Parcelization Evaluation

Prepared for Metro

By ECONorthwest

with Fregonese Associates

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Preface

Parcelization (fragmented ownerships of small parcels) is sometimes mentioned as a barrier to the development of downtowns, main streets, and employment areas as envisioned in local and regional plans. This report addresses the following questions:

- How significant is parcelization in decisions by real estate professionals about the type, intensity, and timing of development in centers and corridors in the Metro region?
- What might be done to address parcelization as a potential barrier to development?

ECONorthwest (ECO, prime consultant) and Fregonese Associates (FA, subcontractor) completed the research summarized in this report for Metro. Terry Moore was project director. Robert J Wyman was project manager, conducted most of the case-study research and analysis, and did some of the GIS data analysis. Glen Bolen and Max Bolen did the GIS analysis that defined case-study areas.

ECONorthwest acknowledges assistance provided by staff at Metro, staff in local governments in the case-study areas (see Appendix B for a full list of contributors), and by several experts on development in the Portland area: Damin Tarlow (Gerding Edlen); Steve Wells (Trammell Crow); Todd Sheaffer (Specht Properties).

Despite all the assistance, ECONorthwest alone is responsible for the report's contents. The contents of this document do not necessarily reflect views or policies of Metro or any public entity or person associated with the project.[1]

[1] This report identifies sources of information and assumptions used in the analysis. Within the limitations imposed by uncertainty and the project budget, every effort was made to check the reasonableness of the data and assumptions. But any forecast of the future is uncertain. Evaluating those assumptions as reasonable does not guarantee they will prevail. ECONorthwest prepared this report based on its general knowledge of economic impact analysis, and information derived from government agencies, private statistical services, the reports of others, interviews of individuals, or other sources believed to be reliable. ECONorthwest cannot verify the accuracy of all data sources used in this report and makes no representation regarding their accuracy or completeness. Any statements nonfactual in nature constitute the authors' current opinions, which may change as more information becomes available.

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Executive Summary

BACKGROUND

This study investigates the extent to which a high degree of "parcelization" (a relatively large number of legal land parcels and owners in a given area) is inhibiting the kinds of development that are desired and planned for by communities in the Portland region. It identifies the reasons one would expect parcelization to have an effect on the timing and type of development, and puts this into context relative to other factors that one would expect to affect the timing and type of development.

Parcelization can be defined as a process or a result. For the purposes of this study, the ***process of parcelization*** **is the subdivision or partitioning of a larger parcel into smaller parcels**. But the concern motivating this study is that the existence of many smaller parcels (the results of parcelization) can make certain types of development more difficult. Thus, for the purposes of this study, ***the concern about parcelization*** **is that some types of desired development may be inhibited because many small parcels make the amount of land held under a single ownership too small for effective development of certain types of real estate products**.[2]

The research reported in this document is exploratory. A hypothesis has been stated by Metro: parcelization is inhibiting some types of development in some types of areas (2040 design types) in some parts of the region. This study comments on the extent to which theory and data (quantitative and qualitative) support that hypothesis. It discusses (but does not recommend) policies that might reduce any problems the research finds. Thus, the research approach focuses on (1) identifying some areas that regional and local plans want to see develop but that are not developing (i.e., where 2040 design types are not being achieved fast enough or at all), and (2) evaluating the reasons, including parcelization, for their slow development.

If parcelization is a problem, it will be most clearly manifest in urbanized areas looking to "infill" or "redevelop" as the way of changing land uses. Thus, this study does not examine fringe, suburban, or greenfield

[2] Not all parcelization is bad. Local governments have policies expressly designed to facilitate parcelization on the assumption that it facilitates more, different, and potentially better development. In fact, the kind of development and density that plans envision would not be possible without parcelization. In that context, parcelization can be a measure of success: it is correlated with denser, mixed-use, walkable communities.

development, but rather illustrates potential problems in higher-density urban centers, corridors, and employment areas.

METHODS AND ASSUMPTIONS

This study frames the analysis as follows:

- **Case-study approach**. Metro and the consultant agreed that case-studies would provide: (1) an understandable discussion of how big a problem parcelization is for development in centers, corridors, and employment areas and (2) a more understandable analysis, and would be more useful to the local governments that have the responsibility for the planning, permitting, and infrastructure that the development requires.
- **Developer perspective**. It is necessary to understand development decisions from the perspective of the people that are making those decisions: developers.
- **Parcelization in the context of other obstacles to development**. Parcelization is one of many costs of development. The answer to the question "How big an obstacle is parcelization for development in centers, corridors, and employment areas?" requires placing in the context of other obstacles and looking at its relative magnitude.

FINDINGS

CASE-STUDY AREAS AND SITES

Exhibit S-1 lists the case-study areas and rates them for development obstacles mentioned in interviews with developers and surveys with local stakeholders.

Exhibit S-1. Case-study area development obstacles mentioned in interviews and surveys

Case Study Area	Parcelization Obstacles		All Other Obstacles							
			Market Conditions		Policy Conditions			Existing Site Conditions		
	Parcel Size / Shape	Owner-ship	Slow Economy	Capitalized / Entrenched Uses	Parking Codes	Zoning / Height Codes	Lack of Place / Identity	Infra-structure	Brown-field	Flood-plain
Lake Oswego Downtown		✖	✖		✖	✖		✖	✖	✖
Mcloughlin Blvd	✖		✖	✖			✖	✖		
Hillsdale	✖	✖	✖		✖	✖	✖	✖		
West Gresham - Rockwood	✖	✖	✖				✖	✖		
Close-in SE PDX Corridors	✖		✖		✖	✖				
Beaverton Downtown	✖	✖	✖	✖				✖		
Beaverton Industrial Area	✖		✖	✖			✖	✖	✖	✖
Tigard Downtown	✖	✖	✖	✖				✖	✖	✖
Tualatin Downtown	✖	✖	✖						✖	✖
Hillsboro Old Town		✖	✖	✖				✖	✖	

Source: ECONorthwest.
Note: The dark red X is negative and indicates that the obstacle was mentioned as a challenge for development in interview and / or survey responses.

- **Almost all the case-study areas have higher degrees of parcelization than the average for the entire region.** This result is expected: the case-study areas were chosen, in part, for that reason.
- **Land availability is a potential development obstacle in all case-study areas.** Nine of the areas have less vacant land per acre than the regional average. A lack of vacant land and the presence of brownfields were the most cited causes of development challenges. Parcel shape as well as size can be an obstacle.
- **Beyond parcelization, market, policy, and site conditions create obstacles to development.** The burst of the housing bubble in 2008 and the accompanying *slow economy* create development challenges for each of the case-study areas—ones that local governments have no control over. For five of the case-study areas, interviewees noted that *entrenched uses* are making redevelopment more difficult. Owners that have fully capitalized their property and are achieving stable rents will be much more reluctant to incur risk and redevelop, regardless of whether the use is compatible with local (or regional) planning goals. *Minimum parking ratios and zoning codes* that specify maximum height requirements prove critical for development feasibility, and developers pointed out that in some cases the allowed intensity was too low for development to work. Another obstacle: *lack of sense of place or clear identity* that signals to local stakeholders and potential investors what the area should become and how it should look. Six of the case-study areas showed a *lack of infrastructure* necessary to develop building products desired by local and regional plans. Roughly half of case-study areas face development constraints related to *brownfields and floodplains.*

- **Results for sites are varied.** No site was rated as having higher development challenges on all variables; every site had lower development challenges on some variables; many sites were roughly split on positive and negative; and there is no consistent pattern across sites.

THE IMPACTS OF PARCELIZATION ON DEVELOPMENT IN CENTERS

Our conclusions:[3]

- **Of the many obstacles to development, parcelization is probably not the most important in most cases**. Many of the other obstacles may prove "fatal" to development feasibility prior to and independent of parcelization. Many of the critical **demand-side variables** (e.g., the national economy, interest rates) cannot be changed by local land-use policy. Local policies aimed at stimulating economic development may have some success and thus some effect on the demand for built space in centers, but the marginal effect is small. Similarly, local programs that put more income into the hands of purchasers or renters of built space have a very small impact on overall market demand. In contrast, effects on **supply-side variables** (costs) can be large if one considers the costs of land and infrastructure. But that supports the point: issues related to zoning and entitlements, and to the quality and cost of infrastructure, will in many cases be much more important than parcelization.
- **Parcelization is not necessarily fatal to the kind of development the region hopes to achieve in centers**. Several areas in the region have developed recently as centers despite high degrees of prior parcelization. This fact is not surprising: all regions have centers and subcenters (pockets of density that are highly parcelized but that work). But it does illustrate that parcelization and center-like development are not incompatible.[4]
- **The problems of parcelization increase as parcels get smaller or more oddly shaped** (e.g., narrow and deep, wide and shallow).

[3] Subject to the typical limitations: data require interpretation; interpretations may differ, in part because of differences in definitions and assumptions; case studies are illustrative and not necessarily representative of all sites.

[4] The report acknowledges that the causal link between successful, dense centers and parcelization is not definitive. One can see a high correlation between successful centers and parcelization, but what came first? It is possible that successful centers were developed on bigger lots that were available and then got parcelized as part of the development process. That situation may be different from the one today: trying to create or recreate a center in an area that is already highly parcelized.

Making them work requires land assembly. If they are very small and have multiple owners, land assembly will be harder.

- **Parcelization can be a critical problem in some instances.** Many things can affect a developer's return on investment. In most cases, developers deal with all or most of them simultaneously. It is more likely that the demand side will be an early concern: if the market demand is too thin to generate a rate of return under even optimistic preliminary assumptions about costs (land, permitting, infrastructure, design and construction), then there is little need to worry about parcelization and land assembly. If the focus is, however, on a specific site (as it has been in this report), then parcelization is among the top considerations on the cost side.

PUBLIC ACTIONS THAT ADDRESS PARCELIZATION AND THE DEVELOPMENT CHALLENGES IT MAY CREATE

Our summary conclusions regarding parcelization and public policy are that **parcelization, to the extent it is a development problem, is not one best addressed primarily at the regional level; it is better addressed by local governments and development authorities**. The advice for local governments is to understand that parcelization can be a problem, evaluate the extent of the problem on sites that the local government wants to see develop soon and in a specific way, and decide what level of public effort to put into either reducing parcelization or offsetting the costs it creates. For most local governments, parcelization is not an urgent problem that needs immediate action. For a few areas and sites, however, it may be. Given our summary conclusions, this section discusses public actions that local governments and development authorities can use to address parcelization.

The fundamental problem of parcelization is not the size of the parcels per se. It is that small parcels suggest more owners per acre, and multiple ownerships are likely to be an obstacle to development. The presence of many owners may be a problem now, or it may become one in the future if parcelization continues. Thus, this report groups all public policies that might ameliorate the problems of parcelization into one of three categories:

1. Reduce the ability for even more parcelization to occur in areas where regional and local plans want larger-scale development.
2. Reduce the parcelization that has already occurred by assembling land (reconsolidating small parcels and multiple ownerships into fewer ownerships).[5]

[5] The analysis draws on work ECONorthwest managed in 2011 for Oklahoma City and published in 2012 as Appendix E of the City's Employment and Industrial Land Analysis. Larry Pederson of

3. Reduce the problems that parcelization creates for development.

Policies to reduce *new* parcelization

Trying to assemble land later after it has been parcelized may be harder than reducing additional parcelization now. In concept, the public policies to do that are in the local comprehensive plan and implementing zoning. If a jurisdiction wants less parcelization, it increases the minimum allowable parcel size.

The dilemma for this category of policies is that the direction of Metro and local government policy for 20 years has been to encourage density, which usually (but not always) is achieved or at least accompanied by the creation of more and smaller parcels. General and broadly applied policies to reduce future parcelization may have the countervailing and undesired effect of making densification that is desired more difficult.

The recommendation here is that local governments deal with the issue at the neighborhood / sub-area level when they develop specific-area plans. In other words, even before going to the effort of assembling land, a jurisdiction can address the question of whether it wants to reduce the rate at which it is being parcelized, or the increase the ultimate minimum lot size.

Policies to reduce existing parcelization (land assembly)

There are several ways that land can be assembled under a single ownership:

- Outright purchase by public sector.
- Donation or grant to public sector.
- Outright purchase by a foundation.
- Purchase options.
- Acquisition of surplus state or county land.

There are several ways that the public sector can assist in assembling land where benefits and risk associated with the final assembled site are shared among multiple owners, usually a mix of public and private entities:

- Cooperative land bank.
- Public/private partnership.
- Limited Liability Corporation (LLC) formed with public and private sector property owners as pro-rata share holders.

IronWolf did the initial draft of that analysis and was lead author. ECONorthwest grateful acknowledges that work.

- Horizontal development entity where individual property owners who control contiguous parcels convert their land interest to shares in a legal entity to better capture new, larger-scale development than they otherwise would be able to do if they acted only on their individual land holdings.

Reports on land assembly reviewed as part of this research suggest that "best practices "include:

- Narrow, well-defined goals.
- Citywide coordination and cooperation between internal and external partners.
- Legal structures that provide some measure of independence from local government.
- A robust parcel management information system.
- Integration of land assembly and banking with a long-term strategic visioning.
- Limited or streamlined processes for eminent domain and judicial foreclosure.
- Flexible, diverse funding sources for any entity created for managing and redeveloping assembled parcels.

Most of those recommendations are general and common sense. To go deeper, ECONorthwest interviewed developers with experience with land assembly about both issues and best-practices for resolving them, from the private sector perspective:

- **Streamline the process.** The longer it takes it assemble a site, the riskier the deal becomes: one or more owners are more likely to hold onto full interest in their property, developer staff costs accumulate, and lenders lose patience. A solution for developers, of course, is to have the public sector do some, most, or all of the work. For example, urban renewal districts often assemble land and then offer sites for development.
- **Align terms when closing multiple parcels for assembly.** All parcels should be closed as close together as possible; any parcel left open for negotiation is a liability.
- **Keep the deal simple.** Simplicity means assembling as few parcels as possible, and dealing with as few owners as possible.
- **Take full control of parcels for assembly.** It is probably easier and less risky in most cases to gain full control of parcels from the outset and not form partnership arrangements. Institutional lenders are

more willing to lend to a developer who can show the ability to gain full control of all final assembled parcels.

- **Be careful about entering into master planning arrangements.** Master planning can, for instance, obligate a developer to start a new project every other year. This can be risky if the market for new residential or mixed-use development softens.
- **Expect landowners to negotiate a price well above the appraised amount.** Since 2008, property values have diminished but asking prices may have remained static. In partnership arrangements, this means that land contributions from existing owners are worth less, and more equity is required to secure lending.
- **Consider other ways to assemble land besides initial outright purchase.** Full parcel acquisition can be too expensive a proposition for both private and public entities in their effort to assemble viable developable sites. A less expensive alternative involves optioning land (e.g., to buy the property at some later date at some agreed upon price) or land swapping.

Policies to reduce problems caused by parcelization

If local jurisdictions do not take steps to reduce the *amount* of parcelization by any of the methods described above, can they do anything to reduce the obstacle that parcelization poses for the kind of development desired in urban centers?

Broadly, of course, cities have dozens of policies that they can bring into play to encourage certain types of development by reducing the costs of that development. Ultimately, the developer perspective must get to a bottom line about return on investment. Anything that a local government can do to increase the amount or reduce the uncertainty of revenue (e.g., helping secure federal assistance for low-income renters of buyers of housing products; pre-leasing space for government operations) or reduce the amount or risk to costs (e.g., expedited permitting, including public involvement; reduced development requirements or fees; provision or cost sharing of need infrastructure and amenity; tax exemptions) will make development more attractive. Some examples:

- **Reduce parking requirements.** Surface parking takes up valuable land area and below-grade structured parking may add 10 percent to development costs. On small parcels and for certain types of development, it may be impossible to provide the on-site parking required by codes without building structured parking. Reducing the number of parking spaces required per residential unit or per commercial square foot basis reduces the cost of development. This

policy may be controversial where neighbors believe residents will compete for limited parking spaces on streets.

- **Relax building restrictions.** Building height restrictions reduce the amount of usable building square footage a developer can build, and the square footage lost probably costs less on average than the square footage allowed. By relaxing building height restrictions in the zoning code (and / or FAR standards), local governments may allow developers to improve their return on investment without changing the size of their parcel or building footprint. Relaxing landscape requirements and building setbacks also allows developers to more efficiently use small parcels. This policy may be controversial where existing residents worry block viewed, reduced sunlight, parking, congestion, "incompatible" neighbors, and more.
- **Provide off-site amenities that small parcels cannot provide on-site.** As private space gets compressed on smaller parcels (smaller units, smaller yards) these parcels can hold or increase their value if the are surrounded by substitutes (e.g., restaurants, gyms, parks, transit).

These solutions reduce the problems caused by parcelization by making it less costly for developers to use small parcels, or by increasing the returns they can get on a given investment because of increasing value of surrounding amenity. Doing so may also make it more worthwhile for a developer to undertake the additional risk and effort of assembling multiple properties.

Chapter 1 Introduction

Chapter Summary. This study investigates the extent to which "parcelization" is inhibiting the kinds of development that are desired by communities around the region. This chapter provides background about the purposes of the study, and describes how this report is organized.

1.1 BACKGROUND

Since adoption of the 2040 Growth Concept and subsequent Urban Growth Management Functional Plan,[6] the Metro region has seen significant changes in development practices. Development in centers and main streets has increased both absolutely and as a share of total development; the average size of residential lots has decreased.

But what is true on average is not true in all instances: many shopping and business areas designated for development have seen little growth, and what has occurred has often not been of the type or density envisioned by local and regional plans.

In short, some areas (by location and by planned type of development) have grown more or less according to plan, but others have not. The hypothesis of this research project is that "parcelization" is discouraging desired development in some areas. The hypothesized causality is:

- Small parcels mean more parcels in a given area
- More parcels mean more owners
- More owners means that larger developments are only possible if parcels are aggregated, making them more complicated, more expensive, and potentially impossible (if a single owner does not want to sell).

A correlated effect of parcelization is likely to be higher land prices per square foot: more parcels typically are correlated with more density, more urban amenities, and high land values.

[6] The 2040 Growth Concept is the Portland region's long-range plan for growth. Those growth "concepts" get more specific and are implemented by the Urban Growth Management Functional Plan. The Growth Concept identifies a hierarchy of centers and places, and states broadly the kind and intensity of activity they should contain. The Functional Plan gets to the details of things like minimum residential density, affordable housing, parking requirements, employment areas, and natural areas, and requires cities and counties to have local plans that are consistent with the Growth Concept.

Hence, the fundamental questions for this research are:

- To what extent is parcelization an obstacle to the kind of development local and regional plans envision?
- How big are the impacts of parcelization relative to those of other factors that might be contributing to slower or undesired development?
- Whatever the magnitude of the restricting effects of parcelization on desired development, what can be done to reduce those effects?

1.2 ORGANIZATION OF THE REPORT

Including this Introduction, this report has four sections:

- **Chapter 2, Framework and Methods** presents the foundation and theories for thinking about the project hypothesis. For this research, that means defining parcelization, and identifying the reasons one would expect it to (1) have an effect on the timing and type of development, and (2) have an effect that is significant relative to other factors that one would expect to affect the timing and type of development.
- **Chapter 3, Analysis and Findings** summarizes the findings of the Appendix B Case Study Analysis. It also discusses key variables that determine whether a development is feasible, and how overall feasibility can be impacted by parcelization.
- **Chapter 4, Potential Policy Responses** summarizes best practices and other relevant literature for potentially overcoming negative impacts caused by parcelization.

Supporting the analysis and conclusions in this report are three technical appendices:

- **Appendix A, Methods** contains a detailed technical description of the methods used to select case study areas, catalytic sites within these areas, and to evaluate the extent parcelization poses challenges to development.
- **Appendix B, Case Study Analysis** describes the results of the methods described in Appendix A. For each study area, we present a description of the physical characteristics, a developer assessment, and market analysis.
- **Appendix C, Policies for Land Assembly** discusses actions local governments can take to reduce parcelization by assembling land. Its findings are summarized in Chapter 4.

Chapter 2 Framework and Methods

Chapter Summary. A *parcel* is the smallest packet of land that can legally be transferred from one owner to another. *Parcelization* is the subdivision or partitioning of a larger parcel into smaller parcels. *The concern about parcelization* is that some types of desired development may be inhibited because many small parcels make the amount of land held under a single ownership too small for effective development of certain types of real estate products. Whether parcelization is a problem depends on the context of the desired urban form. Consequently, there is an inherent subjectivity to describing parcelization.

Evaluating parcelization as an obstacle to development requires evaluating it as a cost in the context of all other development costs. For development to occur, a developer must (1) acquire land, (2) get necessary permits and financing, (3) prepare the site, (4) build or pay for infrastructure, and (5) construct the buildings. Parcelization influences the cost of development primarily as an additional cost (time and money) of the first step, land acquisition.

2.1 FRAMEWORK

Good research builds from a solid foundation of clear definitions and reasonable theories of causality. For this research, that means defining parcelization, and identifying the reasons one would expect it to (1) have an effect on the timing and type of development, and (2) have an effect that is significant relative to other factors that one would expect to affect the timing and type of development.

We refer to these ideas collectively as a *framework* for the research. A framework is different from, more general than, and prior to a *methodology*. Methods describe specific data sources and analytical techniques that will be used to address the research questions, *consistent with a hypothesized framework.*

2.1.1 DEFINITIONS

What is parcelization? Its definition starts with a definition of a parcel. For the purposes of this study, **a *parcel* is the smallest packet of land that can legally be transferred from one owner to another**. Parcels are legally recorded; owners have deeds to a parcel. Some related ideas:

- From the ground, one often cannot see parcels, though their boundaries can often be inferred by fences, tree lines, roads, and surrounding buildings. The definitive way to see parcels is with a tax-assessor's map.

- There is a difference between *tax lots* (boundaries defined by taxing districts for the purposes of levying taxes), *parcels* (the smallest unit of land that can be sold and developed without further legal division; a parcel may consist of multiple tax lots), and *sites* (areas ready to development, which may include multiple parcels). Tax lots may be parcels, but they may not be. A large parcel (one that has yet to be subdivided or partitioned[7] into smaller legal packets for sale and, typically, construction) will be in many taxing jurisdictions, and the boundaries of some of them may cover only part of the parcel. Thus, it is possible for a parcel to be composed of more than one—sometimes many—tax lots.
- Occasionally two or more parcels get consolidated into one. A house built across the line of two small parcels may not have gone through a lot-line adjustment and may get tax bills for each parcel separately, though the parcels are no longer separable for purposes of sale.
- Condominiums and planned-unit developments create some variations in the idea of parcel. Both effectively allow multiple ownership of a single parcel.

Parcelization can be defined as a process or a result. For the purposes of this study, the process of ***parcelization*** **is the subdivision or partitioning of a larger parcel into smaller parcels**.

But this study is concerned not about the process of parcelization, but its results. The concern is that parcelization can result in smaller parcels than those a developer may want for a particular development project.

Not that all parcelization is bad. Local governments have policies expressly designed to facilitate parcelization on the assumption that it facilitates more, different, and potentially better development. In fact, the kind of development and density that the regional plans envision would not be possible without parcelization. Parcelization allows very big land holdings (tens or hundreds of acres) to be partitioned or subdivided so that smaller pieces can be transferred to more owners and developers. Parcelization is a necessary and advantageous concomitant of urbanization and densification. In zones that are planned as single-family dwellings, for example, parcelization is necessary to get smaller single-family lots, a result consistent with local and regional objectives.

[7] Local governments typically distinguish between *partitions* (dividing a parcel into 2 – 4 parcels) and *subdivisions* (dividing a parcel into 5 or more parcels), and typically have different processes and requirements for each. For the purposes of this research, both processes contribute to "parcelization" and are not treated any differently.

Rather, the concern about parcelization is that in some cases the existence of many smaller parcels can make certain types of development more difficult. In particular for this study, the concern is that when larger parcels get divided, sold to different owners, and developed, then (1) the ability to do larger-scale, integrated urban development becomes more difficult, and (2) that may mean suboptimal[8] development in some parts of the region. Thus, for the purposes of this study, ***the concern about parcelization*** **is that some types of desired development may be inhibited because many small parcels make the amount of land held under a single ownership too small for effective development of certain types of real estate products**.

The concern is more specific yet. It is not about all land in the Metro region. As noted above, parcelization is allowed and encouraged at the urban fringe. For example, in areas that have recently been brought into the regional urban growth boundary (e.g., Damascus, North Bethany), evidence of parcelization could be good news: it would mean that formerly rural areas were planned, serviced and beginning to urbanize, which is the intent. Thus, this evaluation is not about "greenfield" development.

If parcelization is a problem, it will be most clearly manifest in urbanized areas looking to "infill" or "redevelopment" as the way of changing land uses.[9] Thus, this study does not examine fringe, suburban, or greenfield development. Its case studies are chosen to illustrate potential problems in higher-density urban centers, corridors, station communities, and industrial and employment areas.

2.1.2 CAUSAL MODEL

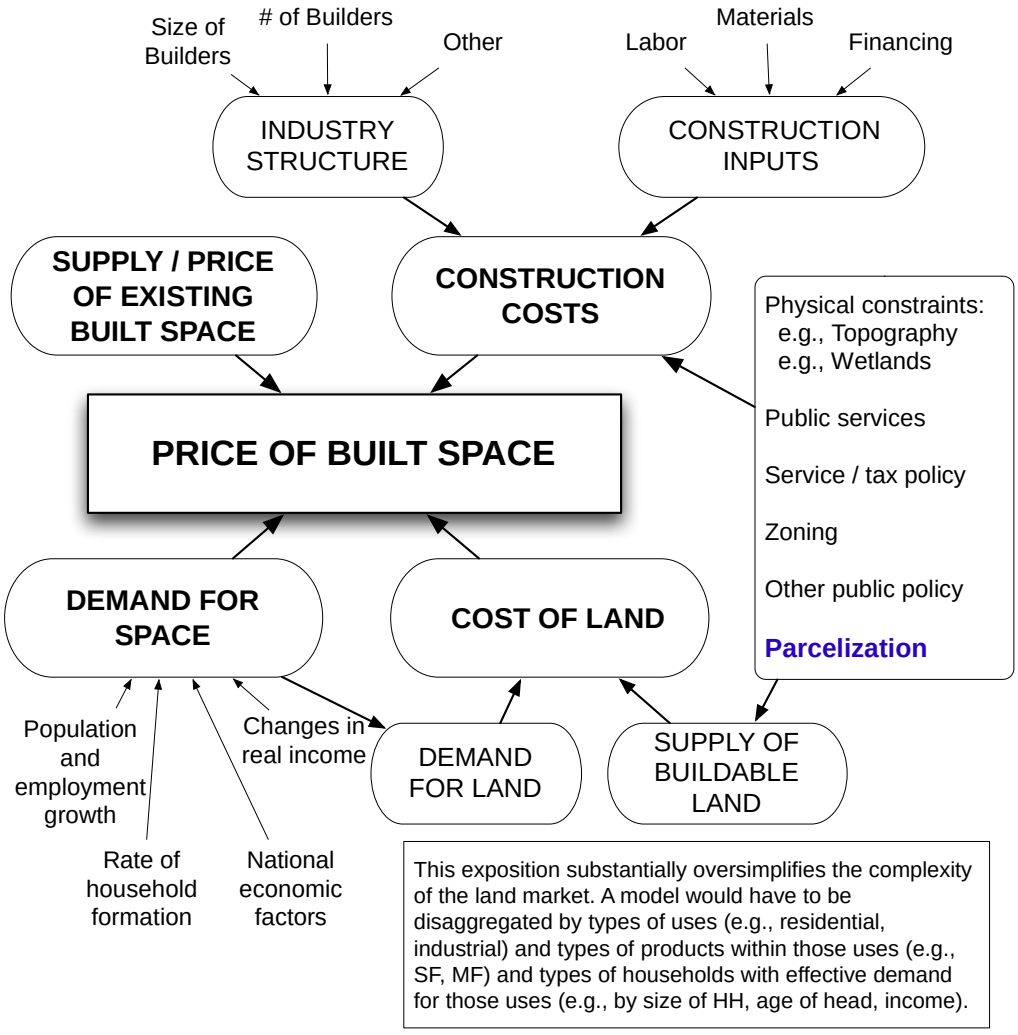
Exhibit 1 is a model of the factors that affect the price of built space. Some of the key points in Exhibit 1 relevant to this research:

[8] By suboptimal we mean some combination of the wrong density or slow rate of growth. The issue for this study is not that the wrong type of land use is getting developed: presumably the Regional Framework Plan and the local plans and zoning that implement it prevent that from happening. It is that the desired type of land use may not be happening quickly or densely enough in some places. In some cases, it may mean that development is completely stalled.

[9] Definitions vary slightly. Infill and redevelopment can be defined as mutually exclusive. Both occur in areas that are largely urbanized. Infill is development that happens on vacant land; redevelopment is development that happens on developed land. But one could also distinguish between location of development (greenfield / suburban vs. infill / urban) and then whether the parcels being development are vacant or developed. In that hierarchy, redevelopment is mainly a subset of infill. For the purposes of this study the precise definitions are not critical: the study looks exclusively at sites that are in urban areas that are mainly developed: at infill / redevelopment sites.

- Parcelization (highlighted near the bottom right) is one factor of many.
- As complicated as the diagram may seem, the text box at the bottom makes the point that a more realistic model would have to be more complicated yet.
- The diagram does not give any information about the relative contribution of the factors to the price of built space. Some are more influential than others.

Exhibit 1: Model of the factors contributing to the price of built space



Source: ECONorthwest, 2012

Exhibit 1 does not show the much greater number of interconnections among the factors that affect the price of land and amount of construction. Markets are dynamic; factors interact in reinforcing and negating ways; the factors do not operate sequentially, but simultaneously.

For example, suppose a developer finds an area she believes is "undervalued" given the potential new uses that she sees as possible; buys property in one use; builds a higher-value use; and gets much higher rents / prices than surrounding properties. Other developers will notice, as will other property owners. Land prices will rise to reflect the value of the increasing rents / prices. If expectations of developers rise unrealistically, they may pay more for land than the market for built space will pay in compensating rent. If expectations of property owners rise unrealistically, developers will not buy the property. In both cases, development may slow down or stop; there are examples of both situations in the Portland region.

2.1.3 MATCHING THE RESEARCH TO POLICY NEEDS

The research reported in this document is exploratory. A hypothesis has been stated by Metro: parcelization is inhibiting some types of development in some types of areas (2040 design types) in some parts of the region. This study comments on the extent to which theory and data (quantitative and qualitative) support that hypothesis. It discusses (but does not recommend) policies that might reduce any problems the research finds. The study is aimed at defining a potential development problem and getting a sense of its relative importance, not at having the Metro Council adopt new policy.

The reduction of parcelization is not the fundamental policy objective of Metro or local governments—developing good centers, corridors, neighborhoods, and employment centers is. Thus, the research approach focuses on (1) identifying some areas that regional and local plans want to see develop but that are not developing (i.e., where 2040 design types are not being achieved fast enough or at all), and (2) evaluating the reasons, including parcelization, for their slow development.

Exhibit 1 suggests the research decision to try to **understand development decisions from the perspective of the people that are making those decisions: developers**. Some concerns from that perspective:

- At some level, all of the factors in Exhibit 1 are of concern to a developer because they all potentially influence cost and price. Together, those factors form the market for their finished product.
- In concept, the many factors that affect revenues (from the sale, lease, or rental of built space) and costs eventually get rolled up into an assessment of **return on investment**: what are the expected revenues and costs (and the variance around the expected values because of uncertainty and risk)?

- Parcelization in the context of the kind of development envisioned in 2040 centers usually affects development on the cost side.[10] Those costs can be direct and calculable (e.g., permit fees, construction cost) or they can be less direct and uncertain (e.g., the time it takes to get a local planning commission or city council to approve a relatively complicated public-private partnership, the extent and cost of environmental remediation when redeveloping an industrial site).
- Developers care about being able to acquire land at a reasonable price in a reasonable amount of time. Parcelization may suggest the potential for acquisition problems, but it may not stop a developer from testing the ability to make the acquisitions. A developer will identify strategic areas based on a general assessment of the potential upside. If intuition or a back-of-the-envelope calculation suggests the *potential* for a good return on investment, then more detailed analysis of potential revenues and costs would follow, including an evaluation of the potential problems of and ways to deal with parcelization. In some cases, a developer need not buy out the owner—other strategies are available (e.g., land lease, ownership stake, partnership). In short, what makes the price "reasonable" for any given parcel is its relationship to the revenues that could be produced by development on it. Developers will be willing to overcome challenges (even those challenges that increase costs) if expected revenues remain sufficient to achieve financial feasibility.
- Even without parcelization, ownership can be a problem. An owner of a single large parcel may be convinced it is worth more than any developer believes will allow a reasonable return.
- Developers are not always or even typically attracted to vacant parcels first. They are looking for places that they believe market forces and their concept of development can make more valuable.

2.1.4 FRAMEWORK FOR THINKING ABOUT OBSTACLES TO DEVELOPMENT

By showing how many factors can affect housing price (and, thus, production), Exhibit 1 implies that changes in any of these factors can affect the production of real estate products—can make development more or less likely. In the context of this study, the question is: which of these factors can potentially be (1) significant *obstacles* to development, and (2) influenced by public policy.

[10] In greenfield and suburban development, the ability to parcelize can have a big impact on revenues. A ten-acre parcel will sell for less as a single parcel than as 40 lots.

ECONorthwest developed the following list of obstacles based on its experience, a review of the professional literature, and consultation with developers. In preparing this list, we asked this question about each potential obstacle: Is it an obstacle that affects development in the Portland regional market broadly and in general, or is it an obstacle that *differs by location* within the Portland market? Examples of the former: the prime interest rate, a burst of a housing bubble, decline in US manufacturing employment relative to service employment. Examples of the latter: zoning and fees, permitting processes, neighborhood opinions about growth and involvement in decisions about development, parcelization. In general, we do not consider in our analysis the first group of obstacles because they (roughly) affect all areas of the Portland region equally and would not explain why one particular area is not growing while others are.

Our next cut at organizing the obstacles is to note that some are more likely to affect revenues, and others are more likely to affect costs. Both are essential to any consideration of rate of return, even a qualitative one.

The **revenue side** is primarily market driven. A developer looks for places and products that will bring rents or prices that are high relative to expected costs. There is not much the public sector usually does to affect the revenue side, but there are some things. For example, the public sector may be the use of demand-side housing incentives designed to make housing more affordable for eligible households (e.g., rental subsidies such as Section 8 housing vouchers, and tax abatements for homeowners that reduce monthly mortgage payments). In that example, the public sector has made the rate of return for certain housing products higher by increase the ability of consumers to pay for those products (i.e., the policy has affected the demand / revenue side of a developer's calculation of rate of return).

A related factor is the composition of market-demand and potential users / tenants. Different users in the same general category (e.g., retail) will have different site requirements (e.g., IKEA vs. Target vs. Walgreens). The public sector can affect demand by restricting it via zoning, and similarly might be able to increase it by relaxing that zoning. But it is not really increasing consumer demand; rather, it is restricting or not restricting the uses that the market proposes to build to accommodate that demand.

The **cost side** has several categories of obstacles, and many (but not all) can vary by location *within* the Portland region. The list that follows is in roughly chronological order: a developer (1) acquires land, (2) gets necessary permits and financing, (3) prepares the site, (4) builds or pays for infrastructure, (5) constructs the buildings, and (6) sells or rents the buildings.

- **Land**. Land prices clearly differ by location. Moreover, land prices may incorporate (capitalize) many of the other costs that follow (e.g., zoning, achievable rents, proximity to amenity and jobs, public perception of the surrounding community).

  Public policy rarely aims directly at changing land prices, but it can affect those prices indirectly via policies related to planning, zoning, infrastructure, and fees. Public policy cannot have much effect on the per-square-foot cost of construction (labor and materials) except to the degree that it requires certain standards for building (building codes) and infrastructure and environmental standards. Public policy can affect the cost of land via restrictions on land supply (e.g., urban growth boundaries), but in the context of this research those effects are probably positive: the reduction in growth of land supply at the fringe should make infill and redevelopment in centers more feasible as land prices rise.

  Site assembly is a subset of land cost and especially important in this study because it is a potential additional development cost that results from **parcelization**. The need for site assembly creates direct cost (the need to acquire additional properties), time delays (time to complete acquisition deals, to permit parcel assembly), and increased uncertainty (regarding whether property owners will sell, and when).

- **Zoning and Permitting**. Not every use is an option at every site. It is usually the case that public policy limits the development options. Local *zoning* policies dictate the type and intensity of use, and can create obstacles for developers if a market-supported development type is not allowed by zoning code.

  While procedures exist for amending zoning code or getting exceptions to code for specific developments, in practice the procedures are time consuming and expensive, and have uncertain outcomes. If a developer has a site that does not already allow, by right, the use he believes offers the best return on investment, the cost of getting approval to build for that use (the "entitlement" process) can be expensive. Not only can it take many months or a few years (with a cost of time and delay), but it can ultimately be unsuccessful.

- **Financing.** Even if financing was not needed to acquire the land, it will almost certainly be required to build the project. In general, the market for financing development is at least a regional one: lending terms for a particular type of product are influenced by national and regional markets. Some financing aspects are site specific, however,

and reflect the relative risk of the type of development proposed for a particular site.

- **Site preparation**. Building on slopes or in flood plains is typically more expensive than building on flat land. For this evaluation we screened parcels for site preparation and existing conditions using a GIS database for buildability.

  Site remediation is a subset of site preparation. Some infill and redevelopment sites will have had historical uses that have resulted in contamination that must be mitigated through the development process. The presence of contaminants on a site almost always creates additional costs associated with clean up, uncertainty, and liability.

- **Infrastructure**. For a given amount of development (people served, square footage), the cost of transmission facilities (water, sewer, electric, and transportation) is generally greater with greater distance from central locations and facilities. The unit cost of central facilities may differ also because of differences in economies of scale or service standards. More important for development is that these costs differences get reflected in charges and fees that differ by location. In the Portland metropolitan area, developers cover some or all of the incremental impact to the infrastructure system through systems development charges, which affect the total cost of development. In some cases they may have to provide off-site infrastructure improvements.

  Certain basic infrastructure, and the cost of providing it, is unavoidable: for example, water, sewerage, and roads. But some is more discretionary: for example, local jurisdictions have requirements for landscaping, setbacks, parking, and so on that may add to amenity and safety, but do so at a cost.

- **Construction**. We do not consider building costs in this study because we assume that on buildable sites in the Portland region a new structure of a given type and size will cost about the same no matter where it is located. In other words, once one controls for building type and size (as one must for this type of evaluation) and site characteristics that influence site preparation (see above), the differences in the costs of labor or material across the Portland region is relatively small and would not explain why some area of region has not developed while another area has. There are, of course, big variations in construction cost for different types and sizes of use, and local policies (e.g., zoning) may make it difficult for developers to build the type of structures with the best return (which

could reduce development). But those variables affect the type of development that gets constructed (multi-family vs. single-family, for example) rather than the cost of construction of that type of unit.

The bulk of the costs above are direct costs that cannot be avoided and are mainly independent of public policy: land, capital, materials, labor, and entrepreneurial skill are all necessary to create a marketable development, and they all have a cost. But it addition, public policy can increase some of these costs directly (e.g., through standards or fees for infrastructure, building construction, landscaping, and off-site improvements) or indirectly (e.g., through an entitlement and permitting process that is uncertain and time consuming). The point here is not that such standards and processes are unnecessary or always inefficient, but that they do add to the cost of development.

2.2 METHODS

Appendix A provides details about the approach and assumptions.

A first task of the research was to (1) refine the definition of the problem, and (2) evaluate the data and methods available and appropriate for addressing questions about the problem. That task led to several decisions that framed the rest of the analysis:

- **Case-study approach**. Metro has an extensive database of land characteristics. The study team considered using those data to create a Metro-wide database on parcelization. One could use GIS techniques, for example, to create some type of parcelization index for all the centers in the regional plan. The decision by Metro staff and the consultant, however, was that (1) the main objective was not a database but rather an understandable discussion of how big a problem parcelization is for development in centers and corridors, and (2) case studies would provide a more understandable analysis, and would be more useful to the local governments that have the responsibility for the planning, permitting, and infrastructure that the development requires.
- **Developer perspective**. As noted above, it is necessary to understand development decisions from the perspective of the people that are making those decisions: developers.
- **Parcelization in the context of other obstacles to development**. As noted above, parcelization is one of many costs of development. The answer to the question "How big an obstacle is parcelization for

development in centers and corridors?" requires placing in the context of other obstacles and looking at its relative magnitude.

The research followed the organization of this report:

- **Definitions and causality**. (Chapter 2 and Appendix A). What is parcelization, and how can it be measured using standard data sources? What is the hypothesis about how and where it is creating development problems in various parts of the Portland region?
- **List and assessment of potential obstacles to development.** (Chapters 2 and 3). What are all the potential obstacles? Which ones are likely to be affected in a significant way by public policy? What is the expected relative importance of those obstacles?
- **Case-study areas and sites**. (Chapter 3 and Appendix B). Develop criteria for and select case study areas and sites. Use Metro GIS data to screen parcels within case study areas to identify sites. Check site selection with local jurisdictions. To what extent do the identified sites have the problems for development identified in Section 2.1.4? How important is parcelization relative to other obstacles to development?
- **Ways to reduce any problems created by parcelization**. (Chapter 4 and Appendix C). The opposite of parcelization is land consolidation. There are various techniques that can be used to facilitate land assembly, and there are circumstances that would make land assembly efforts more likely to be successful. It is also possible, however, that the purposes of the 2040 Concept Plan can be achieved by other policies that acknowledge the constraints of parcelization and provide other incentives for development. What tools are currently being used? What are best practices? What makes the most sense in subareas of the Metro region? What are the private-sector or property-owner roles, and what might motivate action? What is Metro's role? What are the roles of other public agencies and local jurisdictions?

Chapter 3 Analysis and Findings

Chapter Summary. Section 3.1 lists the many obstacles for development and redevelopment of urban areas, only one of which is parcelization. Section 3.2 evaluates specific sites. The evaluation of parcelization started with the selection of 10 case-study areas. Within those areas, one or two "catalytic sites" were chosen (a total of 15) based on preliminary data analysis and interviews with local developers and planners. For each catalytic site, further GIS analysis was done to create measurements of site characteristics, degree of parcelization, and potential development problems. That analysis informed work sessions and interviews with developers to get their views about the problems of parcelization in general, and about obstacles to development at the 15 sites in particular. Section 3.2.2 discusses obstacles to development at the case-study sites. Section 3.3 provides conclusions regarding the impacts of parcelization on development in urban areas. A key finding is that for most local governments, parcelization is not an urgent problem that needs immediate action. For a few areas and sites, however, it may be. For local governments, the best advice may be to understand that parcelization can be a problem, evaluate the extent of the problem on sites that the local government wants to see develop soon and in a specific way, and decide what level of public effort to put into either reducing parcelization or offsetting the costs it creates.

3.1 OBSTACLES FOR DEVELOPMENT

ECONorthwest tested the points made in Chapters 2.1.3 and 2.1.4 with a group of developers that advised on this project. *The developers generally supported the conclusions about how developers think about projects, and about obstacles to development.* They built on those points to make several others related to obstacles to development:

- **Return on investment is affected by multiple factors on both the revenue and cost side of the equation.** Some factors are mainly market driven; others can be influenced by public policy.
- **Every development is different**. Rules of thumb might be helpful in general, but in any given situation, the relative importance of factors as obstacles to development can change. Every deal and every site can have a unique mixture of site attributes, market conditions, and policy considerations.
- **Market factors can be more important to the success of development than local policy factors.** The burst of housing bubble in 2008 was caused by macroeconomic and national policy forces that local governments had no control over.
- **Policy should focus on obstacles that the public sector can do something about**. In general, local policy cannot have a significant effect on broader market conditions like the strength of the national

economic, demographic shifts, and interest rates. Local policy can, however, affect many aspects of the cost of development, and some of the attributes it requires that add to that cost may also add to value.

- **The most critical public-sector role in development: zoning and infrastructure.** All the obstacles listed in Section 2.1.4 are theoretically relevant and occasionally critical. But zoning and infrastructure are almost always critical.

  Zoning enables or limits the kind of development that public policy would like to see and that the market can profitably provide. Though policy generally allows mixed use and higher density in centers and corridors, developers pointed out that in some cases that allowed intensity was too low for development to work.

  An additional complication on the cost / risk side of the equation is getting the new development approved. Even if the zoning allows the proposed development, the neighborhood may oppose it strongly, or want many amendments to make it acceptable.

  Some infrastructure is essential to development (water, sewerage, roads) and potentially very expensive. Other infrastructure may or may not be critical to development, but if it is required it probably has a cost to developers and may in some cases flip an expected return on investment from positive to negative (e.g., structured parking, off-site public amenities).

  In general, however, infrastructure has a value and a cost. The tricky questions are whether the value (what consumers are willing to pay) is enough (1) to cover the full costs of the infrastructure / amenity, and if not, (2) to cover whatever costs are left after the public sector contributes to the costs.

- **Site preparation and existing conditions affect the supply of land available for development.** Brownfields and floodplains increase site preparation and remediation costs and may constrain the amount of developable land.

- **Since return on investment can be improved by either increasing revenues or decreasing costs, anything the public sector can do in either area helps development.** Revenues and costs are not always separate. For example, if the public sector builds a parking garage or street-car line with existing funds instead of new fees on development, it both reduces the cost of development (or, at least, does not increase it) and increases the value of (and return on) the development. If the public sector can contribute to amenity and

placemaking, it can help create the "wow factor" that will increase demand and price for the real estate products.

- **Redevelopment is not easy.** Developers noted many difficulties, but especially the one of convincing a property owner to take on the risk of development. Many buildings that might look ripe for redevelopment because of their age and functional obsolescence may be fully paid off and generating a stable and positive cash flow. A stable return of as low as 5% in today's market may look good. Why go through all the costs of redevelopment for a chance at a higher rate of return and the risk of not achieving it? Other complications that have costs: neighborhood opposition and incompatible surrounding uses.
- **To get redevelopment started, a catalytic development is usually critical.** The catalytic project is the one with the greatest market risk, and the likely and typical place for the public sector to provide assistance to get development moving in the desired direction.
- **Public-sector promotion of redevelopment can have mixed effects.** Developers noted that in some cases the public sector's interest in promoting a public improvement is supported by studies of likely increases in property values, which then may lead to property-owner expectations that increase land cost and decrease expected return on investment. It does not make sense to take the risk unless there is "a huge difference in value" between existing and potential future uses.

3.2 ASSESSMENT OF CASE-STUDY SITES

3.2.1 DEFINITIONS, SELECTION, AND EVALUATION METHODS

A case study approach was used to illustrate how parcelization may be an obstacle to development in a variety of locations in the region. The case studies are intended to lead to more general conclusions about parcelization and do not necessarily depict areas where there is public sector intent to assemble land.

Appendix A, Sections A.1 through A.3 describe how the case-studies and catalytic sites were selected in consultation with developers and local jurisdiction staff. The **definition of boundaries** is as follows:

- The regional plan for Portland metropolitan region (Metro's 2040 Growth Concept) identifies various types of areas in the region. Of interest in this study are those design types called *centers* (several

different types) and *corridors, station communities, and industrial and employment areas.*

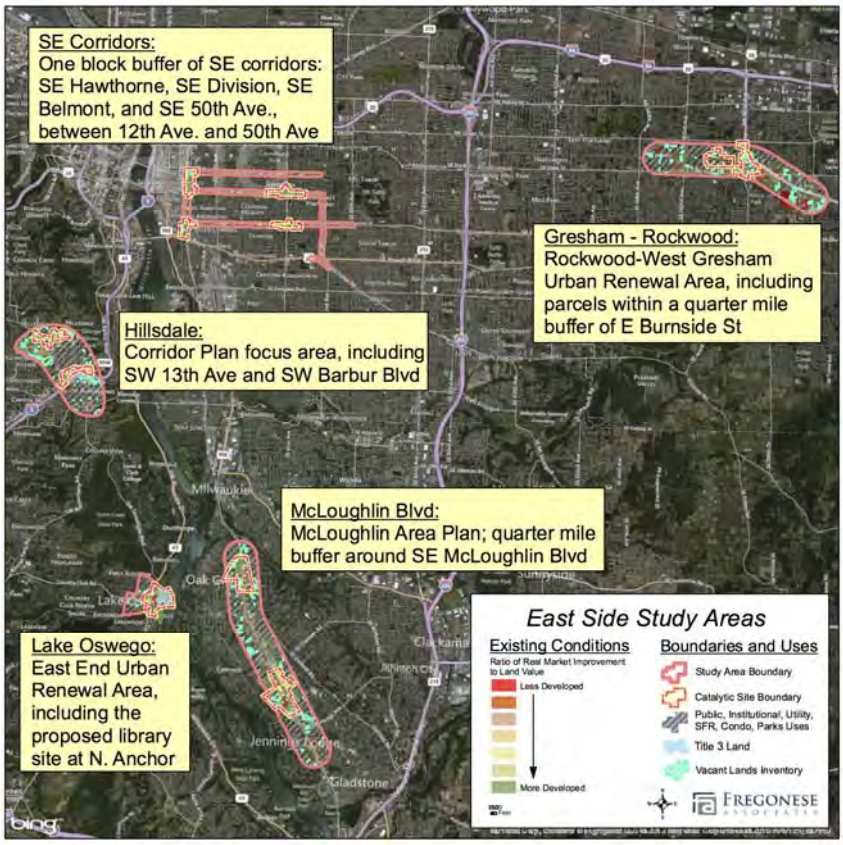
- This study uses 2040 design types to help define *case-study areas.*

Within case-study areas this research defined *catalytic sites* as a combination of contiguous tax lots (parcels) that made sense to consider as a potential area for the kind of development that regional and local plans would like to see occur in centers and corridors. In summary, the **process for selecting catalytic sites** was to:

- Use GIS analysis and a region-wide parcel dataset to filter study-area parcels to get a potentially redevelopable subset to analyze for (1) catalytic potential, and (2) failure to develop as policy desires. Such parcels were identified using filters for existing conditions, physical geography, zoning, and urban amenities.
- Identify one or two catalytic sites (consolidations of potentially redevelopable parcels from the previous step) in each study area that a reasonable developer might attempt to develop. These sites were tested and confirmed through interviews with local developers and representatives of jurisdictions within each of the case study areas.

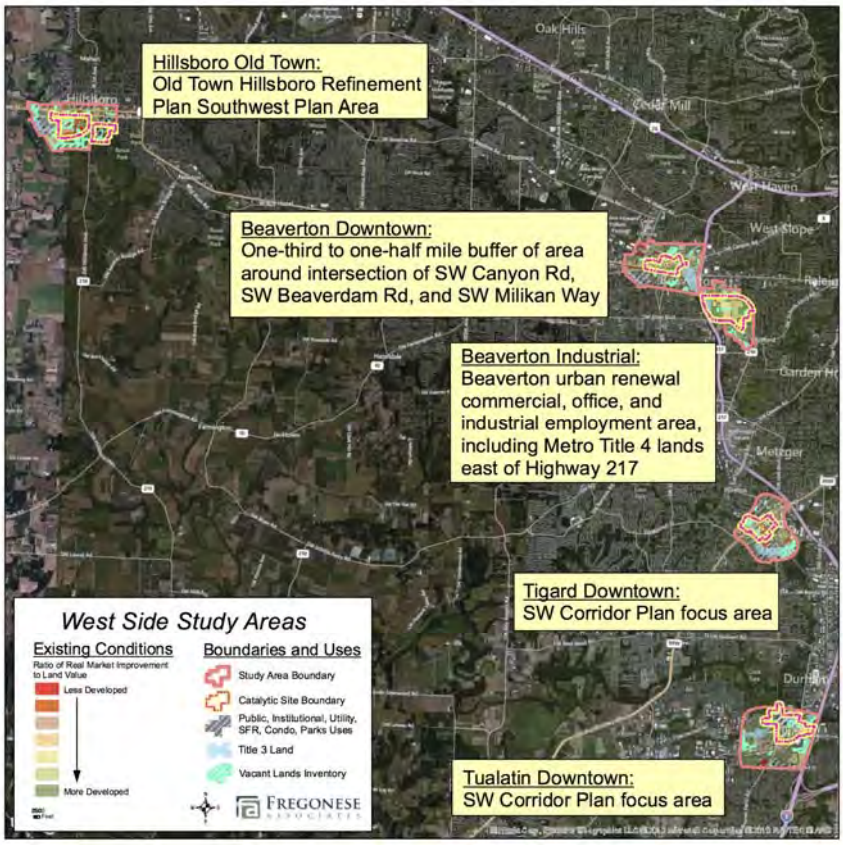
Exhibits 2 and 3 below display maps of the selected case-study areas and catalytic sites, categorized by their location relative to each other: east side and west side.

Exhibit 2: East-side case study areas with catalytic sites



Source: Fregonese and Associates/ECONorthwest.

Exhibit 3: West-side case study areas with catalytic sites



Source: Fregonese and Associates/ECONorthwest.

Three **evaluation methods** were used for each case-study area and catalytic site, and are described in the next three subsections.[11]

3.2.1.1 GIS evaluation of site characteristics

For each of the catalytic sites, we quantitatively assessed development challenges using a set of evaluation metrics. The evaluation metrics were calculated using GIS analysis techniques and address factors that affect land availability (e.g., land vacancy, brownfields, floodplains), and factors that affect parcelization (e.g., number of parcels and owners). To make the metrics comparable across case-study areas, we "normalized" them to a per-acre basis.

Some of the factors we measure are positive for development (more is better); others are negative (more is worse). We evaluated metrics relative to the case-study area averages: a value 10% above or below the case-study area average moves the contribution to development challenges from

[11] For more detail, see Section A.4 of Appendix A

"Low" to "Neutral" or "High" depending on the specific metric measurement. For example, if Catalytic Site X has a metric value greater than 10% above the per acre average for the case-study area it belongs to, and more of this characteristic makes development easier or more likely (other things being equal), then this characteristic is designated as posing a "Low" challenge to development for that catalytic site *relative* average conditions in its study area.[12] Where noted, we also use the same methods to evaluate development challenges for the case-study areas relative to the entire Portland-Metropolitan area urban growth boundary.

Exhibit 4 shows the evaluation thresholds we used to estimate each metric's contribution to development challenges. It assigns a symbol to each threshold. The symbols are consistent across all study areas: the light green circle is positive and indicates "Lower Challenges;" the dark red X is negative and indicates "Higher Challenges;" the blue square falls in-between and indicates "Average Challenges."

Exhibit 4. Evaluation threshold description for determining quantitative metric contribution to development challenges.

Symbol	Description	Contribution to Development Challenges
○	Greater than 10% above / below study area average	Low
■	10% below to 10% above study area average	Neutral
✖	Greater than 10% below / above study area average	High

Source: ECONorthwest.

Exhibit 5 below contains—for each metric—a description, its units of measurement, and data source.[13] For every metric, except for Vacancy, we define a greater metric measurement value as indication of a higher contribution to development challenges.

The metrics are divided into two categories: (1) land availability; and (2) parcelization:

- The **metrics of land availability** signal whether development is inhibited because of a lack of buildable land that results from lack of vacancy or underutilization, presence of known brownfields that

[12] The study area averages for each of the characteristics excludes single family residential, condominium, public, institutional, and utility land uses.

[13] For a full description of each evaluation metric and a rationale for inclusion in this report, see Section A.4 of Appendix A.

require costly cleanup and remediation of contamination, presence of high-value structures (relative to land value), or presence of a threat from natural hazards.

- The **metrics of parcelization** are small average parcel sizes, many unique owners per acre, and higher density (measured as lot coverage). Any of these characteristics is presumed to be correlated, at least moderately, with things like higher land prices, less physical space to meet parking and zoning standards, and greater need to assemble parcels for development, all of which make development more difficult (other things being equal).

Exhibit 5. Description of metrics

Metric	Units	Description / Source
of Land Availability		
Vacancy	SqFt/Acre	Metro vacant lands inventory, excludes parks and open space; RLIS April 2012.
Brownfields	SqFt/Acre	Vacant, underused, potentially contaminated sites; Oregon DEQ 2012.
IMP/LV Ratio	SqFt/Acre Over .75	Real market improvement value divided by land value; RLIS April 2012.
Metro Title 3 Land	SqFt/Acre	Areas within Metro's Stream and Floodplain Protection Plan; RLIS April 2012.
of Parcelization		
Parcel Size	Parcels/Acre	Size of individual taxlots based on assessor records; RLIS April 2012.
Ownership	Owners/Acre	Unique property owners based on assessor records; RLIS April 2012.
Lot Coverage	SqFt Covered / Acre	Metro's building footprint database and assessor records; RLIS April 2012.

Source: ECONorthwest.

We were careful not to assess the prevalence of parcelization with too low a threshold. If parcelization is more or less ubiquitous for some jurisdictions or design types, and if some design types in some jurisdictions are performing well, then parcelization, by itself, is not a sufficient condition to prohibit development. We found that some areas in the region score "High" for development challenges under the parcelization metrics, yet are generally considered places of successful development (NW 23rd Ave, and the Pearl District are two examples).

Given that finding, our challenge was to use the case-study analyses in Appendix B describe other conditions contribute to under-performance, how parcelization interacts with those conditions, and what combinations of conditions are likely to make parcelization more or less important.

Section A.2 of Appendix A explains that our analysis is focused on parcels that are currently—or that could become—mixed-use, multi-family, commercial, or industrial development. Single-family residential parcels were largely excluded from the analysis, except in some cases where their zoning designation allows for higher-density redevelopment. We also

excluded public, institutional, and utility uses from the final analysis. Our analysis of the evaluation metrics does not consider these excluded parcels; for the remaining parcels, the metric measurements are comparable across study areas and are normalized by acre.

3.2.1.2 Selection of building types

Metro's *Climate Smart Communities* study defines 16 development typologies and 30 building product types as regionally viable, meaning they are consistent with local and regional goals for density and character. The study team identified 11 building types appropriate for the types of areas this study is investigating. These building types were then the target of the study: is parcelization inhibiting that kind of development (i.e., Are parcel sizes are too small to allow these types of development without land assembly)?

3.2.1.3 Investigation of other obstacles for development

Local developers and representatives of public sector jurisdictions within each of the case study areas were consulted to determine other obstacles to development feasibility within the catalytic sites: general market trends, accessibility (transportation and transit), parking, development fees, and allowed zoning, etc. We considered most line items typically found in a development pro forma that affect overall financial feasibility, especially those items that could vary by location within the region. These obstacles are discussed in Section 3.1 of the report, and are discussed on a case-by-case basis in Appendix B.

3.2.2 SUMMARY OF CASE-STUDY RESULTS

Appendix B provides a full analysis of the ten case-study areas.

For each study area and for one or two catalytic sites within each study area, we assessed several factors contributing to development challenges. For the catalytic sites within study areas, we estimated the extent of parcelization and other development challenges, and made a qualitative assessment of the relative importance of parcelization based on professional judgment, interviews with developers, and feedback from representatives of cities or counties within each of the study areas.

Exhibit 6 summarizes key characteristics for each of the 10 case-studies and 15 catalytic sites. See Appendix B for full summary characteristics.

Exhibit 6: Case-study areas: summary characteristics

Study Area / Catalytic Site	Area (acres)	Parcels (/ acre)	Land Use: Highest % of total acres	Land Use: 2nd Highest % of total acres
Lake Oswego	**194.8**	**2.0**	**SFR**	**Commercial**
Site 1	94.1	1.5	Industrial	Commercial
Mcloughlin	**1,171.5**	**1.1**	**SFR**	**Commercial**
Site 1	98.6	1.3	Commercial	SFR
Site 2	134.9	0.7	Commercial	Industrial
Hillsdale	**695.9**	**1.2**	**SFR**	**Commercial**
Site 1	48.3	2.1	Commercial	MFR
Site 2	38.5	1.6	Commercial	Condo
Gresham	**934.9**	**1.1**	**SFR**	**Commercial**
Site 1	58.7	1.6	SFR	MFR
Site 2	71.5	2.0	Commercial	SFR
SE Corridors	**490.1**	**4.7**	**SFR**	**Commercial**
Site 1	73.2	4.2	Commercial	Industrial
Site 2	73.3	4.9	Commercial	SFR
Beaverton DT	**513.4**	**1.4**	**Commercial**	**Institutional / Public**
Site 1	73.3	2.7	Commercial	Unused / Unoccupied
Beaverton IND	**313.6**	**0.3**	**Industrial**	**Unused / Unoccupied**
Site 1	172.0	0.2	Industrial	Unused / Unoccupied
Tigard	**427.0**	**1.1**	**Institutional / Public**	**Commercial**
Site 1	84.5	1.9	Commercial	Institutional / Public
Tualatin	**634.1**	**0.4**	**Commercial**	**Institutional / Public**
Site 1	143.1	1.1	Institutional / Public	Commercial
Hillsboro	**513.4**	**1.5**	**Institutional / Public**	**Commercial**
Site 1	105.7	1.5	Industrial	Commercial
Site 2	53.9	1.0	SFR	Industrial

Source: ECONorthwest.
Note: Land use designations are based on generalized use codes from the Metro RLIS dataset. Parcels per acre figures exclude single family residential, public, institutional, and utility uses.

Exhibit 7 summarizes the metric measurements (Exhibit 4) for each of the case-study areas and catalytic sites.

Exhibit 7. Quantitative case-study metric measurements of factors that may contribute to development challenges in the case-study areas and catalytic sites

	Parcelization Metrics			Land Availability Metrics			
	Parcel Size	Ownership	Lot Coverage	Vacancy	Brownfield	IMP / LV Ratio	Metro Title 3 Land
	Units of Measurement						
Study Area / Catalytic Site	Parcels / Acre	Owners / Acre	SqFt / Acre	SqFt / Acre	SqFt / Acre	SqFt / Acre Over .75	SqFt / Acre
Lake Oswego	✗	✗	✗	✗	✗	✗	✗
Site 1	○	○	■	✗	✗	■	✗
Mcloughlin	✗	✗	✗	✗	○	✗	○
Site 1	✗	✗	○	○	✗	■	✗
Site 2	○	■	■	○	✗	○	✗
Hillsdale	✗	✗	✗	✗	○	✗	○
Site 1	✗	✗	✗	○	✗	○	○
Site 2	✗	✗	✗	✗	✗	✗	○
Gresham	✗	✗	✗	✗	○	✗	○
Site 1	✗	✗	■	✗	○	■	○
Site 2	✗	✗	■	○	✗	■	○
SE Corridors	✗	✗	✗	✗	■	✗	○
Site 1	○	■	■	○	✗	■	○
Site 2	■	■	■	✗	○	■	○
Beaverton DT	✗	✗	✗	✗	■	✗	✗
Site 1	✗	○	✗	○	✗	■	○
Beaverton IND	○	■	✗	✗	✗	✗	✗
Site 1	■	✗	■	✗	✗	○	○
Tigard	✗	✗	✗	✗	✗	✗	✗
Site 1	✗	✗	■	○	✗	■	✗
Tualatin	○	✗	✗	✗	✗	✗	✗
Site 1	✗	✗	○	■	○	○	■
Hillsboro	✗	✗	✗	○	✗	✗	■
Site 1	■	✗	✗	■	✗	○	○
Site 2	○	○	✗	✗	○	■	✗

Source: ECONorthwest.
Note: The light green circle is positive and indicates "Low development challenges;" the dark red X is negative and indicates "High development challenges;" the blue square falls in-between and indicates "Neutral development challenges."

In Exhibit 7, the case-study metric measurements (highlighted in grey) are measured relative to the entire Portland-Metropolitan area urban growth boundary (UGB), minus exclusions for single -family residential, and public, institutional, or utility uses. The catalytic site metric measurements are measured relative to their respective case-study areas.

Regarding the case-study areas, we find the metrics in Exhibit 7 to be more useful for generating discussion about why they take on the values indicated in Exhibit 7, rather than as an indicator of their ease of development relative to the region. For catalytic sites, however, the metrics

are easier to interpret. For example, for the first case-study area, on parcelization metrics Lake Oswego is more parcelized than the region *on average* (because, the Lake Oswego case-study area includes the downtown with small scale commercial/retail uses). But Site 1 in Lake Oswego is less parcelized relative to the Lake Oswego case-study area average because it includes larger industrial and multi-family residential parcels: more intense uses on larger parcels, resulting in fewer owners per acre. Site 1 is more difficult on every land availability metric (except for IMP / LV Ratio), however, than the average parcel in Lake Oswego. Site 1 is less difficult on every parcelization metric.

Our conclusions about the information in Exhibit 7:

- **All of the case-study areas except Beaverton Industrial exhibit characteristics of parcelization relative to the UGB average.** This result is expected: the case-study areas were chosen, in part, because of documented development challenges, clear local and regional goals for development / redevelopment, and an informal determination that parcelization may be a challenge in each case-study area. In the case of the Beaverton Industrial areas, it is not surprising that the average parcel size is larger than the UGB average since industrial areas are often characterized by larger parcels. Those larger parcels reflect the needs of industrial users, which typically require one-storey buildings and larger areas for parking and maneuvering trucks.
- **Land availability is a potential development obstacle in each case-study area.** Relative to the UGB, all of the case-study areas are more developed: there is less vacant land, per acre, in nine of the areas. Existing structures are more valuable, suggesting greater development intensity in each of the areas. These findings suggest that less land is available, per acre, for development and redevelopment in each case-study area relative to the UGB. Half of the areas have greater than 10% more land that is (at worst) undevelopable or (at best) requires brownfield and floodplain mitigation and remediation relative to the UGB. A lack of vacant land and the presence of brownfields are the most cited causes of high development challenges related to land availability within the catalytic sites, relative to the case-study areas.
- **Characteristics of parcelization are present in nine of ten case-study areas.** The case study areas have greater than 10% more parcels and owners per acre relative to the UGB, except for Beaverton Industrial and Tualatin. Except for SE Corridors and Lake Oswego, the catalytic sites face more parcelization challenges relative to the case-study areas they fall within.

- **Results for sites are varied.** No site was rated as having higher development challenges on all variables; every site had lower development challenges on some variables; many sites were roughly split on positive and negative; and there is no consistent pattern across sites.

Exhibit 8 shows case-study area development obstacles mentioned in interviews with developers and surveys with local stakeholders (denoted by the dark red "X").

Exhibit 8. Case-study area development obstacles mentioned in interviews and surveys

Case Study Area	Parcelization Obstacles		All Other Obstacles							
			Market Conditions		Policy Conditions			Existing Site Conditions		
	Parcel Size / Shape	Owner-ship	Slow Economy	Capitalized / Entrenched Uses	Parking Codes	Zoning / Height Codes	Lack of Place / Identity	Infra-structure	Brown-field	Flood-plain
Lake Oswego Downtown		✖	✖		✖	✖		✖	✖	✖
Mcloughlin Blvd	✖		✖	✖			✖	✖		
Hillsdale	✖	✖	✖		✖	✖	✖	✖		
West Gresham - Rockwood	✖	✖	✖				✖	✖		
Close-in SE PDX Corridors	✖		✖		✖	✖				
Beaverton Downtown	✖	✖	✖	✖				✖		
Beaverton Industrial Area	✖		✖	✖			✖	✖	✖	✖
Tigard Downtown	✖	✖	✖	✖				✖	✖	✖
Tualatin Downtown	✖	✖	✖						✖	✖
Hillsboro Old Town		✖	✖	✖				✖	✖	

Source: ECONorthwest.
Note: The dark red X is negative and indicates that the obstacle was mentioned as a challenge for development in interview and / or survey responses.

Our analysis of Exhibit 8 is categorized by obstacle type: (1) parcelization obstacles; and (2) all other obstacles, described in the next two sub-sections.

Parcelization obstacles

At least one symptom of parcelization was mentioned for every case-study area. Parcels that are narrow and deep, or are wide and shallow, are challenging to develop.[14] These types of parcels impose accessibility issues because parking is difficult—or impossible—to create on the sides or back of the property. For developers, narrow lots make it difficult to achieve adequate returns on investment if zoning codes impose strict height limitations on structures and push floor-area-ratios (and maximum rents) below the development break-even point. Odd parcel shapes, such as

[14] This finding is not surprising, but we did not get to it until after we had done the quantitative analysis with GIS data. In theory, it could have been. One could measure the perimeter of each tax lot and divide that by the tax lot's area to get a measure of "lineal foot square foot of area." The bigger and more square shaped (thus more compact as opposed to elongated), the bigger the measure.

triangles, make it difficult to develop many traditional building product types (e.g., rectangular buildings with a parking lot either in front, along the side, or in back).

Parcel sizes were reported as too small, on average, in all case-study areas except for Beaverton Industrial—in fact, parcels are probably too big and too institutional in this area if the goal is to move away from heavy industrial and encourage less intense industrial and commercial uses. Where parcels were reported as being too small, we find that it would be difficult to develop any building products without land assembly, except for low–to--medium density attached and multi-family residential housing, and small-scale commercial uses. The development-inhibiting effects of small parcel size can be reduced, however, if parcels are under a single ownership.

Property owners respond to unique sets of incentives and may compete against each other. Concentration of individual owners over a small area increase the need for cooperation and agreement, and increases the costs of land assembly: that challenge was reported in seven of the case-study areas. Owners cannot be forced to sell their properties to a developer if they do not wish to accept an offer or a partnership opportunity; they may have no incentive to sell or redevelop. Parcelization increases the possibility that one (or more) holdouts will decline to sell or relinquish some control of their property, eliminating the possibility of land assembly.

Using the *Climate Smart Communities* building types, we further examined the extent parcelization poses an obstacle to development by testing whether average parcel sizes in the case-study areas are too small to allow these types of development without land assembly. We found that case-study area parcels had an average size of between 10,000 and 30,000 square feet, and after setbacks, were too small—absent land assembly—for any of the regionally viable building types except for low – to – medium density attached and mixed-use multi-family housing, and small scale commercial. These building types have a density of roughly 40 dwelling units per acre (for residential uses) and 10 to 24 jobs per acre (for mixed-uses). To the extent that local plans hope to achieve higher densities, either (1) land assembly, and / or (2) relaxed building height and FAR restrictions would be required in each of the case-study areas to achieve more than 50 dwelling units per acre. The only exception was the Beaverton Industrial and Employment study-area, with an average parcel size large enough to fit any of the building types (222,000 square feet). These parcels may face the opposite problem of parcelization: While any of the regionally viable building types could conceivably fit on parcels of this size, a developer interested in a 40,000 square foot redevelopment project, for instance, may

not wish to purchase a site this large – especially if existing conditions may drive up the cost of the project (e.g., as a result of brownfield remediation or demolition).

All other obstacles

Nine other obstacles impacting development in the case-study areas were reported by the developers and local stakeholders. We grouped these obstacles into three categories: market conditions, policy conditions, and existing site conditions.

Market obstacles

The Metro region and the country are facing adverse general market conditions caused by the burst of the housing bubble in 2008. That fact creates development challenges for each of the case-study areas—ones that local governments have no control over. For many of the areas, poor market conditions mean that anticipated investment returns are too low and represent too great a risk for many developers.

For five of the case-study areas, interviewees noted that established uses are making redevelopment more difficult. Owners that have fully capitalized their property and are achieving stable rents will be much more reluctant to incur risk and redevelop, regardless of whether the use is compatible with local (or regional) planning goals. Parcelization exacerbates this issue: the greater the number of properties and owners that must cooperate for land assembly to work, the greater the chance an owner of an established use that is a going concern will hold out and decline to sell.

Policy obstacles

We noted in Chapter 3.1 that local policy can affect many aspects of the cost of development. Zoning, for instance, enables or limits that kind of development that public policy would like to see and that the market can profitably provide. Developers noted that existing policy is imposing constraints on development within a few of the case-study areas. Minimum parking ratios and zoning codes that specify maximum height requirements prove critical for development feasibility, and developers pointed out that in some cases the allowed intensity was too low for development to work.

In areas where density has already been achieved, such as the SE Corridors and Lake Oswego downtown, minimum parking ratios—which specify a minimum number parking stalls per unit—make high-intensity residential or mixed-use projects more difficult or unfeasible because of the high construction costs of structured parking. Parking standards have been

reduced for some projects within the SE Corridors area recently, and developers have responded positively, but neighborhood opposition has complicated the approval process. Loosening standards may not produce the same results elsewhere: while residents of the inner SE Portland area have shown a willingness (and even desire) to live without a parking stall, this demand is unproven in other parts of the Portland area.

Limits to allowable building heights were also suggested as critical impediments to development in three of the case-study areas. Height limitations reduce the maximum rent that can be charged to tenants, and in some areas achievable rents are not high enough to offset the costs of a two- or three-story structure, but would be enough if the building were five stories. Policy can reduce this impediment, but may be limited by neighborhood opposition, or historical standards that specify comparable characteristics within corridors or neighborhoods.

A lack of a sense of place or clear identity, and in some cases a lack of vision, was also cited as a development constraint in a handful of the areas. A vision, such as stated planning or development goals, signals to local stakeholders and potential investors what the area should become and how it should look. A cohesive vision can present policy changes that eliminate development challenges (e.g., to zoning codes, mentioned above). An identity is less tangible, but it may include a sense of "place" that drives demand in an area—for restaurants, nightlife, housing, etc. Place can be cultivated through streetscape improvements, transportation infrastructure enhancements, or area beautification. Sometimes identity may be simply cultivated by a single successful restaurant, which catalyzes demand for other uses. If an area can show it can generate auto and pedestrian traffic, development will follow.

Site obstacles

Site preparation and existing conditions affect the supply of land physically available or financially feasible for development.

Section 3.1 noted that some infrastructure is essential to development (water, sewerage, roads) and potentially very expensive, while other infrastructure is less essential but may still influence overall development feasibility (e.g., structured parking, off-site public amenities). Six of the case-study areas were described as lacking infrastructure necessary to develop building products desired by local and regional plans. In Hillsdale, for instance, developers noted that sewer pipe diameters are too small to support buildings greater than three stories: the cost and time it would take to remedy this obstacle with appropriate infrastructure improvements may prove too high for many developers. Optimally, zoning codes and existing

infrastructure cooperate so that parcels can be developed to their highest and best use, given existing demand.

Targeted infrastructure investments, such as roundabouts, may also be used to improve traffic flow and enhance walkability; they may not be critical for development, but they may enhance a sense of place and drive demand for future development. The interviews suggested that a lack of this type of investment in many areas is constraining development. In Gresham-Rockwood, for instance, relatively wide streets with infrequent crossing opportunities provide few opportunities for dense pedestrian-friendly development.

Brownfields and floodplains increase site preparation and remediation costs and may constrain the amount of developable land. Roughly half of case-study areas face development constraints related to brownfields and floodplains. The costs associated with mitigating these constraints can be unpredictable, but are often critical to overall development feasibility.

3.3 CONCLUSIONS REGARDING THE IMPACTS OF PARCELIZATION ON DEVELOPMENT IN CENTERS

Our first set of conclusions is about the limitations of drawing conclusions:

- **The data are require interpretation, and interpretations will differ.** People with different experiences and interests will view the problems differently. If one is looking to prove parcelization is a problem, this report provides evidence to support that conclusion. If one wants to argue that parcelization is a small part of the overall problem of getting high-quality infill and redevelopment in the right spots around the Portland region, this report provides evidence to support that conclusion.
- **To explain, much less justify, any interpretation requires clarity about definitions and assumptions.** This report devotes considerable space to both definitions and assumptions because they are critical to any productive discussion about the results of this report and the implications for policy related to parcelization. There are many ways one could try to measure on both parcelization and its impacts on development. This report chooses a few and explains the reasons for and limitations of those choices. Exhibit 7, for example, would be easy to misinterpret if one did not read the accompanying text that explains the measurements it summarizes.

- **There is substantial variability across sites, which means generalizations are more likely to be inaccurate in specific cases.**

Those limitations notwithstanding, the data have no practical application without interpretation and generalization, and it is common and reasonable for those who have assembled and evaluated the data to make a first attempt at that interpretation. That is what we do here, noting that these are the conclusions of ECONorthwest and that the data may support other conclusions—complementary or even competing ones—as well:

- **Parcelization is just one of many obstacles for development for sites in the case-study areas**. All the evidence (Exhibits 1, 7, and 8; the developer interviews) supports this conclusion.
- **Parcelization is probably not the most important obstacle in most cases**. Many of the other obstacles may prove "fatal" to development feasibility prior to and independent of parcelization. Many of the critical **demand-side variables** (e.g., the national economy, interest rates) cannot be changed by local land-use policy. Local policies aimed at stimulating economic development may have some success and thus some effect on the demand for built space in centers, but the marginal effect is small. Similarly, local programs that put more income into the hands of purchasers or renters of built space have a very small impact on overall market demand. In contrast, effects on **supply-side variables** (costs) can be large if one considers the costs of land and infrastructure. But that supports the point: issues related to zoning and entitlements, and to the quality and cost of infrastructure, will in many cases be much more important than parcelization.
- **Parcelization is not necessarily fatal to the kind of development the region hopes to achieve in centers**. Exhibit 9 shows parcelization measurements for five areas in the Portland region that are generally considered examples of successful "center-oriented" development. The measurements indicate that relative to all land in the UGB, these areas have high parcelization: high concentrations of parcels and owners per acre.

Exhibit 9. Parcelization measurements for areas of with successful development

	Parcelization Metrics	
	Parcel Size	Ownership
Sample Area	Parcels / Acre	Owners / Acre
N Mississippi	✖	✖
Pearl District	✖	✖
NW 23rd / 21st Ave	✖	✖
SE Division	✖	✖
Orenco Station	■	■

Source: ECONorthwest.

The Mississippi area between N Freemont Street and N Prescott Street, and SE Division between SE 20th Avenue and SE 50th Avenue both have roughly 10 times more parcels per acre than the UGB on average, and 15 times more owners per acre.[15] The 21st / 23rd Avenue commercial district has over six times more parcels and nine times more owners per acre relative to the UGB average. Only the Orenco Station development near Hillsboro has parcel and owner density consistent to the UGB. Regardless of these densities (and perhaps even because of them), these areas have continued to perform well during the economic downturn beginning in 2008.

The fact that we can show areas with high levels of parcelization that are also successful is not surprising: all regions have centers and subcenters (pockets of density that are highly parcelized but that work). But it does, nonetheless, illustrate that parcelization and center-like development are not incompatible.

We acknowledge that the causal link between successful, dense centers and parcelization is not definitive. One can see a high correlation between successful centers and parcelization, but what came first? It is possible that successful centers were developed on bigger lots that were available and then got parcelized as part of the development process. That situation may be different from the one today: trying to create or recreate a center in an area that is already highly parcelized.

- **The problems of parcelization increase as parcels get smaller or more oddly shaped** (e.g., narrow and deep, wide and shallow). These types of parcels have issues of accessibility because parking is

[15] This analysis excludes single family residences and condominiums, and public, utility, and institutional uses.

difficult to create on the sides or back of the property. Making them work requires land assembly. If they are very small and have multiple owners, land assembly will be harder.

- **Parcelization can be a critical problem in some instances.** This report has shown the many things that can affect a developer's return on investment. In most cases, developers deal with all or most of them simultaneously. It is more likely that the demand side will be an early concern: if the market demand is too thin to generate a rate of return under even optimistic preliminary assumptions about costs (land, permitting, infrastructure, design and construction), then there is little need to worry about parcelization and land assembly. If the focus is, however, on a specific site (as it has been in this report), then parcelization is among the top considerations on the cost side: is the parcel and ownership pattern such that assembling the land is like to take too long and cost too much to make the project feasible? A few of the case-study sites appear to approach those conditions.

Our summary conclusions regarding parcelization and public policy are that:

- **Parcelization, to the extent it is a development problem, is not one best addressed primarily at the regional level.** The extent to which parcelization is a problem, and the best way to deal with that problem, depends on the specific site, or at least on the neighborhood. That makes it an issue, if it is to be addressed at all, for local governments. There is no need for regional enabling legislation. One might make the case for regional funding to meet regional goals, but most of the development benefits are more local in nature, and are spread around local jurisdictions. Metro's regional contribution to solving any problems of parcelization may be largely completed by producing this report so that all local governments have better information about whether they should and will take actions with respect to parcelization, and what those actions will be.
- **For local governments, the best advice may be to understand that parcelization can be a problem, evaluate the extent of the problem on sites that the local government wants to see develop soon and in a specific way, and decide what level of public effort to put into either reducing parcelization or offsetting the costs it creates.** For most local governments, parcelization is not an urgent problem that needs immediate action. For a few areas and sites, however, it may be.

Chapter 4 Potential Policy Responses

Chapter Summary. To the extent to which parcelization is a problem for the kind of development regional and local plans hope to see in urban areas, how might public policy reduce the problem? At a minimum public policy could reduce the ability for even *more* parcelization to occur in those areas. Public policy could also try to reverse parcelization that has already occurred: it could "assemble land." This chapter discusses several techniques for land assembly in two categories: those that ultimately result in a site with parcels under a single ownership, and those that result in multiple ownerships but with owners working toward common development goals.

A problem for economic development relates to land for larger-scale development: large projects need more land. If larger sites are not available because of parcelization, they have to be assembled from smaller parcels.

Chapter 2 and 3 of this report discussed a range of obstacles to development of larger projects, one of which was parcelization. This chapter looks just at the potential problem of parcelization and looks at policies the public sector (primarily local governments with land-use authority: cities and counties) might take to reduce that problem. In particular, it focuses on *land assembly*, which is a rewind of the parcelization process: if parcels are now so small and so many that they are obstacles to desired types of development, then the parcels need to be consolidated (assembled) into a larger parcel.

The fundamental issue is not the size of the parcels per se. It is that small parcels suggest more owners per acre, and multiple ownership is an obstacle to development. The problem of too many owners may be a problem now, or it may become one in the future if parcelization continues. Thus, we group all public policies that might ameliorate the problems of parcelization into one of three categories:

4. Reduce the ability for even more parcelization to occur in areas where regional and local plans want larger-scale development.
5. Reduce the parcelization that has already occurred by assembling land (reconsolidating small parcels and multiple ownerships into fewer ownerships) .[16]
6. Reduce the problems that parcelization creates for development.

[16] The analysis draws on work ECONorthwest managed in 2011 for Oklahoma City and published in 2012 as Appendix E of the City's Employment and Industrial Land Analysis. Larry Pederson of IronWolf did the initial draft of that analysis and was lead author. ECONorthwest grateful acknowledges that work.

Appendix C discusses all three categories, but focuses on the second.

4.1 POLICIES TO REDUCE *NEW* PARCELIZATION

Trying to assemble land later after it has been parcelized may be harder than reducing additional parcelization now. In concept, the public policies to do that are in the local comprehensive plan and implementing zoning. If a jurisdiction wants less parcelization, it increases the minimum allowable parcel size.

The dilemma for this category of policies is that the direction of Metro and local government policy for 20 years has been to encourage density, which usually (but not always) is achieved or at least accompanied by the creation of more and smaller parcels. On the one hand, it supports greater density, which probably increases (though not always) smaller parcels (parcelization). On the other hand, it wants redevelopment and integrated mixed-use development that creates functional and walkable commercial districts in designated centers, which is hindered if parcels are small and many. General and broadly applied policies to reduce future parcelization may have the countervailing and undesired effect of making densification that is desired more difficult. A city may want a zone to work one way in general and in most parts of the city, but it may want to adjust the allowances and requirements in one or two specific subareas.

The recommendation here is that local governments deal with the issue at the neighborhood / sub-area level when they develop specific-area plans. In locations where significant or different development or redevelopment is desired, local governments should review their plan and zone designations to make a judgment about whether they are getting parcelization they want, or parcelization they do not want. In other words, even before going to the effort of assembling land, a jurisdiction can address the question of whether it wants to reduce the rate at which it is being parcelized, or the increase the ultimate minimum lot size.

4.2 POLICIES TO REDUCE *EXISTING* PARCELIZATION (LAND ASSEMBLY)

Our analysis of land assembly policies divides them into two broad categories: those that assemble land under (1) a **single ownership** (which ultimately requires purchasing the land from prior owners and eliminating them from the subsequent development process, or (2) **multiple ownerships**, which may or may not include purchase but may also include

legal arrangements that allow a developer to make decisions efficiently even though there is multiple ownership (corporations are a good example: multiple owners [shareholders] but clear executive authority to make operational decisions).

4.2.1 BARRIERS TO LAND ASSEMBLY

Assembling multiple parcels into a site suitable for development can be a difficult task. Among the difficulties:

- Property owners may be unwilling to sell (for many reasons: price, tax impact, replacement costs, viable alternative locations)
- Land is expensive, and owners may have an inflated expectation about its value
- Just *one owner* in a larger site assembly has the power to stop a deal that all others support
- After assembly the properties may be too small, fragmented, or oddly shaped to adequately site desire development
- Local politics and neighborhood might make a certain development type unfeasible, regardless of property conditions
- In the case of outright purchase by a county, a city, or another public entity the carrying cost of major land holdings for future development could be significant
- Ownership interests are fractured (often true in family inheritance situations); this issue often is combined with absentee ownership, so that owners don't really have a "stake" in the transaction and its potential development/economic impact on the community
- The regulatory environment (zoning, environmental overlays, mandated parcel size) adds to costs, and all the benefits of the regulations may not accrue to property owners and developers
- Infrastructure demands caused by land assembly, and the commensurate ability to finance necessary improvements, often create barriers
- Legal issues, including clear title, easements, and encumbrances, are obstacles
- Existing development or structures on site or on neighboring parcels is especially a problem when a property owner has a fully capitalized stake in his or her property and is realizing a perpetual positive cash flow from tenants – in this case there is little incentive

to risk this cash flow for perhaps a slightly higher return from redeveloping.

Given the difficulties these problems may present in assembling a larger development site from smaller parcels, one can see why fragmented ownership may be a "deal-killer" for developers who do not have the time, patience, or expertise to wade through a possible quagmire of issues.

4.2.2 LAND ASSEMBLY UNDER A SINGLE OWNERSHIP

There are several ways that the public sector can assist assemble land under a single ownership:

- **Outright purchase by public sector**. The strongest control of property is outright ownership. If a public entity acquires that ownership, it has the ability to set requirements on how it will develop. The purchase can occur between the public agency (e.g., a city, county, or urban renewal district) and a willing private seller. In rare cases related to an overriding public good (unlikely to be applicable to the situations addressed in this report), public agencies have used the power of eminent domain to force the sale of a property to the agencies.
- **Donation or grant to public sector**. Property owners may be motivated to donate land for tax reasons, designation for specific use or purpose (perhaps strictly for the public good, or perhaps to enhance the value of adjacent land not donated), or a family or personal memorial. The small initial cost can sometimes be offset by significant ongoing costs for maintenance and upkeep on donated properties. Observing the wishes of the grantor can narrow the range of alternative uses.
- **Outright purchase by a foundation**. Foundations can acquire and hold land as a part of their investment portfolios. The land in question would need either (1) to serve a mission of the foundation (e.g., conservation, public housing); or (2) to be a productive asset expected to provide a financial return that could be used to fund the foundation's programs. A foundation created specifically for economic development purposes would have more latitude for the types and timing of property development.
- **Purchase options.** Short of buying the land, a public agency or foundation can purchase the "option" to buy the property at some later date at some agreed upon price. Option agreements are commonly used by conservation land trusts. An option price is small relative to the total value of the land. It "ties up" the land for some

fixed period. Options for a shorter term (0-3 months, depending on the strength of the market and regional conditions) frequently are done with little or no "hard money" (i.e., the prospective buyer does not pay anything for the short term). The prospective buyer can then activate an extension beyond that short term in return for a specified payment to the seller. Agreements between public and private entities, however, usually require options for a period of 12-18 months or longer (with extension allowances) for one to two percent of the agreed upon land price, particularly for larger sites. The buyer typically uses this time to conduct due diligence on environmental and development issues that they then can compare with alternative locations.

In the context of land assembly, the public sector could use the option process to assemble parcels from multiple ownerships to support the requirements of a particular future type and size of development. The options keep property off the market as infrastructure is provided to prevent possible development of competing (and inconsistent) uses. The public sector could consider using a third party in the optioning process, since frequent public sector interest in properties can drive prices upward in excess of true market values. It is not unusual for property options to be negotiated confidentially with the identity of the prospective purchaser not disclosed.

- **Acquisition of surplus state or county land**. This option is obviously not available in all situations—it applies only in special cases. It can occur when surplus land is created through infrastructure improvements, such as airport or road projects that create remnants that are not used for the actual project. Less frequently, land or buildings that become surplus can be granted or sold to the local jurisdiction by other entities (e.g., school districts, state agencies, public utilities) when they no longer serve their intended purpose.

4.2.3 LAND ASSEMBLY AMONG MULTIPLE OWNERS

There are several ways that the public sector can assist in assembling land where benefits and risk associated with the final assembled site are shared among multiple owners, usually a mix of public and private entities:

- **Cooperative land bank**. In cities and counties where abandoned or deserted properties are a problem, governments take such properties

over and place them in a land bank.[17] In most cases the public sector (or its agent, like an urban renewal agency) gains control over a parcel or parcels and then joins with for-profit or non-profit organizations who control additional parcels to reach a critical mass for development or redevelopment. This form of property control may require public entities to purchase parcels outright; in the case of abandoned properties the jurisdictions with taxing power could take them over in lieu of unpaid taxes.

- **Public/private partnership**. Broadly, public-private partnership (PPP) refers to any development project in which both sectors have a significant stake and role in the development. Every development project, of course, has some public sector participation (typically in planning, permitting, inspection, and provision of infrastructure)—that standard level of involvement is not considered a PPP. Typically, a PPP means that there are specific financial, operational, and managerial obligations and authorities specified in a binding agreement among (perhaps multiple) private and public sector entities. Metro's 2010 Community Investment Strategy repeatedly emphasizes the need for innovative and effective public-private partnerships. The Community Investment Initiative, and much of the work on brownfields in the region by Metro and others, are public-private partnerships.
- **Limited Liability Corporation (LLC) formed with public and private sector property owners as pro-rata share holders**. Public agencies could join with private landowners to form an LLC for a parcel or collection of parcels to make them development-ready. The public sector's contribution could be investment in infrastructure, with the private owners contributing their land. Ownership of the LLC would then be on a pro-rata basis in proportion to the value of the contribution. The public entities can be specific about the type(s) of enterprises and industries targeted for that area consistent with investment and employment goals. The creation of an LLC would be a more formalized form of public-private partnership through the formation of a legal entity.
- **Horizontal development entity**. Most land assembly is achieved when one party purchases the holdings of others to create a larger land parcel for development. An alternative that enables multiple

[17] Examples include the Cuyahoga Land Bank in Cleveland, OH (http://www.cuyahogalandbank.org/assembly.php), the Genesee County Land Bank (Flint, MI; http://www.thelandbank.org/default.asp); and the Fulton County Land Bank in Atlanta, GA (http://www.fccalandbank.org/index.htm).

property owners to benefit from larger scale redevelopment is a horizontal development entity (e.g., LLC for development). Individual property owners who control contiguous parcels may conclude they have more to gain by voluntarily assigning their land interest to a legal entity to better capture new, larger-scale development than they otherwise would be able to do if they acted only on their individual land holdings. Property owners can assemble larger parcels by agreeing to convert the value of their individual holdings into shares of a larger property holding entity. In this way each owner benefits from development over time regardless of where on the newly created assembled site the development occurs. A recent example is the central district of South Waterfront where a public university and private property owner formed a collective entity to prepare about 33 acres for more intensive mixed use development.

4.2.4 BEST PRACTICES IN LAND ASSEMBLY MANAGEMENT

Appendix C gives more details about the sources reviewed to create this summary of best practices. These reports, combined with the experience of ECONorthwest, suggests that "best practices" would use:

- **Narrow, well-defined goals.** These goals will clarify the function and responsibility of public entities and departments for land assembly, the role the private sector will play, and how risk will be shared across all cooperating parties.
- **Citywide coordination and cooperation between internal and external partners.** That means coordination across departments, jurisdictions, and agencies (public-public), and with the private sector (public-private).
- **Legal structures that provide some measure of independence from local government.** Independent legal entities (e.g., and economic development authority or urban renewal district) will have more control and flexibility to pursue more narrow land assembly objectives.
- **A robust parcel management information system.** A database such as Metro's RLIS parcel taxlot file can help to quickly identify parcel characteristics and boundaries.
- **Integration of land assembly and banking with a long-term strategic visioning.**
- **Limited or streamlined processes for eminent domain and judicial foreclosure.** Because these tools are unpopular with both citizens

and elected officials, best practice is probably to not use these tools unless there is a very strong public purpose.

- **Flexible, diverse funding sources for any entity created for managing and redeveloping assembled parcels.**

Most of those recommendations are noted in the literature and are general and common sense. To go deeper, we interviewed developers with experience with land assembly about both issues and best-practices for resolving them (from a private sector developer perspective):

- **Streamline the process.** Institutional lenders can lose patience while waiting for developers to negotiate purchase agreements with property owners. The longer it takes it assemble a site, the riskier the deal becomes: one or more owners are more likely to hold onto full interest in their property, and developer staff costs accumulate. A solution for developers, of course, is to have the public sector do some, most, or all of the work. For example, urban renewal districts often assemble land and then offer sites for development.
- **Align terms when closing multiple parcels for assembly.** All parcels should be closed as close together as possible. Developers should not and probably will not spend time and money on design and due diligence unless they are sure all targeted parcels will close. Any parcel left open for continued negotiation is a liability.
- **Keep it simpler.** Simplicity means assembling as few parcels as possible, and dealing with as few owners as possible. Partnership arrangements, such as horizontal development entities, can become complex as multiple owners have different interests, incentives, and visions for the development.
- **Take full control of parcels for assembly.** Before the real estate market recession began in 2008, equity requirements for borrowers were roughly 10% to 15% of the total development cost. A developer could form a partnership with a landowner who would put the value of his land into the deal for a stake in the final development outcome. The developer would not have to raise much more money to reach the 10% to 15% equity requirement. Today, lenders require roughly 30% to 35% equity, and the land value is a smaller percentage of the requirement. It is probably easier and less risky in most cases to gain full control of parcels from the outset and not form partnership arrangements. Institutional lenders are more willing to lend to a developer who can show the ability to gain full control of all final assembled parcels.

- **Be careful about entering into master planning arrangements.** Master planning can, for instance, obligate a developer to start a new project every other year. This can be risky if the market for new residential or mixed-use development softens. Portland's South Waterfront, which is subject to a master plan, has seen some luxury condominium towers turn into apartments after the real estate market recession began in 2008.
- **Expect landowners to negotiate a price well above the appraised amount.** Since 2008, property values have diminished and appraisers (with directives from lenders) have been conservative in their valuations. There is now a large gap between what properties are appraised for and the property owner's asking price. In partnership arrangements, this means that land contributions from existing owners are worth less, and more equity is required to secure lending.
- **Consider other ways to assemble land besides initial outright purchase.** Full parcel acquisition can be an expensive proposition for both private and public entities in their effort to assemble viable developable sites. A less expensive alternative involves optioning land (described above in section 4.2.2): *purchasing an option* to buy the property at some later date at some agreed upon price. Options can provide a development entity site control for a long enough period to develop a concept for a site and enhance its chances to succeed while reducing financial exposure at the front end. The Portland Development Commission employed an options approach when assembling land for the Burnside Bridgehead project. Another alternative is a *land swap* for another parcel, usually one already owned by the public or private entity wanting to make the acquisition. Land swaps involve securing agreement between the swapping parties on many aspects particularly the value of the parcels involved

4.3 POLICIES TO REDUCE PROBLEMS *CAUSED* BY PARCELIZATION

If local jurisdictions do not take steps to reduce the *amount* of parcelization by any of the methods described in Sections 4.1 and 4.2 above, can they do anything to reduce the obstacle that parcelization poses for the kind of development desired in urban centers?

Broadly, of course, cities have dozens of policies that they can bring into play to encourage certain types of development by reducing the costs of

that development. Ultimately, the developer perspective must get to a bottom line about return on investment. Anything that a local government can do to increase the amount or reduce the uncertainty of revenue (e.g., helping secure federal assistance for low-income renters of buyers of housing products; pre-leasing space for government operations) or reduce the amount or risk to costs (e.g., expedited permitting, including public involvement; reduced development requirements or fees; provision or cost sharing of need infrastructure and amenity; tax exemptions) will make development more attractive.[18] The better the financial pro-forma looks, the more room a developer has to incur the costs of negotiating with multiple owners to find an arrangement that allows a site of multiple parcels to get clear for development.

This appendix does not address everything on the long list of things a local government can do to increase demand or reduce costs for developers. Rather, it focuses on a few policies related directly to costs that parcelization creates. Such policies are hard to separate from policies aimed at land assembly (Section 4.2).

Land assembly can be costly—in terms of time and dollars—and may prove too costly for some development proposals. For example, to assemble the public storage parcel that would become Elizabeth Caruthers Park in Portland's South Waterfront developers negotiated a purchase agreement over a period of almost two years at a cost above the appraised amount. If a developer concludes that parcelized ownership makes the cost of creating a developable site to high relative to anticipated return on investment, and if local governments do not take actions to substantially reduce those specific costs, **what public policies can help make small parcels work for development in the absence of land assembly?**

- **Reduce parking requirements.** Surface parking takes up valuable land area on small parcels. On small parcels and for certain types of development, it may be impossible to provide the on-site parking required by codes without building structured parking. A parking space in a parking structure costs, on average, five to ten times more than a surface space. The difference can easily add 10 percent or more to the full cost of a residential, retail, or office development project, which is enough to eliminate a developer's typical fee.

  Reducing the number of parking spaces required per residential unit or per commercial square foot basis reduces the cost of development.

[18] Section 2.1.4 discusses all the factors that can affect a developer's revenues, costs, and return on investment.

Such reductions are especially helpful if they eliminate the need for structured parking.

Such reductions are also consistent with regional and many local plans that want to emphasize mixed-use and walkable development, and the ability to reduce trips by automobile (and, thus, reduce congestion and air emissions).

But those benefits are not without costs. The loosening of parking standards may be a point of indifference to one- and two-person households that are mainly renters, may have one car or none, and looking for affordable rents in close-in neighborhoods that allow transportation by non-auto modes of travel. But homeowners in those same neighborhoods may oppose the reduced parking based on the belief that some of the occupants will still have cars and will now be competing for already limited parking spaces on streets. A proposed four-story apartment building at SE Division and SE 37th Ave is being opposed by local residents for this reason.

- **Relax building restrictions.** Developers can only exact rent from usable building square footage. There are many fixed costs to development that may not increase at all or at the same rate as the size of the development (for example, permitting, design, on- and off-site requirements for infrastructure and amenity). That means that the price per unit or square foot can decrease with scale. That can be true for the construction costs as well. Once a developer is into a multi-story building, he may want to go to the maximum density possible before new levels of costs are incurred (e.g., structural issues that require a shift from wood to steel).

  Building height restrictions reduce the amount of usable building square footage a developer can build, and the square footage lost probably costs less on average than the square footage allowed. By relaxing building height restrictions in the zoning code, local governments may allow developers to improve their return on investment without changing the size of their parcel or building footprint.

  As with parking, taller buildings may be controversial in some neighborhoods. Historically an underlying (if unstated) function of zoning has been to protect single-family neighborhoods. Existing residents may worry about block viewed, reduced sunlight, parking, congestion, "incompatible" neighbors, and more.

  Similarly, reduced setbacks and landscaping requirements can increase slightly the amount of leasable space on a given parcel, and

reduce some cost, but with the potential effect of being less acceptable to surrounding residents and businesses.

- **Provide off-site the amenities that small parcels cannot provide on-site.** People are buying or renting a building because it delivers a bundle of services: shelter, of course, but also access to good and many employment opportunities, parks, schools, restaurants, and more. As private space gets compressed on smaller parcels (smaller units, smaller yards) they can hold or increase their value if the are surrounded by substitutes (e.g., restaurants, gyms, parks, transit).

These solutions reduce the problems caused by parcelization by making it less costly for developers to use small parcels, or by increasing the returns they can get on a given investment because of increasing value of surrounding amenity.

Appendices

Supporting this report are the following appendices, available from Metro :

Appendix A: Methods

This appendix describes the methods used to select case study areas, catalytic sites within these areas, and how the extent parcelization poses challenges to development was assessed.

Appendix B: Case study analysis

For each study area, we present a description of physical characteristics and an assessment of factors contributing to development challenges. For the catalytic sites within study areas, we estimate: (1) the extent of parcelization, (2) the extent of development challenges, (3) the extent to which we can attribute the development challenges to parcelization (relative to other causes).

Appendix C: Policy options for addressing parcelization

This appendix focuses on land assembly as the main policy option for addressing *existing* parcelization. It discusses barriers and opportunities for land assembly, including potential policy responses and best practices public sector entities can and have used to limit the development challenges related to parcelization. This appendix also briefly discusses other policies to avoid *new* parcelization and to reduce problems *caused* by parcelization.