



J O H N S O N
G A R D N E R

EVALUATION OF
ENTITLEMENT BONUS AND TRANSFER PROGRAMS
PORTLAND'S CENTRAL CITY

REPORT ON FINDINGS



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PREPARED FOR:

THE CITY OF PORTLAND, OREGON
BUREAU OF PLANNING

NOVEMBER, 2007



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I. INTRODUCTION

JOHNSON GARDNER, LLC was hired by the CITY OF PORTLAND's Bureau of Planning to perform a market-based evaluation of the development entitlement bonus and transfer programs that apply in the Central City district. The City is seeking an evaluation of the relative public and private benefits of the bonus and transfer options available, and recommendations on improving the system's overall effectiveness.

This report presents the findings of JOHNSON GARDNER'S analysis of Portland's Central City programs. The analysis is based on data analysis, literature, best practice reviews, and public and private sector interviews. While policy and planning issues are important parts of the discussion, this report examines the issue primarily through an economic lens. It is designed to provide a set of factual findings and recommendations for consideration in future public policy-making discussions.

This report begins with an overview of Portland's programs and the economic principles that underlay them, then presents analysis of the specific bonus and transfer options, and concludes with a set of recommendations stemming from this analysis.

II. KEY CONCLUSIONS

- The City of Portland's density bonus and transfer programs reflect a number of programs adopted from 1988 through 2003. The programs were instituted to meet a range of public policy objectives, such as increasing housing in the Central City, and have been successful to varying degrees in achieving these objectives. The City is now undergoing a reassessment of the programs and their marginal impact on achieving public policy objectives.
- The private and public stakeholders consulted for this project generally agreed that Portland's Central City density bonus and transfer programs could benefit from increased: **simplicity** in the number of options, and how they work; **clarity** in how these options are interpreted and implemented; and **certainty** that developers have access to cost effective options for reaching the maximum density potential, while contributing to public goals.
- The overall entitlement system analyzed here consists of 18 bonus options and 6 transfer options adopted over almost 20 years. The programs operate within the maximum density and height parameters of the Central City. These two programs can compete with each other, with the developer tending to opt for the lowest cost option for additional FAR.
- Some of the transfer options create a more-or-less efficient market for transferrable FAR in the Central City, with the market price determined through negotiation. In contrast, the costs of the bonus options are largely determined by the requirements of the code. The analysis presented here found that some bonus options might compete with the "market price" of transferable FAR, while many cannot.
- Residential projects which are eligible for the Residential Bonus will tend to use it rather than other options. Assuming that the qualifying residential space was already planned for,



the bonus density is granted at no unplanned additional cost to the applicant. In the absence of the Residential Bonus, commercial office or retail projects must rely on multiple density bonuses or transfers to achieve the maximum allowed. Market feedback suggests that commercial projects in need of a significant amount of additional density tend to seek transferable FAR, rather than use multiple smaller bonuses.

- The specific details of any given project will affect the marginal value of the bonus density granted. The value of bonus density is reflected in the change in the residual land value between the project at base FAR, and the project at base plus bonus FAR. The project-by-project variation in density value complicates any attempt to normalize the value of density across the bonus programs.
- Pro forma analysis of the density bonuses find that they provide bonus FAR at a range of cost to applicants. The relative cost of bonus FAR is not directly related to its value for a project, and the relationship between value and cost of incremental increases in FAR vary substantially between programs, prospective uses and locations within the Central City.
- While some bonus options, such as the Residential Option or the Small Development Site option are “automatic” in a sense for certain types of projects, other bonus options entail significant costs to provide the required public amenity. Of the non-“automatic” options, only the Locker Room and Eco-Roof bonus options demonstrated a cost per square foot competitive with the current market price for transferrable FAR (for the projects modeled in this analysis).



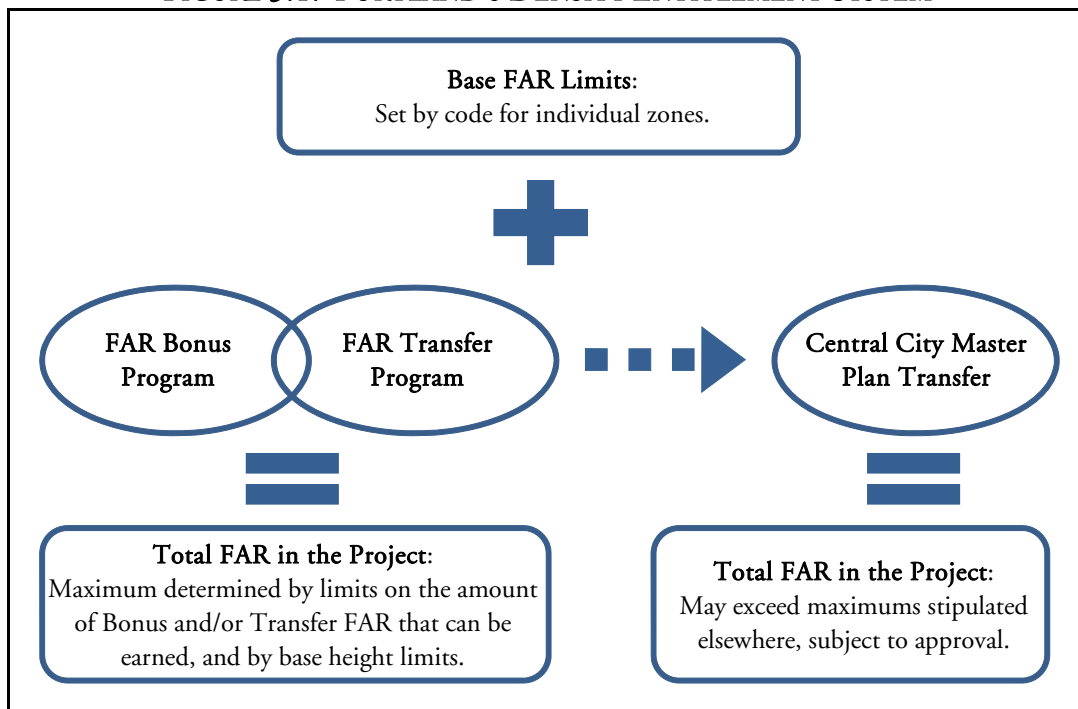
III. OVERVIEW OF PORTLAND’S ENTITLEMENT BONUS & TRANSFER PROGRAMS

The ultimate density of development in the Central City is regulated by a system that stipulates base densities and then allows the developer to apply for additional density in some cases. The base densities (and heights) correspond to the individual zones that apply across the Central City. These base levels represent the foundation of the City’s overall density system.

Upon this foundation, developers may be eligible for additional density through the Bonus and/or Transfer Programs. Figure 3.1 below provides a simplified overview of how this system works.

The density of a new development is commonly measured in Floor Area Ratio, or “FAR.” Floor Area Ratio is the ratio of the total built floor area in a building or project to the size of the site on which it is constructed. For example, if a building with 20,000 square feet of floor area is built on a 10,000 square foot site, it is said to have an FAR of 2:1.

FIGURE 3.1: PORTLAND’S DENSITY ENTITLEMENT SYSTEM



Entitlement *Bonus* Programs, also referred to as “density bonus” or “FAR bonus” programs, offer additional development potential to a developer who is willing to supply one or more amenities that serve public goals. The developer who supplies a public amenity (such as affordable housing, public art or open space) may qualify for increased bulk and height in their project over what is normally permitted.

The **FAR Bonus Program** that applies in Portland’s Central City comprises 18 different bonus options adopted between 1988 and 2003. The bonus options vary a great deal in the public benefits



they are designed to achieve, where they apply, and the mechanisms used for calculating the bonus. Some bonus options have been used in many projects over the years, while some have seen little or no use.

FIGURE 3.2: CENTRAL CITY FAR BONUS OPTIONS*

Bonus	Adopted	Program Boundaries	Usage ¹
Residential	1988	CX and EX zones, outside of South Waterfront. Additional "Residential Bonus Target Areas" (Map 510-4)	34
Locker Room	1996	CX & EX zones, outside of South Waterfront.	5
Day Care	1988	CX, EX & RX zones, outside of South Waterfront.	2
Rooftop Gardens	1988	CX, EX & RX zones, outside of South Waterfront.	2
Percent for Art	1988	All Central City zones outside of South Waterfront.	4
Water Features/Public Fountains	1988	CX, EX & RX zones.	1
Eco-Roof	2001	Central City.	6
Middle income housing	2003	Central City.	0
Affordable Housing Replacement Fund	2003	Central City.	0
Willamette River Greenway	1997	South Waterfront district.	1
Large Household Dwelling Unit	2003	South Waterfront district.	0
Open Space	2003	South Waterfront district.	3
Open Space Fund	2003	South Waterfront district.	0
Large Dwelling Unit	2003	West-end subarea.	0
Small development site	2003	West-end subarea.	0
Below grade parking	2003	West-end subarea.	1
Retail Use	1988	Retail Use Bonus Target Area: SW Washington & Yamhill, 1st and 10th.	3
Theaters on Broadway	1988	Broadway Theater Bonus Target Area: SW Broadway between Burnside and SW Madison.	1

* Grouped roughly by area where bonus applies.

¹ Usage between 1988 and 2006. Source: City of Portland

Entitlement *Transfer* Programs permit the transfer of development rights from one site to another. These are often employed to protect historical and other landmarks, or to incent the provision of open space. So that a property owner does not lose the economic value of her development potential, it may be permanently transferred (or sold) from the sensitive site, to a better suited site. In return, the landmark or public good is preserved. (This process is sometimes referred to as "Transfer of Development Rights", or a TDR Program, but will be referred to here as "FAR Transfer".)



Portland’s **FAR Transfer Program** consists of six different transfer mechanisms which apply to some or all of the Central City. As with the bonus mechanisms, the transfers vary in design, applicability and usage. (During the course of this project, public and private sector stakeholders reported that usage statistics for the transfer options have not been reliably tracked until recently. Use of transfers has increased over the past few years.)

FIGURE 3.3: CENTRAL CITY FAR TRANSFER OPTIONS

Transfer Mechanism	Program Boundaries	Mechanism
Abutting Lots Transfer	CX and EX zones.	Floor area, including bonus floor area, may be transferred among lots in a single project. Height limits still apply.
SRO Housing Transfer	CX and EX zones. A site in an RX zones may receive FAR from another RX zone site, but not from CX or EX sites. However, an RX site may transfer FAR to any of these three zones.	Owners of SRO buildings may sell and transfer the rights to their unused FAR potential.
Historic Property	MFR, Commercial and Employment zones in Central City. RX, RH, R1, CX, EX, EG1, EG2.	Owners of properties containing a landmark may sell and transfer the rights to their unused FAR potential. Transfer within the "recognized neighborhood" or within two miles. Depending on zoning at landmark site, there are limitations on the zone to which the FAR can be transferred.
Residential Floor Area Transfer	Central City	Owners of existing residential buildings may sell and transfer the rights to their unused FAR potential.
South Waterfront Transfer	South Waterfront district	FAR potential and bonuses can be sold and transferred between sites within the SW subdistrict.
Central City Master Plan Transfer	Central City	Within a master planned area, the total allowed FAR may be transferred among the included lots. Some of the sites may end up with an allocation of FAR exceeding the maximum stipulated elsewhere in the code. Subject to approval. The master plan provision has been interpreted to allow for the inclusion of discontinuous sites from across the Central City in a single master plan, thus creating the possibility of transferring density across the district.

Source: City of Portland

Following sections of this report discuss the economic characteristics of each of these bonus and transfer options in more detail.

As part of long range planning efforts, the City of Portland is preparing to revisit and update the Central City Plan, adopted in 1988. The FAR Bonus and Transfer Programs are one aspect of the Central City code that may change through this process to reflect new community priorities. This is an opportune time to assess the efficiency of the current system, and analyze what makes an effective bonus.



IV. PORTLAND'S FAR SYSTEM IN PRACTICE

This section provides a general overview of the development and economic principles that apply to the Central City's FAR programs. As every development project is unique, there are individual exceptions to many of the general rules described here. This discussion is informed by interviews of public and private sector users of the FAR programs, as well as the analysis and expertise of Johnson Gardner.

Key Points

- Stakeholders generally agree that the density bonus and transfer programs would benefit from greater clarity, simplicity and certainty.
- Bonus and transfer programs work in markets where developers seek to maximize density, and where current allowable densities are below what the market can support.
- The density bonus and density transfer options can compete with each other.
- The FAR Transfer Program creates an informal market which sets the competitive price for additional FAR.
- Residential projects that qualify tend to use the Residential Bonus to the exclusion of other options.
- Commercial projects looking for a significant amount of additional FAR will tend to prefer a transfer option, as many of the available bonus programs can provide only a part of the maximum bonus amount and other programs are not cost effective vis-à-vis transfer options.

The complete FAR system

The Bonus and Transfer Programs are components of the overall FAR or density framework that exists in the Central City. This system consists of the base FAR and height standards which vary across the district, combined with the various mechanisms for adding to these base standards. While these programs add “bonus” or additional density to the permitted base, they still operate within the bounds of the City's overall density and height goals for the district.

Viewed as a whole, the Central City FAR system is quite complex due to the number of variables involved. The achievable density of a development project will depend on the proposed use, the zone standards for density and height, other standards specific to the sub-district, the availability of bonus and/or transfer options and the mechanisms by which they work.

All of those contacted in the course of this project, whether in the public or private sector, agreed that the overall FAR system, and the Bonus and Transfer Programs in particular, would benefit from increased clarity, simplicity and certainty.



The economics of developing density

Developers serve as the primary drivers of the development process, typically initiating land development. The developer is in the business of managing risk - evaluating the probable financial return on a project in light of the level of risk she will assume. The market is the customer or end-user in the development process, and will largely dictate to the developer what is marketable and how much users will pay for it. Government agencies typically define the legal and bureaucratic process under which entitlements are granted, and can influence the marketplace through incentives or restrictions.

Development typically occurs when the development of an allowed use yields an adequate return to attract a developer and equity source. The final development form will typically represent what is viewed as the “highest and best use” of the property from the development perspective, which reflects the development type and timing yielding the greatest return.

Higher-density development often requires changes in construction type, which can yield higher costs per unit. In the case of both office and residential development, low-rise wood-frame construction represents the lowest cost per square foot. As densities rise, leading to taller buildings, construction shifts to concrete and steel, bringing higher costs.

The density of development that produces the highest and best use on a given site is influenced by achievable rent (or sale) levels. Where achievable rent is relatively low, low-rise development will provide the best return. Where achievable rents are highest, high-rise development becomes the best use. The Central City covers a large enough and diverse enough area that the full spectrum of achievable rents is represented.

For the purposes of this analysis, it is important to keep in mind that once the rent threshold is passed requiring a more expensive construction type, it is beneficial to the developer to maximize the density possible with that construction type. For example, once high-rise steel frame construction becomes necessary (at roughly 7 floors) it is to the developer’s advantage to build as much additional density as possible in order to maximize return (assuming that there is a market for this space).

Bonuses work where development is at full density

Regulatory entitlements such as permitted FAR or height are important in influencing development form and design, and ultimately land values. But it is important to remember that code standards do not ultimately determine where and how development takes place. For instance, Metro has found in many of its “town centers” that zoning for increased density will not bring it about if achievable rents do not support the construction costs. Sites zoned at 3:1 FAR are still developed at 1:1 FAR.

To be effective in incenting public benefits, the Bonus and Transfer Programs rely on real estate market conditions in which developers are seeking to maximize their density and are willing to provide a public good in return. In a market with low achievable rents, developers might achieve the best return from building to the base FAR, or below it.

This may explain why the bonus and transfer options adopted in 1988 were used relatively infrequently until the late 1990’s, when Central City development experienced a resurgence. As



achievable rents and sales prices climbed, the bonus programs, particularly the Residential Bonus, would become more attractive.

If current population and employment growth trends continue, then Central Portland should maintain a critical mass of activity that will make it attractive to develop to maximum density. This means that for the foreseeable future, the Bonus and Transfer Programs should continue to be attractive options as well, as a method of achieving even greater density.

Bonuses and Transfers compete with each other

In practice, the Central City's 18 FAR bonus and 6 FAR transfer mechanisms are best thought of as 24 options in one comprehensive menu, rather than separate programs, because they can compete with each other. In some projects, a specific bonus may be the best option for a developer, while in others, an FAR transfer is. In other projects, a combination of options is used to reach the developer's FAR goal.

It is important to keep in mind that the transfer options create a more-or-less efficient market for additional FAR in the Central City. The transfer ranges of the "Historical", "SRO", and "Residential" transfer options are all broad enough to ensure that a developer has a healthy supply of transferable FAR to buy, which can be used anywhere in the Central City.

This market is somewhat opaque, being understood better by some players than others, and the price paid for transferable FAR is negotiated. Nevertheless, the result is that the price of transfer FAR is determined in a type of market.

This *FAR transfer* market has direct implications for the FAR *bonus* options. Bonuses are provided in return for the provision of a public good. The cost of providing these goods varies from bonus to bonus, with some costing much more than the market price for transfer FAR, and some costing less. In any given case, a developer will choose the option that will provide additional FAR at the lowest cost to her.

Residential projects have relied on the Residential Bonus

Residential projects falling within the "Residential Bonus Target Area" are eligible for the Residential Bonus, which grants up to an additional 3:1 FAR. This bonus option applies to much of the River District, and parts of the West End, Lloyd District and Lower Albina areas, and has been widely used (34 times as of 2006). It is by far the most widely used of the bonus options. Roughly 88% of the usage has been in the River District.

Unlike other bonus options which may require the user to construct a public amenity, or pay into a fund, the Residential Bonus is essentially automatic. The public benefit is the increased residential density itself, which was seen as a pressing need when the Central City Plan was adopted in 1988.

The result is that this bonus FAR comes at no additional cost to the residential developer. There is the cost to develop the additional density and provide extra parking and infrastructure to serve it. But in almost every case, if the project is profitable at the base density, the addition of more residential density should be economical in the Central City. In some cases, a project may only be feasible with the bonus density.



The consequence of this “automatic” 3:1 bonus is that these projects have no incentive to use any other type of bonus or transfer. In general, 3:1 is the maximum increase in FAR that can be earned through bonus or transfer.

The availability of the Residential Bonus, combined with the prevalence of residential over commercial development since the late 1990’s, seems to go a long way in explaining the lower usage of other bonus options.

Projects Ineligible for the Residential Bonus

Non-residential projects are not eligible for the Residential Bonus. Nor are residential projects located outside of the CX and EX zones. Developers of these projects who seek FAR in addition to the base amount have the menu of bonus and transfer options, often employing more than one in order to reach the maximum 3:1 bonus FAR.

Real estate professionals report that commercial projects seeking a significant amount of additional FAR tend to prefer the transfer options. This is because most of the bonus options can provide some, but not all of the 3:1 bonus. Developers face adding complexity to the project by using multiple bonus options that may include constructing building amenities that were not planned on, each with an accompanying cost.

By contrast, the transfer option makes it possible to purchase the amount of FAR needed. Larger developers and land owners might have their own supply of banked FAR from past projects, available at no cost. In a transfer, the public benefit is on the sending site, in the form of a preserved landmark or housing for instance, and doesn’t require the addition of unplanned amenities to the new development.

As we will see, the “market price” of transferable FAR is fairly low, while the cost of building a public amenity can be quite high.



V. IMPRESSIONS OF PORTLAND'S FAR SYSTEM

As part of this analysis, Johnson Gardner conducted interviews with public and private stakeholders in the Central City density system. These interviews included staff from the Bureaus of Planning and Development Services, the Portland Development Commission, and development and real estate professionals familiar with Central City development.

Johnson Gardner used a list of discussion questions tailored to the public or private sector to stimulate discussion on how the system is used in practice, and to elicit thoughts on potential issues and improvements. These discussions generally lasted one to two hours. A list of interviewees and the discussion questions are included in the Appendix.

The following is a summary of the key discussion points from these interviews, but the issues and suggestions raised inform the analysis throughout this report.

Public Sector Comments

- There is concern over a lack of transparency in the system. The relative costs and benefits to the developer for using a bonus or transfer option are unclear. The nexus between the bonus provided and the public benefit received is unclear. This is the main genesis for the study reported here.
- Staff understands the system, but it can be difficult to translate for applicants. As the bonuses were created on policy grounds, rather than market needs, some are not useful for solving applicant issues.
- Some stated that there are probably too many bonuses, citing the lack of use of some of the bonus options. The system as a whole seems unfocused. The policy goals are diluted with some bonuses being used infrequently, or not at all.
- Others believe the issue is quality, rather than quantity. A longer menu is acceptable if they are all effective bonuses that meet policy goals and are attractive to applicants.
- It is important to remember that use of these options is driven by the market, and the needs of the applicant, not by the policy goals.
- There is a sense that due to the complexity, aspects of the bonus system may have unintended consequences, and be working counter to stated goals.
- Density bonuses should not be thought of as a giveaway above the maximum FAR, but rather as part of the maximum FAR, as a way to earn the last increment.
- Any revision of the system should be done in the context of meeting the Central City's overall density goals. There is a concern that the perception of the Residential Bonus as a "giveaway" discounts the value of additional population (and employment) density to the City's long range development goals.



- The menu of bonus options does provide flexibility to developers and City staff working to make a project feasible.
- The system needs simplicity to be effective. Bonuses should be straightforward and relatively uniform in how they work, with specificity in the standards expected from the public amenity.
- The system should also be more nimble, able to better adapt to changing market conditions, and meet the goals of specific sub-districts.

Private Sector Comments

- Code language and interpretation have become vague as new bonus and transfer options have been added and used. Uncertainty often costs time and money during the development process. In particular, the rules surrounding the use of the Central City Master Plan transfer are unclear.
- Clarity in the FAR system helps the market quantify these benefits and make better use of them.
- The bonus program has been successful in encouraging residential density in the River District, and protecting open space in the South Waterfront, but other bonuses are less successful.
- It may be time to switch focus from general residential density to workforce housing and/or employment uses.
- There are no development incentives for office space equivalent to the Residential Bonus. This de-emphasizes the importance of adding employment density in the Central City. It also makes it difficult for commercial projects to compete for land with residential projects, because the expectation of the Residential Bonus FAR is already capitalized in land prices.
- Discussions with professionals working with commercial projects tend to drift toward transfers rather than bonuses, perhaps reflecting the relative utility they're receiving from these programs. There is agreement that the Residential Bonus serves the needs of residential developers, to the general exclusion of other bonuses or transfers.
- Some participants in the FAR transfer market understand the system better than others, putting them at an advantage in negotiation. Clarity makes the transfer market more efficient.
- Some wondered why some bonuses, such as the Below Ground Parking and Open Space bonuses, apply in some neighborhoods but not others. They expressed that these would provide more flexibility to projects they have worked on.



- There was differing feedback on the geographical boundaries used in the transfer programs. Some expressed concern that transferring FAR in and out subverts the goals of individual neighborhoods, and that differing land values will guarantee that these transfers are one way. Others emphasized that the transfer market should be as large and liquid as possible in order to make it efficient and ensure fair pricing of transferable FAR.
- Developers would naturally prefer to have more density permitted outright, but barring that, access to a range of simple bonus options that provide flexibility towards reaching the FAR goal.
- Developers will be attracted to bonuses that require public amenities which are relevant to the project, not an incongruent or extraneous use. For instance, public art on-site might add value to the project itself, whereas art provided elsewhere in the Central City would not.



VI. HOW DENSITY IS VALUED

This section discusses the general principles underlying density valuation.

The density of a new development is commonly measured in Floor Area Ratio, or “FAR.” Floor Area Ratio is the ratio of the total built floor area in a building or project to the size of the site on which it is constructed. For example, if a building with 20,000 square feet of floor space is built on a 10,000 square foot site, it is said to have an FAR of 2:1.

Accordingly, FAR represents the amount of development allowed on a given site, and therefore the potential economic return from developing it. Typically, the permitted FAR for any given area is set out in the zoning code, as is the case in Portland’s Central City.

A density bonus or transfer program involves granting additional FAR to a site over the “base FAR” that is allowed outright by the code. Therefore the question arises: How does a city value the bonus or transfer FAR granted to the recipient?

Unfortunately, this question is not conducive to one answer (i.e. a uniform FAR valuation for the district). For reasons discussed below, the value of FAR will likely differ for every development project.

Key Points

- The value of FAR is a function of achievable pricing, construction costs and land value.
- The details of each unique project determine the marginal value of additional FAR.
- Adding bonus FAR increases a site’s entitlements and marginally changes the associated residual land value, which serves as a proxy for the value of the bonus FAR itself.
- The variation in FAR value among development projects complicates the process of normalizing the cost of bonus FAR across bonus options.

FAR value is reflected in land value

In simplest terms, the value of bonus FAR is equal to the difference in the residual value of land underneath the development, when considered with and without the bonus FAR.

$$\text{Marginal Change in Residual Land Value} = \text{Value of Bonus FAR}$$

It may be tempting to think of Central City land value as a known quantity. In fact, the supportable value of land is a function of the product type and achievable pricing of the development that can occur on top of it. In real estate development, the construction and financing costs, market pricing,



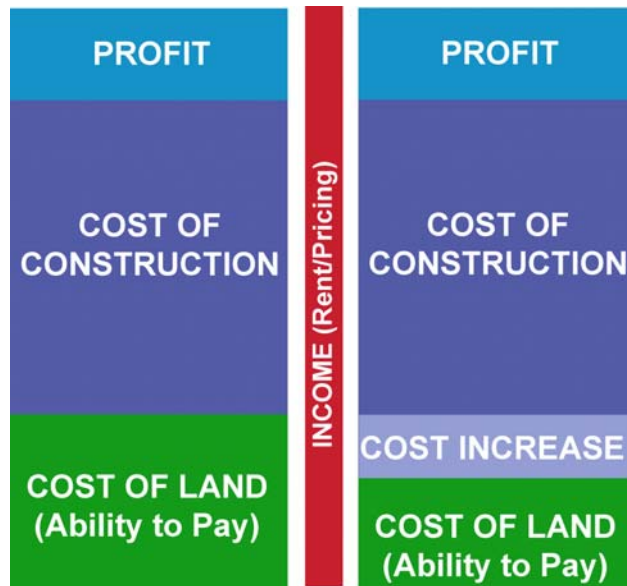
and necessary profit margin are all largely given. This means that the only major variable within a developer's control is the cost of land acquisition.

This concept is referred to as "residual land value." Based on the entitlements of a given site (permitted uses, FAR, height, etc.), a developer determines the economic highest and best use for the property. The achievable market value for this use, minus the costs of development and profit, tell the developer how much she can afford to pay for land acquisition. If a property owner is asking significantly more than the determined residual land value, the project will not pencil out, and the developer will pass.

(The "highest and best use" of a property is by definition that use which maximizes the residual land value. Therefore, other possible uses will all produce a lower land value, making the property owner's asking price even farther out of reach. In theory, such an owner will eventually lower the asking price until it is in line with the land value under its highest and best use.)

The graphic below demonstrates the concept of residual land value (RLV). The land value is a function of the factors listed above it. An increase in other costs reduces what the developer is able to pay for a site.

FIGURE 5.1: RESIDUAL LAND VALUE



Value of FAR varies by project

As this discussion implies, land value is highly dependent on the entitlements of a given property, including the FAR. Two parcels of equal size, located adjacent to each other in the Central City, will have very different values if one is entitled to an FAR of 4:1, and the other is entitled to an FAR of 9:1. Similarly, land entitled to residential use will have a different value from that entitled to office or industrial use.



Adding bonus or transfer FAR to a project changes the entitlements of the property, and therefore changes the land value and the value of the FAR itself.

For these reasons, the valuation of FAR will always be dependent on the details of the underlying project.

The value of bonus FAR is the difference between the residual land value (RLV) of the project if it were developed at the base FAR, and the RLV of the project if it were developed at the base plus bonus FAR.

$$\text{RLV (Base + Bonus FAR)} - \text{RLV (Base FAR)} = \text{Value of the Bonus FAR}$$

Example: (\$2,500,000 new RLV) – (\$2,000,000 base RLV) = (\$500,000 value of bonus FAR)

In the above example, the total value of the bonus FAR is \$500,000. This figure can be divided by the number of bonus FAR increments (i.e. 3:1), or the bonus square footage to derive the value per unit.

Implications for the Central City Plan review

The shifting values of land and FAR have some implications on the upcoming process of revisiting the Bonus and Transfer Programs. The main implication is that it greatly complicates the process of trying to normalize the cost of bonus FAR across bonus options and projects.

Likewise shifting values complicate the notion of creating a single “community fund” system, in which developers pay a set amount into the fund in return for bonus FAR. If such a system sets a uniform price per square foot of bonus FAR, this price might be out of reach for some projects, while being overly generous in other cases.

The most effective Bonus or Transfer Program will attempt to tie the cost of bonus FAR (whether paid in-cash or in-kind) to land value. Since land values differ across the Central City, and change over time, such a system would require tracking values by sub-district and updating them regularly.

In the absence of requiring physical public amenities of the developer, a fee-in-lieu system requires the governmental procedures and infrastructure to administer the funds and direct them towards the Bonus Program’s public goals.

As we will discuss, many of the bonus options require the provision of specific built amenities (i.e. a daycare center, or rooftop garden). Such physical improvements have set costs of construction that are not tied to the land value. (A 15,000 square foot rooftop garden will cost the same whether built in cheap land or expensive land.)



VII. THE DENSITY TRANSFER PROGRAM: ANALYSIS

Prior to discussing the characteristics of the various bonus options in detail, we discuss the FAR Transfer Program, which is relatively straightforward in comparison.

The Central City's FAR transfer options break down into four basic types:

- 1) **Intra-project transfer:** The Abutting Lot transfer is used within a single development project that includes multiple entitled lots which border each other, or in some cases face each other across a right-of-way. This option involves shifting some FAR potential from one lot to boost the potential on another lot above its base FAR.
- 2) **Cross-district transfers:** There are three examples of this type (SRO, Historic Landmark, and Residential transfers). These options involve transferring the FAR from a site which contains a use that the public would like to preserve, to a new development site. This development potential can be purchased from the owner of the sending site, and transferred over a fairly wide range, creating a market for FAR.
- 3) **Sub-district transfer:** Within the South Waterfront sub-district, FAR can be sold and transferred among sites, which do not have to be abutting.
- 4) **Central City Master Plan transfer:** This option is used within a master planned area that includes multiple lots. The cumulative FAR potential from the lots may be shifted among the individual sites, so that any individual site may end up with density exceeding the base amount. The Central City Master Plan transfer option is unique in that it has been interpreted to place no limit on the amount of FAR that can be transferred to an individual site (whereas other transfer and bonus options are generally limited to an additional 3:1 FAR). In addition, master planned areas can consist of non-contiguous sites, which potentially allows transfers across the Central City.

The combination of the six transfer options creates significant flexibility for developers with the resources to purchase FAR outright, or who have banked their own FAR.

The Market Value of FAR

Unlike the Bonus Program, in which the cost of bonus FAR is determined by the cost of the public amenity provided, the cost of FAR in the Transfer Program is determined in many cases through negotiation in a market. The developer in need of FAR can negotiate with the owner of another site, perhaps a historical building or SRO structure, to arrive at a price that best reflects the FAR's value to the buyer and seller.

In practice, there is little doubt that the transfer FAR market in Portland has some inefficiency. Because the subject is complex and appraisal difficult, it is likely that more sophisticated operators in the FAR market have greater understanding of the worth of development rights, and have a strong advantage in negotiation. There are surely many property owners in the Central City who don't understand that their properties have these transferable rights that carry a monetary value.



Nevertheless, these challenges to the market are not fatal, and over the course of many transactions, we can get a picture of the value of transferrable FAR.

Professionals in the market report that currently (2007) transferable FAR sells within a range of \$6.50 to \$18.00 per square foot, with an average of roughly \$10.00 per square foot.

Of the figures presented in this report, the cost of transferable FAR comes closest to representing the current market value of FAR. As noted in Section IV, if FAR is available at this price, developers will tend not to opt for other sources of FAR, including bonuses, which will ultimately cost them more per square foot.

As the range cited above implies, there are project-specific factors that swing the value of FAR even in this more-or-less efficient market. For instance, the stage that the development project is in will affect the urgency with which transferable FAR must be found. In other cases, the number of eligible sending sites might be limited, giving the seller increased leverage. In others, the seller might be motivated to liquidate FAR rights quickly at a lower price.

The Six FAR Transfer Options

Abutting Lots Transfer	
Program Boundaries:	CX and EX zones.
Applicable Projects:	Development on a site with abutting lots, or those separated by a right-of-way. In Downtown sub-district, transfers must be within the same block.
Mechanism:	Floor area, including bonus floor area, may be transferred among lots in a single project. Height limits still apply.
Maximum Transfer:	3:1 bonus FAR generally; up to 12:1 total FAR in West-end; up to 9:1 total FAR in South Waterfront
Public Benefit:	Integrated design and development of larger areas allows greater cohesion and place making opportunities. Reflects the practical realities of developing larger sites that have experienced parcelization.
Economic Characteristics:	The Abutting Lots transfer is commonly used within one development project that covers multiple lots. It allows the lots to be treated as one large site, providing greater flexibility in how large projects are designed and built. The economics of employing this transfer will differ. If the developer already controls all of the lots, he's likely to think of the FAR strategically, rather than in strictly monetary terms. If the developer must secure some or all of the lots from a property owner, the value of the FAR should be capitalized in the ultimate purchase price. The seller may or may not realize the full value that development rights add to the property. In an efficient market, the sale price is equal to the residual land value, and thus the value of the FAR is included.



SRO Housing Transfer	
Program Boundaries:	CX and EX zones. A site in an RX zones may receive FAR from another RX zone site, but not from CX or EX sites. However, an RX site may transfer FAR to any of these three zones.
Applicable Projects:	New SRO developments or existing SRO buildings, using at least 60% of floor area for housing.
Mechanism:	Owners of SRO buildings may sell and transfer the rights to their unused FAR potential. May be transferred anywhere within Central City.
Maximum Transfer:	3:1 bonus FAR generally; up to 12:1 total FAR in West-end; up to 9:1 total FAR in South Waterfront
Public Benefit:	The goal is to rehabilitate and preserve SRO units in the Central City as a source of affordable housing.
Economic Characteristics:	The SRO Housing transfer is one option that works like a market in FAR. Aging SRO properties are more common than new SRO developments. While it is possible that the owner may also be a developer who would like to use his excess FAR on another project, it is more likely that existing owners have FAR rights to sell to a third party developer. The transferred FAR can be used anywhere in the Central City, giving it maximum utility. In the case of a negotiated FAR sale, the density may be appraised before sale. The value of the FAR should be based on its value to the receiving site, rather than the sending site. This transfer option has been seldom used. Aside from the property owners who are unaware that they are sitting on excess development rights, there may be some who are hesitant to lose the FAR potential on aging SRO properties that might redevelop.

Historic Property	
Program Boundaries:	MFR, Commercial and Employment zones in Central City. RX, RH, R1, CX, EX, EG1, EG2, IH, IG1.
Applicable Projects:	Historic landmark properties
Mechanism:	Owners of properties containing a landmark may sell and transfer the rights to their unused FAR potential. Transfer within the "recognized neighborhood" or within two miles. Depending on zoning at landmark site, there are limitations on the zone to which the FAR can be transferred.
Maximum Transfer:	Transfer portion of the code states that 3:1 bonus FAR is the limit. Language in FAR section implies that West End and South Waterfront exceptions still apply: up to 12:1 total FAR in West-end; up to 9:1 total FAR in South Waterfront
Public Benefit:	Preservation of historic landmarks and revenue source for rehabilitation.
Economic Characteristics:	The Historic Landmark transfer option works similarly to the SRO transfer option. There are greater restrictions on where in the Central City the FAR can be used depending on the zone of the landmark site. This transfer option lends itself to negotiation and market pricing. In the case of a negotiated FAR sale, the density may be appraised before sale. The value of the FAR should be based on its value to the receiving site, rather than the sending site.



Residential Floor Area Transfer	
Program Boundaries:	Central City
Applicable Projects:	Sites occupied by residential development.
Mechanism:	Owners of existing residential buildings may sell and transfer the rights to their unused FAR potential. May be transferred anywhere within Central City.
Maximum Transfer:	3:1 bonus FAR generally; up to 12:1 total FAR in West-end; up to 9:1 total FAR in South Waterfront
Public Benefit:	Preservation of CC residential units.
Economic Characteristics:	The Residential Floor Area transfer may be the most versatile due to the sheer number of existing residential projects that qualify. The transferred FAR can be used anywhere in the Central City, giving it maximum utility. In the case of a negotiated FAR sale, the density may be appraised before sale. The value of the FAR should be based on its value to the receiving site, rather than the sending site. This option represents the largest share of the potential market in transfer FAR. Like the Residential Bonus, it was adopted at a time that residential growth in the Central City had stagnated.

South Waterfront Transfer	
Program Boundaries:	South Waterfront district
Applicable Projects:	Development sites within SW district. Sites do not have to be abutting.
Mechanism:	FAR potential and bonuses can be sold and transferred between sites within the SW sub-district.
Maximum Transfer:	Up to 9:1 total FAR. Developments may exceed this if the FAR above 9:1 is transferred from the South Waterfront Greenway area.
Public Benefit:	Preservation of Willamette Greenway and open space.
Economic Characteristics:	The South Waterfront transfer option creates a limited market for transferrable FAR in this sub-district. The efficiency of this market is somewhat hindered by its limited size and the prevalence of a few major landowners. However if transferrable FAR in the South Waterfront is overpriced, it won't compete with the SRO, Historic and Residential bonuses which also cover the area. This option does provide the only mechanism by which a project can exceed 9:1 in the South Waterfront sub-district, which increases its utility.



Central City Master Plan Transfer	
Program Boundaries:	Central City
Applicable Projects:	Master planned projects encompassing multiple parcels or sites.
Mechanism:	Within a master planned area, the total allowed FAR may be transferred among the included sites, some of which may end up with an allocation exceeding the maximum stipulated elsewhere in the code. Subject to approval.
Maximum Transfer:	Limited to the maximum permitted FAR for the combined lots within the master plan area.
Public Benefit:	Integrated design and development of larger areas allows greater cohesion and place making opportunities.
Comments:	<p>The Central City Master Plan transfer option applies to master planned developments that may cover an area of many blocks. Master planning allows an intensive design and development process that considers how the elements of the planned area will work together. It also allows significant flexibility in how the total permitted FAR is spread across the site.</p> <p>This transfer option is unique in that it has been interpreted to place no limit on the amount of FAR that can be transferred to an individual site (whereas other transfer and bonus options are generally limited to an additional 3:1 FAR). In addition, master planned areas can consist of non-contiguous sites, which potentially allows transfers across the Central City. Such plans must be approved through a Type III procedure, which allows the City discretion in whether or not a proposed development conforms with the Central City Plan. However, participants in the process tend to agree that great uncertainty exists over what is acceptable or not acceptable with this transfer option.</p>
Economic Characteristics:	<p>As with the Abutting Lots transfer, the cost of the transferred FAR will differ greatly depending on the details of the project. If the developer already controls the land, she's likely to think of the FAR strategically, rather than in strictly monetary terms. If the developer must secure some or all of the land from a property owner, the value of the FAR should be capitalized in the ultimate purchase price.</p> <p>Because this transfer provision has been interpreted to allow transfers from non-contiguous sites, this opens the possibility for applicants to create illogical master plan areas. It further allows the transfer of FAR from an area with less valuable land to an area with more valuable land.</p>

The Transfer Program: Conclusions

As a method of gaining additional FAR, the Transfer Program has a few interesting advantages and disadvantages for both the City and developer.



First, it is important to remember that there are different types of transfer options. The “Abutting Lots” and “Master Plan” transfers reflect the reality of developing large sites or groups of sites. These transfer options are about providing flexibility to the design and development process. As such, these options are not tied as directly to providing a clear public good as the other options.

In addition, these two options are less likely to provide an efficient market for the negotiation and sale of transferrable development rights. This is because the lots or sites involved are likely to be under the control of the developer, meaning any value for unused FAR has changed hands prior to the transfer process. In these cases, the total FAR of the site becomes a strategic element of the development programming. This makes the valuation of the FAR in these cases difficult. Depending on the project, it might be zero or market rate.

Insofar as these two options offer developers a source of the FAR they need without being tied to a direct public good (such as the preservation of a landmark), they may be seen as less beneficial to the City than the other transfer or bonus options. However, to end these programs could make the development of larger sites much more difficult, and encourage the development of smaller individual lots and parcels.

The other transfer options are offered in return for a public good (preserved SRO housing, historic landmarks, Central City housing, or the South Waterfront greenway). These return tangible public goods. The cost of the FAR is set through a market mechanism which can ensure a greater parity between cost and benefit. This avoids the code-based determination of bonus value inherent in the Bonus Program (see next section). While the developer does not get the added benefit of the public amenity in their own project as they might with a bonus (i.e. a water feature or art), this fact should be factored into the price of the FAR.

There is one key issue with these four transfer options. This is the range allowed between the sending and receiving sites. As noted, the value of FAR is closely tied to land value. Land values differ widely across the Central City, which creates the incentive to transfer FAR from less expensive property to more expensive property. The result is that the development potential planned for one neighborhood (i.e. the Lloyd District) can be permanently transferred to the River District or Downtown.

For example, a residential project could be built below base FAR in a less expensive neighborhood where the achievable rents don’t warrant full density, and the excess FAR transferred to a more expensive neighborhood using the Residential Floor Area transfer option. Aside from conflicting with plan goals for neighborhood feel and function, this shifts infrastructure burden among the neighborhoods, with the potential to leave some areas under capacity, and others over capacity.

As noted, the Transfer Program and Bonus Program shouldn’t be considered in isolation. In any given case, a developer will choose the option that will provide additional FAR at the lowest cost, be it through transfer or bonus.



VIII. THE DENSITY BONUS PROGRAM: ANALYSIS

The density Bonus Program is considerably more complex than the Transfer Program due to the sheer number of bonus options and their differences. In addition, the bonus options do not have built-in market mechanism to assist in reaching a price for the bonus FAR. In the case of the 18 bonus options, the effective cost of the bonus FAR is determined by the cost of the public amenity provided in order to earn it.

This section presents analysis and findings on the relative costs and benefits of the bonus options. This discussion is presented in the following sequence:

- A description of the general types of bonus options used in the Central City
- Presentation of findings from a pro forma analysis of the bonus options
- Discussion of each specific option and its economic characteristics

The General Categories of Bonus

Bonuses can be structured in countless ways, and Portland's program reflects this flexibility. Variables can include: where the bonuses can be used; what type of projects are eligible; how the amount of bonus is calculated; the maximum amount of bonus that can be earned; the specific standards that the public benefit must meet.

Each of the Central City bonus options features unique details, but they can be grouped into the following six broad categories.

1) "Automatic" Bonuses

Examples (2): Residential Bonus, Small Development Site Bonus

This category includes those bonuses in which the public benefit is the additional density itself. Projects that are located in the right areas, and have the specified characteristics, are eligible to receive these bonuses, without the provision of additional public amenities. The chief example is the Residential Bonus, which is by far the most widely used bonus option. Residential buildings in the proper area automatically qualify for this bonus. Similarly, development projects on small sites in the West End automatically qualify for additional FAR.

It is important to remember that these are not "free" bonuses provided for no public benefit. In these cases, it was determined that encouraging additional density in places where it might not otherwise occur is a public benefit in itself.

2) Specified Use Bonuses

Examples (5): Day Care, Retail Use, Theaters on Broadway, Locker Room, Middle Income Housing



This category includes those bonuses in which the public benefit being sought is a particular use to be included in the project by the developer. In these cases, the cost of the bonus FAR is the cost of constructing (and perhaps operating and maintaining) the qualifying use. There also may be other costs, such as the opportunity cost of using space that was intended for a more profitable use to provide a public benefit use which provides less income. Some of these uses, such as retail space or a theater, might also require the provision of a significant amount of additional parking.

As is the case with all non-“automatic” bonuses, whether or not the bonus FAR can justify the additional costs depends on the project and the specific bonus.

3) Design Specification Bonuses

Examples (5): Rooftop Gardens, Eco-roof, Large Dwelling Unit, Large Household Dwelling Unit, Below Grade Parking

This category includes bonuses which are earned by providing a standard building component to a different design or performance specification. The cost of the bonus FAR is the additional cost that might result from constructing the component to a different standard than one otherwise would.

4) Open Space Bonuses

Examples (2): Willamette River Greenway, Open Space

This category includes bonuses which are granted in return for developing and dedicating open space for public use. The two examples apply in the South Waterfront sub-district only. The cost to the developer is the construction and upkeep of open space features. Some land is lost as it is made public, but the value of this land is recouped through the use of its base FAR. There may be additional tax advantages to dedicating the land for public use.

5) Percentage Bonuses

Examples (2): Percent for Art, Water Features/Public Fountain

Bonuses in this category are earned by dedicating a set percentage of construction costs to the specified public amenity. The cost of the bonus FAR is well defined.

6) Fund Bonuses

Examples (2): Affordable Housing Replacement Fund, Open Space Fund

Under these options, bonus FAR is essentially purchased by the square foot, with the proceeds going into a collective fund to provide a public good. These funds are administered by public agencies. The cost per square foot is specified in the Central City code at \$10 in 1990 dollars, or roughly \$16.40 in 2007.



Unlike the other bonus options, fund options do not generate useable space or amenity in the subject development itself. Other options generate leasable space, art, green features, or nearby open space, that accrue some value back to the development itself.

Comparison of the Bonus Options

In order to analyze the economic characteristics of each bonus option, JOHNSON GARDNER created a series of prototypical pro formas to model a range of development scenarios. The pro formas model two development types (residential and office, each with ground-floor retail) at four base FAR's (4:1, 6:1, 9:1, 12:1). Each of the 18 bonus options was then applied to the base scenario to model its effect on the financial performance of the development.

As discussed in Section VI, the actual dollar value of FAR varies depending on the characteristics of the project in question. The pro forma analysis discussed here employs a series of estimates of cost and pricing figures from the current market. These are applied to a generic base case scenario, and repeated for multiple base FAR's.

The findings of this analysis are instructive in comparing the bonus options to each other, and measuring a relative incentive they offer to a developer. Any actual dollar figures generated apply only to the hypothetical case, and cannot be generalized to other projects or the Bonus Program as a whole.

Nevertheless, the pro forma analysis does provide interesting insights on the individual bonuses and how they compare to each other and the FAR transfer options. The charts and discussion below outline these findings.

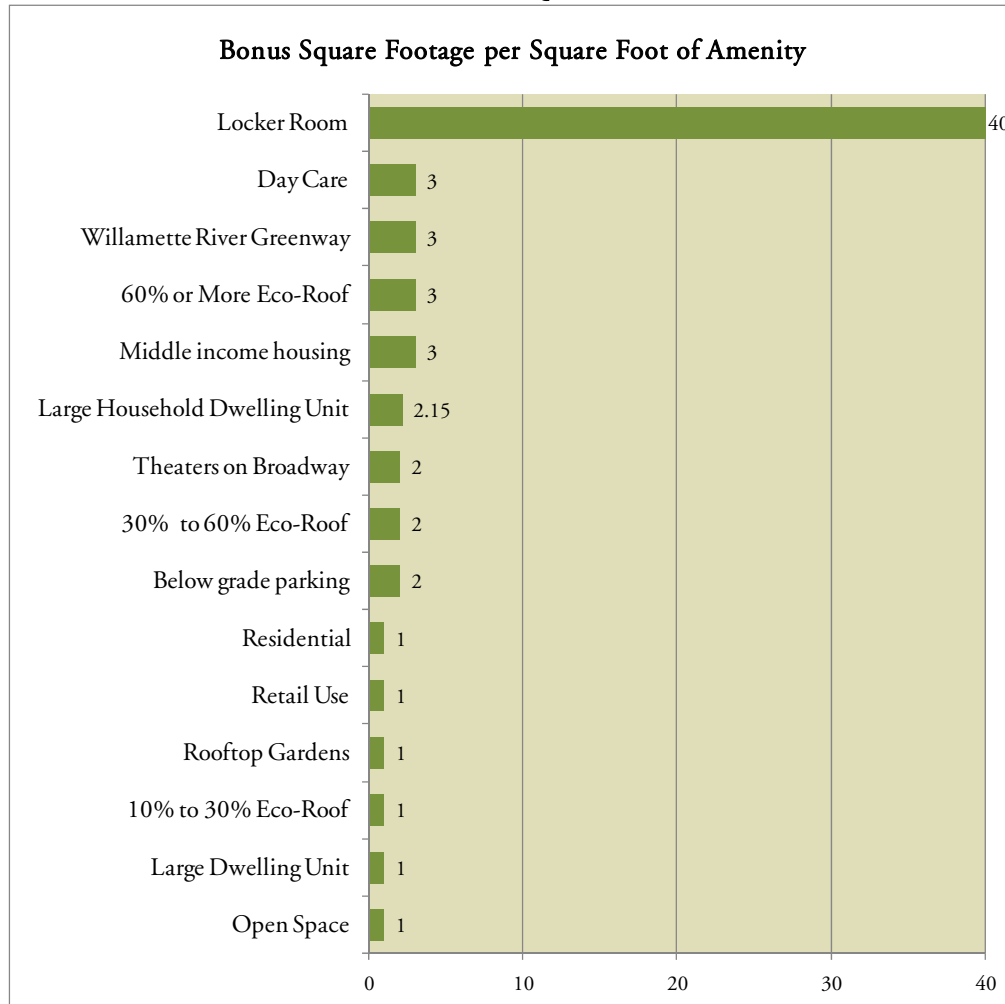
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Figure 7.1 presents the relative bonus square footage granted per square foot of public amenity provided. The most striking feature of this chart is the very high relative return for providing locker room space as compared to all other bonus options. Qualifying locker room space earns a bonus of 40 square feet to 1, while the next highest multiplier is 3 to 1.

(Those bonuses for public amenities that aren't directly calculable in square footage are excluded. For instance the Percent for Art bonus does not translate into a set square footage of amenity.)



FIGURE 7.1: RELATIVE BONUS PER SQUARE FOOT OF PUBLIC AMENITY



Source: City of Portland, Johnson Gardner

The extreme case of the Locker Room Bonus perhaps distracts from the more important comparisons among the other bonuses. These multipliers have a large effect on the cost efficiency of using the bonus option.

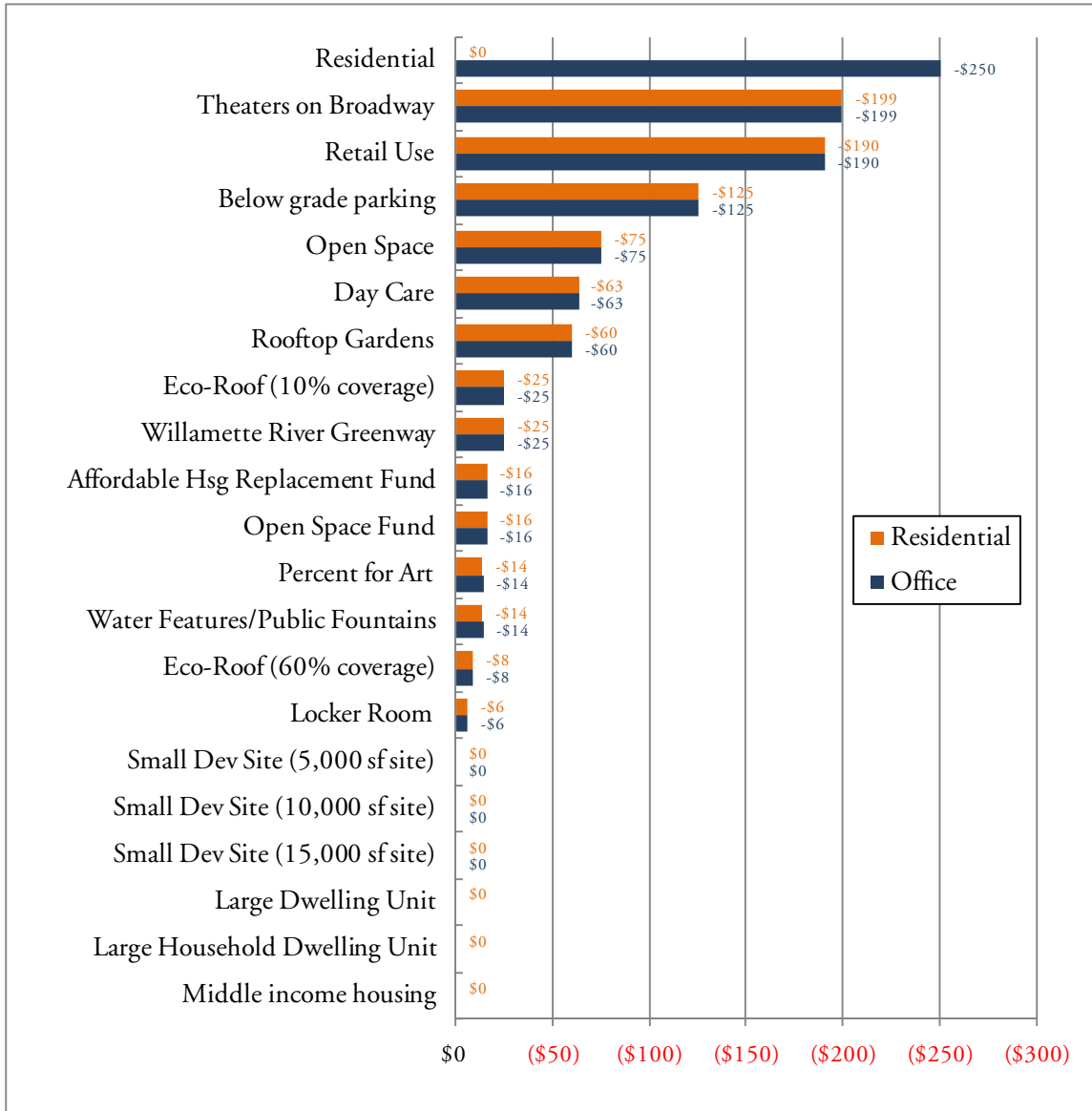
For instance, an eco-roof covering more than 60% of the roof area will earn three times as much bonus as a rooftop garden with the same coverage. Likewise, the Willamette River Greenway option earns three times as much bonus as the Open Space option, though they work in a similar manner.

These variations in potency reflect the policy priorities at the time the bonus options were adopted. However, the ultimate effect is to make some options more costly than others, and less likely to be used.

Figure 7.2 below demonstrates the cost of providing the public amenity for every square foot of bonus earned. *These dollar figures apply to the projects modeled in the pro forma analysis and will vary for real world projects.*



FIGURE 7.2: COST OF PROVIDING PUBLIC AMENITY PER SQUARE FOOT OF BONUS EARNED



Source: Johnson Gardner, LLC

- The figure shows the cost of developing the public amenity per square foot of bonus received. By this measure, the most expensive option is adding residential space to an office project in order to qualify for the Residential Bonus. *It is important to remember that these numbers reflect the literal additional cost, without taking into account the return on that cost.* For instance, in the case of a commercial project adding residential space, the pro forma model shows an increase in value and profitability despite this high literal cost, because the resulting residential space creates additional value.



- These figures demonstrate how the bonus “multiplier” shown in Figure 7.1 directly affects the cost of bonus FAR. For instance at a 3-to-1 bonus, the Willamette Greenway option yields bonus square footage at one third the cost of the Open Space option with its 1-to-1 bonus. (The model assumes equal costs to develop these open spaces.) Locker room space will have similar construction costs to other types of space, but with a 40-to-1 return this drives down the cost-per-square foot to the lowest level aside from the “automatic” bonuses.
- Note that the model shows the Locker Room and Eco Roof (with 60% coverage or more) bonuses having the lowest cost per square foot of bonus, at \$6 and \$8 respectively. This seems to agree with usage statistics which show that these are the two most used bonus options after the Residential option. Interestingly, the modeled cost of these two bonuses is also below the estimated average “market” price for transferrable FAR discussed in the previous section.
- Except for the Locker Room Bonus, the bonuses that require a specific use (residential, theater, retail, day care) all have relatively high cost per square foot of bonus. This indicates two things: these others will most likely be considered by developers who are already considering building that type of space. The locker room case demonstrates that a very high bonus multiplier may be necessary to incentivize the creation of space that a developer is not already considering.

The figure presented above also reflects additional assumptions:

- For the Residential Bonus and Small Development Site bonuses, it is assumed that the qualifying level of development was planned anyway, and therefore no additional cost is incurred to qualify for the bonus. (In the case of the office project modeled, the residential space needed to qualify for the Residential Bonus was unplanned, and therefore the full cost of adding this residential space is included at \$250/square foot.)
- In addition, the Large Dwelling Unit and Middle Income options were not modeled for the commercial development. For the residential development modeled, the construction of the large dwelling units or affordable housing is assumed to cost the same as the residential development that would otherwise be occurring, and therefore this represents no extra cost. This is most likely misleading. While the construction costs might be similar, there are likely additional backend costs associated with developing units that are less marketable, or priced for lower income buyers. (The fact that incentives must be offered for developing these unit types is an indicator that other types of units are more marketable and/or profitable.)



Relative Value of Bonuses for Residential Projects

Figure 7.3 summarizes the residential base case scenarios modeled in this pro forma analysis. The findings discussed below represent the average of results across the four base FAR's modeled.

FIGURE 7.3: RESIDENTIAL BASE CASE SCENARIOS

Residential Projects w/ Groundfloor Retail				
Parcel Size (SF)	40,000	40,000	40,000	40,000
Base FAR	4:1	6:1	9:1	12:1
Building Size (SF)	160,000	240,000	360,000	480,000
Estimated Height (Floors)	10	15	23	30
Residential Units	99	160	249	332

Source: Johnson Gardner LLC

* These square footage assumptions were adapted in the case of the Small Development Site Bonus.

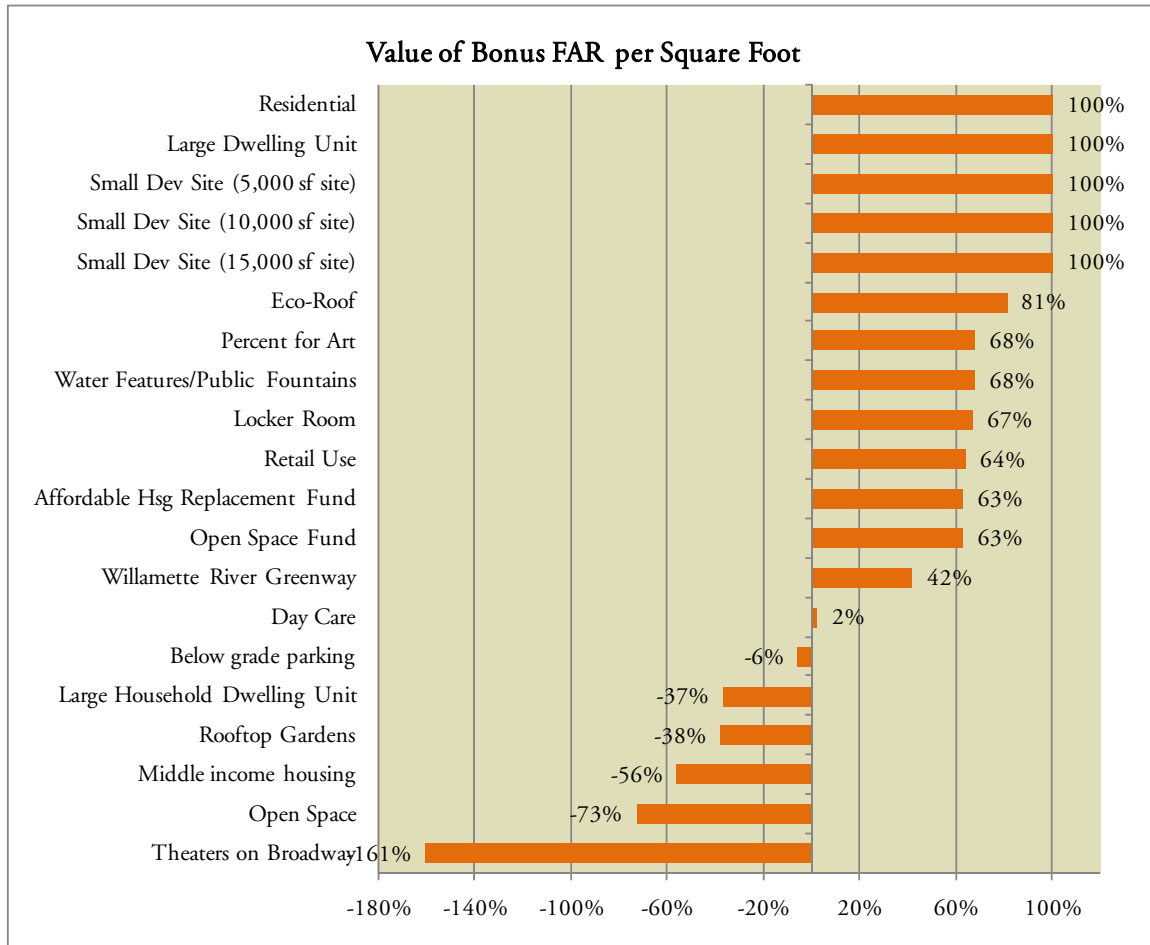
Figure 7.4 below presents the relative value of each square foot of bonus FAR earned, once the total cost/revenue picture of the project is taken into account, including the bonus development.

In this chart, dollar values specific to the modeled project have been converted to percentages in order to show the relative value. 100% represents the maximum achievable value for bonus FAR. The maximum value accrues to the developer in those cases where the bonus FAR is “automatic” and doesn’t entail the development of additional public amenities at additional cost. Thus, in this model, a developer who is constructing a residential project, and qualifies for bonus FAR without providing any other public amenity, gets the maximum value from bonus FAR. The other bonuses, which each entail some additional cost, are compared to this “full value”.

These results apply to the **residential development** modeled in this analysis. *These are findings from the pro forma analysis and the exact figures shown here apply only to the base case development program modeled in this analysis. This chart should be considered a guide to the general relationships among the bonus options as applied to a high-rise residential project.*



FIGURE 7.4: RELATIVE VALUE OF BONUS FAR, RESIDENTIAL



Source: Johnson Gardner, LLC

- As noted, when the “automatic” bonuses are applied, the project enjoys the full value of the bonus FAR. In addition, the “Large Dwelling Unit” bonus provides the highest value, under the assumption that construction of X square feet of large units will have the same average cost as construction of X square feet of smaller units. In practice, this switch to larger dwelling units does include the possible hidden cost of increased risk, if these units are less marketable than smaller units.
- A range of other bonuses provide some value in this model. These include the “percentage” type bonuses and the “fund” type bonuses. Some of the specified use bonuses are included as well. The characteristics of each are discussed in more detail below.
- The bonus FAR becomes less valuable as the cost of providing the required public amenity rises. The bonus options that show negative value are those for which the cost of providing the public benefit is so great that it diminishes the return on the whole project, even with the bonus FAR. Another way to state this is that if one compares the “base case” project to the project after it has utilized one of these bonuses the base case is still the highest and best use of the site.



- Bonuses showing negative value include the open space and rooftop garden bonuses which provide a 1-to-1 bonus, and the theater bonus which requires a large amount of additional parking.
- The slightly negative value of the Below Grade Parking option reflects the high cost per space of underground parking. This option allows the FAR that would otherwise be occupied by above-ground parking to be applied to additional leasable space. It is possible that this option can provide marginally positive value to some projects, despite the negative result shown in this model.
- While the Large Dwelling Unit and Middle Income Housing options showed no additional costs in Figure 7.2, we see in Figure 7.4 the effect these options have the overall revenue picture. Large Dwelling Units tend to achieve a lower price for square foot, while the provision of middle income housing obviously affects the project's revenue generation. The effect in the project modeled here is that these options reduce the overall return on the project, and the bonus FAR has negative value.
- In practice, almost all of the bonus options that show negative results in this model have been used at least once on actual projects. Obviously, for those projects, these costs did not reduce the overall return, or other considerations took precedence. This is a reminder of the significantly different results these bonuses can produce depending on the intricacies of the project in question.

Relative Value of Bonuses for Commercial Projects

Figure 7.5 summarizes the commercial office base case scenarios modeled in this pro forma analysis. The findings discussed below represent the average of results across the four base FAR's modeled. The goal in modeling both residential and commercial uses was to keep as many factors constant as possible in order to support direct comparisons. Therefore the base cases use the same parcel size and densities.

FIGURE 7.5: COMMERCIAL BASE CASE SCENARIOS

Commercial Office Projects w/ Groundfloor Retail				
Parcel Size (SF)	40,000	40,000	40,000	40,000
Base FAR	4:1	6:1	9:1	12:1
Building Size (SF)	160,000	240,000	360,000	480,000
Estimated Height (Floors)	10	15	23	30
Retail Space	20,000	20,000	20,000	20,000

Source: Johnson Gardner LLC

* These square footage assumptions were adapted in the case of the Small Development Site Bonus.

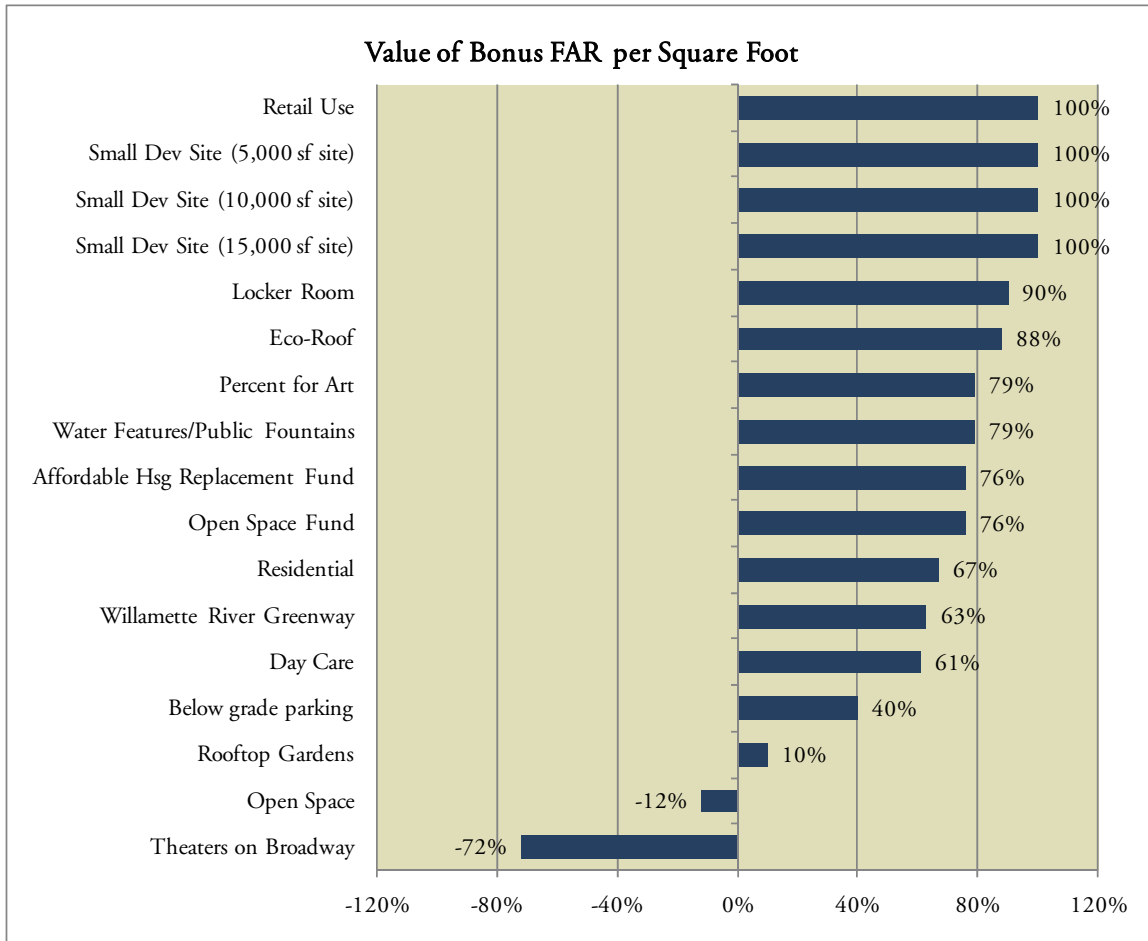
Figure 7.6 below presents the relative value of each square foot of bonus FAR earned, once the total cost/revenue picture of the project is taken into account, including the bonus development. These results apply to the **commercial office development** modeled in this analysis. *These are findings from the pro forma analysis and the exact figures shown here apply only to the base case development program*



modeled in this analysis. This chart should be considered a guide to the general relationships among the bonus options as applied to a high-rise commercial project.

In the commercial model, the Residential Bonus is included, assuming that a portion of the commercial office space is converted to residential units in order to earn the bonus. However, the Large Dwelling Unit, Large Household Dwelling Unit, and Middle Income Housing units were not modeled for commercial projects.

FIGURE 7.6: RELATIVE VALUE OF BONUS FAR, COMMERCIAL



Source: Johnson Gardner, LLC

- The commercial model produces relative values similar to the residential model. The Residential Bonus no longer provides full value because it entails switching some planned commercial space to residential space in order to qualify. This residential space carries higher construction costs than the commercial it replaces, somewhat diminishing the value of the bonus.
- However, in the commercial model, the Retail Bonus is not assumed to entail additional construction costs over the commercial space it is replacing, and therefore it enjoys the full value of the bonus. What keeps the Retail Bonus from playing the same “automatic” role for



commercial projects that the Residential Bonus plays for residential projects is the sheer amount of retail that must be developed in order to earn the full 3:1 bonus. Also, the Retail Bonus applies to a more limited area of the Central City.

- Commercial projects that are located outside of the retail target area or do wish to include retail, and are not located on a small development site in the West End do not have a “full value” bonus option at their disposal.
- Other bonuses present a similar pattern to that found in the residential model. The reduced cost of commercial construction means that the bonuses produce somewhat higher bonus value, and fewer of the options produce negative bonus value.

Individual Bonuses: Economic Characteristics

Individual bonuses are discussed in more detail below. *The value and cost characteristics discussed apply to the projects modeled in the pro forma analysis.*

- | | |
|------------------------------------|---|
| 1) Residential Bonus | 10) Eco-Roof |
| 2) Day Care | 11) Large Dwelling Unit |
| 3) Retail Use | 12) Large Household Dwelling Unit |
| 4) Rooftop Garden | 13) Middle Income Housing |
| 5) Theaters on Broadway | 14) Small Development Site |
| 6) Percent for Art | 15) Affordable Housing Replacement Fund |
| 7) Water Features/Public Fountains | 16) Below Grade Parking |
| 8) Locker Room | 17) Open Space |
| 9) Willamette River Greenway | 18) Open Space Fund |

1) Residential Bonus	
FAR Bonus:	1 bonus square foot for each square foot of housing. Up to half of bonus area can be for non-residential uses. In "Residential Bonus Target Areas" first 1.5:1 of bonus area must be from Residential Bonus.
Applies In:	CX and EX zones, outside of the South Waterfront. Additional “Residential Bonus Target Areas” (Portland Zoning Code 33.510, Map 510-4).
Maximum Bonus:	3:1
Usage:	34
History:	Used sparingly until 1998, more so afterwards. 31 instances were in the River District (90%).
Comments:	The Residential Bonus has been used far more frequently than any other bonus option. At the time of its adoption, residential development in the



	<p>Central City was stagnant. This bonus (along with some of the transfer options) is a reflection of the high priority of encouraging new residential development at that time.</p> <p>The high use of this bonus during the recently strong residential development market has stirred discussion of whether this bonus is a “giveaway”, for which the developer is not providing anything in return. It’s important to remember that the bonus played a part in creating this development momentum. In fact, the argument can be made that the Residential Bonus is the one clear success of the Bonus Program.</p> <p>It is true however, that the use of this bonus will be highly responsive to residential market conditions. If residential market conditions are not favorable, developers will be less likely to build the housing needed to qualify for this bonus, and see less use for the bonus itself.</p> <p>This bonus bids up land costs in the areas where it applies, making it more expensive to accomplish non-residential projects. Commercial buildings can also achieve a 3:1 bonus, but this FAR will come at a cost, while the Residential Bonus is “automatic” for residential buildings.</p>
Economic Characteristics:	<p>For the two development types modeled in the pro forma analysis, this bonus increased the overall return rate of the project by 3% to 6%. The 3:1 bonus FAR had a greater positive impact in zones with a lower base FAR. Its impact was less in high density zones, but still very positive.</p> <p>For the residential project modeled, this bonus provides the bonus FAR with the greatest value (i.e. not defrayed by other costs). For the commercial project, the value of the bonus FAR received is still positive, but is not full value due to the cost of adding residential space in order to qualify for the bonus.</p> <p>From the cost perspective, this is actually the most expensive bonus on a square foot basis. The construction costs of the residential space that qualifies one for the bonus are very high (\$250 square foot, including the necessary parking). Since the bonus is 1-for-1, the cost of one square foot of bonus space is literally the cost of one square foot of qualifying space.</p> <p>For this reason, this bonus option is likely to be used by those who are already creating residential space, rather than added to a project without it. If the project is profitable at the base density, the addition of more residential density should be economical in the Central City. In some cases, a project may only be feasible with the bonus density.</p>



2) Day Care	
FAR Bonus:	3 bonus square feet for each square foot of day care facility.
Applies In:	CX, EX, & RX zones, outside of South Waterfront.
Maximum Bonus:	3:1
Usage:	2
History:	Rare usage in DT CX zones. Last used in 1996.
Comments:	<p>This bonus seems to have a few things working against it. While it provides a 3-for-1 bonus, the realistic achievable size of a day care facility will be fairly small. That means that the bonus earned in return will be a relatively small amount of space.</p> <p>In addition, this bonus would seem to offer a high level of uncertainty to many developers. They may not be familiar with building and operating this type of space. The requirement to maintain and operate this space for the life of the building adds significant economic uncertainty for the builder and any prospective future buyers of the real estate. In addition, day care space will provide less return than the residential or Class A office that it will replace.</p> <p>Perhaps for these reasons, the two examples of this bonus being used are public sector developments.</p>
Economic Characteristics:	<p>Use of the Day Care Bonus showed almost no impact (positive or negative) on the bottom line of the developments modeled. The bonus FAR itself was more valuable for the office project modeled, but its value was essentially neutral for the residential project.</p> <p>The model showed the cost of providing this public amenity to be near the middle of the pack - \$63 per square foot of bonus earned.</p>

3) Retail Use	
FAR Bonus:	Projects with at least .5:1 FAR dedicated to retail space.
Applies In:	“Retail Use Bonus Target Area”: between SW Washington & Yamhill streets, and SW 1 st and 10 th avenues (Portland Zoning Code 33.510, Map 510-4).
Maximum Bonus:	3:1
Usage:	3
History:	Last used in 2001



Comments:	<p>This bonus option is an interesting case. For projects in the qualifying area, that are already considering building more than .5:1 FAR of retail space, this bonus would be “automatic” much like the Residential Bonus is for residential projects. It has been used a few times, quite possibly for this reason.</p> <p>The problem with viewing this bonus as a commercial version of the Residential Bonus, is the high amount of retail space a project would need to provide in order to earn the full 3:1 bonus. The project would have to dedicate 3.5:1 FAR for retail use, which means multiple floors of the building. For urban malls this is achievable. For the standard office building with ground floor retail, this is difficult.</p>
Economic Characteristics:	<p>In a mirror image of the Residential Bonus, the Retail Use bonus provided bonus FAR at full value to the office project modeled, and lesser, though still positive value to the residential project modeled. This increased the rate of return on the office project by 1%, while having no effect on the return rate of the residential project.</p> <p>The cost of providing the qualifying retail space is high per square foot of bonus earned. But it is lower than the cost per square foot of Residential Bonus, due to the lower construction costs for commercial space (\$190 per square foot).</p>

4) Rooftop Garden	
FAR Bonus:	Projects with at least 50% of roof area dedicated to garden, with 30% of garden area containing plants.
Applies In:	CX, EX, & RX zones, outside of South Waterfront.
Maximum Bonus:	3:1
Usage:	2
History:	Used in 2000 and 2005.
Comments:	<p>The Rooftop Garden bonus has been used and has had some more interest recently. It is likely that this bonus competes on some level with the Eco-Roof Bonus. For those considering making modifications to the roof, the eco-roof option is cheaper and provides a 3-for-1 bonus, compared to the 1-for-1 bonus of the rooftop garden option.</p> <p>The Rooftop Garden does have the strong advantage that it provides a marketable amenity to building tenant in return for the cost. In addition, eco-roofs are still a relatively new technology, while gardens involve more straight forward landscape maintenance.</p>



Economic Characteristics:	<p>The pro forma analysis found that this bonus had a slightly negative effect on the return rate for residential projects, and a neutral effect on commercial projects. The value of the bonus FAR earned was found to be low or negative.</p> <p>The cost of providing this amenity per square foot of bonus earned was found to be \$60 in this model.</p> <p>This is an example of a case in which the bonus multiplier is clearly impacting the effectiveness of this bonus. If this option provided a 2-for-1 or 3-for-1 bonus, it would likely offer value to the developer.</p>
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5) Theaters on Broadway	
FAR Bonus:	2 bonus square feet for each square foot of theater space.
Applies In:	“Broadway Theater Bonus Target Area”: SW Broadway between Burnside and SW Madison streets (Portland Zoning Code 33.510, Map 510-4).
Maximum Bonus:	3:1
Usage:	1
History:	Used in 1998.
Comments:	This is a highly space intensive use requiring the provision of a large amount of structured parking. It is highly unlikely that this bonus would incentivize a developer to include a theater in a project, unless it was already planned.
Economic Characteristics:	<p>The pro forma model showed that this option has a significant negative impact on the rate of return. Because of this, the value of the bonus FAR to the developer is actually negative.</p> <p>This means that for the projects modeled, the base case (without the theater) was still the highest and best use when compared to the same project with a theater and the bonus space it earned.</p> <p>The cost per square foot for the bonus earned was the second highest, at \$199.</p>



6) Percent for Art	
FAR Bonus:	1:1 FAR bonus for 1% of development value committed to public art. Plus an additional .1:1 FAR for each additional .1% of value committed. Up to 2:1 maximum bonus. Value is cost of permitted site prep and construction. Alterations include value of existing improvements. Committed funds can be applied to art on-site, and central art fund (at least 25%).
Applies In:	All Central City zones outside the South Waterfront.
Maximum Bonus:	2:1
Usage:	4
History:	Used in 1988, 1996, 1998, 2001.
Comments:	<p>The Percent for Art bonus provides some simplicity and certainty to a developer as the cost equation is clearly set in the code.</p> <p>However, this bonus takes some control from the developer to choose the art that will be associated with her project. Some professionals interviewed cited cases where projects have ended up with unattractive art installations, though this is subjective of course. Some of the money is also required to go to a central fund, from which the project will receive no direct benefit.</p>
Economic Characteristics:	<p>The model showed this bonus having a positive impact on a project's rate of return (1% to 5%). This impact is larger at lower base FARs and smaller at high base FARs.</p> <p>Percentage-based bonuses have a greater impact for office projects than residential projects, because the same amount of bonus is earned at a lower construction cost. Therefore the value of the bonus FAR is somewhat higher for office than residential projects.</p> <p>The cost of this option was relatively low in comparison to other bonuses, at \$14 per square foot of bonus.</p>

7) Water Features/Public Fountains	
FAR Bonus:	.1:1 FAR bonus for .1% percent of development value committed to development a public water feature on-site or adjacent. Plus an additional .1:1 FAR for each additional .1% of value committed. Up to .5:1 maximum bonus. Value is cost of permitted site prep and construction. Alterations include value of existing improvements.
Applies In:	CX, EX, & RX zones.



Maximum Bonus:	.5:1
Usage:	1
History:	Used in 2001.
Comments:	<p>As another percentage-based bonus, this option provides some simplicity and certainty to a developer as the cost equation is clearly set in the code.</p> <p>The water feature can be supplied on site, with the benefits of this marketable amenity accruing to the property. However, this option can only be used to earn a maximum .5:1 FAR. It is likely to be used in combination with other bonus options, meaning added complexity to the project.</p>
Economic Characteristics:	<p>This bonus performs similarly to the Percent for Art bonus. Its positive impact on the rate of return was quite a bit lower due to the relatively small amount of bonus FAR that can be earned through this option.</p> <p>Percentage-based bonuses have a greater impact for office projects than residential projects, because the same amount of bonus is earned at a lower construction cost. Therefore the value of the bonus FAR is somewhat higher for office than residential projects.</p> <p>The cost of this option was relatively low in comparison to other bonuses, at \$14 per square foot of bonus.</p>

8) Locker Room	
FAR Bonus:	40 bonus square feet for each square foot of locker room space.
Applies In:	CX & EX zones, outside the South Waterfront.
Maximum Bonus:	3:1
Usage:	5
History:	Used five times in 6 years through 2001. Coming into use again.
Comments:	<p>This is the third most highly used option. At the 40-to-1, the bonus multiplier of this option is 13 times greater than the next highest multiplier available (3-to-1). This makes this bonus option difficult to pass up.</p> <p>Discussions with private sector users suggest that this option is now considered for projects where it may not be a great fit, including residential projects. Many agreed that new commercial projects will likely provide a locker facility of some type, however likely not to the standard specified for this bonus, and not with additional bike parking.</p>



	<p>This bonus is one of two that that showed a cost per square foot lower than \$10 in the pro forma model. As \$10 is the estimated average price for a transfer FAR, it is likely that this low cost is influencing applicants to use it. Note that if the high bonus multiplier were lowered, the bonus FAR earned through this bonus would increase to above \$10 per square foot.</p>
Economic Characteristics:	<p>The pro forma analysis found that the Locker Room bonus has a slightly positive effect on the rate of return for residential projects, but a strong positive impact for commercial projects. This is due to the lower construction costs, combined with the 40-to-1 bonus multiplier.</p> <p>At \$6, the cost per square foot of bonus is the lowest aside from the “automatic” bonuses.</p>

9) Willamette River Greenway	
FAR Bonus:	3 bonus square feet for each square foot of open space along the greenway. Space must be at least 2,500 square feet, with north-south dimension at least twice as long as the east-west dimension.
Applies In:	South Waterfront district.
Maximum Bonus:	4:1 (Up to 9:1)
Usage:	1
History:	Used once in 2004 on five building sites under common ownership.
Comments:	<p>This bonus provides incentive to add to the Willamette River Greenway. At 3-to-1 bonus, it is designed to be more attractive than the Open Space bonus which also applies in the South Waterfront District.</p> <p>In the pro forma analysis, the use of this bonus did not show much impact on the rate of return for the project. It has been used once, but in a project involving five sites along the greenway. It is likely that other less quantifiable factors, such as master plan considerations, desire to contribute to the neighborhood, etc. will play a part in developers participating in adding to the greenway. Our model does show that this bonus would allow a developer to contribute to the greenway and maintain a neutral or slightly positive effect on the bottom line.</p>
Economic Characteristics:	<p>As mentioned, the use of this bonus had little effect on the rate of return for the projects modeled. However, the bonus FAR did have a positive value.</p> <p>The cost of \$25 per square foot of bonus was in the lower-middle of the spectrum.</p>



10) Eco-Roof	
FAR Bonus:	1 bonus square foot for each square foot (eco-roof is 10% to 30% of building footprint); 2 bonus square feet for each square foot (eco-roof is 30% to 60% of building footprint); 3 bonus square feet for each square foot (eco-roof is at least 60% of building footprint).
Applies In:	Central City.
Maximum Bonus:	3:1 (2:1 in South Waterfront)
Usage:	6
History:	6 times in 6 years.
Comments:	<p>This is the second most highly used option. The additional cost to turn a roof into an eco-roof is estimated at anywhere from \$10 to \$25 per square foot. Earning a bonus of 3-to-1, this is one of the most affordable public amenities to provide. Unlike the locker room, day care, or other such bonuses, the Eco-Roof Bonus does not require the dedication of leasable space to a use that wasn't planned on.</p> <p>This bonus is one of two that that showed a cost per square foot lower than \$10 in the pro forma model. As \$10 is the estimated average price for a transfer FAR, it is likely that this low cost is influencing applicants to use it. Unlike the locker room bonus, this one is relatively low cost at a 3-to-1 multiplier, rather than a 40-to-1.</p>
Economic Characteristics:	<p>The pro forma model found that this bonus option increased rate of return by roughly 1% to 5% - the highest return for commercial projects and at lower base FAR.</p> <p>At \$8, the cost per square foot of bonus is among the lowest aside from the "automatic" bonuses.</p> <p>Note that this advantage only exists if the eco-roof covers at least 60% of the roof surface. This earns a 3-to-1 bonus. For eco-roofs that cover 10% to 30% of the surface, the bonus is 1-to-1. For eco-roofs that cover the 30% to 60%, the bonus is 2-to-1.</p> <p>With the smaller bonus multiplier the cost for bonus FAR is higher for projects providing smaller eco-roofs. For instance, an eco-roof covering 10% of the surface would yield a square foot of bonus at three times the cost of one covering 60% or more.</p>



11) Large Dwelling Unit	
FAR Bonus:	1 bonus square foot for each square foot over the 750 square foot threshold.
Applies In:	West-end subarea.
Maximum Bonus:	Unlimited bonus, up to 12:1 total.
Usage:	0
History:	None.
Comments:	<p>This bonus has never been used. The West End is zoned RX and CX, with each covering roughly half of this subarea. In the CX zone, the Residential Bonus applies and is likely to out-compete the Large Dwelling Unit bonus, because the Residential Bonus does not require changing the unit design.</p> <p>In the RX zone, where the Residential Bonus does not apply, this option should be used by anyone producing units over 750 square feet. This bonus would be “automatic” in those cases, though since bonus is only earned on square footage above 750, it would take many units to earn the maximum bonus FAR.</p> <p>With no usage, and the Residential Bonus to compete with, it is unclear how effective an incentive the Large Dwelling Unit Bonus could provide. Since the goal is to encourage developers to build a different type of unit than they were planning on, there are the hard-to-quantify costs of reduced marketability and a changed development program. If there is a significant risk that larger units will take longer to sell, or receive a significantly lower price per square foot than smaller units, developers are likely to avoid this bonus. Or more likely, they will redeem this bonus for the units over 750 square feet that they intended to create anyway.</p>
Economic Characteristics:	<p>The pro forma model assumed that the construction cost of larger units is the same as the average residential construction cost. Therefore, the model shows this bonus would slightly increase the rate of return and have no additional construction cost per square foot of bonus.</p> <p>In reality, this does not take into account the opportunity costs mentioned above. Certainly, if compared to the Residential Bonus which places no expectations on unit size or make-up, this is a less attractive option.</p>



12) Large Household Dwelling Unit	
FAR Bonus:	150 bonus square feet for each additional bedroom.
Applies In:	South Waterfront district.
Maximum Bonus:	2:1
Usage:	0
History:	None.
Comments:	<p>This bonus is similar to the Large Dwelling Unit option discussed above, though this option applies in the South Waterfront only. Similarly it has never been used. It will likely be most attractive to those already providing some units of 3 bedrooms or more. As written, the code does not preclude that the use of this bonus for penthouses or market-rate units.</p> <p>This bonus does not compete with the Residential Bonus as they apply to different areas. The number of bedrooms significantly affects the rental or sale price of units. A developer is unlikely to create a significant number of additional three bedroom units unless she feels that the demand and ability to pay exist in the market. As a consequence there may be too much economic uncertainty involved in this bonus.</p>
Economic Characteristics:	The pro forma model assumed that a lower sale price per square foot for three bedroom units, which caused this bonus to lower the rate of return for the residential project modeled. This does not include the additional opportunity costs mentioned above.

13) Middle Income Housing	
FAR Bonus:	3 bonus square feet for each square foot dedicated to Middle Income Housing.
Applies In:	Central City.
Maximum Bonus:	3:1
Usage:	0
History:	None.
Comments:	By restricting the achievable rent or sales prices, this bonus dramatically affects the bottom line of a residential project. This option has never been used. It is possible that the significant effect on a project's bottom line makes



	this bonus difficult to pencil out.
Economic Characteristics:	<p>The pro forma model found that this bonus reduced the rate of return for a residential project at all base FAR's. As the base FAR rises, the negative effect gets only more pronounced because eventually the amount of bonus is capped, but the code still requires that one third of all units be affordable. Therefore the amount of required affordable space continues to grow.</p> <p>The bonus FAR earned with this bonus has negative value, indicating that this is not the highest and best use.</p>

14) Small Development Site	
FAR Bonus:	1.5:1 FAR for sites up to 5000 square feet; 1:1 FAR for sites from 5,001 to 10,000 square feet; .5:1 for sites from 10,001 to 15,000 square feet.
Applies In:	West-end subarea.
Maximum Bonus:	Unlimited bonus, up to 12:1 total.
Usage:	0
History:	None.
Comments:	<p>This is an "automatic" bonus for anyone undertaking development on a small site in the West End. As such it comes at no additional cost. The public return is greater density in the West End where it might otherwise be threatened by the parcelization of redevelopable land.</p> <p>However, for reasons that are unclear, it has never been used. The West End contains RX and CX zoning. In the CX zone, this bonus would compete with the Residential Bonus.</p> <p>In the RX zone, which makes up roughly 1/2 of the West End, the Residential Bonus does not apply. It is possible that the base-plus-bonus FAR would produce buildings that are very large or high for such small sites. It is also possible that for developers interested in producing larger buildings, these small sites are escaping their attention all together.</p>
Economic Characteristics:	<p>This bonus option should be beneficial for projects that qualify and wish to take advantage of it. In the projects modeled, the rate of return was increased significantly at no extra cost to the developer.</p> <p>The applicant enjoys the full value of the bonus FAR provided.</p>



15) Affordable Housing Replacement Fund	
FAR Bonus:	1 bonus square foot for every \$10 contributed to the Affordable Housing Replacement Fund (AHRF). Contributions are in 1990 dollars. Fund is administered by the PDC.
Applies In:	Central City.
Maximum Bonus:	2:1
Usage:	0
History:	None.
Comments:	<p>This is a fund-type bonus option, in which the developer pays directly for the bonus FAR they wish to use. These options will compete directly with transfer FAR, because like transfer FAR they do not provide any amenity on the project site that might accrue value back to the developer.</p> <p>Currently, this fund option costs \$16.40 (2007 dollars) per square foot of bonus floor area. Savvy developers will know that this cost is greater than what is available on the transfer FAR market. This is quite possibly why this fund has never been used. However, it has only been in effect since 2003.</p>
Economic Characteristics:	<p>As with the percentage-based bonuses, fund bonuses provide a straightforward alternative to developers.</p> <p>The pro forma model showed that this bonus can increase the rate of return on a project, and therefore the bonus FAR has value. The positive impact should be stronger for office projects and at lower base FARs. The cost per square foot of bonus of \$16.40 made this option slightly more expensive than the percentage-based options. As mentioned, it is more expensive than some available transfer FAR as well as the Locker Room and Eco-Roof bonuses.</p>



16) Below Grade Parking	
FAR Bonus:	2 bonus square feet for every square foot of below-grade parking area.
Applies In:	West-end subarea.
Maximum Bonus:	Unlimited bonus, up to 12:1 total.
Usage:	1
History:	Used once in 2003.
Comments:	<p>This bonus is an interesting option that provides a double benefit to a developer who is proposing above-ground parking. By moving parking below ground, the developer reclaims the portion of base FAR that was being used above ground, and earns bonus FAR.</p> <p>Parking is one of the most expensive aspects of any project. The pro forma model use here assumed a cost of \$25,000 per space for above ground, and \$40,000 per space for below ground. This additional cost cannot be taken on lightly. The projects modeled here showed the switch from above ground to below ground to have negative effect on the bottom line, even when the FAR benefits mentioned above are factored in.</p> <p>The use of this bonus may well rely on whether a developer is considering below ground parking anyway, and believes that the achievable rents will help support this greater cost. It is certainly easiest to justify in high-rent projects.</p>
Economic Characteristics:	<p>The pro forma model showed this bonus reducing the rate of return for residential projects and that the bonus FAR earned had negative value. For the commercial project the rate of return was relatively flat, and the bonus FAR had positive value.</p> <p>The difference is in the assumed number of leased spaces for residential vs. commercial development, as opposed to spaces earning no regular revenue. The parking ratios and lease rates of a particular project will play a significant role in determining if this bonus is cost efficient.</p>



17) Open Space	
FAR Bonus:	1 bonus square foot for each square foot of public open space.
Applies In:	South Waterfront district.
Maximum Bonus:	Up to 9:1 total building FAR.
Usage:	3
History:	Used Once in 2004, and twice in 2005.
Comments:	<p>This bonus provides incentive to add Open Space in the South Waterfront sub-district. This bonus provides a 1-for-1 return on the space dedicated for public open space use. This is in comparison to the 3-to-1 bonus provided by the Willamette Greenway Bonus. This discrepancy reflects the relative importance of securing greenway space as the area develops.</p> <p>In the pro forma analysis, the use of this bonus showed a neutral impact on the projects modeled. However, this bonus has been used three times. As with the greenway bonus, this bonus has been used as one component of relatively complex deals designed to meet the goals of the South Waterfront master plan.</p>
Economic Characteristics:	<p>As mentioned, the use of this bonus had little effect on the rate of return for the projects modeled. However, the bonus FAR did have a positive value.</p> <p>The cost of \$75 per square foot of bonus was in the high-middle of the spectrum. It is three times the cost of bonus FAR earned through the Greenway Bonus, reflecting the differing bonus multipliers that apply to these bonuses.</p>



18) Open Space Fund	
FAR Bonus:	1 bonus square foot for every \$10 contributed to the South Waterfront Public Open Space Fund (SWPOSF). Contributions are in 1990 dollars. Fund is administered by the Portland Parks & Rec.
Applies In:	South Waterfront district.
Maximum Bonus:	Up to 9:1 total building FAR.
Usage:	0
History:	None.
Comments:	<p>This is a fund-type bonus option, in which the developer pays directly for the bonus FAR they wish to use. These options will compete directly with transfer FAR, because like transfer FAR they do not provide any amenity on the project site that might accrue value back to the developer.</p> <p>Currently, this fund option costs \$16.40 (2007 dollars) per square foot of bonus floor area. Savvy developers will know that this cost is greater than what is available on the transfer FAR market. This is quite possibly why this fund has never been used. However, it has only been in effect since 2003.</p>
Economic Characteristics:	<p>As with the percentage-based bonuses, fund bonuses provide a straightforward alternative to developers.</p> <p>The pro forma model showed that this bonus can increase the rate of return on a project, and therefore the bonus FAR has value. The positive impact should be stronger for office projects and at lower base FARs. The cost per square foot of bonus of \$16.40 made this option slightly more expensive than the percentage-based options. As mentioned, it is more expensive than some available transfer FAR as well as the Locker Room and Eco-Roof bonuses.</p>

The Bonus Program: Conclusions

Viewed in its totality, the Bonus Program has been a success in some respects, while displaying limitations in others. The Residential Bonus was created to encourage residential density in the Central City, and it has undoubtedly done so, generating over a 2,000,000 additional square feet of residential space, and an estimated 1,500 to 1,700 additional units of housing over what the base density would allow. The Bonus Program has also facilitated the expansion of the Willamette River Greenway, and the creation of open space, and day care centers, among other public amenities.

There are many bonus options that have seen little or no use, and concerns over the general dilution of public goals among the large menu of options. From an economic perspective, the greatest



challenge facing the Bonus Program seems to be the relatively high cost of providing some of the public amenities, especially when transfer FAR might offer a lower cost source of additional density.

Based on this analysis, it seems clear that many of the options cost too much to provide unless the developer was already planning on that use. Others, such as the Fund and Percentage bonuses are relatively low cost, but may still be too high compared to transferable FAR. On the other hand, the Locker Room and Eco-Roof Bonuses demonstrate how affordable, well-designed bonus options can be effective. These options seem to be getting more use, while the pro forma models used here show them to be competitively priced.

The simplest way to make the other bonuses more cost effective is to boost the amount of bonus space that is awarded in return. The costs reflected in this pro-forma model are directly responsive to the multiple of the bonus being used. For instance, the current Rooftop Garden bonus option (providing a 1-to-1 bonus) yields a cost of \$60 per square foot of bonus space. If the bonus were increased to 2-to-1, the cost becomes \$30 per square foot of bonus.

The most effective bonus program will be reactive to changing market conditions, and competitive with the price of transfer FAR available.



IX. STUDY CONCLUSIONS AND RECOMMENDATIONS

General

The point of a bonus FAR program is to incent specific behaviors from developers in return for the potential to create greater value in their project. From the public perspective, the success of such a system is ultimately measured by the degree to which it has changed developer behavior in a way that meets the stated goals of the bonus or transfer program.

By this standard, the system of bonus and transfer mechanisms that has developed in Portland since 1988 has had success in meeting some goals (most notably the development of residential density), but has failed to live up to its promise in meeting other goals. Put simply, some of the bonus and transfer options have been used, and others have not.

The current system offers a broad list of 18 bonus options, and 6 transfer options. This study finds that FAR Transfer options operate in a more or less efficient market, in which buyers and sellers are able to negotiate on price. The buyer is not obligated to create any specific public amenity on their project site. The developer pays a market price for the additional FAR needed, while the public good is preserved on the seller's site (i.e. an existing SRO or historic structure). In other cases, a certain amount of base FAR is available by right (i.e. on two abutting lots), and the City has a policy of allowing the developer to shift the FAR potential among the lots.

The Bonus Program operates in tandem, but also in competition with the Transfer Program. Unlike the transfer options, the bonus options generally require the developer to add an amenity to the project. The cost of the amenity is determined largely by its construction cost, rather than the economic worth of the bonus FAR that will be received in return. As a result of this dynamic, many of the bonus options call for public amenities that cost too much to provide.

In some cases, the cost is more than the value of the bonus FAR received in return. In other cases, the bonus still provides some value, but not as much as pursuing transfer FAR at a lower cost per square foot.

In theory, almost all of the bonuses could be made attractive to developers by increasing the amount of bonus that is granted in return. The amount of bonus FAR provided for say, a water feature, as opposed to a locker room, is ultimately a question of public priorities, and thus a policy decision.

The following are major findings and insights realized through this study that may assist in the process of revisiting the Bonus and Transfer Programs.

On the Number of Bonus and Transfer Options

Users of the Programs tend to mention a need to simplify and clarify how they work. There is also concern that there has been a “dilution” of the goals that the Programs hope to achieve, and that perhaps as a result, none of the goals (aside from residential density) is being achieved to a meaningful degree.



Is Portland's system about achieving the desired density and height in the district? Is it about getting fountains built? Preserving historic structures? Or adding theaters to Broadway? Currently, it aims to achieve all of these things among many others.

Appendix A provides three case studies from other cities which operate bonus programs. All three bonus programs are designed to have one or two key public goals. In this sense, these programs are more "focused" than Portland's bonus program. In Seattle, for instance, any project seeking a bonus must become LEED certified, then provide for affordable housing either on or off-site. When one asks what the Seattle bonus program is designed to achieve, the answer is straightforward: green buildings and affordable housing.

Affordable housing is a common primary goal among other bonus programs examined, but the goal could be aligned with any public priority. The benefit of such "focused" bonus programs is that the goal(s) can be explicit, well-understood, and success easier to track. While limiting choices for the developer, it creates certainty on all sides about what the program is meant to produce.

On the other hand, a dilute system is not necessarily a bad thing. It can offer developers a wide range of choices and flexibility to achieve their density goals, while providing the public amenity that makes the most sense for that particular project. As one stakeholder put it, the issue may be the quality of the bonus options, rather than the quantity. A well-calibrated system offering a selection of bonus options at roughly equal cost could produce more variety of public amenities across the Central City, so that one property includes a plaza, while the next offers public art.

A hybrid approach might be to create a more focused program, but with different primary goals depending on the neighborhood or sub-district.

On Making the Existing Bonus Options More Effective

One approach to making the current Bonus Program more effect is to calibrate the bonus options so that the cost of providing the public amenity is in line with the value of the bonus received, and this cost is comparable to the price of transferable FAR available through the Transfer Program. This can be done in most cases by increasing the amount of bonus received in return for providing the amenity.

The following table presents an example of how this might look, using the results of the residential pro forma model used in this study. Remember that the pro forma model applies to the hypothetical development projects modeled, and results for individual real-world projects will vary.

This table demonstrates how much higher the bonus would have to be to reduce the cost of bonus FAR to \$8/square foot. This is roughly equal to the current cost for the eco-roof bonus, which is one of the more frequently-used bonus options. \$8/square foot is also below the reported market price for transferrable FAR.



FIGURE 9.1: EXISTING BONUS OPTIONS CALIBRATED TO EQUALIZE COST

Bonus Program	Cost per Bonus Square Foot (Residential Model)	Current Bonus Ratio	Ratio Necessary to Reduce cost to \$8 / Bonus Square Foot	Multiplier Over Current Ratio
Theaters on Broadway	-\$199	2:1	50:1	24.9
Retail Use	-\$190	1:1	24:1	23.8
Below grade parking	-\$125	2:1	31:1	15.7
Open Space	-\$75	1:1	9:1	9.4
Day Care	-\$63	3:1	24:1	7.9
Rooftop Gardens	-\$60	1:1	8:1	7.5
Willamette River Greenway	-\$25	3:1	9:1	3.1
Eco-Roof (10% coverage)	-\$25	1:1	3:1	3.1
Affordable Hsg Replacement Fund	-\$16	1:1	2:1	2.0
Open Space Fund	-\$16	1:1	2:1	2.0
Percent for Art	-\$14	1:1	2:1	1.7
Water Features/Public Fountains	-\$14	.1:1	0.2:1	1.7
Eco-Roof (60% coverage)	-\$8	3:1	3:1	1.0
Locker Room	-\$6	40:1	28:1	0.7
Large Dwelling Unit ¹	\$0	1:1	NA	NA
Large Household Dwelling Unit ¹	\$0	150sf/bdrm>2	NA	NA
Middle income housing ¹	\$0	3:1	NA	NA
Residential ²	\$0	1:1	NA	NA
Small Dev Site (5,000 sf site) ²	\$0	1.5:1	NA	NA
Small Dev Site (10,000 sf site) ²	\$0	1:1	NA	NA
Small Dev Site (15,000 sf site) ²	\$0	.5:1	NA	NA

¹ These bonus options are those for which the construction cost is not necessarily more expensive, but there is a presumed opportunity cost in building less marketable units, or in income restrictions.

² These bonus options are the "automatic" options, for which the applicant is assumed to be meeting the eligibility criteria with or without incentive.

The above example gives some idea of the spectrum of bonus multipliers necessary in a system in which the qualifying public amenities feature a wide range of cost to provide. At the upper extreme, the Theaters of Broadway option would need to be 25 times more powerful, offering a 50-to-1 bonus, in order to make it cost competitive in this model (due to the assumed expense of adding a large amount of additional structured parking). Whereas the two "fund" options need only be 2 times as powerful to make them cost competitive.

The implication of the above analysis is that in order to continue and/or add options to the current system, each bonus must be calibrated individually, with results differing significantly.



On Creating a Fee-in-Lieu System, by Sub-District

One alternative to the above system would be a more radical overhaul of the Bonus Program to replace the requirement for specific public amenities with a fee-in-lieu system. In that case, the cost of bonus FAR could be tied to land value, rather than the construction cost of a specific amenity.

As discussed in Section VI, the value of bonus FAR is the difference between the Residual Land Value (RLV) assuming the base scenario, and the new RLV that results from adding the bonus density. Therefore a formula which ties the fee-in-lieu price of bonus FAR to the underlying land value should be the most effective way to ensure that the cost of bonus FAR is in line with the benefits.

There are many potential ways to design such a fee formula, and examples exist in other cities. It is beyond the scope of this study to propose such a formula for use in Portland, but the implications of such a system can be discussed.

- Land values differ across the Central City by location, entitlements, and time. An effective fee-in-lieu system must be designed to adapt to these changes. This would most likely involve establishing land values across multiple Central City sub-districts (i.e. the Central Business District, Central Eastside, the Lloyd District, etc.) and updating these figures regularly enough to approximate market conditions.
- In the absence of requiring physical public amenities of the developer, a fee-in-lieu system requires the governmental procedures and infrastructure to administer the funds and direct them towards the Bonus Program's public goals.
- It is important to note that to provide a strong incentive the City shouldn't attempt to make the cost of bonus FAR exactly equal to its value. In theory, the bonus FAR must retain some positive value, or else the developer might be indifferent to participating.

As these comments suggest, a significant consideration in switching to such a model is the need for the public sector to create and administer the fund or funds in which the fees are collected. The public sector would then provide the public amenities that the bonus system is meant to bring about. Another consideration is the need to track land values in the Central City over time.

On Mitigating Transfer Effects

Over the course of this study, there was considerable comment on unintended consequences of the Transfer Program. Besides the fact that the cost of transfer FAR can undercut most of the bonus options, there are issues within the Transfer Program itself. The most significant issues are the distance over which FAR can be transferred, and the uncertainty surrounding the use of the Central City Master Plan transfer.

Currently, the transfer ranges of the SRO, Historical, Residential and Central City Master Plan transfer options allow for the transfer of FAR across most or all the district. This has various implications:

- One economic consequence of this is that FAR from less valuable land can be used to create density potential on more valuable land. This creates the incentive for a resourceful



developer to purchase underused properties in the more affordable neighborhood and transfer it to the more expensive neighborhood. The CCMP provision has also been interpreted to place no maximum cap on the density and height that can be transferred to the receiving site, allowing applicants to push the boundary of this dynamic.

- These transfers can theoretically upset the density goals of individual neighborhoods, if significant density is transferred out or in. Planned public infrastructure may be underused or overwhelmed.

The amount to which the status quo is a positive or a negative is a question of policy. The fact that transfer FAR from historic or SRO structures can be transferred a long distance increases the FAR's utility and increases the chances these properties will be preserved.

In other cases, the current public benefit may be less clear. Certainly, the Central City Master Plan provisions would benefit from more clarity and specificity about the definition of a master planned area, and the maximums allowed within it.

One possible approach to addressing these transfer issues is to limit the distance over which FAR can be transferred, perhaps limiting the transfer to within the same sub-district. Based on City priorities, some classes of transfer might still be favored with a more liberal transfer range to make these transfers more enticing.

Conclusion

The study of the Bonus and Transfer Programs presented in this report leads JOHNSON GARDNER to the conclusion that the system could benefit from some degree of revision at this time. As the system has been developed incrementally over almost 20 years, a new look would at the least refocus the programs on current priorities, and streamline piecemeal elements.

Bonus and Transfer Programs can present a powerful incentive to developers to meet additional public goals in their projects. An effective system generates public-oriented amenities and building forms, while allowing developers to maximize their profits. As Central City priorities are updated during the upcoming planning process, it is our hope that the insights provided in this study will help in designing updated Bonus and Transfer Programs that achieve Portland's public goals.

APPENDIX A

DENSITY BONUS CASE STUDIES

As part of this analysis, Johnson Gardner researched density bonus and related programs in other jurisdictions across the nation. This research indicates that the most common use of density bonus incentives is to encourage the creation or funding of affordable housing. Most large cities examined use density bonus provisions for this purpose. A less prominent but still common objective was to incentivize open space or green features.

In general, bonus density is awarded one of three ways, often with developers offered a choice:

- Provision of affordable units in the applicant project;
- Provision of affordable units nearby, or in the neighborhood; or,
- A fee-in-lieu of providing the affordable units.

Three programs are summarized in the following pages. Each has a primary focus on affordable housing. Two have a secondary focus on LEED Certification.

SEATTLE: DOWNTOWN INCENTIVE ZONING

The City of Seattle has recently completed an overhaul of its Downtown incentive zoning system, begun in 2001. The changes were designed to focus the system on two key public policy goals: LEED certification of new buildings, and the creation of affordable housing. While the system maintains a more diverse menu of bonuses and transfer options similar to Portland's, it is designed so that the bulk of bonus FAR is earned through contributions to affordable housing.



In 2006, the maximum densities and heights were raised in the three zones that make up the central city, to reflect the city's true maximum density goals, and simultaneously increase the effectiveness of these incentives. However, the city maintained the historical base FAR levels in the zones, which at 5:1 and 6:1 are low for the center of a major city.

SEATTLE'S DOWNTOWN ZONES: BASE AND MAXIMUM DENSITY

<u>Zone</u>	<u>Base FAR</u>	<u>Max. FAR</u>
Downtown Office Core 1	6	20
Downtown Office Core 2	5	14
Downtown Mixed Commercial (340/290-400)*	5	10
Downtown Mixed Commercial (240/290-400)*	5	7

* Numbers refer to allowed heights (Non-residential/Residential Base - Res. With Bonus)

This approach makes it likely that almost all new development projects will seek additional density through bonuses and/or transfers. The Seattle system ensures that almost any project seeking bonus density will be LEED Silver certified and contribute to affordable housing.

- The first increment of bonus FAR must be earned through providing a LEED certified building (silver or above). However, the amount of bonus FAR that this earns a developer is also fairly low, ranging from .25:1 to 1:1. Some projects may seek only this increment, but many will seek more bonus FAR than this.
- The rest of the allowable FAR up to the maximum is broken into two shares of 75% and 25%. Exactly 75% of the bonus FAR must be earned by providing for affordable housing. This requirement can be met through a variety of means, including building affordable housing on-site or nearby, transferring FAR from existing affordable housing, or making a cash contribution to an affordable housing fund administered by the city.
- The rules for providing affordable housing differ somewhat between commercial and residential projects. (As part of this 75% increment, commercial projects must also provide day care space, or provide cash-in-lieu for this purpose.) In both cases, the program is designed to make the cash-in-lieu option attractive. The fund is used by the Office of Housing to preserve and provide

a spectrum of housing affordability in the central city itself, including at the middle and working class income levels.

- The final of 25% of the bonus FAR can be earned through a mixture of bonus and transfer programs. At least half of this increment must use a transfer from a Major Performing Arts Facility (if such transfer FAR is available), and at least 5% (of the total bonus FAR on the building) must be earned through the Landmark transfer (if such FAR is available).
- The remaining fragment of bonus FAR can be earned through a range of bonuses that focus on incentivizing open space, green streets, and public restrooms, among others. These options tend to offer a bonus multiplier from 5-for-1 to 7-for-1, while limiting the size of the public amenity that can qualify for the bonus.

The program as outlined above provides an avenue for projects to go forward without seeking additional FAR, but with a dramatically reduced density potential. At central city land costs and rent levels, it is nearly assured that developers will seek bonus FAR. Seattle's system requires the developer to access or "unlock" the greater bonus system by becoming LEED certified. The return in FAR for this certification is fairly limited, which encourages the developer to seek the second increment.

City code strictly dictates which public goods the project will contribute towards in order to earn the remaining bonus FAR, with the primary focus on housing, then on preserving landmarks. The 75/25 system ensures that other public amenities will be included as well.

Transfer FAR Bank

Another interesting aspect of the Seattle system is that the City maintains its own bank of transferable FAR. Seattle uses the term TDR Bank (Transfer of Development Rights). This allows them to help preserve specific housing and landmarks through purchase of the transferrable FAR. In other cases, if the city helps to subsidize new affordable housing, it may keep any extra FAR to use on future projects. While developers can also seek transferrable FAR on the private market, the TDR Bank ensures that FAR is available.

Strengths

The strengths of this program are that it is focused heavily on two public policy goals, and ensures that these are addressed to some extent by every project that seeks additional FAR. In addition, the city maintains a broader menu of bonus choices and ensures that one or more of these is included in the final 25% of bonus FAR. In addition, this program controls the way the bonus, cash-in-lieu and transfer options interact with each other, and prevents the use of private sector transfer mechanisms to avoid the bonus system altogether.

Weaknesses

The Seattle system encourages developers to use a cash-in-lieu system to essentially purchase bonus FAR by the square foot. The revenue goes to an affordable housing fund. The price-per-square-foot was determined using a "nexus" analysis that determined how much new development impacts the need for affordable housing. The result is that the price-per-square-foot is well calibrated to the City's needs, but may not reflect the actual market value of bonus FAR over time. There is the potential that this payment could become detached from changing market realities, making the cost too cheap or expensive to the developer. Thus, periodic market checking of the cash payment amount would be necessary.

Program Results (since initial adoption in 2001)

- 120 affordable units built
- 564 affordable units preserved through transfer
- \$8,135,000 for Housing Fund
- \$1,160,000 for Day Care Fund

CHICAGO: DOWNTOWN INCENTIVE ZONING

The City of Chicago has adopted a program similar to Seattle’s in some ways. It shares the strong emphasis on affordable housing, either constructed on site, or fee-in-lieu. Residential buildings must use the affordable housing bonus option, or a landmark-preservation option. Commercial buildings are eligible to use the affordable housing bonus, but not required.



As with Seattle, Chicago’s system places the primary policy focus on affordable housing, however, it is only required for residential projects seeking bonus density. There is a menu of 19 additional options for achieving additional density.

CHICAGO’S DOWNTOWN ZONES: BASE FAR AND BONUS OPTIONS

Zone	Base FAR	Bonus
DR and DX (5/7/10) - Residential	5/7/10	Affordable Hsg. or Landmark Transfer
DX and DC (12/16) - Residential	12/16	Must use Aff. Hsg. Bonus for first 20% of bonus FAR
DX and DC (12/16) - Nonresidential	12/16	Aff. Hsg is an option, but not required

- Chicago doesn’t place limits on the amount of bonus FAR or height a project can apply for, however projects over the base height limit, or exceeding 150% of the base FAR, must use the Planned Development process, ensuring more in-depth review.
- Commercial projects have a longer menu of 19 bonus options to choose from, similar to Portland’s. These bonuses are offered in return for a variety of open space types, through-block connections, and parking that is concealed by occupied space, among others. The use of these bonuses is limited, usually to a percentage of the base FAR, though some are unlimited.
- “Fee-in-lieu” payments go to a fund for affordable housing development, preservation (60%) and rental assistance (40%). The payment is determined by a formula: 80% of the cost of buildable land (per square foot) multiplied by the bonus area sought. This amounts to \$17 to \$34 per bonus square foot, depending on the area of the central city.

This program is designed to create a connection between downtown housing development and funding affordable housing. For commercial projects, Chicago’s system functions much more like Portland’s system. The base FAR is somewhat high in most of Chicago’s downtown zones, so more projects may forego using bonuses, as opposed to Seattle where base FAR is relatively low.

As the results demonstrate, the program is designed to encourage the fee-in-lieu option, rather than inclusion of actual affordable units.

Affordable Housing Program Results (since adoption in 2004)

- 38 applicable projects
- 34 affordable units built
- \$32,578,000 in fee-in-lieu payments (committed)
- \$5.7 million largest committed for single project
- \$9,198,000 in fee-in-lieu payments (received)

ARLINGTON COUNTY, VA: DOWNTOWN INCENTIVE ZONING

Arlington is an urban county located directly across from the Potomac from Washington D.C. With over 200,000 people living in 26 square miles, it is a high density jurisdiction. The goals to Arlington's density bonus system are similar to Seattle's, with the greatest focus and bonus potential for affordable housing, and then LEED certification.

Affordable Housing Incentive

Arlington's system has hints of inclusionary zoning, requiring affordable housing contributions from any project that requires site plan approval, and has an FAR greater than 1.0. All such projects require County Board approval. For all of the density above 1.0 FAR, the applicant must provide affordable units on-site, off-site, or a fee-in-lieu.

AFFORDABLE HOUSING REQUIREMENTS

Location	Affordable Requirement
On-Site	5% of gross floor area above 1.0 FAR
Off-Site (within .5 miles)	7.5% of GFA above 1.0 FAR
Off-Site (elsewhere)	10% of GFA above 1.0 FAR
Cash Contribution	\$1.50/square foot for first 1.0 FAR
	\$4.00/square foot from 1.0 to 3.0 FAR
	\$8.00/square foot above 3.0 FAR

Commercial projects may earn a bonus of 3 stories and/or .25 FAR of bonus density for providing space for community facilities, such as library, fire, or school facilities, either on or off site. Overall, bonus density is limited to 6 stories, or 25% of base FAR (residential), or .25 FAR for additional commercial space.

Staff reports that the program is undergoing changes, after a challenge argued that it is involuntary rather than voluntary. More negotiation is now involved in determining the form and amount of affordable housing provided.

Green Building Incentive

In addition to the affordable housing incentives, Arlington features a "Green Building" incentive program, with compliance measured through LEED certification. The amount of bonus FAR the applicant can earn is dependent on level of certification attained, with .15 FAR for LEED Certified, .25 for LEED Silver, .35 for LEED Gold or Platinum. A maximum of 3 stories of bonus height is allowed. For the projects completed so far, this amounts to roughly 5% increase in space over the base amount.

The Green Building incentive is enforced using a bond from the applicant. If the applicant fails to achieve LEED certification, they forfeit the bond. If an applicant fails to achieve a higher level of certification by 1 to 3 LEED points, they forfeit half of the bond. The program requires regular involvement from Environmental Services staff to determine the project's specifications and ensure it is on track to succeed.

Program Results

- From 2001 through 2006, the affordable housing incentives achieved an estimated 155 affordable units. This is 37% of the estimated 416 bonus units built. More bonus residential projects have been approved since then.
- 2 projects have used the LEED Certification incentive since 2003, with roughly a dozen more in the pipeline.



APPENDIX B

STAKEHOLDER INTERVIEWS

In the course of this project, Johnson Gardner conducted stakeholder interviews with some who use the Bonus and/or Transfer Programs in both the private and public sectors. The following is a list of stakeholders interviewed over the course of the project. For their time and insight, we would like to thank:

City of Portland:

- Tim Heron, BDS
- Jeff Joslin, BDS
- Troy Doss, Bureau of Planning

Portland Development Commission:

- Bruce Allen
- Kevin Brake
- Ross Plambeck

Private Sector:

- Daren Duke, Colliers International
- Mark Edlen, Gerding Edlen Development
- John Meadows, BOORA Architects
- Dan Petrusich, Melven Mark
- Christie White, Ball Janik, LLP

The following pages present the questions used to guide the discussion for both public and private sector interviewees.



Evaluation of Current Bonus and Transfer System

Questions for Public Sector Interviewees

- 1) How well do you think the current bonus system is understood by applicants (architects/developers)? If it is not well understood, why not?
- 2) How well do you think the menu of bonus options is understood by staff?
- 3) Are some bonuses being offered, or “marketed”, to applicants more than others? If so, why?
- 4) The current system consists of 18 bonuses available in the Central City, or in specific sub-districts. What is your opinion on this number of choices? Is it manageable? Should there be fewer options? Or would even more options be a possibility?
- 5) What feedback have you heard from applicants on the efficiency of any specific bonuses (i.e. Residential Bonus, Eco-roof Bonus, etc.)? Have you heard direct praise or criticism of any specific bonus?
- 6) Which of the bonuses are you most familiar with through experience?
- 7) In your opinion, how successful is the current bonus system at meeting public policy goals?
- 8) Have you thought of specific changes or improvements that could be made to Portland’s density bonus system?
- 9) Putting yourself in the place of the applicant (architect or developer), what changes do you think applicants would most like to see to the current bonus system?
- 10) Is it your impression, or have applicants indicated to you, that they were receiving a bonus for an amenity they would have provided even in the absence of a bonus?
- 11) If the subject is not broached by knowledgeable applicants, does Staff usually bring up the possibility of using bonuses?



Evaluation of Current Bonus and Transfer System

Questions for Private Sector Interviewees

- 12) In your opinion, how clear and understandable is the City's bonus FAR system to the private sector?
- 13) What is your impression of the effectiveness of the bonus program in meeting the needs of the development industry?
- 14) What other issues do you see with the current bonus FAR program?
- 15) How would you change the bonus system if you could?
- 16) How do you think the system could be more effective at meeting the *public* goals in the City?
- 17) Do you think that the city is offering bonuses for amenities that developers would provide anyway?
- 18) Do you think that there is anything about how the bonus system is working in practice that City agencies don't understand?



APPENDIX C

BONUS & TRANSFER OPTIONS

City of Portland: Central City Bonus Program Options

Bonus	Program Boundaries	Applicable Projects	FAR Bonus	Return on Improvement	Max Bonus	Public Benefit	Adoption	Usage	History
Residential	CX and EX zones, outside of South Waterfront. Additional "Residential Bonus Target Areas" (Map 510-4)	New development and alterations to existing.	1 bonus square foot for each square foot of housing. Up to half of bonus area can be for non-residential uses. In "Residential Bonus Target Areas" first 1.5:1 of bonus area must be from Residential Bonus.	100%	3:1	Residential development in areas where it was not traditionally taking place, when the plan was adopted.	1988	34	Used sparingly until 1998, more so afterwards. 31 instances were in the River District (90%).
Day Care	CX, EX & RX zones, outside of South Waterfront.	New and alterations? Not specified.	3 bonus square feet for each square foot of day care facility.	300%	3:1	Day care facility for the life of the building, during normal business hours.	1988	2	Rare usage in DT CX zones. Last used in 1996.
Retail Use	Retail Use Bonus Target Area: SW Washington & Yamhill, 1st and 10th.	Projects with at least .5:1 FAR dedicated to retail space.	1 bonus square foot for each square foot of retail space over the .5:1 FAR threshold.	100% (minus the .5:1 FAR prerequisite)	3:1	Additional retail space in an area identified as the key DT retail core at the time of adoption.	1988	3	Last used 2001.
Roofrop Gardens	CX, EX & RX zones, outside of South Waterfront.	Projects with at least 50% of roof area dedicated to garden, with 30% of garden area containing plants.	1 bonus square foot for each square foot of roof top garden space.	100%	3:1	Heat-island reduction; storm water management; improved skyline; air quality; recreation. For life of building.	1988	2	Used in 2000 and 2005.
Theaters on Broadway	Broadway Theater Bonus Target Area: SW Broadway between Burnside and SW Madison.	New development and alterations to existing. Theater must seat 150 people with at least 200 performances per year.	2 bonus square feet for each square foot of theater space.	200%	3:1	To retain the traditional entertainment district on SW Broadway.	1988	1	Used by Fox Tower in 1998.
Percent for Art	All Central City zones outside of South Waterfront.	New development and alterations to existing.	1:1 FAR bonus for 1% of development value committed to public art. Plus an additional .1:1 FAR for each additional .1% of value committed. Up to 2:1 maximum bonus. Value is cost of permitted site prep and construction. Alterations include value of existing improvements. Committed funds can be applied to art on-site, and central art fund (at least 25%).	1:1 FAR per 1%	2:1	Inclusion of public art in new projects, and/or contribution to fund for further Central City public art.	1988	4	Used in 1988, 1996, 1998, and 2001.
Water Features/Public Fountains	CX, EX & RX zones.	New development and alterations to existing.	.1:1 FAR bonus for .1% percent of development value committed to development a public water feature on-site or adjacent. Plus an additional .1:1 FAR for each additional .1% of value committed. Up to .5:1 maximum bonus. Value is cost of permitted site prep and construction. Alterations include value of existing improvements.	.1:1 FAR per .1%	.5:1	Inclusion of public water features in Central City projects.	1988	1	Used once in 2001.
Locker Room	CX & EX zones, outside of South Waterfront.	New development and alterations to existing. Must provide 110% of required long-term bike parking.	40 bonus square feet for each square foot of locker room space.	4000%	3:1	Locker rooms encourage increased cycling with health, traffic, and environmental benefits.	1996	5	Used 5 times in 6 years though 2001. Not used since then, coinciding with slow office development.
Willamette River Greenway	South Waterfront district.	New development along waterfront public corridor.	3 bonus square feet for each square foot of open space along the greenway. Space must be at least 2,500 square feet, with north-south dimension at least twice as long as the east-west dimension.	300%	4:1 (Up to 9:1)	Maximization of the public greenway in the South Waterfront district.	1997	1	Used once in 2004 on five building sites under common ownership.
Eco-Roof	Central City.	New eco-roofs.	1 bonus square foot for each square foot (eco-roof is 10% to 30% of building footprint); 2 bonus square feet for each square foot (eco-roof is 30% to 60% of building footprint); 3 bonus square feet for each square foot (eco-roof is at least 60% of building footprint).	100%; 200%; 300%	3:1 (2:1 in South Waterfront)	Heat-island reduction; storm water management; improved skyline; air quality; bird habitat. For life of building.	2001	6	6 times in 6 years.

City of Portland: Central City Bonus Program Options

Bonus	Program Boundaries	Applicable Projects	FAR Bonus	Return on Improvement	Max Bonus	Public Benefit	Adoption	Usage	History
Large Dwelling Unit	West-end subarea.	New units over 750 square feet.	1 bonus square foot for each square foot over the 750 square foot threshold.	100% (minus costs of the difference between the average West-end unit size and the 750 square feet threshold)	Unlimited bonus, up to 12:1 total.	Larger units in an area where existing units tend to be smaller.	2002	0	None
Large Household Dwelling Unit ¹	South Waterfront district.	New development that includes units with more than two bedrooms. Bedrooms must be at least 70 square feet and meet other standards.	150 bonus square feet for each additional bedroom.	Roughly 215% (for 70 square foot bedroom)	2:1 (for SW bonuses other than open space bonuses)	Units large enough for families in the South Waterfront district.	2003	0	None
Middle income housing	Central City.	New development or alternation to existing with at least 30% of units affordable to those earning no more than 150% AMI. Must be certified by PDC and affordable for 60 years. Can be used on for sale units.	3 bonus square feet for each square foot dedicated to Middle Income Housing.	300%	3:1	Middle income housing in an area that generally sees upper income development, or low income affordable projects.	2003	0	None
Small development site	West-end subarea.	Developments on sites of 15,000 square feet or less.	1.5:1 FAR for sites up to 5000 square feet; 1:1 FAR for sites from 5,001 to 10,000 square feet; .5:1 for sites larger than 10,000 square feet.	NA	Unlimited bonus, up to 12:1 total.	More dense development in an area characterized by parcelization into small sites.	2003	0	None
Affordable Housing Replacement Fund	Central City.	New development	1 bonus square foot for every \$10 contributed to the Affordable Housing Replacement Fund (AHRF). Contributions are in 1990 dollars. Fund is administered by the PDC.	(Return/sq.ft. - \$10) * (Bonus square feet)	2:1	Encouraging support for affordable housing from projects that don't include any on site.	2003	0	None
Below grade parking	West-end subarea.	New development with almost all parking below grade, including off-site accessory parking.	2 bonus square feet for every square foot of below-grade parking area.	200%	Unlimited bonus, up to 12:1 total.	Streetscapes and lower building elevations which are not dominated by surface or structure parking.	2003	1	Used once in 2003 by The Benson.
Open Space	South Waterfront district.	Projects that provide public open space. Open space cannot qualify for more than one bonus (i.e. The same open space area can't earn both Open Space and Greenway bonuses).	1 bonus square foot for each square foot of public open space.	100%	Up to 9:1 total building FAR.	Creation of public open spaces in a district that is mostly privately owned.	2003	3	Used Once in 2004, and twice in 2005. Meriwether, John Ross, Arwater.
Open Space Fund	South Waterfront district.	New development	1 bonus square foot for every \$10 contributed to the South Waterfront Public Open Space Fund (SWPOSF). Contributions are in 1990 dollars. Fund is administered by the Portland Parks & Rec.	(Return/sq.ft. - \$10) * (Bonus square feet)	Up to 9:1 total building FAR.	Help fund construction and maintenance of public open spaces in the South Waterfront.	2003	0	None

Total Bonuses Used

60

City of Portland: Central City FAR Transfer Program Options

Transfer Mechanism	Program Boundaries	Applicable Projects	Mechanism	Max Bonus	Public Benefit
Abutting Lots Transfer	CX and EX zones.	Development on a site with abutting lots, or those separated by a right-of-way. In Downtown subdistrict, transfers must be within the same block.	Floor area, including bonus floor area, may be transferred among lots in a single project. Height limits still apply.	3:1 bonus FAR generally; up to 12:1 total FAR in West-end; up to 9:1 total FAR in South Waterfront	Reflects the reality of larger multi-lot projects. Allows flexibility in design to meeting Central City goals.
SRO Housing Transfer	CX and EX zones. A site in an RX zones may receive FAR from another RX zone site, but not from CX or EX sites. However, an RX site may transfer FAR to any of these three zones.	New SRO developments or existing SRO buildings, using at least 60% of floor area for housing.	Owners of SRO buildings may sell and transfer the rights to their unused FAR potential. May be transferred anywhere within Central City.	3:1 bonus FAR generally; up to 12:1 total FAR in West-end; up to 9:1 total FAR in South Waterfront	New and preserved SRO units in the Central City.
Historic Property	MFR, Commercial and Employment zones in Central City. RX, RH, R1, CX, EX, EG1, EG2 (IH?, IG1?).	Historic landmark properties	Owners of properties containing a landmark may sell and transfer the rights to their unused FAR potential. Transfer within the "recognized neighborhood" or within two miles. Depending on zoning at landmark site, there are limitations on the zone to which the FAR can be transferred.	Transfer portion of the code states that 3:1 bonus FAR is the limit. Language in FAR section implies that West End and South Waterfront exceptions still apply: up to 12:1 total FAR in West-end; up to 9:1 total FAR in South Waterfront	Preservation of historic landmarks.
South Waterfront Transfer	South Waterfront district	Development sites within SW district. Sites do not have to be abutting.	FAR potential and bonuses can be sold and transferred between sites within the SW subdistrict.	Up to 9:1 total FAR. Developments may exceed this if the FAR above 9:1 is transferred from the South Waterfront Greenway area.	Emphasis on preservation of greenway. Desire to encourage use of full potential density in South Waterfront.
Residential Floor Area Transfer	Central City	Sites occupied by residential development.	Owners of existing residential buildings may sell and transfer the rights to their unused FAR potential. May be transferred anywhere within Central City.	3:1 bonus FAR generally; up to 12:1 total FAR in West-end; up to 9:1 total FAR in South Waterfront	Preservation of CC residential units.
Central City Master Plan Transfer	Central City	Master planned projects encompassing multiple parcels or sites.	Within a master planned area, the total allowed FAR may be transferred among the included sites, some of which may end up with an allocation exceeding the maximum stipulated elsewhere in the code. Subject to approval.	Limited to the maximum permitted FAR for the combined lots within the master plan area. However, in practice, there is no limit on the FAR that may be shifted to any one of the included lots.	Integrated design and development of larger areas allows greater cohesion and placemaking opportunities.



APPENDIX D

SAMPLES OF PRO FORMA MODEL
RESIDENTIAL AND OFFICE COMMERCIAL TYPES

EXHIBIT D.1

RESIDENTIAL PRO FORMA MODEL
SUMMARY OF ITERATIONS AND RESULTS

Residential Projects w/ Groundfloor Retail				
Parcel Size (SF)	40,000	40,000	40,000	40,000
Base FAR	4:1	6:1	9:1	12:1
Building Size (SF)	160,000	240,000	360,000	480,000
Estimated Height (Floors)	10	15	23	30
Residential Units	99	160	249	332
Base Value	\$43,567,286	\$65,935,036	\$98,073,536	\$128,193,286
Base Cost	(\$35,430,000)	(\$53,200,000)	(\$79,725,000)	(\$106,100,000)
Base Net Value	\$8,137,286	\$12,735,036	\$18,348,536	\$22,093,286
Return for Base Scenario	23.0%	23.9%	23.0%	20.8%
Profit Assumption	15.0%	15.0%	15.0%	15.0%
Residual Land Value	\$2,822,786	\$4,755,036	\$6,389,786	\$6,178,286
RLV per increment of FAR	\$705,696	\$792,506	\$709,976	\$514,857
RLV per Sq.Ft. of Land	\$71	\$119	\$160	\$154

Bonus Program	Value of Bonus FAR / Sq.Ft.					Average	Cost of Amenity / Sq.Ft.				
	4to1	6to1	9to1	12to1	4to1		6to1	9to1	12to1	Average	
1 Residential	\$50	\$50	\$50	\$50	\$50	(\$248)	(\$248)	(\$248)	(\$248)	(\$248)	
2 Day Care	\$1	\$1	\$1	\$1	\$1	(\$63)	(\$63)	(\$63)	(\$63)	(\$63)	
3 Retail Use	\$32	\$32	\$32	\$32	\$32	(\$190)	(\$190)	(\$190)	(\$190)	(\$190)	
4 Rooftop Gardens	(\$19)	(\$19)	(\$19)	(\$19)	(\$19)	(\$60)	(\$60)	(\$60)	(\$60)	(\$60)	
5 Theaters on Broadway	(\$80)	(\$80)	(\$80)	(\$80)	(\$80)	(\$192)	(\$192)	(\$192)	(\$192)	(\$192)	
6 Percent for Art	\$42	\$38	\$32	\$26	\$34	(\$7)	(\$11)	(\$16)	(\$21)	(\$14)	
7 Water Features/Public Fountains	\$42	\$38	\$32	\$26	\$34	(\$7)	(\$11)	(\$16)	(\$21)	(\$14)	
8 Locker Room	\$33	\$33	\$33	\$33	\$33	(\$6)	(\$6)	(\$6)	(\$6)	(\$6)	
9 Willamette River Greenway	\$21	\$21	\$21	\$21	\$21	(\$25)	(\$25)	(\$25)	(\$25)	(\$25)	
10 Eco-Roof	\$40	\$40	\$40	\$40	\$40	(\$8)	(\$8)	(\$8)	(\$8)	(\$8)	
11 Large Dwelling Unit	\$50	\$50	\$50	\$50	\$50	\$0	\$0	\$0	\$0	\$0	
12 Large Household Dwelling Unit	(\$19)	(\$19)	(\$19)	(\$19)	(\$19)	\$0	\$0	\$0	\$0	\$0	
13 Middle income housing	(\$11)	(\$13)	(\$34)	(\$53)	(\$28)	\$0	\$0	\$0	\$0	\$0	
14 Small Dev Site (5,000 sf site) ¹	\$50	\$50	\$50	\$50	\$50	\$0	\$0	\$0	\$0	\$0	
14 Small Dev Site (10,000 sf site) ¹	\$50	\$50	\$50	\$50	\$50	\$0	\$0	\$0	\$0	\$0	
14 Small Dev Site (15,000 sf site) ¹	\$50	\$50	\$50	\$50	\$50	\$0	\$0	\$0	\$0	\$0	
15 Affordable Hsg Replacement Fund	\$31	\$31	\$31	\$31	\$31	(\$16)	(\$16)	(\$16)	(\$16)	(\$16)	
16 Below grade parking	(\$3)	(\$3)	(\$3)	(\$3)	(\$3)	(\$125)	(\$126)	(\$125)	(\$125)	(\$125)	
17 Open Space	(\$36)	(\$36)	(\$36)	(\$36)	(\$36)	(\$75)	(\$75)	(\$75)	(\$75)	(\$75)	
18 Open Space Fund	\$31	\$31	\$31	\$31	\$31	(\$16)	(\$16)	(\$16)	(\$16)	(\$16)	

¹ All other bonuses assume a site area of 40,000 square feet.

EXHIBIT D.2
SAMPLE PRO FORMA
RESIDENTIAL BUILDING (4:1 FAR)

AREA SUMMARY:			
Parcel Size (SF)			40,000
Base FAR			4:1
Building Size (SF)			160,000
Efficiency Ratio			83%
Saleable and Leasable Area (SF)			132,800
Estimated Height (Floors)			10
Residential Units			99
INCOME SUMMARY:			
	Square Footage	Price-Rent/ Sq.Ft.	Net Income
Residential Space	88,800	\$425	\$37,740,000
(Less Commissions)		-5%	(\$1,887,000)
Parking stalls	150	24,000	\$0
RESIDENTIAL VALUE:		\$404	\$35,853,000
Office Space	0	na	0
Retail Space	20,000	30*	\$600,000
Leased Parking	0	na	0
(Vacancy/Collection Loss)		-10%	(\$60,000)
Total NOI		\$27	\$540,000
Cap Rate			7.00%
NON-RESIDENTIAL VALUE:			\$7,714,286
COST SUMMARY:			
		Per Sq. Ft.	Total Cost
Acquisition Cost		\$0	\$0
Structured Parking	per stall	(\$25,000)	(\$3,750,000)
Direct Construction Cost		(\$180)	(\$24,480,000)
Soft Costs		(\$45)	(\$7,200,000)
TOTAL COSTS:			(\$35,430,000)
PROFIT:		15%	\$5,314,500
RESIDUAL LAND VALUE:			\$2,822,786
RLV per Square Foot:			\$71

* Annual NNN lease

EXHIBIT D.3
BONUS OPTIONS APPLIED TO SAMPLE PRO FORMA
RESIDENTIAL BUILDING (4:1 FAR)

Bonus Program	Qualifying Amenity Sq.Ft.	Bonus Sq.Ft.	Bonus FAR	Actual Cost of Public Amenity	Cost of Bonus Development	Total Additional Cost	Reduced Value from Conversion of Use	Net New Value	Total Project Cost	Total Project Value	Total Return	%	Profit Assumption	Residual Land Value	Value per Sq.Ft. of Bonus FAR	Amenity Cost per Sq.Ft. of Bonus	Additional Amenity Cost per Sq.Ft. of
Residential	120,000	120,000	3.0	(\$29,766,667)	(\$29,766,667)	(\$29,766,667)	\$0	\$40,213,500	(\$65,196,667)	\$83,780,786	\$18,584,119	29%	15%	\$8,804,619	\$50	(\$248)	\$0
Day Care	2,500	7,500	0.2	(\$475,000)	(\$1,860,417)	(\$1,860,417)	(\$1,009,375)	\$2,146,826	(\$37,290,417)	\$45,714,112	\$8,423,695	23%	15%	\$2,830,132	\$1	(\$63)	\$0
Retail Use	40,000	20,000	0.5	(\$3,800,000)	(\$4,961,111)	(\$4,961,111)	(\$8,075,000)	\$6,341,536	(\$40,391,111)	\$49,908,821	\$9,517,710	24%	15%	\$3,459,044	\$32	(\$190)	\$0
Rooftop Gardens	16,000	16,000	0.4	(\$960,000)	(\$3,968,889)	(\$4,928,889)	\$0	\$5,361,800	(\$40,358,889)	\$48,929,086	\$8,570,197	21%	15%	\$2,516,363	(\$19)	(\$60)	(\$60)
Theaters on Broadway	30,000	60,000	1.5	(\$11,500,000)	(\$14,883,333)	(\$20,633,333)	(\$3,351,125)	\$18,898,482	(\$56,063,333)	\$62,465,768	\$6,402,435	11%	15%	(\$2,007,065)	(\$80)	(\$192)	(\$96)
Percent for Art	NA	80,000	2.0	(\$564,600)	(\$19,844,444)	(\$20,409,044)	\$0	\$26,809,000	(\$55,839,044)	\$70,376,286	\$14,537,241	26%	15%	\$6,161,385	\$42	(\$7)	(\$7)
Water Features/Public Fountains	NA	20,000	0.5	(\$141,150)	(\$4,961,111)	(\$5,102,261)	\$0	\$6,702,250	(\$40,532,261)	\$50,269,536	\$9,737,275	24%	15%	\$3,657,435	\$42	(\$7)	(\$7)
Locker Room	2,000	80,000	2.0	(\$450,000)	(\$19,844,444)	(\$20,294,444)	(\$807,500)	\$26,001,500	(\$55,724,444)	\$69,568,786	\$13,844,341	25%	15%	\$5,485,675	\$33	(\$6)	(\$6)
Willamette River Greenway	5,000	15,000	0.4	(\$375,000)	(\$3,720,833)	(\$4,095,833)	\$0	\$5,026,688	(\$39,525,833)	\$48,593,973	\$9,068,140	23%	15%	\$3,139,265	\$21	(\$25)	(\$25)
Eco-Roof (25% coverage)	4,000	4,000	0.1	(\$100,000)	(\$992,222)	(\$1,092,222)	\$0	\$1,340,450	(\$36,522,222)	\$44,907,736	\$8,385,513	23%	15%	\$2,907,180	\$21	(\$25)	(\$25)
Eco-Roof (100% coverage)	16,000	48,000	1.2	(\$400,000)	(\$11,906,667)	(\$12,306,667)	\$0	\$16,085,400	(\$47,736,667)	\$59,652,686	\$11,916,019	25%	15%	\$4,755,519	\$40	(\$8)	(\$8)
Large Dwelling Unit	14,850	14,850	0.4	\$0	(\$3,683,625)	(\$3,683,625)	\$0	\$4,976,421	(\$39,113,625)	\$48,543,706	\$9,430,081	24%	15%	\$3,563,038	\$50	\$0	\$0
Large Household Dwelling Unit	33 3-bed units	4,950	0.1	\$0	(\$1,207,125)	(\$1,207,125)	(\$363,000)	\$1,295,807	(\$36,637,125)	\$44,863,093	\$8,225,968	22%	15%	\$2,730,399	(\$19)	\$0	\$0
Middle income housing	26,640	79,920	2.0	\$0	(\$19,824,600)	(\$19,824,600)	(\$2,763,900)	\$21,953,658	(\$55,254,600)	\$65,520,943	\$10,266,343	19%	15%	\$1,978,153	(\$11)	\$0	\$0
Affordable Hsg Replacement Fund	NA	80,000	2.0	(\$1,280,000)	(\$19,844,444)	(\$21,124,444)	\$0	\$26,809,000	(\$56,554,444)	\$70,376,286	\$13,821,841	24%	15%	\$5,338,675	\$31	(\$16)	(\$16)
Below grade parking	24,000	48,000	1.2	(\$6,000,000)	(\$18,856,000)	(\$21,106,000)	\$0	\$24,128,100	(\$56,536,000)	\$67,695,386	\$11,159,386	20%	15%	\$2,678,986	(\$3)	(\$125)	(\$47)
Open Space	5,000	5,000	0.1	(\$375,000)	(\$1,240,278)	(\$1,615,278)	\$0	\$1,675,563	(\$37,045,278)	\$45,242,848	\$8,197,570	22%	15%	\$2,640,779	(\$36)	(\$75)	(\$75)
Open Space Fund	NA	120,000	3.0	(\$1,920,000)	(\$29,766,667)	(\$31,686,667)	\$0	\$40,213,500	(\$67,116,667)	\$83,780,786	\$16,664,119	25%	15%	\$6,596,619	\$31	(\$16)	(\$16)
Small Dev Site (5,000 sf site) ¹	NA	7,500	1.5	\$0	(\$1,860,417)	(\$1,860,417)	\$0	\$2,513,344	(\$6,289,167)	\$7,968,272	\$1,679,106	27%	15%	\$735,731	\$50	\$0	\$0
Small Dev Site (10,000 sf site) ¹	NA	10,000	1.0	\$0	(\$2,480,556)	(\$2,480,556)	\$0	\$3,351,125	(\$11,338,056)	\$14,297,054	\$2,958,998	26%	15%	\$1,258,290	\$50	\$0	\$0
Small Dev Site (15,000 sf site) ¹	NA	7,500	0.5	\$0	(\$1,860,417)	(\$1,860,417)	\$0	\$2,513,344	(\$15,146,667)	\$18,950,272	\$3,803,606	25%	15%	\$1,531,606	\$50	\$0	\$0

¹ All other bonuses assume a site area of 40,000 square feet.

EXHIBIT D.4

OFFICE COMMERCIAL PRO FORMA MODEL
SUMMARY OF ITERATIONS AND RESULTS

Office Projects w/ Groundfloor Retail				
Parcel Size (SF)	40,000	40,000	40,000	40,000
Base FAR	4:1	6:1	9:1	12:1
Building Size (SF)	160,000	240,000	360,000	480,000
Estimated Height (Floors)	10	15	23	30
Residential Units	0	0	0	0
Base Value	\$43,494,107	\$64,886,786	\$97,330,179	\$129,773,571
Base Cost	(\$35,712,500)	(\$53,725,000)	(\$80,587,500)	(\$107,450,000)
Base Net Value	\$7,781,607	\$11,161,786	\$16,742,679	\$22,323,571
Return for Base Scenario	21.8%	20.8%	20.8%	20.8%
Profit Assumption	15.0%	15.0%	15.0%	15.0%
Residual Land Value	\$2,424,732	\$3,103,036	\$4,654,554	\$6,206,071
RLV per increment of FAR	\$606,183	\$517,173	\$517,173	\$517,173
RLV per Sq.Ft. of Land	\$61	\$78	\$116	\$155

Bonus Program	Value of Bonus FAR / Sq.Ft.				Average	Cost of Amenity / Sq.Ft.				Average
	4to1	6to1	9to1	12to1		4to1	6to1	9to1	12to1	
1 Residential	\$52	\$52	\$52	\$52	\$52	(\$250)	(\$250)	(\$250)	(\$250)	(\$250)
2 Day Care	\$47	\$47	\$47	\$47	\$47	(\$63)	(\$63)	(\$63)	(\$63)	(\$63)
3 Retail Use	\$77	\$77	\$77	\$77	\$77	(\$190)	(\$190)	(\$190)	(\$190)	(\$190)
4 Rooftop Gardens	\$8	\$8	\$8	\$8	\$8	(\$60)	(\$60)	(\$60)	(\$60)	(\$60)
5 Theaters on Broadway	(\$55)	(\$55)	(\$55)	(\$55)	(\$55)	(\$199)	(\$199)	(\$199)	(\$199)	(\$199)
6 Percent for Art	\$68	\$64	\$58	\$52	\$61	(\$7)	(\$11)	(\$17)	(\$22)	(\$14)
7 Water Features/Public Fountains	\$68	\$64	\$58	\$52	\$61	(\$7)	(\$11)	(\$17)	(\$22)	(\$14)
8 Locker Room	\$70	\$70	\$70	\$70	\$70	(\$5)	(\$5)	(\$5)	(\$5)	(\$5)
9 Willamette River Greenway	\$48	\$48	\$48	\$48	\$48	(\$25)	(\$25)	(\$25)	(\$25)	(\$25)
10 Eco-Roof	\$67	\$67	\$67	\$67	\$67	(\$8)	(\$8)	(\$8)	(\$8)	(\$8)
11 Large Dwelling Unit	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12 Large Household Dwelling Unit	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
13 Middle income housing	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14 Small Dev Site (5,000 sf site) ¹	\$77	\$77	\$77	\$77	\$77	\$0	\$0	\$0	\$0	\$0
14.2 Small Dev Site (10,000 sf site) ¹	\$77	\$77	\$77	\$77	\$77	\$0	\$0	\$0	\$0	\$0
14.3 Small Dev Site (15,000 sf site) ¹	\$77	\$77	\$77	\$77	\$77	\$0	\$0	\$0	\$0	\$0
15 Affordable Hsg Replacement Fund	\$58	\$58	\$58	\$58	\$58	(\$16)	(\$16)	(\$16)	(\$16)	(\$16)
16 Below grade parking	\$30	\$30	\$30	\$30	\$30	(\$125)	(\$125)	(\$125)	(\$125)	(\$125)
17 Open Space	(\$9)	(\$9)	(\$9)	(\$9)	(\$9)	(\$75)	(\$75)	(\$75)	(\$75)	(\$75)
18 Open Space Fund	\$58	\$58	\$58	\$58	\$58	(\$16)	(\$16)	(\$16)	(\$16)	(\$16)

¹ All other bonuses assume a site area of 40,000 square feet.

EXHIBIT D.5
SAMPLE PRO FORMA
OFFICE COMMERCIAL BUILDING (4:1 FAR)

AREA SUMMARY:			
Parcel Size (SF)			40,000
Base FAR			4:1
Building Size (SF)			160,000
Efficiency Ratio			90%
Saleable and Leasable Area (SF)			144,000
Estimated Height (Floors)			10
Residential Units			0
INCOME SUMMARY:			
	Square Footage	Price-Rent/ Sq.Ft.	Net Income
Residential Space	0	\$425	\$0
(Less Commissions)		-5%	\$0
Parking		\$0	\$0
RESIDENTIAL VALUE:		\$404	\$0
Office Space	90,000	\$30	\$2,700,000
Retail Space	20,000	\$30	\$600,000
Leased Parking Stalls	106	17,000	\$65/stall/mo. \$82,875
Unleased Parking Stalls	106	17,000	na 0
(Vacancy/Collection Loss)		-10%	(\$338,288)
Total NOI		\$27	\$3,044,588
Cap Rate			7.00%
NON-RESIDENTIAL VALUE:			\$43,494,107
COST SUMMARY:			
		Per Sq. Ft.	Total Cost
Acquisition Cost		\$0	\$0
Structured Parking	per stall	(\$25,000)	(\$5,312,500)
Direct Construction Cost		(\$150)	(\$24,000,000)
Soft Costs		(\$40)	(\$6,400,000)
TOTAL COSTS:			(\$35,712,500)
PROFIT:		15%	\$5,356,875
RESIDUAL LAND VALUE:			\$2,424,732
			\$61

* Annual NNN lease

EXHIBIT D.6

BONUS OPTIONS APPLIED TO SAMPLE PRO FORMA
OFFICE COMMERCIAL BUILDING (4:1 FAR)

Transfer Programs	Qualifying Amenity Sq.Ft.	Bonus Sq.Ft.	Bonus FAR	Actual Cost of Public Amenity	Cost of Bonus Development	Total Additional Cost	Reduced Value from Conversion of Use	Net New Value	Total Project Cost	Total Project Value	Total Return	%	Profit Assumption	Residual Land Value	Value per Sq.Ft. of Bonus FAR	Amenity Cost per Sq.Ft. of Bonus	Additional Amenity Cost per Sq.Ft. of Bonus
Residential	120,000	120,000	3.0	(\$30,000,000)	(\$30,000,000)	(\$34,200,000)	(\$41,657,143)	\$45,552,857	(\$69,912,500)	\$89,046,964	\$19,134,464	27%	15%	\$8,647,589	\$52	(\$250)	(\$35)
Day Care	2,500	7,500	0.2	(\$475,000)	(\$1,762,500)	(\$1,762,500)	(\$867,857)	\$2,378,571	(\$37,475,000)	\$45,872,679	\$8,397,679	22%	15%	\$2,776,429	\$47	(\$63)	\$0
Retail Use	40,000	20,000	0.5	(\$3,800,000)	(\$4,700,000)	(\$4,700,000)	\$0	\$6,942,857	(\$40,412,500)	\$50,436,964	\$10,024,464	25%	15%	\$3,962,589	\$77	(\$190)	\$0
Rooftop Gardens	16,000	16,000	0.4	(\$960,000)	(\$3,760,000)	(\$4,720,000)	\$0	\$5,554,286	(\$40,432,500)	\$49,048,393	\$8,615,893	21%	15%	\$2,551,018	\$8	(\$60)	(\$60)
Theaters on Broadway	30,000	60,000	1.5	(\$11,950,000)	(\$14,100,000)	(\$19,850,000)	(\$3,471,429)	\$19,500,000	(\$55,562,500)	\$62,994,107	\$7,431,607	13%	15%	-\$902,768	(\$55)	(\$199)	(\$96)
Percent for Art	NA	80,000	2.0	(\$586,250)	(\$18,800,000)	(\$19,386,250)	\$0	\$27,771,429	(\$55,098,750)	\$71,265,536	\$16,166,786	29%	15%	\$7,901,973	\$68	(\$7)	(\$7)
Water Features/Public Fountains	NA	20,000	0.5	(\$146,563)	(\$4,700,000)	(\$4,846,563)	\$0	\$6,942,857	(\$40,559,063)	\$50,436,964	\$9,877,902	24%	15%	\$3,794,042	\$68	(\$7)	(\$7)
Locker Room	2,000	80,000	2.0	(\$380,000)	(\$18,330,000)	(\$18,710,000)	(\$694,286)	\$27,077,143	(\$54,422,500)	\$70,571,250	\$16,148,750	30%	15%	\$7,985,375	\$70	(\$5)	(\$5)
Willamette River Greenway	5,000	15,000	0.4	(\$375,000)	(\$3,525,000)	(\$3,900,000)	\$0	\$5,207,143	(\$39,612,500)	\$48,701,250	\$9,088,750	23%	15%	\$3,146,875	\$48	(\$25)	(\$25)
Eco-Roof	16,000	48,000	1.2	(\$400,000)	(\$11,280,000)	(\$11,680,000)	\$0	\$16,662,857	(\$47,392,500)	\$60,156,964	\$12,764,464	27%	15%	\$5,655,589	\$67	(\$8)	(\$8)
Large Dwelling Unit	NA																
Large Household Dwelling Unit	NA																
Middle income housing	NA																
Affordable Hsg Replacement Fund	NA	80,000	2.0	(\$1,280,000)	(\$18,800,000)	(\$20,080,000)	\$0	\$27,771,429	(\$55,792,500)	\$71,265,536	\$15,473,036	28%	15%	\$7,104,161	\$58	(\$16)	(\$16)
Below grade parking	34,000	68,000	1.7	(\$8,500,000)	(\$25,806,000)	(\$28,993,500)	\$0	\$35,408,571	(\$64,706,000)	\$78,902,679	\$14,196,679	22%	15%	\$4,490,779	\$30	(\$125)	(\$47)
Open Space	10,000	10,000	0.3	(\$750,000)	(\$2,350,000)	(\$3,100,000)	\$0	\$3,471,429	(\$38,812,500)	\$46,965,536	\$8,153,036	21%	15%	\$2,331,161	(\$9)	(\$75)	(\$75)
Open Space Fund	NA	120,000	3.0	(\$1,920,000)	(\$28,200,000)	(\$30,120,000)	\$0	\$41,657,143	(\$65,832,500)	\$85,151,250	\$19,318,750	29%	15%	\$9,443,875	\$58	(\$16)	(\$16)
Small Dev Site (5,000 sf site) ¹	NA	7,500	1.5	\$0	(\$1,762,500)	(\$1,762,500)	\$0	\$2,603,571	(\$6,250,000)	\$7,987,179	\$1,737,179	28%	15%	\$799,679	\$77	\$0	\$0
Small Dev Site (10,000 sf site) ¹	NA	10,000	1.0	\$0	(\$2,350,000)	(\$2,350,000)	\$0	\$3,471,429	(\$11,325,000)	\$14,238,643	\$2,913,643	26%	15%	\$1,214,893	\$77	\$0	\$0
Small Dev Site (15,000 sf site) ¹	NA	7,500	0.5	\$0	(\$1,762,500)	(\$1,762,500)	\$0	\$2,603,571	(\$15,225,000)	\$18,754,393	\$3,529,393	23%	15%	\$1,245,643	\$77	\$0	\$0

¹ All other bonuses assume a site area of 40,000 square feet.