tenant and landlord rights and duties.

Light and Air regulations include height, bulk, open spaces, lighting and ventilation of rooms, size of rooms, alcoves, cooking spaces, entrance doors and lights, windows and skylights for public halls and stairs.

Fire protection and safety regulations include, requirements for fireproof construction, stairs, egress from apartments, bulkheads, separation and ventilation of stairs, entrance halls, private and common entrances (doors, locks, and intercommunication systems), shafts, elevators and dumbwaiters, stairs, fire-escapes, frame buildings and extensions, motor vehicle storage, boiler rooms, and smoke detecting devices.

Sanitation and health include water supply, plumbing and drainage, heating, and construction standards for the control of noise.

The law applies to new construction and rehabilitation of existing structures.

The American Institute of Architects (AIA) NY Chapter Housing Task Force found that the New York City Building Code and State MDL currently conflict over matters of housing design. The AIA recommends adopting the International Building Code. However, the Task Force points out that “adoption of the International Building Code (IBC) would simplify code reviews only if the MDL and Old Code are incorporated” (AIA NY Chapter Housing Task Force Report – Spring 2003, page 11).

The New York City Building Code defines multiple dwelling buildings as four units or more. The State Multiple Dwelling Law can be amended to exempt 3-unit buildings.

Many housing development opportunities are on infill-sites in the City’s low-rise communities, where typical building types include four- to six-story walk-ups. Due to restrictions such as apartment size and fire exits, it is uneconomical for the market to build four story walk-up buildings. As a result, developers cannot maximize the number of units and FAR allowed by the City’s zoning and building code in these communities.

The MDL places a limit on the amount of residential floor area that can be contained on any zoning lot. This limitation, equal to 12 times the lot area, can be an impediment to high-rise housing in New York City. This limitation can be repealed without any adverse effects on the health and safety of residents.

Probable Market Impacts

The multiple dwelling law requirements make construction of some multiple dwelling types found traditionally in low-rise areas uneconomical for developers.

Who Bears the Cost?

The developers/owners are responsible for making all multiple dwelling buildings compliant with the law.

Advantages of the Multiple Dwelling Law

The State MDL helps prevent the construction of buildings with undesirable safety and health conditions in urban areas.

Disadvantages of the Multiple Dwelling Law

The law defines a multiple dwelling as the residence

or home of three or more families living independently of each other, one unit less and therefore stricter than the New York City Building Code. As a result, many of the sites have been built out below the permitted density both in terms of FAR and number of Dwelling Units allowed by New York City code and zoning regulations.

The AIA found that the New York State MDL may add to the cost of affordable housing in several areas including fire protection, stairway models, elevator requirements, and minimum floor areas. These costly safety measures therefore often prevent the construction of certain affordable building types such as the four-story walk-up

In addition, lower-density infill can be undesirable from a planning and design perspective.

What New York City Does

New York City requires that new housing development conform to the Multiple Dwelling Law. The State authorizes the City to have more not less restrictive regulations.

What Other Places Do

The Multiple Dwelling Law is a New York State Law. The MDL applies specifically to cities with a population of 325,000 or more. The State’s Multiple Residence Law applies to cities, towns or villages smaller than 325,000 resident

4.B. Glossary

This glossary provides definitions for many of the terms and much of the jargon used in the report. The financial terms, as they relate to the pro forma analyses, are elaborated upon in Appendix C. The zoning terms mainly consist of excerpts from *The Zoning Handbook: A Guide to New York City's Zoning Resolution*, prepared by the NYC Department of City Planning in 1990. Occasional changes or expansions to the definitions have been made for purposes of clarifying discussion in the Manual.

Financial Terms

Area Median Income (AMI)

A long-accepted standard for very low-, low- and moderate-income households are those whose household income falls between 0 and 110% of median family income calculated for a six-county Primary Metropolitan Statistical Area (PMSA) which includes the five boroughs of New York City and Westchester county. Area Median Income is currently \$62,800 for a household size of four.

Conventional Fixed-rate Financing

A loan secured by real property featuring an interest rate that is constant for the term of the loan.

Cost Recovery

Cost recovery refers to the sales or rental income generated by the units.

Equity

The interest or value held by the developer/owner over and above any liens held against the property.

Financing Costs

This category includes fees related to putting construction and permanent financing in place and includes cost of issuance of the bonds, agency fees paid to bond issuer, credit enhancement fees on the bonds, etc.

Hard Costs

Includes construction costs (labor and material), construction management and contracting costs, and a reasonable contingency.

Insurance/Taxes/Interest

This category includes the cost of the owner's construction period insurance, construction period real estate taxes and interest on the construction.

Low-Income Housing Tax Credit

Tax credits of up to 9% of developer's costs for units eligible as per tenant qualification, certification and project financing. Instituted by the 1986 tax act.

Residual Land Value

Residual land value represents what a developer will bid for a property, after consideration of costs and revenues, under conditions of normal market risk. Where the residual land value is negative, a project is patent-

ly infeasible without direct subsidy. Where the residual land value is low, a project is likely to be less profitable than alternative uses (e.g., offices in Lower Manhattan, parking in Midtown, and taxpayer retail or industry in the outer borough) and will probably not be undertaken. Where it is high, a project is likely to be pursued since we have adopted generous profit ratios and conservative cost estimates. There is, however, no magic residual land value above or below which certain actions will occur—every landowner will have unique and unobservable expectations for each development parcel.

Soft Costs

Costs included here include architectural design and construction monitoring fees, legal expenses, marketing and broker's fees, etc.

Zoning Terms

Accessory Parking Lot/Garage

See Parking lot/garage.

Attached Building

An attached building is a building on a zoning lot that abuts two lot lines other than a street line. It includes row houses and townhouses.

Attic Allowance

In certain lower-density contextual districts, there is an increase in the base maximum FAR of up to 20 percent for floor area which is beneath a pitched roof and has structural headroom of between five and eight feet.

Basement

A basement is a story that has less than one-half of its height below curb level.

Building Envelope

The building envelope is the maximum contour of a building permitted by height and setback controls.

Bulk

Bulk is the term used to describe the size (including height and floor area) of buildings.

Cellar

A cellar is a portion of a building that has more than one-half of its floor-to-ceiling height below curb level.

Contextual Zoning

Contextual zoning is zoning that regulates the height and bulk of new buildings, their setback from the street line, and their width along the street frontage, to conform with the character of the neighborhood. (See also Quality Housing.)

Corner Lot

A corner lot is either a zoning lot bounded entirely by streets or a zoning lot which adjoins the point of intersection of two or more streets. The only part of a zoning lot which can qualify as a corner lot is that part of the lot that is within 100 feet of the intersecting street lines.

Density

Density refers to the maximum number of dwelling units or zoning rooms permitted on a site. It is regulated by the minimum number of square feet of lot area required for each dwelling unit or zoning room. FAR. See Floor Area Ratio.

Floor Area

The floor area of a building is the sum of the gross area of each floor of the building, excluding cellar space, floor space in open balconies, elevator or stair-bulkheads and, in most zoning districts, floor space used for accessory parking that is located less than 23 feet above curb level.

Floor Area Ratio

Floor area ratio (FAR) is the total floor area on a zoning lot divided by the area of that zoning lot. Each zoning district classification contains an FAR control which, when multiplied by the lot area of the zoning lot, produces the maximum floor area allowable on such lot.

Group Parking Facility

A group parking facility is a building or lot used for parking more than one motor vehicle.

Height Factor

The height factor of a building is equal to the total floor area of the building divided by its lot coverage.

Mixed-Use Building

A mixed-use building is a building in a commercial district or residential district with a commercial overlay, used partly for residential use and partly for community facility or commercial use.

Non-Complying, or Non-Compliance

A legal non-complying building is any building that was legal when it was built which no longer complies with one or more of the present district bulk regulations.

Non-compliance results when a building does not comply with any one of such applicable bulk regulations.

Open Space

Open space is the part of a zoning lot, including courts or yards, which is open and unobstructed from its lowest level to the sky, except for specifically enumerated obstructions, and is accessible to and usable by all persons occupying dwelling units on the zoning lot.

Parking Garage, Accessory

A building or part of a building that provides parking space only to residents, employees or visitors to uses within the building.

Parking Garage, Public

A building or part of a building that provides parking space to any vehicles, except for commercial or public utility vehicles or dead storage. Some or all of the parking spaces are non-accessory.

Parking Lot, Accessory.

A building or part of a building that provides parking space only to residents, employees or visitors to uses within the building.

Parking Lot, Public

A building or part of a building that provides parking space to any vehicles, except for commercial or public utility vehicles or dead storage. Some or all of the parking spaces are non-accessory.

Quality Housing/Contextual Districts

The alternative model for medium- to high-density residential development in New York City is that of the Quality Housing Program, which is mandatory within Contextual Districts. Quality Housing and contextual districts mandate lower, bulkier buildings that provide for greater lot coverage in exchange for lower heights. Towers are not permitted within Contextual Districts or for quality housing buildings. Maximum heights are provided for every zoning district. The larger building footprints permitted under the Quality Housing Program facilitates the development of smaller lots.

Residence District

A Residence District is a district identified by the letter R (R5, R3-2, R10H, for example.)

Row Houses

See Attached Building.

Sky Exposure Plane

A sky exposure plane is a theoretical inclined plane, through which the height of a building may not penetrate, that is designed to provide light and air at street level in medium- and higher-density districts. It rises over the zoning lot at a ratio of vertical distance to horizontal distance set forth in district regulations.

A front sky exposure plane begins above the street line (or where so indicated, above the front yard line) at a specified height. A rear sky exposure plane begins above a line at a distance from and parallel to the street line and at a height set forth in district regulations. The rear sky exposure plane is mandated in R6A to R9A and R10A districts (narrow streets) but not in R10 district (wide streets).

Street, Narrow

A narrow street is a street that is less than 75 feet wide.

Street Wall

A street wall is a wall or portion of a wall of a building facing a street.

Street, Wide

A wide street is a street that is 75 feet or more in width.

Townhouses

See Attached Building.

Yard

A yard is the required open area on a zoning lot along the lot lines. A yard must be unobstructed from the lowest level to the sky, except for certain permitted obstructions.

Zoning Lot

A zoning lot is a tract of land, either unsubdivided or consisting of two or more contiguous lots of record, located within a block, which, at the time of filing for a building permit, is designated as a tract to be used,

developed or built upon under single ownership. The ownership of a zoning lot may be either single fee ownership or alternative ownership arrangements as set forth in the definition of a zoning lot in Section 12-10 of the Zoning Resolution.

A zoning lot may be subdivided into two or more zoning lots, provided that all resulting zoning lots and all buildings thereon shall comply with all of the applicable provisions of the Zoning Resolution.

Zoning Square Feet (ZSF)

The maximum amount of floor area permissible on a zoning lot.

4.C. Financial Analysis Assumptions

For the financial analyses, one development scenario with a common set of assumptions was postulated. Any number of scenarios is possible. The scenario tested in the Manual assumes a generously sized site that is easy to work with (a rarity in New York City); a typical Quality Housing development (in terms of unit sizes and treatment of parking); typical housing values (for a “hot neighborhood” outside of Manhattan’s prime real estate); conservative cost estimates (neither “low balled” nor out of range for New York City); typical financing and soft costs (including today’s atypical low interest rates); and generous profit ratios (to assure that the programmatic elements tested are not inherently limited to low-risk developments in strictly favorable market conditions). Thus, the financial analysis serves as an analytical tool, but not a “go to” analysis that can serve as the sole arbiter of the development implications of different policy decisions. No single or group of analyses could claim such authority in a city with as complex real estate, zoning, and developer expectations.

Development Scenario

Site

A single prototypical site was defined, comprised of a 150-foot deep lot, spanning the entire 200-foot width of an average city block. At 30,000 square feet, this site is large enough to accommodate a small low-rise development, typical contextual mid-rise development, and typical contextual high-rise development. Admittedly, such sites are rare in New York, although assemblages of that size may be found in areas rezoned from industrial uses. (Refer to diagram in the Introduction for an illustration of this parcel.)

Zoning

For analytical purposes, all of the pro formas assume R6 zoning, since that zoning designation is among the most widely mapped in the boroughs. The Quality Housing regime was employed, since it is more prevalent than its tower alternative.

Size of Development

90,000 square feet (sf). (Refer to Diagram 1:A4 for a conceptual illustration of such a development.)

Unit Sizes

The average rental unit size is set at 1,000 gross square feet gross (gsf); and the average condo unit size is 1,350 gsf; in both cases including the cellar. Average net unit construction efficiency is approximately 85% of gross buildable square footage, excluding cellar.

Unit Mix

The unit mixes are as follows:

	Rental	Condominium
Studios	20%	0%
1 Bedroom	60%	15%
2 Bedroom	20%	60%
3 Bedroom	0%	25%

Area Median Income (AMI)

Area Median Income is currently \$62,800 for a household size of four.

Very Low Income (<50%)	= Below \$31,400
Low Income (50-80%)	= \$31,400 to \$50,200
Moderate Income (80%-110%)	= \$50,200 to \$69,000
Middle Income (110%-135%)	= \$69,000 to \$84,800

Development Period.

The timeframe for development is important in terms of soft costs, including carrying costs and financing costs. The total development period is assumed to be three years, which is broken down as follows: site assemblage and predevelopment = 9 months; construction = 18 months; and marketing and leasing/sales = 9 months.

Apartment Costs.

Maintenance and operating expenses for the rentals are underwritten at \$5,300 per unit per year (pupy), inclusive of \$250 pupy for replacement reserves. Maintenance and operating expenses for the condominiums are underwritten slightly higher at \$5,550 pupy, inclusive of \$250 pupy for replacement reserves (to account for market demand for higher building services). In both cases, maintenance and operating expenses include part-time doorman service.

Apartment Revenues.

Rents are projected at \$30 psf for studios, and \$32 psf for larger units. Current asking rents average \$30 psf

within the target markets where units are in older, existing structures. While little new construction has been undertaken in the target markets, we have presumed that renters would pay a premium for newly-constructed apartments. The vacancy rate is estimated at 5%.

Condominium sales prices are projected at \$515 psf, consistent with the average recent contract prices in the target market. Once again, current prices generally reflect sales in older existing structures since little new construction has occurred. In addition, prices vary widely based on location, size, amenities and other factors. The pro forma sale price is likely a conservative estimate.

To be more specific: These apartment rents and sales values are based on those expected in the most marketable communities of the outer boroughs, such as Park Slope. These sites represent the new frontier for housing development in the city. It is assumed that if policy reforms are economically viable in those areas, they will also be viable in prime sections of Manhattan.

Affordable Units.

Where affordable units are provided, they are affordable to families earning 80% or 135% of area median income (AMI), as indicated. Any number of benchmarks could be employed; for example, tax exempt financing requires that 20% of the units be affordable to families earning 50% or less of AMI.

Recovery

The financial analysis generally assumes minimal cost recovery from the affordable units, with the exception of the off-site scenario where no cost recovery is assumed. Cost recovery refers to the revenue (rental or sales) generated by the affordable units. The off-site option excludes cost recovery based on a worst-case assumption that developers will pay the full freight in terms the development costs of the affordable units. In fact, this amount maybe negotiated.

Columns

Rental Apartments.

Conventional fixed-rate financing is assumed at 5.875% for a term of 30 years. This is current market but one should note that interest rates are now rising.

For Sale Condominium

Construction period debt is underwritten as for the conventional fixed-rate financing. Proceeds from the sale of the condominium units retire the construction period debt and provide of and on equity invested.

Sources of Financing

Debt

The loan-to-value ratio is 80%. The initial debt coverage requirement is 1.15:1. The initial capitalization rate is 7.08%. The presumed capitalization rate on sale or refinance at the end of the holding period is the same. The holding period is the 3-year development period plus 6 years, for a total of 9 years.

LIHTC

As-of tax credits are available with tax-exempt bond financing. These are presumed to be syndicated to an investor at 85 cents per credit generated.

Subsidy

None of the financing scenarios presume government subsidies, except those that are available as-of-right under existing statutes (e.g., 421-a tax abatement). This category was included to highlight this fact, and that the financial analyses would yield quite different results if, as the City and others have proposed, affordable inclusionary housing is subject to capital subsidies.

Equity

This is the developer's contribution towards project cost. The developer's return is factored on this amount.

Uses of Financing

Land (Residual)

Residual land value represents what a developer will bid for a property, after consideration of costs and revenues, under conditions of normal market risk. Where the residual land value is negative, a project is patently infeasible without direct subsidy. Where the residual land value is low, a project is likely to be less profitable than alternative uses (e.g., offices in Lower Manhattan, parking in Midtown, and taxpayer retail or industry in the outer borough) and will probably not be undertaken. Where it is high, a project is likely to be pursued since we have adopted generous profit ratios

and conservative cost estimates. There is, however, no magic residual land value above or below which certain actions will occur—every landowner will have unique and unobservable expectations for each development parcel.

Hard Costs

The hard costs were estimated by AccuCost, one of the city’s most recognized cost estimators. Construction is concrete plank, costing \$160/gsf for rentals with a 15% premium added for condominiums to account for market driven amenities and grade of interior finishes. In the analyses, all parking is at grade; construction costs would be significantly higher, if otherwise. We assumed non-union labor for the mid-rises tested in the Manual. This would also be the case for low-rise construction, but not for high-rise construction, where union labor is the rule.

Cost estimates employed allow for the idiosyncrasies of individual projects while still providing a realistic basis for evaluating housing economics. However, unusual site conditions were not included in the construction costs. These would include platforms, new infrastructure, brownfield remediation, park amenities, and traffic mitigation. These are “structural” or “ground” costs that developers usually deduct from the bid that they would otherwise make of the property. Sometimes, these costs can be offset through public investment, e.g., for needed sewer and water lines. Often, these costs affect the developer’s assessment of risk as much as his or her estimate of construction cost.

Financing costs

This category includes fees related to putting construction and permanent financing in place and includes cost of issuance of bonds, agency fees paid to bond issuer, credit enhancement fees on the bonds, etc.

Insurance/Taxes/Interest

This category is the cost of the owner’s construction period insurance, construction period real estate taxes and interest on the construction loan.

Other Soft Costs

Costs included here include architectural design and construction monitoring fees, legal expenses, marketing and broker’s fees, etc.

In aggregate, soft costs were estimated at 20% of construction costs for rental, and somewhat less for condominiums, since the cost of permanent financing is borne by purchases rather than by the developer. It should be noted that we did not increase soft costs commensurate with the added complexity and risk associated with mixed-income housing or the added transaction for off-site, op-out and other innovations.

Development Overhead

This category includes 10% fee payable to the developer for costs related to predevelopment and development services rendered to the project. The payment of this fee is factored into the overall developer profit.

Developer Profit

Profits, as well as hard and soft costs, might not necessarily reflect the practices of all developers or each submarket. Developers vary widely in terms of their profit expectations—which are shaped by risk, investment alternatives, financial conditions, and individual or corporate financial goals. A generous profit rate of 30% was employed. This is a realistic “hurdle rate” for housing development to be undertaken. Housing developers must quickly recover their capital, and must earn handsome profits to offset the risks. Our financial analyses apply to “hot” but still relatively new housing markets in the outer boroughs, usually involving waterfront and formerly industrial property, where risk is still very much a factor. The profit ratio is not variable; i.e., we assume that competitive pressures and risk factors that are not subject to influence determine profit requirements by public policy. If a developer’s financial goals cannot be met by developing housing in New York City, they can and will apply their capital and expertise to activities elsewhere.

4.D. Proformas: Financial Comparison of Buildings with Variable Tax-Exempt Financing

Bonus Inclusionary

	Sources and Uses of Financing	Total	/ZSF
Baseline without Inclusionary	<u>Sources</u>		
	Debt	16,554,168	184
	LIHTC	1,297,645	14
	Subsidy	-	-
	Equity	3,300,000	37
	Total	21,151,814	235
	<u>Uses</u>		
	Land (Residual)	646,397	7
	Hard Costs	15,277,500	170
	Financing Costs	1,111,479	12
	Insurance/Taxes/Interest	585,181	7
	Other Soft Costs	1,667,128	19
	Development Overhead	1,864,129	21
Total	21,151,814	235	
Bonus Inclusionary @ 80% AMI	<u>Sources</u>		
	Debt	20,141,298	186
	LIHTC	1,549,485	14
	Subsidy	-	-
	Equity	4,100,000	38
	Total	25,790,783	239
	<u>Uses</u>		
	Land (Residual)	1,381,356	13
	Hard Costs	18,333,000	170
	Financing Costs	1,352,742	13
	Insurance/Taxes/Interest	698,983	6
	Other Soft Costs	1,805,663	17
	Development Overhead	2,219,039	21
Total	25,790,783	239	
Bonus Inclusionary @ 135% AMI	<u>Sources</u>		
	Debt	20,141,298	186
	LIHTC	1,549,485	14
	Subsidy	-	-
	Equity	4,100,000	38
	Total	25,790,783	239
	<u>Uses</u>		
	Land (Residual)	1,381,356	13
	Hard Costs	18,333,000	170
	Financing Costs	1,352,742	13
	Insurance/Taxes/Interest	698,983	6
	Other Soft Costs	1,805,663	17
	Development Overhead	2,219,039	21
Total	25,790,783	239	

Mandatory Inclusionary

	Sources and Uses of Financing	Total	/ZSF
Baseline without Inclusionary	<u>Sources</u>		
	Debt	16,554,168	184
	LIHTC	1,297,645	14
	Subsidy	-	-
	Equity	3,300,000	37
	Total	21,151,814	235
	<u>Uses</u>		
	Land (Residual)	646,397	7
	Hard Costs	15,277,500	170
	Financing Costs	1,111,479	12
	Insurance/Taxes/Interest	585,181	7
	Other Soft Costs	1,667,128	19
	Development Overhead	1,864,129	21
Total	21,151,814	235	
Mandatory Inclusionary @ 80% AMI	<u>Sources</u>		
	Debt	16,554,168	184
	LIHTC	1,297,645	14
	Subsidy	-	-
	Equity	3,300,000	37
	Total	21,151,814	235
	<u>Uses</u>		
	Land (Residual)	646,397	7
	Hard Costs	15,277,500	170
	Financing Costs	1,111,479	12
	Insurance/Taxes/Interest	585,181	7
	Other Soft Costs	1,667,128	19
	Development Overhead	1,864,129	21
Total	21,151,814	235	
Mandatory Inclusionary @ 135% AMI	<u>Sources</u>		
	Debt	16,554,168	184
	LIHTC	1,297,645	14
	Subsidy	-	-
	Equity	3,300,000	37
	Total	21,151,814	235
	<u>Uses</u>		
	Land (Residual)	646,397	7
	Hard Costs	15,277,500	170
	Financing Costs	1,111,479	12
	Insurance/Taxes/Interest	585,181	7
	Other Soft Costs	1,667,128	19
	Development Overhead	1,864,129	21
Total	21,151,814	235	

In some cases it may be advantageous for developers to couple inclusionary rental pro-grams—with or without a density bonus—with federal tax-exempt financing or local tax incentives. Whether they can do this depends on the inclusionary zoning rules and regulations and prevailing market and financial conditions. However, our mid-rise, outer-borough test case analysis indicates that under the conditions prevailing

in New York City in late 2004, if a 10% inclusionary requirement were imposed at 80% or 135% of AMI, developers would not generally benefit from seeking tax-exempt financing, which requires 20% of the units to be affordable at 50% of AMI. These stricter proportions and income requirements seem to work only under the most favorable conditions, as found in Manhattan.

4.D. Proformas: Financial Comparison of Buildings with Variable Tax-Exempt Financing (Continued)

Inclusionary @ 80% AMI with Structured Parking

Sources and Uses of Financing		<i>Total</i>	<i>/ZSF</i>
Baseline w/ Structured Parking	<u>Sources</u>		
	Debt	16,952,812	188
	LIHTC	1,306,099	15
	Subsidy	-	-
	Equity	<u>3,400,000</u>	<u>38</u>
	Total	21,658,912	241
	<u>Uses</u>		
	Land (Residual)	394,391	4
	Hard Costs	15,924,300	177
	Financing Costs	1,138,140	13
	Insurance/Taxes/Interest	597,828	7
	Other Soft Costs	1,671,115	19
	Development Overhead	<u>1,933,138</u>	<u>21</u>
	Total	21,658,912	241
Mandatory Inclusionary @ 80% AMI w/ Structured Parking	<u>Sources</u>		
	Debt	16,952,812	188
	LIHTC	1,306,099	15
	Subsidy	-	-
	Equity	<u>3,400,000</u>	<u>38</u>
	Total	21,658,912	241
	<u>Uses</u>		
	Land (Residual)	394,391	4
	Hard Costs	15,924,300	177
	Financing Costs	1,138,140	13
	Insurance/Taxes/Interest	597,828	7
	Other Soft Costs	1,671,115	19
	Development Overhead	<u>1,933,138</u>	<u>21</u>
	Total	21,658,912	241
Bonus Inclusionary @ 80% AMI w/ Structured Parking	<u>Sources</u>		
	Debt	20,682,315	192
	LIHTC	1,560,917	14
	Subsidy	-	-
	Equity	<u>4,100,000</u>	<u>38</u>
	Total	26,343,232	244
	<u>Uses</u>		
	Land (Residual)	904,188	8
	Hard Costs	19,210,800	178
	Financing Costs	1,388,384	13
	Insurance/Taxes/Interest	716,146	7
	Other Soft Costs	1,811,073	17
	Development Overhead	<u>2,312,640</u>	<u>21</u>
	Total	2,312,640	244

4.E. Accu-Cost Construction Estimates

ZONE ARCHITECTURE

Project: Affordable Housing Study
 Date: November 5th 2004

EXISTING ZONING

LOT SIZE 150' x 200'
 LOT AREA 30,000 sf

ZONING	R3	R4	R5
FAR	.8	.9 (1.35)	1.25 (1.85)
Floor Area	18,000 sf	27,000 sf (40,500 sf)	37,500 sf (40,500 sf)
Max. DU Factor	870 (625)	870 (900)	780 (900)
Dwelling Units	20 (20)	31 (45)	42 (55)
Required parking	100% units	100% units (66%)	85% units (66%)
No. of Spaces	20	31 (20)	42 (31)
Building Materials	Wood frame or masonry	Wood frame or masonry	Masonry / metal / wood joists
Roof	Sloping	Sloping	Flat / Sloping
Max. Perimeter Height	21'	25'	30'
Max. Building Height	35	35	40
No. of Stories	2.5	3	3.5 to 4
Open Space	65%	55%	45%
Lot Coverage	35%	45%	55%
Front Yard	15' / 18'	10' / 18'	10' / 18'
Side Yard	8'	8'	8'

{ } For predominant ly built up areas

ACCU-COST CONSTRUCTION CONSULTANTS, INC.

PROJECT: NEWMAN INSTITUTE AFFORDABLE HOUSING STUDY
 CLIENT: NEWMAN INSTITUTE

JOB NO: 4224
 DATE: 11/11/04

STUDY

GRAND SUMMARY

<u>TITLE</u>	<u>SQUARE FOOT</u>	<u>TOTAL CONSTRUCTION COST</u>	<u>\$/SF</u>
R3 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE)	18,000	2,794,877	155.27
R4 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE)	27,000	4,192,315	155.27
R5 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE)	37,500	5,822,880	155.27
R6 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE)	38,000	16,053,705	180.43
R6 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE) - FAR BONUS	107,100	19,324,576	180.43
R6 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE) - PARKING & REAR YARD	65,000	10,725,065	165.00
R7 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE)	107,000	19,306,533	180.43
R7 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE) - FAR BONUS	107,000	19,306,533	180.43
R8 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE)	175,200	34,170,341	195.04
R8 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE) - FAR BONUS	175,200	34,170,341	195.04
R9 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE)	308,000	61,613,592	200.04
R10 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE)	390,000	78,017,211	200.04

ACCU-COST CONSTRUCTION CONSULTANTS, INC.

PROJECT: NEWMAN INSTITUTE AFFORDABLE HOUSING STUDY
 CLIENT: NEWMAN INSTITUTE

JOB NO: 4224
 DATE: 11/11/04

STUDY

SUMMARY - R3 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE)

GROSS AREA: 18,000

	<u>MATERIAL</u>	<u>MATERIAL \$/SF</u>	<u>LABOR</u>	<u>LABOR \$/SF</u>	<u>TOTAL</u>	<u>TOTAL \$/SF</u>
SUBSTRUCTURE	44,100	2.45	121,500	6.75	165,600	9.20
SUPERSTRUCTURE	160,200	8.90	205,200	11.40	365,400	20.30
EXTERIOR WALLS	107,100	5.95	129,800	7.20	236,900	13.15
ROOFING	8,400	0.47	19,000	1.06	27,400	1.53
INTERIOR CONSTRUCTION	211,500	11.75	185,220	10.29	396,720	22.04
INTERIOR FINISHES	129,800	7.22	110,800	6.16	240,600	13.38
CONVEYING SYSTEMS	-	0.00	-	0.00	0	0.00
PLUMBING	59,400	3.30	57,800	3.22	117,200	6.52
HVAC	127,800	7.10	95,400	5.30	223,200	12.40
FIRE PROTECTION	6,300	0.35	15,840	0.88	22,140	1.23
ELECTRIC POWER & LIGHTING	111,800	6.20	226,800	12.60	338,600	18.80
APPLIANCES	35,840	1.99	11,700	0.65	47,540	2.63
NON-HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
SITWORK	35,100	1.95	32,760	1.82	67,860	3.77
SUBTOTAL	1,037,160	57.62	1,211,840	67.33	2,249,000	124.95
GENERAL CONDITIONS- 10%	103,716	5.76	121,184	6.73	224,900	12.50
SUBTOTAL	1,140,876	63.38	1,333,024	74.06	2,474,010	137.45
OVERHEAD & PROFIT (INCLUDES HOME OFFICE)- 6%	68,453	3.80	79,888	4.44	148,341	8.25
SUBTOTAL	1,209,329	67.18	1,413,122	78.51	2,622,451	145.69
BOND- 1.5%	18,140	1.01	21,197	1.18	39,337	2.18
SUBTOTAL	1,227,469	68.19	1,434,319	79.69	2,661,787	147.88
DESIGN CONTINGENCY- 5%	61,373	3.41	71,716	3.98	133,089	7.39
TOTAL BASE BID	1,288,842	71.60	1,506,035	83.67	2,794,877	155.27
CONSTRUCTION CONTINGENCY- 5%	64,442	3.58	75,302	4.18	139,744	7.76
TOTAL CONSTRUCTION COST	\$ 1,353,284	75.18	\$ 1,581,337	87.85	\$ 2,934,621	163.03

ACCU-COST CONSTRUCTION CONSULTANTS, INC.

PROJECT: NEWMAN INSTITUTE AFFORDABLE HOUSING STUDY
 CLIENT: NEWMAN INSTITUTE

JOB NO: 4224
 DATE: 11/11/04

STUDY

SUMMARY - R4 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE)

GROSS AREA: 27,000

	MATERIAL	MATERIAL \$/SF	LABOR	LABOR \$/SF	TOTAL	TOTAL \$/SF
SUBSTRUCTURE	66,150	2.45	182,250	6.73	248,400	9.20
SUPERSTRUCTURE	240,300	8.90	307,800	11.40	548,100	20.30
EXTERIOR WALLS	180,850	6.69	194,400	7.20	375,250	13.90
ROOFING	12,890	0.47	28,820	1.06	41,710	1.53
INTERIOR CONSTRUCTION	317,250	11.75	277,830	10.29	595,080	22.04
INTERIOR FINISHES	184,840	6.84	186,320	6.90	371,160	13.75
CONVEYING SYSTEMS	-	0.00	-	0.00	0	0.00
PLUMBING	89,100	3.30	86,840	3.22	175,940	6.52
HVAC	181,700	6.73	143,100	5.30	324,800	12.03
FIRE PROTECTION	9,450	0.35	23,780	0.88	33,230	1.23
ELECTRIC POWER & LIGHTING	167,400	6.19	340,200	12.60	507,600	18.80
APPLIANCES	53,480	1.98	17,550	0.65	71,030	2.63
NON-HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
SITework	52,850	1.95	49,140	1.82	101,990	3.77
SUBTOTAL	1,555,740	57.62	1,817,810	67.33	3,373,550	124.95
GENERAL CONDITIONS - 10%	155,574	5.76	181,781	6.73	337,355	12.50
SUBTOTAL	1,711,314	63.38	1,999,591	74.06	3,711,015	137.45
OVERHEAD & PROFIT (INCLUDES HOME OFFICE) - 6%	102,679	3.80	119,882	4.44	222,561	8.23
SUBTOTAL	1,813,993	67.18	2,119,473	78.51	3,933,576	145.68
BOND - 1.5%	27,210	1.01	31,795	1.18	59,005	2.19
SUBTOTAL	1,841,203	68.19	2,151,268	79.69	3,992,581	147.87
DESIGN CONTINGENCY - 3%	55,260	2.05	64,579	2.39	119,839	4.44
TOTAL BASE BID	1,896,463	70.24	2,215,847	82.08	4,112,310	152.31
CONSTRUCTION CONTINGENCY - 3%	56,893	2.10	112,833	4.18	209,726	7.77
TOTAL CONSTRUCTION COST	\$ 2,023,326	75.16	\$ 2,372,005	87.85	\$ 4,401,931	163.08

ACCU-COST CONSTRUCTION CONSULTANTS, INC.

PROJECT: NEWMAN INSTITUTE AFFORDABLE HOUSING STUDY
 CLIENT: NEWMAN INSTITUTE

JOB NO: 4224
 DATE: 11/11/04

STUDY

SUMMARY - R5 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE)

GROSS AREA: 37,500

	<u>MATERIAL</u>	<u>MATERIAL</u> <u>\$/SF</u>	<u>LABOR</u>	<u>LABOR</u> <u>\$/SF</u>	<u>TOTAL</u>	<u>TOTAL</u> <u>\$/SF</u>
SUBSTRUCTURE	81,875	2.45	253,125	6.75	345,000	9.20
SUPERSTRUCTURE	333,750	8.90	427,500	11.40	761,250	20.30
EXTERIOR WALLS	223,125	5.95	270,000	7.20	493,125	13.15
ROOFING	17,825	0.47	38,750	1.06	57,375	1.53
INTERIOR CONSTRUCTION	440,825	11.75	355,875	10.29	826,500	22.04
INTERIOR FINISHES	270,750	7.22	231,000	6.16	501,750	13.38
CONVEYING SYSTEMS	-	0.00	-	0.00	0	0.00
PLUMBING	123,750	3.30	120,750	3.22	244,500	6.52
HVAC	288,250	7.10	188,750	5.30	467,000	12.40
FIRE PROTECTION	13,125	0.35	33,000	0.88	46,125	1.23
ELECTRIC POWER & LIGHTING	232,500	6.20	472,500	12.60	705,000	18.80
APPLIANCES	74,250	1.98	24,375	0.65	98,625	2.63
NON-HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
SITework	73,125	1.95	88,250	2.32	141,375	3.72
SUBTOTAL	2,180,750	57.82	2,524,875	67.33	4,885,825	124.95
GENERAL CONDITIONS - 10%	218,075	5.78	252,488	6.73	468,863	12.50
SUBTOTAL	2,376,825	63.38	2,777,363	74.06	5,154,188	137.45
OVERHEAD & PROFIT (INCLUDES HOME OFFICE) - 8%	142,810	3.80	186,842	5.44	309,251	8.25
SUBTOTAL	2,519,435	67.18	2,944,004	78.51	5,463,439	145.89
BOND - 1.5%	37,792	1.01	44,180	1.18	81,972	2.19
SUBTOTAL	2,557,228	68.19	2,988,184	79.69	5,545,390	147.88
DESIGN CONTINGENCY - 5%	127,861	3.41	149,408	3.98	277,270	7.38
TOTAL BASE BID	2,685,089	71.60	3,137,593	83.67	5,822,660	155.27
CONSTRUCTION CONTINGENCY - 5%	134,254	3.58	156,879	4.18	291,133	7.76
TOTAL CONSTRUCTION COST	\$ 2,819,342	75.18	\$ 3,294,451	87.85	\$ 6,113,793	163.03

ACCU-COST CONSTRUCTION CONSULTANTS, INC.

PROJECT: NEWMAN INSTITUTE AFFORDABLE HOUSING STUDY
 CLIENT: NEWMAN INSTITUTE

JOB NO: 4224
 DATE: 11/11/04

STUDY

SUMMARY - R6 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE)

GROSS AREA: 83,000

	MATERIAL	MATERIAL \$/SF	LABOR	LABOR \$/SF	TOTAL	TOTAL \$/SF
SUBSTRUCTURE	242,880	2.72	628,560	7.04	871,440	9.76
SUPERSTRUCTURE	1,002,140	11.26	1,335,890	15.01	2,338,030	26.27
EXTERIOR WALLS	694,200	7.80	803,870	9.03	1,497,870	16.83
ROOFING	41,830	0.47	94,340	1.08	136,170	1.33
INTERIOR CONSTRUCTION	1,045,750	11.75	915,810	10.29	1,961,560	22.04
INTERIOR FINISHES	796,500	8.50	618,550	6.95	1,375,050	15.45
CONVEYING SYSTEMS	202,820	2.28	101,480	1.14	304,300	3.42
PLUMBING	341,760	3.84	331,870	3.73	673,730	7.37
HVAC	720,800	8.10	534,000	6.00	1,254,800	14.10
FIRE PROTECTION	31,150	0.35	78,320	0.88	109,470	1.23
ELECTRIC POWER & LIGHTING	645,250	7.25	1,188,150	13.35	1,833,400	20.80
APPLIANCES	176,220	1.98	57,850	0.65	234,070	2.63
NON-HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
SITework	173,550	1.95	161,880	1.82	335,330	3.77
SUBTOTAL	6,074,250	68.25	6,848,550	78.95	12,922,800	145.20
GENERAL CONDITIONS - 10%	607,425	6.83	684,855	7.70	1,292,280	14.32
SUBTOTAL	6,681,675	75.08	7,533,405	84.65	14,215,080	159.72
OVERHEAD & PROFIT (INCLUDES HOME OFFICE) - 6%	400,801	4.30	452,004	5.03	852,805	9.33
SUBTOTAL	7,082,476	79.38	7,985,409	89.72	15,067,885	169.00
BOND - 1.5%	106,233	1.19	119,781	1.35	226,020	2.54
SUBTOTAL	7,188,714	80.77	8,105,190	91.07	15,294,005	171.84
DESIGN CONTINGENCY - 5%	359,441	4.04	405,280	4.33	764,700	8.33
TOTAL BASE BID	7,548,255	84.81	8,510,450	95.52	16,058,705	180.43
CONSTRUCTION CONTINGENCY - 5%	377,413	4.24	425,522	4.78	802,935	8.82
TOTAL CONSTRUCTION COST	\$ 7,925,668	89.05	\$ 8,935,972	100.30	\$ 16,861,640	189.25
ON GRADE PARKING REQUIREMENTS	45 CARS @ 300 SF / CAR -ADD				135,000	1.52

ACCU-COST CONSTRUCTION CONSULTANTS, INC.

PROJECT: NEWMAN INSTITUTE AFFORDABLE HOUSING STUDY
 CLIENT: NEWMAN INSTITUTE

JOB NO: 4224
 DATE: 11/11/04

STUDY

SUMMARY - R6 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE) - FAR BONUS

GROSS AREA: 107,100

	<u>MATERIAL</u>	<u>MATERIAL \$/SF</u>	<u>LABOR</u>	<u>LABOR \$/SF</u>	<u>TOTAL</u>	<u>TOTAL \$/SF</u>
SUBSTRUCTURE	281,312	2.72	753,984	7.04	1,045,296	9.76
SUPERSTRUCTURE	1,205,846	11.28	1,807,571	15.01	2,813,517	26.27
EXTERIOR WALLS	835,380	7.80	967,113	9.03	1,802,493	16.83
ROOFING	50,337	0.47	113,528	1.06	163,865	1.53
INTERIOR CONSTRUCTION	1,258,425	11.75	1,102,059	10.29	2,360,484	22.04
INTERIOR FINISHES	910,350	8.50	744,345	6.95	1,654,695	15.43
CONVEYING SYSTEMS	244,188	2.28	122,094	1.14	366,282	3.42
PLUMBING	411,264	3.84	398,483	3.73	810,747	7.57
HVAC	867,510	8.10	642,800	6.00	1,510,310	14.10
FIRE PROTECTION	37,485	0.35	94,248	0.88	131,733	1.23
ELECTRIC POWER & LIGHTING	776,475	7.25	1,429,785	13.35	2,206,260	20.60
APPLIANCES	212,058	1.98	69,615	0.65	281,673	2.63
NON-HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
SITENWORK	208,845	1.95	194,922	1.82	403,767	3.77
SUBTOTAL	7,309,575	68.25	8,241,345	76.95	15,550,920	145.20
GENERAL CONDITIONS - 10%	730,958	6.81	824,135	7.70	1,555,092	14.52
SUBTOTAL	8,040,533	75.06	9,065,480	84.65	17,106,012	159.72
OVERHEAD & PROFIT (INCLUDES HOME OFFICE) - 6%	482,432	4.50	543,928	5.03	1,026,361	9.59
SUBTOTAL	8,522,964	79.56	9,609,408	89.72	18,132,373	169.30
BOND - 1.5%	127,844	1.19	144,141	1.35	271,986	2.54
SUBTOTAL	8,650,808	80.77	9,753,549	91.07	18,404,359	171.84
DESIGN CONTINGENCY - 5%	432,540	4.04	487,677	4.55	920,218	8.59
TOTAL BASE BID	9,083,348	84.81	10,241,227	95.62	19,324,576	180.43
CONSTRUCTION CONTINGENCY - 5%	454,167	4.24	512,061	4.78	966,228	9.02
TOTAL CONSTRUCTION COST	\$ 9,537,515	89.05	\$ 10,753,288	100.40	\$ 20,290,805	189.45
ON GRADE PARKING REQUIREMENTS	45 CARS @ 300 SF / CAR - ADD				135,000	1.26

Summary R6 - Far Bonus

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ACCU-COST CONSTRUCTION CONSULTANTS, INC.

PROJECT: NEWMAN INSTITUTE AFFORDABLE HOUSING STUDY
 CLIENT: NEWMAN INSTITUTE

JOB NO: 4224
 DATE: 11/11/04

STUDY

SUMMARY - R6 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE) - PARKING AND REAR YARD

GROSS AREA: 63,000

	MATERIAL	MATERIAL \$/SF	LABOR	LABOR \$/SF	TOTAL	TOTAL \$/SF
SUBSTRUCTURE	176,800	2.72	437,600	7.04	614,400	9.76
SUPERSTRUCTURE	617,600	9.50	789,760	12.15	1,407,260	21.65
EXTERIOR WALLS	410,850	6.60	578,600	8.90	1,009,450	15.53
ROOFING	30,330	0.47	68,800	1.06	99,430	1.53
INTERIOR CONSTRUCTION	763,750	11.75	668,650	10.29	1,432,600	22.04
INTERIOR FINISHES	469,300	7.22	400,400	6.16	869,700	13.38
CONVEYING SYSTEMS	-	0.00	-	0.00	0	0.00
PLUMBING	249,600	3.84	242,450	3.73	492,050	7.57
HVAC	490,750	7.55	360,100	5.54	850,850	13.09
FIRE PROTECTION	22,750	0.35	57,200	0.88	79,950	1.23
ELECTRIC POWER & LIGHTING	471,250	7.25	867,750	13.35	1,339,000	20.80
APPLIANCES	128,700	1.98	42,250	0.65	170,950	2.63
NON-HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
SITework	128,750	1.99	118,300	1.82	247,050	3.77
SUBTOTAL	3,878,650	61.21	4,852,050	71.57	8,730,700	132.78
GENERAL CONDITIONS - 10%	387,865	6.12	485,205	7.16	873,070	13.28
SUBTOTAL	4,266,515	67.33	5,337,255	78.73	9,603,770	146.06
OVERHEAD & PROFIT (INCLUDES HOME OFFICE) - 6%	262,991	4.04	307,035	4.72	569,826	8.78
SUBTOTAL	4,529,506	71.37	5,644,290	83.45	10,173,596	154.82
BOND - 1.5%	69,887	1.07	81,264	1.25	151,151	2.32
SUBTOTAL	4,599,393	72.44	5,725,554	84.70	10,324,747	157.14
DESIGN CONTINGENCY - 5%	215,435	3.32	273,283	4.24	488,718	7.38
TOTAL BASE BID	4,814,828	75.66	5,998,837	88.94	10,813,665	165.00
CONSTRUCTION CONTINGENCY - 5%	240,706	3.70	289,047	4.44	529,753	8.04
TOTAL CONSTRUCTION COST	\$ 5,055,534	79.36	\$ 6,287,884	93.38	\$ 11,343,418	173.04
ON GRADE PARKING REQUIREMENTS			30 CARS @ 300 SF / CAR -ADD		90,000	1.38
REAR YARD			4500 SF		54,000	0.82

ACCU-COST CONSTRUCTION CONSULTANTS, INC.

PROJECT: NEWMAN INSTITUTE AFFORDABLE HOUSING STUDY
 CLIENT: NEWMAN INSTITUTE

JOB NO: 4224
 DATE: 11/11/04

STUDY

SUMMARY - R7 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE)

GROSS AREA: 107,000

	MATERIAL	MATERIAL \$/SF	LABOR	LABOR \$/SF	TOTAL	TOTAL \$/SF
SUBSTRUCTURE	281,040	2.72	753,280	7.04	1,044,320	9.76
SUPERSTRUCTURE	1,204,820	11.26	1,808,070	15.01	2,810,890	26.27
EXTERIOR WALLS	834,800	7.80	986,210	9.03	1,800,810	16.83
ROOFING	30,280	0.47	113,420	1.06	183,710	1.53
INTERIOR CONSTRUCTION	1,257,250	11.75	1,101,030	10.29	2,358,280	22.04
INTERIOR FINISHES	908,500	8.50	743,850	6.85	1,652,350	15.45
CONVEYING SYSTEMS	240,860	2.28	121,880	1.14	362,740	3.42
PLUMBING	410,880	3.84	398,110	3.73	808,990	7.57
HVAC	866,700	8.10	642,000	6.00	1,508,700	14.10
FIRE PROTECTION	37,450	0.35	84,180	0.88	121,610	1.23
ELECTRIC POWER & LIGHTING	775,750	7.25	1,428,450	13.35	2,204,200	20.60
APPLIANCES	211,860	1.98	89,550	0.83	281,410	2.63
NON-HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
SITENWORK	208,850	1.95	194,740	1.82	403,590	3.77
SUBTOTAL	7,302,750	68.25	8,233,850	76.85	15,536,600	145.20
GENERAL CONDITIONS - 10%	730,275	6.83	823,385	7.70	1,553,660	14.52
SUBTOTAL	8,033,025	75.08	9,057,015	84.55	17,090,040	159.72
OVERHEAD & PROFIT (INCLUDES HOME OFFICE) - 8%	481,982	4.50	543,421	5.03	1,025,402	9.58
SUBTOTAL	8,515,007	79.58	9,600,436	89.72	18,115,442	169.30
BOND - 1.5%	127,725	1.19	144,007	1.35	271,732	2.54
SUBTOTAL	8,642,732	80.77	9,744,442	91.07	18,387,174	171.84
DESIGN CONTINGENCY - 5%	432,137	4.04	487,222	4.55	919,359	8.58
TOTAL BASE BID	9,074,869	84.81	10,231,665	95.62	19,306,533	180.43
CONSTRUCTION CONTINGENCY - 5%	453,743	4.24	511,383	4.78	965,127	9.02
TOTAL CONSTRUCTION COST	\$ 9,528,612	89.05	\$ 10,743,048	100.40	\$ 20,271,660	189.45
ON GRADE PARKING REQUIREMENTS	45 CARS @ 300 SF / CAR - ADD				135,000	1.26

ACCU-COST CONSTRUCTION CONSULTANTS, INC.

PROJECT: NEWMAN INSTITUTE AFFORDABLE HOUSING STUDY
 CLIENT: NEWMAN INSTITUTE

JOB NO: 4224
 DATE: 11/11/04

STUDY

SUMMARY - R7 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE) - FAR BONUS

GROSS AREA: 107,000

	MATERIAL	MATERIAL \$/SF	LABOR	LABOR \$/SF	TOTAL	TOTAL \$/SF
SUBSTRUCTURE	281,040	2.72	753,280	7.04	1,044,320	9.78
SUPERSTRUCTURE	1,204,820	11.28	1,806,070	15.01	2,810,890	26.27
EXTERIOR WALLS	834,800	7.80	866,210	8.03	1,800,810	16.83
ROOFING	50,280	0.47	113,420	1.08	183,710	1.53
INTERIOR CONSTRUCTION	1,257,250	11.75	1,101,030	10.28	2,358,280	22.04
INTERIOR FINISHES	808,500	8.50	743,850	6.95	1,631,150	15.45
CONVEYING SYSTEMS	243,880	2.28	121,880	1.14	365,940	3.42
PLUMBING	410,880	3.84	399,110	3.73	809,990	7.57
HVAC	886,700	8.10	642,000	6.00	1,508,700	14.10
FIRE PROTECTION	37,450	0.35	94,160	0.88	131,610	1.23
ELECTRIC POWER & LIGHTING	775,750	7.25	1,428,450	13.35	2,204,200	20.80
APPLIANCES	211,880	1.98	69,550	0.65	281,410	2.63
NON-HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
SITENWORK	208,850	1.95	194,740	1.82	403,590	3.77
SUBTOTAL	7,302,750	68.25	8,233,850	76.95	15,536,400	145.20
GENERAL CONDITIONS - 10%	730,275	6.83	823,385	7.70	1,553,640	14.52
SUBTOTAL	8,033,025	75.08	9,057,015	84.65	17,090,040	159.72
OVERHEAD & PROFIT (INCLUDES HOME OFFICE) - 6%	481,882	4.50	543,421	5.08	1,025,402	9.59
SUBTOTAL	8,514,907	79.58	9,600,436	89.72	18,115,442	169.30
BOND - 1.5%	127,725	1.19	144,007	1.35	271,732	2.54
SUBTOTAL	8,642,732	80.77	9,744,442	91.07	18,387,174	171.84
DESIGN CONTINGENCY - 5%	432,137	4.04	487,222	4.55	919,359	8.59
TOTAL BASE BID	9,074,869	84.81	10,231,665	95.62	19,306,533	180.43
CONSTRUCTION CONTINGENCY - 5%	453,743	4.24	511,583	4.78	965,327	9.02
TOTAL CONSTRUCTION COST	\$ 9,528,612	89.05	\$ 10,743,248	100.40	\$ 20,271,860	189.45
ON GRADE PARKING REQUIREMENTS	45 CARS @ 300 SF /CAR -ADD				135,000	1.26

ACCU-COST CONSTRUCTION CONSULTANTS, INC.

PROJECT: NEWMAN INSTITUTE AFFORDABLE HOUSING STUDY
 CLIENT: NEWMAN INSTITUTE

JOB NO:
 DATE:

STUDY

SUMMARY - R8 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE)

	GROSS AREA:				
	<u>MATERIAL</u>	<u>MATERIAL</u>	<u>LABOR</u>	<u>LABOR</u>	<u>TOTAL</u>
		<u>\$/SF</u>		<u>\$/SF</u>	
SUBSTRUCTURE	476,344	2.72	1,233,408	7.04	1,709,752
SUPERSTRUCTURE	2,146,200	12.23	2,811,824	16.62	4,958,024
EXTERIOR WALLS	1,820,800	9.23	1,822,080	10.40	3,642,880
ROOFING	82,344	0.47	185,712	1.06	268,056
INTERIOR CONSTRUCTION	2,058,800	11.73	1,802,808	10.29	3,861,608
INTERIOR FINISHES	1,488,200	8.50	1,217,840	6.93	2,706,040
CONVEYING SYSTEMS	429,240	2.45	219,000	1.25	648,240
PLUMBING	718,320	4.10	707,808	4.04	1,426,128
HVAC	1,820,800	9.23	1,243,820	7.10	2,864,620
FIRE PROTECTION	78,840	0.45	211,892	1.21	290,732
ELECTRIC POWER & LIGHTING	1,358,280	8.80	2,340,400	14.50	4,098,680
APPLIANCES	346,888	1.98	113,880	0.65	460,768
NON-HAZARDOUS DEMOLITION	-	0.00	-	0.00	0
HAZARDOUS DEMOLITION	-	0.00	-	0.00	0
SITING	341,840	1.85	318,884	1.82	660,724
SUBTOTAL	12,968,304	74.02	14,529,336	82.93	27,497,640
GENERAL CONDITIONS - 10%	1,296,830	7.40	1,452,834	8.29	2,749,664
SUBTOTAL	14,265,134	81.42	15,982,270	91.22	30,247,404
OVERHEAD & PROFIT (INCLUDES HOME OFFICE) - 6%	855,888	4.89	838,836	4.87	1,694,724
SUBTOTAL	15,121,022	86.31	16,821,206	96.09	31,942,428
BOND - 1.5%	226,816	1.29	254,118	1.45	480,934
SUBTOTAL	15,347,838	87.60	17,075,324	97.54	32,423,162
DESIGN CONTINGENCY - 3%	767,883	4.38	838,788	4.91	1,606,671
TOTAL BASE BID	16,115,251	91.98	17,914,112	102.45	34,029,363
CONSTRUCTION CONTINGENCY - 3%	805,763	4.80	802,755	5.15	1,608,518
TOTAL CONSTRUCTION COST	\$ 16,921,014	96.78	\$ 18,716,867	107.60	\$ 35,637,881
ON GRADE PARKING REQUIREMENTS	45 CARS @ 300 SF / CAR - ADD				135,000

ACCU-COST CONSTRUCTION CONSULTANTS, INC.

PROJECT: NEWMAN INSTITUTE AFFORDABLE HOUSING STUDY
 CLIENT: NEWMAN INSTITUTE

JOB NO: 4224
 DATE: 11/11/04

STUDY

SUMMARY - R8 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE) - FAR BONUS

GROSS AREA: 175,200

	MATERIAL	MATERIAL \$/SF	LABOR	LABOR \$/SF	TOTAL	TOTAL \$/SF
SUBSTRUCTURE	476,544	2.72	1,233,408	7.04	1,709,952	9.76
SUPERSTRUCTURE	2,146,200	12.25	2,811,824	16.02	4,958,024	28.27
EXTERIOR WALLS	1,820,800	9.25	1,822,080	10.40	3,642,880	19.65
ROOFING	82,344	0.47	185,712	1.06	268,056	1.53
INTERIOR CONSTRUCTION	2,038,800	11.75	1,802,808	10.29	3,841,608	22.04
INTERIOR FINISHES	1,488,200	8.50	1,217,840	6.95	2,706,040	15.45
CONVEYING SYSTEMS	429,240	2.45	219,000	1.25	648,240	3.70
PLUMBING	718,320	4.10	707,808	4.04	1,426,128	8.14
HVAC	1,820,800	9.25	1,243,820	7.10	3,064,620	16.35
FIRE PROTECTION	78,840	0.45	211,892	1.21	290,732	1.66
ELECTRIC POWER & LIGHTING	1,338,280	8.00	2,540,400	14.50	4,078,680	23.40
APPLIANCES	346,896	1.98	113,880	0.65	460,776	2.63
NON-HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
SITework	341,840	1.95	318,884	1.82	660,724	3.77
SUBTOTAL	12,888,304	74.02	14,529,336	82.83	27,417,640	156.85
GENERAL CONDITIONS- 10%	1,288,830	7.40	1,452,834	8.29	2,741,664	15.70
SUBTOTAL	14,265,134	81.42	15,982,270	91.22	30,247,404	172.65
OVERHEAD & PROFIT (INCLUDES HOME OFFICE)- 8%	855,908	4.89	958,836	5.47	1,814,744	10.36
SUBTOTAL	15,121,042	86.31	16,941,206	96.70	32,062,248	183.00
BOND- 1.5%	226,816	1.29	254,118	1.45	480,934	2.75
SUBTOTAL	15,347,858	87.60	17,195,324	98.15	32,543,182	185.75
DESIGN CONTINGENCY- 3%	767,383	4.38	858,766	4.91	1,626,149	9.29
TOTAL BASE BID	16,115,241	91.98	18,054,090	103.05	34,170,341	195.04
CONSTRUCTION CONTINGENCY- 5%	805,760	4.60	902,755	5.15	1,708,515	9.75
TOTAL CONSTRUCTION COST	\$ 16,921,001	96.58	\$ 18,957,845	108.21	\$ 35,878,856	204.79
ON GRADE PARKING REQUIREMENTS	45 CARS @ 300 SF /CAR-ADD				135,000	0.77

ACCU-COST CONSTRUCTION CONSULTANTS, INC.

PROJECT: NEWMAN INSTITUTE AFFORDABLE HOUSING STUDY
 CLIENT: NEWMAN INSTITUTE

JOB NO: 4224
 DATE: 11/11/04

STUDY

SUMMARY - R9 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE)

GROSS AREA: 303,000

	MATERIAL	MATERIAL \$/SF	LABOR	LABOR \$/SF	TOTAL	TOTAL \$/SF
SUBSTRUCTURE	1,093,400	3.59	2,895,000	9.55	3,988,400	13.14
SUPERSTRUCTURE	3,885,400	12.82	5,035,800	16.62	8,921,200	29.44
EXTERIOR WALLS	2,849,000	9.40	3,203,200	10.57	6,052,200	20.01
ROOFING	144,780	0.48	328,480	1.08	473,260	1.56
INTERIOR CONSTRUCTION	3,885,200	12.81	3,572,800	11.79	7,458,000	24.60
INTERIOR FINISHES	2,818,000	9.30	2,140,800	7.06	4,958,800	16.36
CONVEYING SYSTEMS	754,800	2.49	385,000	1.27	1,139,800	3.76
PLUMBING	1,282,800	4.23	1,244,200	4.11	2,527,000	8.34
HVAC	2,849,000	9.40	2,188,800	7.22	5,037,800	16.63
FIRE PROTECTION	138,800	0.46	372,800	1.23	511,600	1.69
ELECTRIC POWER & LIGHTING	2,741,200	9.04	4,488,000	14.81	7,229,200	23.85
APPLIANCES	609,840	2.01	200,200	0.66	810,040	2.67
NON-HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
SITework	600,800	1.98	580,860	1.92	1,181,660	3.90
SUBTOTAL	23,182,400	75.30	28,388,440	93.60	51,570,840	170.90
GENERAL CONDITIONS- 10%	2,318,240	7.65	2,838,844	9.37	5,157,084	17.06
SUBTOTAL	25,500,640	82.95	31,227,284	102.97	56,727,924	187.96
OVERHEAD & PROFIT (INCLUDES HOME OFFICE)- 8%	1,530,898	5.02	1,741,703	5.75	3,272,601	10.80
SUBTOTAL	27,031,538	88.97	32,968,987	108.72	60,000,525	198.76
BOND- 1.5%	405,835	1.34	461,551	1.52	867,386	2.86
SUBTOTAL	27,437,373	90.31	33,430,538	110.24	60,867,911	201.62
DESIGN CONTINGENCY- 5%	1,372,888	4.53	1,361,882	4.50	2,734,770	9.02
TOTAL BASE BID	28,810,261	94.84	34,792,420	114.74	63,602,681	210.58
CONSTRUCTION CONTINGENCY- 5%	1,441,019	4.76	1,838,861	6.07	3,280,880	10.83
TOTAL CONSTRUCTION COST	\$ 30,251,280	99.60	\$ 36,631,281	120.81	\$ 66,883,561	221.41
ON GRADE PARKING REQUIREMENTS	47 CARS @ 300 SF /CAR-ADD				142,000	0.47
BELOW GRADE PARKING	23100 SF - 36300 SF				2310000 - 3630000	

ACCU-COST CONSTRUCTION CONSULTANTS, INC.

PROJECT: NEWMAN INSTITUTE AFFORDABLE HOUSING STUDY
 CLIENT: NEWMAN INSTITUTE

JOB NO: 4224
 DATE: 11/11/04

STUDY

SUMMARY - R110 - QUALITY HOUSING (OUTSIDE MANHATTAN CORE)

GROSS AREA: 390,000

	MATERIAL	MATERIAL \$/SF	LABOR	LABOR \$/SF	TOTAL	TOTAL \$/SF
SUBSTRUCTURE	1,384,500	3.55	3,412,500	8.75	4,797,000	12.30
SUPERSTRUCTURE	4,884,500	12.55	6,378,500	16.35	11,271,000	28.80
EXTERIOR WALLS	3,807,500	9.25	4,058,000	10.40	7,865,500	19.95
ROOFING	183,300	0.47	413,400	1.06	596,700	1.53
INTERIOR CONSTRUCTION	4,841,000	11.80	4,524,000	11.60	9,365,000	23.90
INTERIOR FINISHES	3,315,000	8.50	2,710,500	6.95	6,025,500	15.45
CONVEYING SYSTEMS	855,500	2.45	487,500	1.25	1,443,000	3.70
PLUMBING	1,598,000	4.10	1,575,800	4.04	3,173,800	8.14
HVAC	3,807,500	9.25	2,789,000	7.10	6,596,500	16.35
FIRE PROTECTION	175,500	0.45	471,800	1.21	647,300	1.66
ELECTRIC POWER & LIGHTING	3,471,000	8.90	5,855,000	14.50	9,326,000	23.40
APPLIANCES	772,200	1.98	253,500	0.65	1,025,700	2.63
NON-HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
HAZARDOUS DEMOLITION	-	0.00	-	0.00	0	0.00
SITING WORK	780,500	1.95	709,800	1.82	1,490,300	3.77
SUBTOTAL	29,387,000	75.30	33,415,200	85.68	62,782,200	160.98
GENERAL CONDITIONS- 10%	2,838,700	7.33	3,241,520	8.37	6,278,220	16.10
SUBTOTAL	32,203,700	82.83	36,756,720	94.25	68,980,420	177.08
OVERHEAD & PROFIT (INCLUDES HOME OFFICE)- 8%	1,838,222	4.87	2,205,403	5.65	4,143,625	10.62
SUBTOTAL	34,241,922	87.80	38,962,123	99.90	73,204,045	187.70
BOND- 1.5%	513,829	1.32	584,432	1.50	1,098,261	2.82
SUBTOTAL	34,755,551	89.12	39,546,555	101.40	74,302,106	190.52
DESIGN CONTINGENCY- 5%	1,737,778	4.46	1,877,328	4.87	3,715,106	9.33
TOTAL BASE BID	36,493,329	93.57	41,523,883	106.47	78,017,211	200.04
CONSTRUCTION CONTINGENCY- 5%	1,824,866	4.68	2,078,194	5.32	3,903,060	10.00
TOTAL CONSTRUCTION COST	\$ 38,318,195	98.25	\$ 43,602,077	111.80	\$ 81,920,272	210.05
ON GRADE PARKING REQUIREMENTS	36 CARS @ 300 SF /CAR-ADD				110,000	0.28
BELOW GRADE PARKING	19000 SF - 31200 SF				1960000 - 3120000	