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Appendix 4:

Illustrations of the possible impacts of public investments

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About Metro

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy and good transportation choices for people and businesses in our region. Voters have asked Metro to help with the challenges that cross those lines and affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to protecting open space, caring for parks, planning for the best use of land, managing garbage disposal and increasing recycling. Metro oversees world-class facilities such as the Oregon Zoo, which contributes to conservation and education, and the Oregon Convention Center, which benefits the region's economy

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PURPOSE

The 2040 Growth Concept, the guiding planning document for the region, articulates a desire to focus development in the designated 2040 design types. These include designated centers, corridors, main streets, station communities and employment areas. The 2040 Growth Concept strives to create active and successful places within the region. What has become clear since the adoption of the 2040 Plan is that to create these lively downtowns and thriving employment areas, the public must invest its limited dollars wisely; in a way that stimulates private development. However, the investments needed to stimulate private development are as varied as how the market responds.

The 2009 Urban Growth Report documented that the region has a large amount of underutilized residential capacity within Centers, Corridors, and Station Communities, indicating that the market is not producing the return on investment needed to build to higher densities. If the achievable rents/prices for high-density development forms could be increased, then more of the high-density zoned capacity could be within reach of the market.

To better answer the questions of how much and what type of public investments are most effective, Metro has undertaken a study that uses hedonic measurement techniques to estimate the price premium from public amenities and a pro forma real estate model to calculate the effect on real estate values. This research demonstrates that investments in public amenities in areas with little to no amenities can result in a significant increase in additional development potential and more efficient use of infill land. With further study and analysis, these results can help communities identify the types of investment needed to support their development aspirations and realize the unused zoned capacity within the region.

This appendix summarizes this research and illustrates the effect of a package of investments in public amenities at two locations within the region.

Methodology

The methodology to estimate the effect of public investments on the market builds on the work completed by Johnson-Reid and described in Appendix 2 of this document. By using a hedonic modeling process, Johnson-Reid estimated the value homeowners and renters would pay for specific public amenities. Reid's research pointed to higher rents in areas with public investments in urban amenities, such as streetscape design, connectivity and bicycle racks. The results of the Johnson-Reid work allowed Metro, and their consultant Fregonese Associates, to estimate a 20% increase in achievable rents on a building when a full package of amenities were assumed in a study area. For example, if a particular study area had an achievable rent of \$1.00/ft² on a particular building type, that achievable rent would increase to \$1.20/ft² on that same building type if a full package of amenities were assumed to be in place.

With the assistance of the consulting firm Fregonese Associates, Metro employed a pro forma real estate model to determine how additional public investments could shift price points to support redevelopment to higher density multifamily projects than otherwise would be produced by the

market. This approach yielded a range for how much more high density residential development might be generated when public investments are concentrated in centers and corridors. It identified increases in achievable rents and changes in the equation of what building types a developer could feasibly construct and which parcels become “ripe” (gain enough value) to warrant redevelopment. By utilizing real-time construction costs and land values, Fregonese Associates was able to determine what types of buildings could “pencil out” or be built while still providing a standard return on investment to the developer

Application of Methodology in selected communities

To test the theory of how public investments would increase the market, this analysis evaluated the effect of a package of public amenities in three communities that represented a range of existing amenity levels and market conditions. The three communities, shown on the following pages, were in Southeast Portland, Lake Oswego and Gresham. In each of these locations, the analysis showed a significant increase in the amount of land that becomes “ripe,” for development due to additional public investments as well as a marked shift in feasible building types toward more dense, multistory types.

Envision Tomorrow, a suite of urban and regional planning tools, developed by Fregonese Associates, was used to model the land use scenarios within each community and estimate the effect of the amenities on achievable rents. National studies have shown that use of this set of tools have been successful to identify financially feasible development opportunities and needed adjustments to existing land use regulations to encourage new development. The scenario process included developing assumptions for prototype buildings, existing and future amenity values, prototype development assumptions and land use scenarios.

Prototype buildings

This analysis assumed ten prototype residential buildings that reflected different costs, price points, and tenure options. These buildings were chosen to represent a range of redevelopment types throughout the Metro Region that consistently achieve densities above those in single family residential areas. The building types and tenure options were:

- High rise (rental and ownership)
- Mid rise with structured parking (rental and ownership)
- 3-story with podium parking (rental and ownership)
- 3-story with surface parking (rental and ownership)
- Duplex/townhome (rental and ownership)

Existing and future amenity assumptions

The definition of an area’s amenity status included characteristics related to:

- Neighborhood score-index that measures the relative desirability of a neighborhood
- Traffic speed and volume-average speed limit and total number of vehicle lanes
- Bike racks and street furniture-accessibility to either feature

- Street design-pedestrian accessibility, street trees, cul-de-sac design vs. linear streets
- Street frontage and connectivity-average block size, sidewalk density

Each of the districts was then assigned a typology code based on the frequency and quality of the amenities. By establishing a baseline typology, along with existing achievable rents, the study was clearly able to see the added benefit of moving the targeted areas into a high amenity category. An area categorized as having a high amenity package was granted the full 20% increase to achievable rents, thus influencing the redevelopment potential and building type that could be built on a site. These categories were

- Typology 1: high amenity-area with full package of amenities in place
- Typology 2: large amenity-area that falls short in one or two amenity categories
- Typology 3: moderate amenity-area with an average number of amenities
- Typology 4: limited amenity-area with limited number of positive amenities
- Typology 5: no amenities-area with no amenities found
- Typology 6: disamenity-area shows a negative market reaction to existing design, etc.

The three study neighborhoods were each assessed and assigned a typology code given their current conditions:

Location	Current Typology	Future typology
SE Portland/Foster-Lents Town Center	3 (moderate amenity)	1 (high amenity)
Lake Oswego Town Center	2 (large amenity)	1 (high amenity)
Gresham Regional Center	3 (moderate amenity)	1 (high amenity)

Prototype Development

Starting at the building and parcel level, the physical, parking and financial assumptions were tailored for each prototype. For example, the rental residential prototypes assumed 1 parking space per unit while the owner-occupied residential prototypes assumed 1.5 spaces per unit. The financial assumptions – specifically the achievable rents and sales prices – were further adjusted for each of the three neighborhood study areas, based on geographic location. The reason behind this decision was that each neighborhood presents a unique set of variables related to the cost of land and market value of homes. Applying one set of achievable rents and sales prices would not have accurately reflected the unique set of conditions within each jurisdiction. There are clear market differences between what a person will pay for a house in downtown Portland versus downtown Gresham. This is not a judgment of value, but merely an acknowledgment that the market varies greatly over the Metro region. For Metro to truly understand how the market will react to public investment, each area must be modeled under the most accurate existing market conditions possible. Johnson Reid’s generalized pro forma analysis was used to estimate the residual land value for each prototype by district and level of amenity. Using the Return on Investment (ROI) model, the physical assumptions of Johnson Reid’s hypothetical building prototypes were further refined and the impacts of amenities on specific types of residential buildings were modeled.

Scenario Building

Envision Tomorrow also includes a Scenario Builder, an ArcGIS-based modeling and evaluation application capable of combining different development types into a future growth scenario. Ranging from the neighborhood to the regional scales, the model illustrates potential for redevelopment, not forecasts or predictions. The model estimates possible futures based on what already exists, evident trends, and the assumptions about amenity values. In essence, this redevelopment screen indicates what would be likely to happen if no new investments were made within each area. By applying the high amenity package Fregonese was able to use the Scenario Builder to create and compare two land use scenarios for each of the three neighborhood study areas. The first scenario tested the likely development opportunity sites and types of development under current (baseline) conditions. The second scenario assumed that public investments transformed the area into a neighborhood with a high level of amenities (Typology 1). The scenarios looked exclusively at how the high amenity category might affect total residential development in each area.

FINDINGS

For each of the three study neighborhoods, the study showed that few sites were ripe for development or redevelopment given today's market conditions and the levels of amenities currently found in the area. Most of the developments which might pencil were duplexes/townhomes or 3-story buildings with surface parking on highly underdeveloped sites. However, increasing the level of amenities to the high amenity level, the model demonstrated that a larger number of parcels "tipped" towards redevelopment, or a denser form of redevelopment. In particular, many parcels on which a three-story building with surface parking might be feasible under current conditions could support a three-story building with structured parking under a scenario with high levels of amenities. This effect on the market resulted in significant increases in residential density without raising building heights or even reducing parking ratios.

For the three test areas used in this illustration, each showed an increased market response to high levels of amenities. The differences between each location reflect the existing market conditions, existing level of amenities, the number of parcels that demonstrated redevelopment potential and the level of existing zoning. The illustrations in the following pages show current conditions in a portion of the area studied, the addition of public amenities, including bike lanes, pedestrian crossings and other street design improvements and the resulting three to five story buildings that become market ready due to the effect of the public amenities on rents/prices.

Scenario summary: increase in residential units feasible by study area

	Units in Baseline Scenario (existing typology score)	Units in High Amenity Scenario (high typology score)	% Increase
SE Portland/Foster-Lents Town Center	551	2,018	266%
Lake Oswego Town Center	878	2,084	137%
Gresham Regional Center	1,764	9,696	450%

SUMMARY

As Metro’s consultants, Fregonese Associates illustrated how specific development sites might be affected with additional public investments in the study areas. The illustrations highlight current conditions, public investments, and redevelopment potential. It is important to note that the buildings illustrated in each redevelopment scenario are achievable (i.e. they “pencil out”) at these locations, based on the assumed public investment in infrastructure and amenities.

The three study neighborhoods represent only a sample of the locations that Metro is currently exploring in an attempt to study the impact of public investments on the market. More work is needed to refine this analysis and approach. Further evaluation of the effects of public amenities at other locations around the region, different building types and proto-type assumptions and how the market reacts to targeted investments at a local and regional level would all improve the ability to estimate the effect of public investments on the market. Further research may show that public investment has a greater impact on achievable rents in targeted areas. With a better understanding of how public investment can leverage private development, the region can make more educated decisions about how best to invest and implement the 2040 Growth Concept to create the vibrant places communities envision.

ILLUSTRATION EXAMPLES

Lake Oswego

Figure 1: Existing Conditions: 2nd Street, facing north towards B Avenue



Figure 2: Initial Public Improvements



Infrastructure investments: streets trees, bicycle signage, sidewalk widening

Figure 3: Redevelopment Potential



New development: 3-story with podium parking

City of Portland-Lents/Foster Corridor

Figure 4: Existing Conditions- Foster and 84th Avenue, facing west



Figure 5: Initial Public Improvements



Infrastructure investments: street trees, bus shelter, pedestrian crossings, bike lane, sidewalk widening

Figure 6: Redevelopment Potential



New development: 3-story with podium parking