

ECONorthwest applied the methods described in Appendix A to get the results summarized in this appendix. For each study area, this appendix presents 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). The analysis provided in this appendix relies on professional judgment, interviews with developers, and feedback from representatives of cities or counties within each of the study areas.

We used three methods for evaluating the contribution of parcelization to development problems at each of the study areas and catalytic sites, described briefly here and in detail in Section A.4 of Appendix A:

- **GIS evaluation of site characteristics.** For each characteristic, we estimated its overall contribution to case-study development challenges.
- **Evaluation of building types.** We used example building product types to test whether characteristics of parcelization (small parcels, many owners) are inhibiting development.
- **Investigation of other obstacles to development.** We considered anything normally listed in a development pro forma that affects overall financial feasibility.

Following a summary of our methods, case studies are discussed as follows:

- **B.1: Lake Oswego Downtown**
- **B.2: McLoughlin Blvd**
- **B.3: Hillsdale**
- **B.4: West Gresham / Rockwood**
- **B.5: Close-in SE Corridors**
- **B.6: Beaverton Downtown**
- **B.7: Beaverton Industrial / Employment Area**
- **B.8: Tigard Downtown**
- **B.9: Tualatin Downtown**
- **B.10: Hillsboro Old Town**

METHODS

GIS EVALUATION OF SITE CHARACTERISTICS

For each of the catalytic sites, we quantitatively assessed development challenges using a set of evaluation metrics. In some cases, we recognize that a greater metric value indicates a lower contribution to development challenges; in other cases, a greater metric value indicates a higher contribution to development challenges, and vice versa. Figure B1 explains the evaluation threshold we used to determine each metric’s contribution to development challenges. It also assigns a symbol to each threshold; these symbols are consistent across all case study analyses in this appendix.

Figure B1. Evaluation threshold description for determining quantitative metric contribution to development challenges

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

Source: ECONorthwest.

Figure B1 indicates that the metrics are evaluated relative to the study area average: a value 10% above or below the study area average moves the contribution to development challenges from “Low” to “Neutral” or “High” depending on the specific metric (e.g., if Catalytic Site X has a metric value greater than 10% above the per acre average for the study area it belongs to, and a higher prevalence of this metric is desirable to developers, this characteristic is designated as posing a “Low” challenge to development for that catalytic site *relative* to its study area).¹ The symbols are consistent across all study areas: the circle indicates “Low,” the square “Neutral,” and the X “High” challenges to development.

Figure B2 below contains – for each quantitative metric – a description, its units of measurement, data source, and measurement type (for a full description of each evaluation metric and a rationale for inclusion in this report, see Section A.4 of Appendix A). For every metric, except for Vacancy, we define a greater metric value as indication of a higher contribution to development challenges.

¹¹ The study area averages for each of the characteristics excludes single family residential, condominium, public, institutional, and utility land uses.

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

- The **metrics of land availability** signal whether development is inhibited due to a lack of buildable land for reasons of: lack of vacancy or underutilization; presence of known brownfields that require costly cleanup and remediation of contamination; presence of high-value structures (relative to land value); and in an area impacted by potential flood and landslide hazards.²
- The **metrics of parcelization** indicate the presence of parcelization: (1) small average parcel sizes and many unique owners per acre, and (2) presence of density through lot coverage, indicating greater contribution to development challenges through higher land prices, more parking constraints, and greater need to assemble parcels for development.

Figure B2. 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 for identifying under-performing development. In fact we determined 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 to try to describe what other conditions contribute to under

² The area impacted by flood and landslide hazards is designated as Title 3 Land by Metro. Title 3 Land is protected by Metro’s Stream and Floodplain Protection Plan, which aims to identify areas at risk for flood and landslide hazards.

performance, how parcelization interacts with those conditions, and what combinations of conditions are likely to make parcelization more or less important.

SELECTION OF BUILDING TYPES

Metro’s *Climate Smart Communities* study has defined 16 development typologies and 30 building product types as regionally viable, meaning they are consistent with regional goals for density and character. We selected 19 building types that were consistent with the development typologies identified in the study areas, and used them to test whether characteristics of parcelization are inhibiting their development (i.e., if parcel sizes are too small to accept these types of development without land assembly).

Figure B3 below is a matrix the project team used to conduct the quantitative assessment of building types. It contains a description of each of the 19 retained building types. The case study analyses found in this appendix refer to building types by the letter found in the “Code” column shown in Figure B3. This matrix allowed us to quickly eliminate incompatible or unfeasible building types (e.g., a building that requires an average lot size of 20,000 square feet cannot be built in areas where lots are less than 10,000 square feet). This process, described fully in Section A.4 of Appendix A, allowed us to focus on building types appropriate for every study area.³

Figure B3. Retained building type matrix.

Code	Description	Dwelling Units/Acre	Jobs/Acre	Lot Size (sqft)	Height (stories)	FAR
C	Attached Houses, Medium Density	29	N/A	10,000	3	1.13
D	Attached Houses, High Density	37	N/A	10,000	3	1.02
E	Plexes	35	N/A	5,000	2	0.80
E1	MFR Moderate Density	49	N/A	20,000	3	1.06
E2	MFR Medium Density	70	N/A	43,560	4	1.32
E3	MFR High Density, Small Units	313	N/A	15,000	6	4.67
E4	MFR High Density, Large Units	154	N/A	15,000	6	3.93
F	Corridor Apartments	64	N/A	20,000	4	1.34
H	Neighborhood Mixed-Use	89	24	10,000	4	4.00
H1	Suburban MUR, Low Density	32	9	10,000	3	1.08
H2	Suburban MUR, Medium Density	88	40	39,200	4	3.40
H3	Suburban MUR, High Density	106	46	43,560	5	4.25
I	Mid-Rise Mixed-Use, Small Units	166	21	40,000	6	3.52
I1	Mod-Rise Mixed-Use, Small Units	399	109	40,000	12	8.51
J	Mid-Rise Mixed-Use, Large Units	112	15	40,000	6	4.29
L1	Low Rise Office	N/A	96	40,000	5	0.83
L4	Main Street Commercial	N/A	124	5,000	2	1.90
L7	Business Park / Campus Industrial	N/A	11	150,000	1	0.32
M1	Light Industrial	N/A	14	100,000	1	0.33

³ Note that the selected sites and building types are intended to be illustrative. There is no assertion on behalf of the project team – or Metro – that these individual sites should be or will be developed as illustrated. The intent is to use these sites to draw general conclusions about the extent of parcelization in each study area.

INVESTIGATION OF OTHER OBSTACLES TO DEVELOPMENT

We considered the effects other difficult-to-measure factors impose on development feasibility including general market trends, accessibility (transportation and transit), parking, development fees, zoning codes, etc. We considered anything normally listed in a development pro forma that affects overall financial feasibility. Exhibit 1 in the main report displays a model of all these factors that contribute to the price of built space. Chapter 3 of the main report describes which of these factors can potentially be (1) significant *obstacles* to development, and (2) influenced by public policy.

Local developers and representatives of cities or counties within each of the case study areas were consulted to determine the magnitude each of these factors plays as an obstacle for development feasibility relative to the obstacle of parcelization (see below). We also investigated these obstacles based on our experience in real estate economics, and a review of the professional literature.

We gratefully acknowledge the assistance of city and county staff who helped us to better understand the effects of parcelization within their jurisdictions: Jane Blackstone, Denny Egner, Sidaro Sin (Lake Oswego); Catherine Comer, Dan Chandler (McLoughlin - Clackamas County); Jay Sugnet (Hillsdale - Portland); Stacy Humphrey (Gresham); Matt Wickstrom (SE Corridors - Portland); Tyler Ryerson, Don Mazziotti (Beaverton Downtown and Industrial / Employment Area); Judith Gray, Sean Farrelly (Tigard); Ben Bryant, Will Harper (Tualatin); Alwin Turiel (Hillsboro).

We also acknowledge assistance provided by several experts on development in the Portland area: Damin Tarlow (Gerding Edlen); Steve Wells (Trammell Crow); Todd Sheaffer (Specht Properties).⁴

⁴ 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. See full disclaimer at the front of this report for more information.

B.1 LAKE OSWEGO

Figure B.1.1 Lake Oswego study area.



Data sources: Metro RLIS, April 2012; Bing aerial basemap 2012.

SFR and condominium. Site 1 has one half parcel fewer per acre on average relative to the study area. Assessor-estimated market values for improvements are consistent across the study area and Site 1; land value is higher, however, within the study area as a whole.

Development assessment

Figure B.1.3 below presents a quantitative assessment of development challenges facing the catalytic site, in addition to measures of parcelization. According to the metrics, Catalytic Site 1 faces many challenges with regards to physical site characteristics: relative to the study area (excluding single family and public uses), there exists less land vacancy, more brownfields, and more floodplain area on a square foot basis compared to the study

Study area summary

The Lake Oswego study area includes the East End Urban Renewal Area, the Foothills Area, and the eastern portion of downtown. N State St bisects the study area north-south, with 4th St and 6th St making up the western boundary. Catalytic Site 1 contains the Foothills area, plus a portion of east downtown as far west as 2nd St.

Figure B.1.2 below displays summary statistics for the study area and the catalytic site. According to this figure, single family residential is the highest proportion of land uses within the study area, followed by commercial and industrial. Catalytic Site 1 is a mix of industrial (the sewer treatment facility in the Foothills area), commercial,

Figure B.1.2. Lake Oswego study area summary statistics.

Statistic	Units	Catalytic Site	Study Area
		1	Lake Oswego
Area/Density			
Area	Acres	94.1	194.8
Parcels (excl. res, public)	Total/Acre	1.5	2.0
Land Use			
Commercial	Pct of Total	25.3%	24.9%
Industrial	Pct of Total	46.2%	20.9%
Single Family Residential	Pct of Total	10.6%	33.4%
Condominium	Pct of Total	12.7%	8.9%
Multi-Family Residential	Pct of Total	1.1%	7.8%
Public/Institutional/Utility	Pct of Total	2.1%	1.1%
Unused / Unoccupied	Pct of Total	2.1%	3.0%
Other	Pct of Total	0.0%	0.0%
Real Market Value			
Land Value	\$/SqFt	\$ 13.89	\$ 17.75
Improvement Value	\$/SqFt	\$ 34.02	\$ 34.01
Total	\$/SqFt	\$ 47.90	\$ 51.76

Source: ECONorthwest.
Note: Real market value figures exclude public, institutional, and residential uses.

area. This area has, however, been targeted for redevelopment due to a need for increased housing supply and a riverfront presence near downtown Lake Oswego. The Foothills District Framework Plan describes how the City and developers will mitigate floodplain and brownfields issues: certainly, this is a case where, despite these obstacles relative to the rest of the city, redevelopment planning efforts are being made.

The parcelization metrics in Figure B.1.3 indicate Site 1 is less parcelized than the study area as a whole. For this site, the number of parcels and owners are less than 10% fewer per acre relative to the study area. The Foothills District Framework Plan identifies, however, high density mixed-use and residential development that do require land assembly – regardless of larger parcel size.

According to City staff, and indicated in Figure B.1.3, there exist large parcels under multiple ownership within the Foothills Area. The Plan, however, appears to overcome the ownership issue and parcelization is not an issue preventing redevelopment from occurring. General market conditions have inhibited development, and on the policy side parking minimums have posed a potential obstacle to redevelopment for the Foothills as well as the downtown area. The City has done a parking study for the downtown area and is currently looking at adopting code amendments (reducing minimums, etc.) to address this issue.

On the west side of N State St within Catalytic Site 1 and the Lake Oswego East End Design District, the City has created a mixed-use redevelopment concept for building types of 3 to 4 stories and 30 to 60 dwelling units per acre (comparable building types: C, D, E, E1, and H1). Parcels in this area average about 29,000 square feet (roughly 1.5 parcels per acre), which is large enough for each of these building types. This average, however, is driven by large parcels within the Foothills area; parcels along N State St only average 10,000 square feet, necessitating land assembly for all building types except for E and potentially C or D (attached housing). The City’s redevelopment agency, however, is in the process of assembling the parcels and the major development obstacle for development feasibility will hinge on the market response to this opportunity. Other portions of Catalytic Site 1, such as the southern portion just west of N State St, is under one ownership and redevelopment opportunities are not limited due to parcelization per se, but rather how the owner chooses to use their property (parcelization, a symptom of which is more owners per acre, exacerbates this issue).

From a developer’s perspective, the Foothills area proves to be a good development opportunity with the largest obstacles being mitigation costs associated with brownfields and floodplains lands. Another impediment for development is the need to get people safely across N State St (Hwy 43). The Foothills Area absolutely needs connectivity between the Area and the downtown through targeted infrastructure investment. The Foothills District Framework Plan addresses each of these obstacles. Additionally, parking requirements and height limitations along the west side of Hwy 43 have made some development types unfeasible because of the high cost of below grade parking structures.

Figure B.1.3. Lake Oswego development assessment metrics.

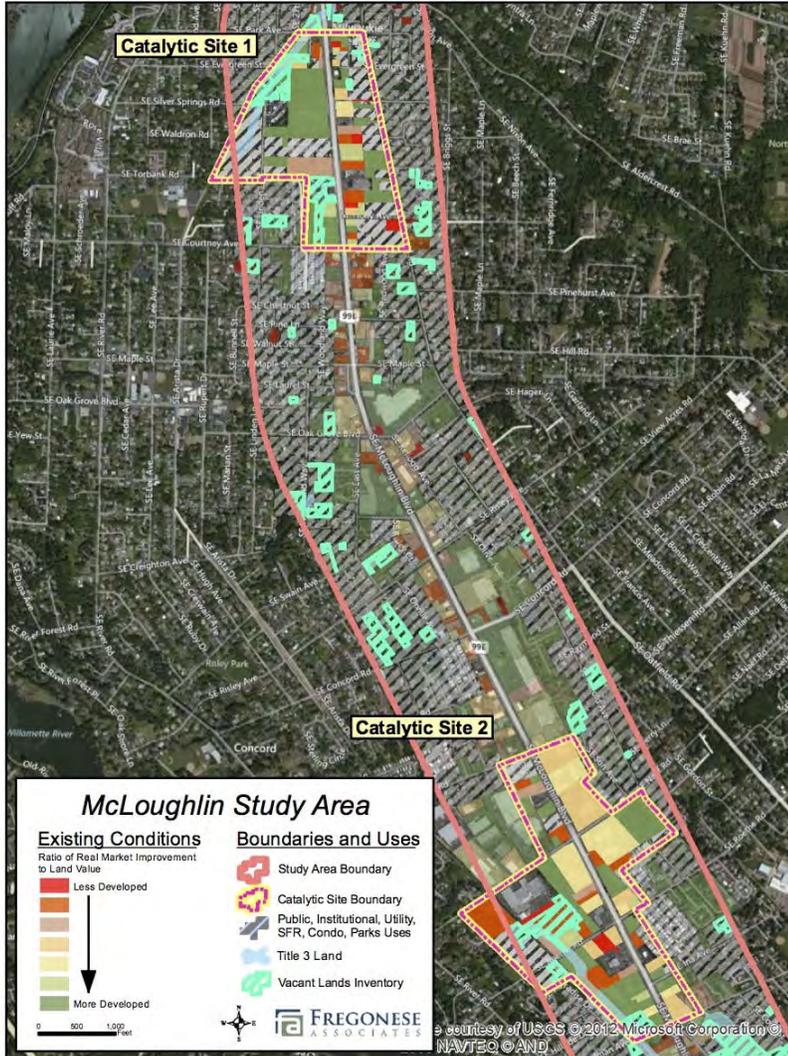
Metric	Units	Catalytic Site Relative to Study Area	Average Values for:	
		1	Study Area Lake Oswego	Region UGB
of Land Availability				
Vacancy	SqFt/Acre	✘	436.2	7,309.9
Brownfields	SqFt/Acre	✘	3,808.7	1,917.7
IMP/LV Ratio	SqFt/Acre Over .75	■	24,541.0	15,122.9
Metro Title 3 Land	SqFt/Acre	✘	9,254.5	5,167.5
of Parcelization				
Parcel Size	Parcels/Acre	○	2.0	0.6
Ownership	Owners/Acre	○	2.3	0.3
Lot Coverage	SqFt/Acre	■	8,488.8	5,212.4

Source: ECONorthwest

Note: Real market value figures exclude public, institutional, and residential uses.

B.2 McLOUGHLIN

Figure B.2.1. McLoughlin study area.



Data sources: Metro RLIS, April 2012; Bing aerial basemap 2012.

single family residential uses. Site 2 has fewer parcels per acre (larger in size, on average) relative to the study area. Site 1 has smaller parcels, on average, than both the study area and Site 2. Assessor-estimated market values for land and improvements indicate parcels within the two catalytic sites are consistently valued relative to the study area. Improvement values are lowest in Site 2 where parcels are the largest.

Development assessment

Figure B.2.3 below presents a quantitative assessment of development challenges facing the two catalytic sites, in addition to measures

Study area summary

The McLoughlin study area includes area inside the McLoughlin Area Plan and within a quarter mile of SE McLoughlin Blvd between roughly SE Lark St to the north and SE Glen Echo Ave to the south. Catalytic Site 1 is located in the northern portion of the study area and falls between SE Park Ave and SE Courtney Ave. Catalytic Site 2 is located in the southern portion of the study area and falls between SE Vineyard Rd and SE Boardman Ave.

Figure B.2.2 below displays summary statistics for the study area and the two catalytic sites. According to this figure, a majority of the study area is single family residential, with commercial uses making up nearly one-quarter of the land area. Catalytic Site 1 largely made up of commercial uses, with single family residential representing almost four-tenths the land area. Catalytic Site 2 is also predominately commercial, but has roughly three-tenths of the land area used for industrial purposes; only one-tenth of the area is represented by

Figure B.2.2. McLoughlin study area summary statistics.

Statistic	Units	Catalytic Site		Study Area
		1	2	McLoughlin
Area/Density				
Area	Acres	98.6	134.9	1,171.5
Parcels (excl. res, public)	Total/Acre	1.3	0.7	1.1
Land Use				
Commercial	Pct of Total	45.7%	47.8%	23.4%
Industrial	Pct of Total	0.0%	27.8%	5.4%
Single Family Residential	Pct of Total	37.5%	11.2%	55.1%
Condominium	Pct of Total	0.7%	0.0%	0.7%
Multi-Family Residential	Pct of Total	10.7%	5.2%	9.7%
Public/Institutional/Utility	Pct of Total	1.3%	1.0%	0.8%
Unused / Unoccupied	Pct of Total	3.9%	2.8%	3.9%
Other	Pct of Total	0.0%	4.2%	1.0%
Real Market Value				
Land Value	\$/SqFt	\$ 6.84	\$ 6.86	\$ 6.94
Improvement Value	\$/SqFt	\$ 10.43	\$ 8.16	\$ 11.91
Total	\$/SqFt	\$ 17.27	\$ 15.02	\$ 18.84

Source: ECONorthwest.

Note: Real market value figures exclude public, institutional, and residential uses.

of parcelization. According to the metrics, Catalytic Site 1 and 2 are facing challenges with regards to physical site characteristics: both sites have more brownfield- and floodplain-designated land per acre relative to the study area. These characteristics reduce the overall availability of developable land and cause increased development costs due to site cleanup and natural hazards mitigation within the two sites. Both areas also have greater than 10% more vacant land than the study area, although the vacancy rate is much lower, per acre, than the UGB average.

Based on assessor market values, Site 1 is roughly as developed and Site 2 is less developed as a function of an estimated improvement to land value ratio (IMP/LV) relative to the study area.

The parcelization metrics in Figure B.2.3 indicate that Site 1 exhibits characteristics of parcelization: compared to the study area, Site 1 has greater than 10% more parcels and owners per acre. The study area has three times the parcels per acre found in the UGB. The lot coverage is less than 10% the study area, suggesting small parcels with wide setbacks and more parking relative to the study area. Site 2 does not appear any more parcelized than the study area, and has parcels that are greater than 10% larger per acre.

According to Clackamas County staff, the Clackamas County Economic Development Commission studied the McLoughlin Corridor in 2011 and identified the following as reasons this area has not realized desired type of development: *The area is lacking a “quality” and / or an identity. There is a lack of business clusters. Lack of streetscapes and public investment in beautification of area. Lack of transportation linkages: this area has been referred to as an “island” that is not easily accessible...there is a lack of a cohesive vision by leaders, the business community, and property owners.*

County staff have also recognized constraints relating to aging buildings that make redevelopment and adaptive reuse difficult. Transportation constraints are also a concern among potential tenants and developers: although actual driving time may indicate otherwise, there is a perception that both of the identified sites do not have access to major highways for both customer and product delivery needs.

From the developer’s perspective, the area is lacking in identity: nothing is happening in the area, and *that* is the problem. Further, there is too much inherent value in the existing buildings to completely tear down and redevelop. Many developers and businesses look to purchase existing buildings, and add value by changing use or introducing efficiencies. This area, however, may currently be at its highest and best use, with little added-value opportunity. Its current use is likely to be its highest use until something major changes (MAX is one possibility). Unfortunately, these existing uses do not align with local or regional planning goals.

The County does indicate that parcelization has been an issue: for significant growth or redevelopment of these areas, their experience has indicated that a single redevelopment site would be necessary as a catalyst for other development. With many property owners of private and public interests, however, it has been difficult to manage a unified vision. The average lot size in the catalytic sites range from 33,500 to 66,200 square feet, large enough for all but the most intense building types. Narrow, deep lots make traditional development difficult, however, even for large parcels because of

Figure B.2.3. McLoughlin development assessment metrics.

Metric	Units	Catalytic Site Relative to Study Area		Average Values for:	
		1	2	Study Area	Region
				McLoughlin	UGB
of Land Availability					
Vacancy	SqFt/Acre	○	○	1,781.0	7,309.9
Brownfields	SqFt/Acre	✘	✘	1,594.0	1,917.7
IMP/LV Ratio	SqFt/Acre Over .75	■	○	27,136.0	15,122.9
Metro Title 3 Land	SqFt/Acre	✘	✘	1,200.3	5,167.5
of Parcelization					
Parcel Size	Parcels/Acre	✘	○	1.1	0.6
Ownership	Owners/Acre	✘	■	1.3	0.3
Lot Coverage	SqFt/Acre	○	■	7,185.4	5,212.4

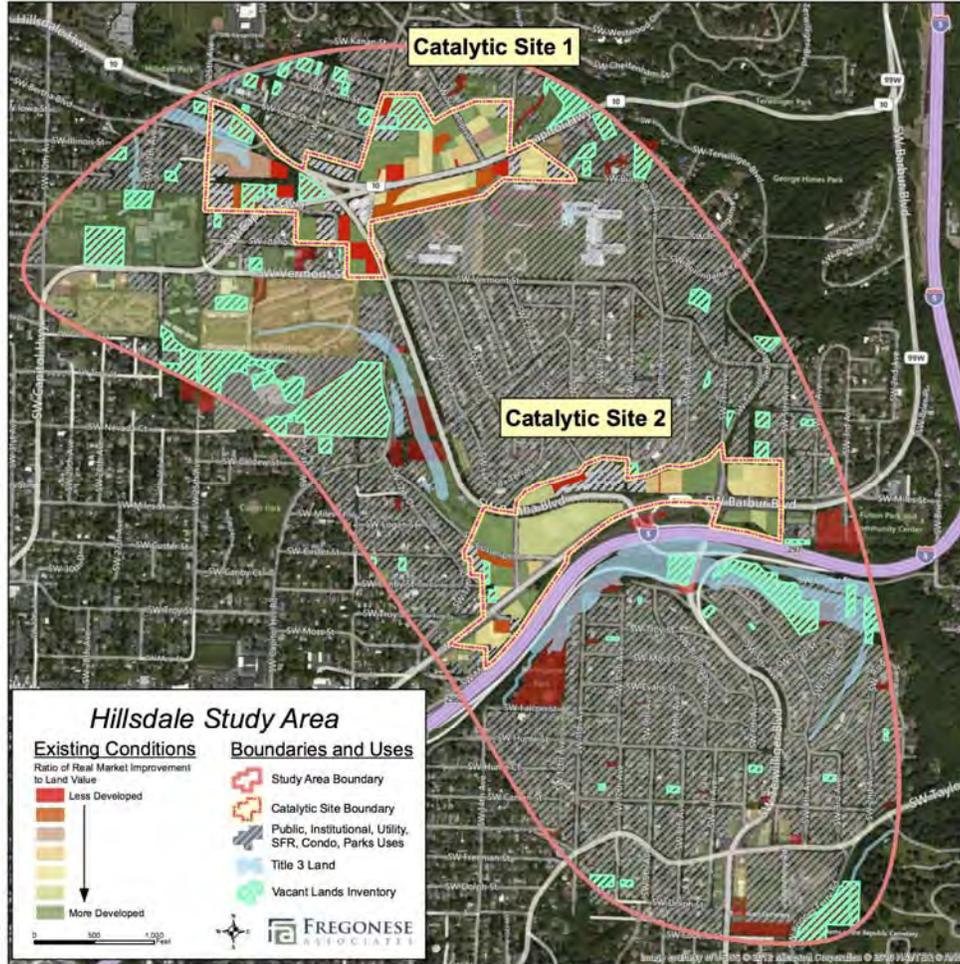
Source: ECONorthwest

Note: Real market value figures exclude public, institutional, and residential uses.

difficulty automobile accessibility. Preferred development types, such as campus professional, are large format, require ease of accessibility and would necessitate land assembly in the area.

B.3 HILLSDALE

Figure B.3.1 Hillsdale study area.



Data sources: Metro RLIS, April 2012; Bing aerial basemap 2012.

to this figure, a majority of the study area is single family residential (54.9%). Catalytic Site 1 is a mix of commercial and multi-family residential, and Catalytic Site 2 is predominately commercial. Site 1 has almost twice as many parcels per acre compared to the study area and has smaller parcels, on average, relative to Site 2. Assessor-estimated market values for land and improvements are significantly higher per square foot within the two catalytic sites, owing to a higher percentage of commercial uses and proximity to transportation infrastructure.

Study area summary

The Hillsdale study area includes the Metro SW Corridor Plan Hillsdale / Burlingame focus area. Major east-west oriented roads and highways intersecting the study area are SW Capitol Hwy, SW Barbur Blvd, Interstate 5, and SW Taylors Ferry Rd. Catalytic Site 1 contains the intersection of SW Capitol Hwy and SW Beaverton Hillsdale Hwy, and stretches east and north along these two arterials. Catalytic Site 2 falls north of Interstate 5 along SW Barbur Blvd between roughly SW 5th and SW 19th Ave.

Figure B.3.2 displays summary statistics for the study area and the two catalytic sites. According

Figure B.3.2. Hillsdale study area summary statistics.

Statistic	Units	Catalytic Site		Study Area
		1	2	Hillsdale
Area/Density				
Area	Acres	48.3	38.5	695.9
Parcels (excl. res, public)	Total/Acre	2.1	1.6	1.2
Land Use				
Commercial	Pct of Total	32.6%	75.7%	21.2%
Industrial	Pct of Total	0.0%	0.0%	0.0%
Single Family Residential	Pct of Total	16.4%	2.1%	54.9%
Condominium	Pct of Total	4.5%	12.4%	1.7%
Multi-Family Residential	Pct of Total	30.2%	6.8%	10.0%
Public/Institutional/Utility	Pct of Total	0.0%	0.0%	0.0%
Unused / Unoccupied	Pct of Total	16.2%	3.0%	9.4%
Other	Pct of Total	0.0%	0.0%	2.8%
Real Market Value				
Land Value	\$/SqFt	\$ 22.65	\$ 28.74	\$ 11.33
Improvement Value	\$/SqFt	\$ 20.15	\$ 31.39	\$ 20.56
Total	\$/SqFt	\$ 42.81	\$ 60.13	\$ 31.88

Source: ECONorthwest.

Note: Real market value figures exclude public, institutional, and residential uses.

Development assessment

Figure B.3.3 below presents a quantitative assessment of development challenges facing the two catalytic sites, in addition to measures of parcelization. According to the metrics, Catalytic Site 1 is not facing many challenges with regards to physical site characteristics: relative to the study area (excluding single family and public uses), there exists more vacancy and less land within floodplain and erosion zones (Title 3 land). Based on assessor market values, it is also less developed as a function of estimate land to improvement values (IMP/LV ratio). Catalytic Site 2 has more obstacles for

Figure B.3.3 Hillsdale development assessment metrics.

Metric	Units	Catalytic Site Relative to Study Area		Average Values for:	
		1	2	Study Area Hillsdale	Region UGB
of Land Availability					
Vacancy	SqFt/Acre	○	✘	2,490.9	7,309.9
Brownfields	SqFt/Acre	✘	✘	738.5	1,917.7
IMP/LV Ratio	SqFt/Acre Over .75	○	✘	25,859.8	15,122.9
Metro Title 3 Land	SqFt/Acre	○	○	1,889.3	5,167.5
of Parcelization					
Parcel Size	Parcels/Acre	✘	✘	1.2	0.6
Ownership	Owners/Acre	✘	✘	1.4	0.3
Lot Coverage	SqFt/Acre	✘	✘	6,631.2	5,212.4

Source: ECONorthwest.

Note: Real market value figures exclude public, institutional, and residential uses.

development relative to the study area: less land vacancy per acre, a higher average of brownfield designated sites per acre, and the assessor data indicate there is little area that is underdeveloped.

The parcelization metrics in Figure B.3.3 indicate the catalytic sites are parcelized relative to the study area: for each site, the number of parcels and owners are higher per acre relative to the study area, suggesting additional obstacles for land assembly within these areas. Lot coverage is greater

within the catalytic sites, indicating denser development and less surface parking on average for each parcel.

Opportunities for development are greatest in Catalytic Site 1 along both sides of SW Capitol Hwy where existing building heights do not yet align with building codes and zoning. The obstacles for maximizing allowable building heights include community opposition, a lack of appropriate infrastructure (e.g., large enough sewer pipes), and parking ratios that are too high. From a developer's perspective, areas where zoning codes and existing infrastructure cooperate make land assembly possible. For infill areas such as Hillsdale, however, amending the zoning code for tall buildings is not a prerequisite to catalyze the neighborhood: a developer doesn't need to find resident density because it is already there. But creating the demand for a place is tricky: not every intersection can be an epicenter that attracts people from across the region.

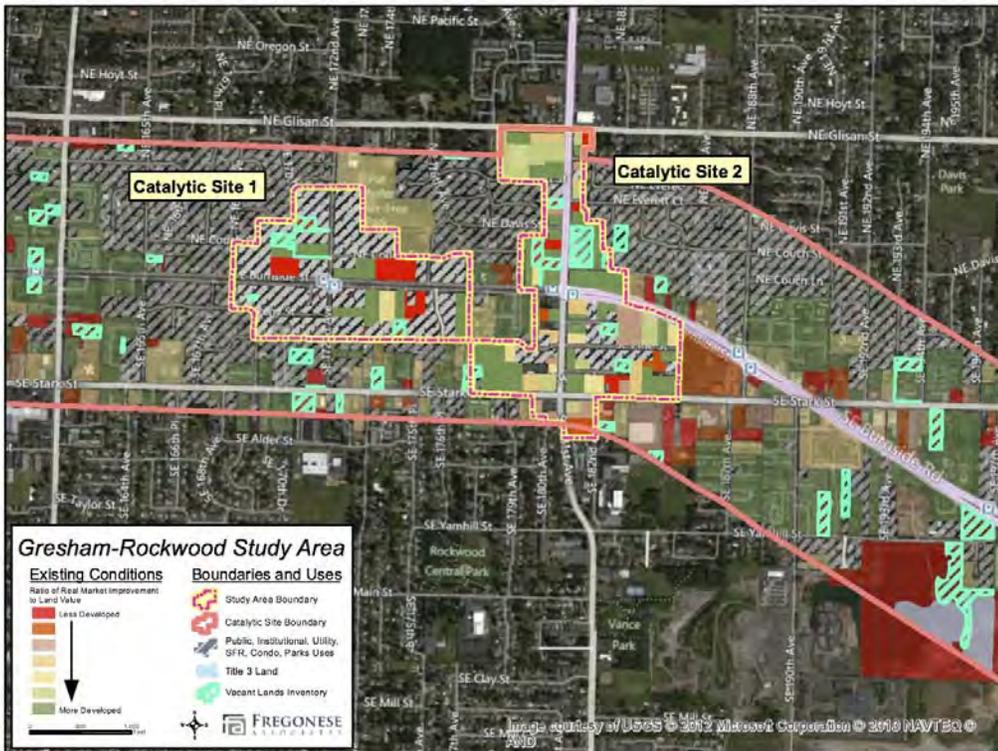
The catalytic sites also lack an identity. Much of the existing development fills a niche for local residents, but does not serve a wider area. There are a lot of entrenched uses, such as banks, that serve a purpose but these uses do not make the area a "destination." One method a developer may use to overcome this obstacle is targeted infrastructure investment: roundabouts to slow traffic down through the area, or new pedestrian thoroughfares.

From the developer's perspective, the issues facing the parcels in both catalytic sites are prior to and independent of parcelization. Parcelization could potentially become a problem along SW Capitol Hwy once the market takes shape and zoning codes are amended. Some of these parcels are wide and narrow, which makes accessibility for mixed-use retail and residential development difficult. The parcels within Site 1 are roughly 20,000 square feet on average. To the extent local plans call for mixed-use residential, this lot size is too small for these building types (F, I, I1, J) and is more suitable for

lower density development (C, D, H, H1). Site 2 parcels average roughly 27,000 square feet, and are also not suitable for high intensity uses absent land assembly.

B.4 GRESHAM - ROCKWOOD

Figure B.4.1. Gresham - Rockwood study area.



Data sources: Metro RLIS, April 2012; Bing aerial basemap 2012.

181st Ave, and stretches north-south along 181st Ave a quarter mile from E Burnside St.

Figure B.4.2 displays summary statistics for the study area and the two catalytic sites. According to this figure, the study area is made up largely of three uses: commercial, single family residential, and multi family residential. Catalytic Site 1 is two-thirds single family residential, with most of the remaining uses (commercial and multi family residential) located along E Burnside St. Catalytic Site 2 is much more commercially oriented (70.0% of total) than the study area and Catalytic Site 1. Parcels within the two catalytic sites are smaller, on average, relative to the study area. In Site 2, there are almost twice as many parcels per acre compared to the entire study area. Assessor-estimated market values for land and improvements are higher per square foot within Catalytic Site 2 relative to the study area and Catalytic Site 1. Catalytic Site 1 has low land values but high improvement values, indicating existing development but little market interest in the area.

Study area summary

The Gresham - Rockwood study area includes areas within the Rockwood - West Gresham Urban Renewal Area, and within a quarter mile of E Burnside St between two light rail stops (E Burnside St and 148th Ave to the west and E Burnside St. and 197th Ave in the east). Catalytic Site 1 contains the immediate area around E Burnside St and SE 172nd Ave. Catalytic Site 2 claims the intersection of E Burnside St and SE

Figure B.4.2. Gresham - Rockwood study area summary statistics.

Statistic	Units	Catalytic Site		Study Area
		1	2	Gresham
Area/Density				
Area	Acres	58.7	71.5	934.9
Parcels (excl. res, public)	Total/Acre	1.6	2.0	1.1
Land Use				
Commercial	Pct of Total	6.5%	70.0%	23.9%
Industrial	Pct of Total	0.0%	0.0%	2.5%
Single Family Residential	Pct of Total	66.8%	11.7%	38.5%
Condominium	Pct of Total	1.8%	3.7%	0.8%
Multi-Family Residential	Pct of Total	20.2%	9.2%	20.2%
Public/Institutional/Utility	Pct of Total	0.4%	0.7%	4.1%
Unused / Unoccupied	Pct of Total	4.3%	4.6%	10.1%
Other	Pct of Total	0.0%	0.0%	0.0%
Real Market Value				
Land Value	\$/SqFt	\$ 8.47	\$ 13.52	\$ 9.01
Improvement Value	\$/SqFt	\$ 22.53	\$ 17.93	\$ 15.30
Total	\$/SqFt	\$ 31.00	\$ 31.45	\$ 24.30

Source: ECONorthwest.

Note: Real market value figures exclude public, institutional, and residential uses.

Development assessment

Figure B.4.3 below presents a quantitative assessment of development challenges facing the two catalytic sites, in addition to measures of parcelization. According to the metrics, Catalytic Site 1 is not facing many challenges with regards to physical site characteristics relative to the study area. Although there is less vacancy per acre, there is less land identified as brownfield or in danger from floodplains and erosion (Title 3 land). Based on assessor market values, both catalytic sites are about as developed on a per acre basis as the rest of the study area (IMP/LV ratio). Catalytic Site 2 has different land availability constraints: it has more vacancy but a greater concentration of brownfields relative to the study area and Catalytic Site 1.

Figure B.4.3. Gresham – Rockwood development assessment metrics.

Metric	Units	Catalytic Site Relative to Study Area		Average Values for:	
		1	2	Study Area	Region
				Gresham	UGB
of Land Availability					
Vacancy	SqFt/Acre	✗	○	1,639.8	7,309.9
Brownfields	SqFt/Acre	○	✗	583.6	1,917.7
IMP/LV Ratio	SqFt/Acre Over .75	■	■	25,920.4	15,122.9
Metro Title 3 Land	SqFt/Acre	○	○	1,285.1	5,167.5
of Parcelization					
Parcel Size	Parcels/Acre	✗	✗	1.1	0.6
Ownership	Owners/Acre	✗	✗	1.3	0.3
Lot Coverage	SqFt/Acre	■	■	7,546.7	5,212.4

Source: ECONorthwest

Note: Excludes public, institutional, utility, single family residential, and condo uses.

The parcelization metrics in Figure B.4.3 indicate that both of the catalytic sites exhibit characteristics of parcelization relative to the study area and the UGB. For each site, the number of parcels and owners are higher per acre compared to the study area, suggesting additional potential obstacles for land assembly. Lot coverage is consistent across the catalytic sites and study area, however, indicating development of consistent density.

Both of the areas within the catalytic sites were annexed to Gresham in 1988 and some historic county lot patterning and land uses still affects development today. Today, the 181st Ave corridor within Catalytic Site 2 is a point of entry to Gresham, is in the urban renewal area, and is partially in the Central Rockwood Plan area indicating a desire by the City to catalyze development. According to city staff, parcelization has manifested itself within both catalytic sites in the form of small lots with a deep and narrow configuration. Lots that are much deeper than they are wide make it challenging to have good site access to all parts of the site; small lot sizes pose challenges for more intense development.

The catalytic sites also face infrastructure constraints that pose challenges for increased development investment: a relatively wide street with infrequent crossing opportunities provides few opportunities for dense pedestrian-friendly development. Developers indicate that an existing lack of market interest, rather than parcelization, is the greatest existing challenge for development. The area needs to show it can drive auto and pedestrian traffic before development will follow. The developers note that an initial infrastructure investment of park and ride lots situated around the MAX line will draw auto traffic to the area, but it will require a challenging market-driven change to catalyze pedestrian friendly uses to the area – perhaps through adaptive reuse of the parking structures well after the auto traffic has been generated.

Within the catalytic sites, the following building types are generally permitted by code: C, D, E1, E2, F, H, H1, plus L1 and L4 for Site 2. Other types are a higher density than permitted by code. Some higher density types (H2, H3, I) may be considered in the future. Average parcel sizes of roughly 27,000 (Site 1) and 22,000 square feet are too small for the moderate to high density building types (all except

for C, D attached housing; E1, F high density multi-family residential; and L4 main street commercial), indicating the need for land assembly for higher intensity regionally preferred uses.

B.5 SE CORRIDORS

Figure B.5.1. SE Corridors study area.



Data sources: Metro RLIS, April 2012; Bing aerial basemap 2012.

Study area summary

The SE Corridors study area includes a one block buffer of the following SE corridors: SE Hawthorne Blvd, SE Division St, SE Belmont St, between 12th Ave. and 50th Ave. Catalytic Site 1 contains two nodes along 12th Ave at intersections with SE Belmont St, SE Hawthorne Blvd, and SE Division St. Catalytic Site 2 includes two nodes at the intersection of SE Cesar Chavez Blvd with SE Hawthorne Blvd and SE Division St.

Figure B.5.2 displays summary statistics for the study area and the two catalytic sites. According

to this figure, a majority of the study area is single family residential (41.4%), followed by commercial uses (36.0%), indicating the mix of residential and low-intensity commercial uses found in these corridors. Catalytic Site 1 is a mix of commercial and industrial, and Catalytic Site 2 is predominately commercial with nearly four-tenths of the area made up of single family uses. Site 1 and Site 2 contain parcels roughly the same size per acre, relative to the study area average. Assessor-estimated market values for land and improvements are consistent across the study area and catalytic sites, except for Catalytic Site 2 improvement values which are significantly higher.

Development assessment

Figure B.5.3 presents a quantitative assessment of development challenges related to land availability facing the two catalytic sites, in addition to measures of parcelization. According to the metrics, Catalytic Site 1 is not facing many challenges with regards to land availability: relative to the study area (excluding single family and public/institutional uses), there exists more vacancy and less land within

Figure B.5.2. SE Corridors study area summary statistics.

Statistic	Units	Catalytic Site		Study Area
		1	2	SE Corridors
Area/Density				
Area	Acres	73.2	73.3	490.1
Parcels (excl. res, public)	Total/Acre	4.2	4.9	4.7
Land Use				
Commercial	Pct of Total	36.7%	56.4%	36.0%
Industrial	Pct of Total	24.2%	0.0%	5.6%
Single Family Residential	Pct of Total	13.6%	36.3%	41.4%
Condominium	Pct of Total	0.0%	1.0%	1.9%
Multi-Family Residential	Pct of Total	3.7%	4.5%	9.5%
Public/Institutional/Utility	Pct of Total	11.8%	0.2%	2.1%
Unused / Unoccupied	Pct of Total	10.1%	1.7%	3.2%
Other	Pct of Total	0.0%	0.0%	0.3%
Real Market Value				
Land Value	\$/SqFt	\$ 27.56	\$ 29.75	\$ 26.01
Improvement Value	\$/SqFt	\$ 57.75	\$ 83.76	\$ 63.86
Total	\$/SqFt	\$ 85.32	\$ 113.51	\$ 89.87

Source: ECONorthwest.

Note: Real market value figures exclude public, institutional, and residential uses.

floodplain and erosion zones (Title 3 land). Based on assessor market values, this site is consistently developed as a function of estimate land to improvement values (IMP/LV ratio), relative to the study area. Site 1 has, however, more area designated as brownfield. Catalytic Site 2 also has few obstacles related to land availability relative to the study area: a lower average of brownfield and natural hazard designated sites per acre. Less vacant land exists, per acre, in Site 2 relative to the study area.

Figure B.5.3 SE Corridors development assessment metrics.

Metric	Units	Catalytic Site Relative to Study Area		Average Values for:	
		1	2	Study Area SE Corridors	Region UGB
of Land Availability					
Vacancy	SqFt/Acre	○	✘	662.4	7,309.9
Brownfields	SqFt/Acre	✘	○	1,899.2	1,917.7
IMP/LV Ratio	SqFt/Acre Over .75	■	■	30,826.1	15,122.9
Metro Title 3 Land	SqFt/Acre	○	○	-	5,167.5
of Parcelization					
Parcel Size	Parcels/Acre	○	■	4.7	0.6
Ownership	Owners/Acre	■	■	5.1	0.3
Lot Coverage	SqFt/Acre	■	■	12,149.9	5,212.4

Source: ECONorthwest

Note: Excludes public, institutional, utility, single family residential, and condo uses

The parcelization metrics in Figure B.5.3 indicate the catalytic sites are no more parcelized than the study area as a whole. For each site, the number of parcels and owners are consistent per acre compared to the study area. Lot coverage is also consistent, indicating the catalytic sites are about as dense as the study area. Relative to the UGB, however, the parcelization metrics indicate that the area exhibits characteristics of parcelization. This result is expected:

the SE Corridors area is made up of dense, urban neighborhoods. Although this density imposes constraints on large-format development (e.g., of a half acre or larger), some areas such as SE Division St are experiencing development of the type local plans desire.

According to local developers, existing zoning is a major obstacle for development within the study area and catalytic sites: 45 feet is the highest allowable building height along these corridors – and given the high land prices and acquisition prices in this area, it is very difficult to reach a positive return on investment with this height limitation. An allowable height increase along 12th Ave in the south portion of Site 1, for instance, would increase development interest especially given its proximity to a new MAX line. Parking requirements represent another obstacle: in many areas along the corridors, you must build at a parking ratio less than one (e.g., units outnumber parking spaces), and this can only be accomplished where it is allowed by zoning code.

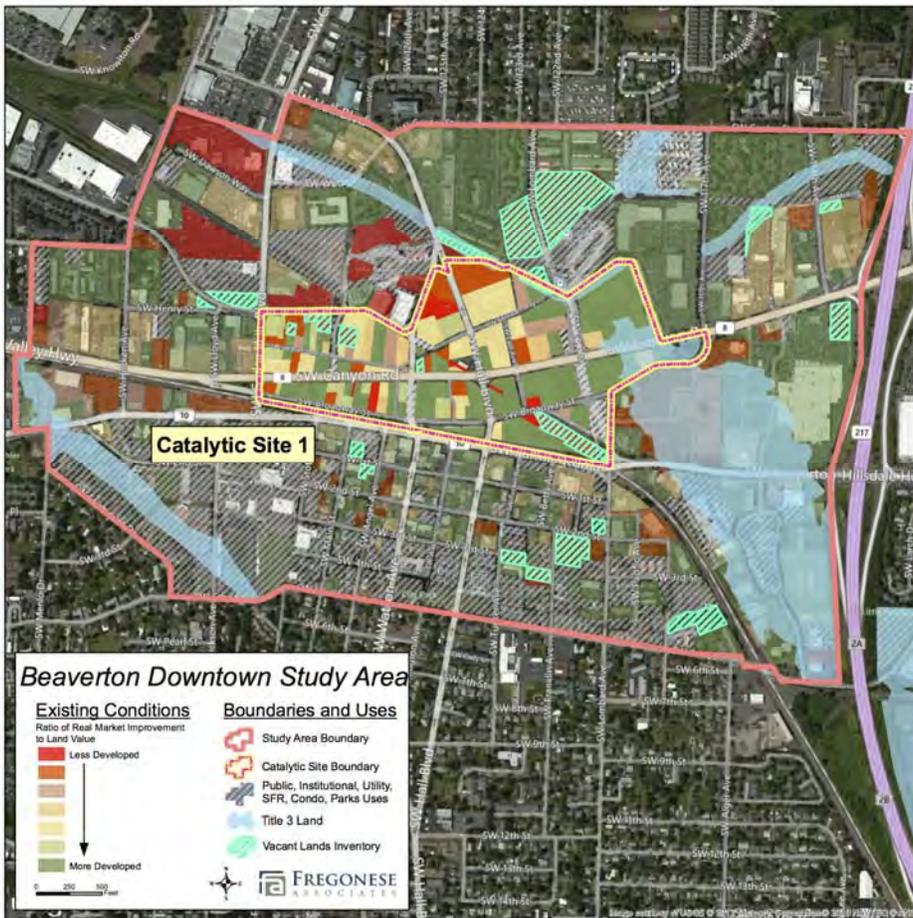
City staff report a handful of reasons why development has lagged within the catalytic sites. The presence of gas stations and the lack of an established sense of “place” for some of the areas make some intersections unattractive for residential development. Also the perception that many of these areas are located on busy streets has inhibited development. The market for new development or redevelopment in the area is improving, as witnessed by a recent string of development proposals along SE Division St. SDC fees, however, are high in some areas and this may act to deter potential developers to the area.

Both the developers and city staff note that the area does face parcelization challenges. A large scale development would be very difficult to produce; there are 8 to 9 times more parcels per acre than the UGB average and an average size of 9,000 to 10,000 square feet is too small for any of the regionally viable *Climate Smart Communities* building types, except for E or L4. A developer would need to assemble or acquire at least a half acre of land to achieve a financially feasible development, and as a result developments are becoming increasingly smaller (as a measure of overall structure footprint) within the study area, with lower parking ratios.

Recently, well-designed buildings with open air common areas for all or some residents have been successful (e.g., The 20 on Hawthorne). Upcoming buildings with no on-site parking have generated a bit of controversy from people worried parking demand will spill onto the street.

B.6 BEAVERTON DOWNTOWN

Figure B.6.1. Beaverton Downtown study area.



Data sources: Metro RLIS, April 2012; Bing aerial basemap 2012.

public/institutional/utility use. Catalytic Site 1 is predominately commercial. Site 1 has almost twice as many average parcels per acre relative to the study area. Assessor-estimated market values for land and improvements are higher per square foot within the catalytic site, owing to its central location and higher proportion of commercial uses relative to the study area.

Development assessment

Figure B.6.3 below presents a quantitative assessment of development challenges related to land availability facing the catalytic site, in addition to measures of parcelization. According to the metrics, Catalytic Site 1 is does not face obstacles related to land vacancy or presence of

Study area summary

The Beaverton Downtown study is roughly the area within one-third to one-half mile of the intersection of SW Canyon Rd, SW Beaverdam Rd, and SW Millikan Way. SW Canyon Rd and SW Beaverton-Hillsdale Hwy are the major east-west oriented roads and highways intersecting the area. Interstate 5, which makes up the eastern boundary of the area is the major north-south arterial. Catalytic Site 1 is centered roughly one-tenth to one-third mile around the same intersection

Figure B.6.2 below displays summary statistics for the study area and the catalytic site. According to this figure, half of the study area is commercial and one-fifth is designated as

Figure B.6.2 Beaverton Downtown study area summary statistics.

Statistic	Units	Catalytic Site	Study Area
		1	Beaverton Downtown
Area/Density			
Area	Acres	73.3	513.4
Parcels (excl. res, public)	Total/Acre	2.7	1.4
Land Use			
Commercial	Pct of Total	85.8%	49.8%
Industrial	Pct of Total	0.0%	0.2%
Single Family Residential	Pct of Total	0.0%	8.2%
Condominium	Pct of Total	0.0%	1.0%
Multi-Family Residential	Pct of Total	1.9%	9.9%
Public/Institutional/Utility	Pct of Total	4.8%	22.1%
Unused / Unoccupied	Pct of Total	7.5%	8.8%
Other	Pct of Total	0.0%	0.0%
Real Market Value			
Land Value	\$/SqFt	\$ 17.78	\$ 15.15
Improvement Value	\$/SqFt	\$ 25.89	\$ 22.82
Total	\$/SqFt	\$ 43.67	\$ 37.97

Source: ECONorthwest.

Note: Real market value figures exclude public, institutional, and residential uses.

floodplains (Title 3 land) relative to the study area. Site 1 does, however, have more land designated as brownfield. Based on assessor market values, it is roughly as developed on a per acre basis as a function of estimate land to improvement values (IMP/LV ratio). Compared to the UGB, the study area and Site 1 have significantly less vacant land per acre and are more developed overall as a function of the IMP/LV metric.

Figure B.6.3. Beaverton Downtown development assessment metrics.

Metric	Units	Catalytic Site	Average Values for:	
		Relative to Study Area	Study Area	Region
		1	Beaverton Downtown	UGB
of Land Availability				
Vacancy	SqFt/Acre	○	1,420.4	7,309.9
Brownfields	SqFt/Acre	✘	2,122.1	1,917.7
IMP/LV Ratio	SqFt/Acre Over .75	■	27,664.4	15,122.9
Metro Title 3 Land	SqFt/Acre	○	6,569.0	5,167.5
of Parcelization				
Parcel Size	Parcels/Acre	✘	1.4	0.6
Ownership	Owners/Acre	○	1.5	0.3
Lot Coverage	SqFt/Acre	✘	7,756.9	5,212.4

Source: ECONorthwest

Note: Excludes public, institutional, utility, single family residential, and

The parcelization metrics in Figure B.6.3 indicate the catalytic site may be more parcelized than the rest of the study area: on average there are almost twice as many parcels per acre in Site 1 relative to the study area, but there are fewer owners per acre suggesting a concentration of ownership and fewer barriers for land assembly. Lot coverage is greater within the catalytic site, however, indicating denser development and less surface parking on average for each parcel.

Relative to the UGB, however, the study area and Site 1 indicate parcelization: there are roughly twice as many parcels per acre in the study area, and five times as many owners per acre.

Although the metric for ownership in Figure B.6.3 suggests that this may not be a factor affecting development relative to the study area, the developers we spoke with report a perception that development in the area has been inhibited due to a high number of individual owners; regardless of the number of owners in a given area, it may only take one hold-out to inhibit land assembly. This is especially a problem in the old town area south of SW Beaverton-Hillsdale Hwy. Entrenched uses within Site 1 have little incentive to redevelop their properties or sell (e.g., for instance car dealerships that have long-term lease relationships with property owners).

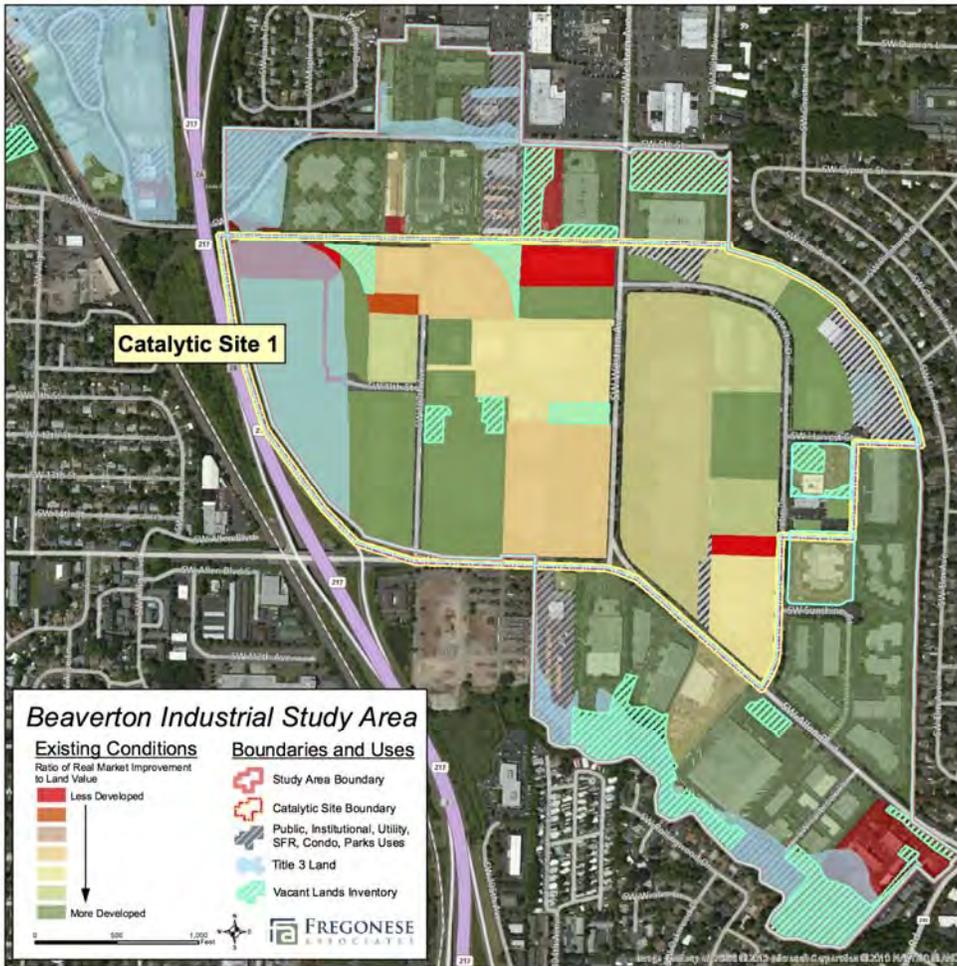
Site 1 also lacks connectivity and suffers from needed infrastructure improvements. Unlike the old town area to the south, Site 1 is not arrayed in a grid pattern and the existing street system is unpredictable for those unfamiliar with the area. The street system creates oddly shaped blocks and parcels (e.g., triangles or narrow and long rectangles) that make development of traditional square building products difficult. Oddly shaped parcels also limit automobile accessibility and on-site parking opportunities (e.g., little to no space for parking in front or in back of the property).

The developers also report that achievable rents in the Beaverton downtown area are not high enough to make desired development products pencil out at this time. If rents are not high enough, developers cannot justify building to the density and parking ratios local plans and zoning codes desire (e.g., higher parking ratios necessitate more costly underground parking). This is a major factor inhibiting redevelopment in the area, and it is an issue driven by the current state of the market rather than existing policy.

A large scale development would be very difficult to produce; there are 4.5 times more parcels per acre within Site 1 relative to the UGB average, with an average size of roughly 16,000 square feet. This size is too small for any of the regionally viable *Climate Smart Communities* building types without land assembly, except for low - to - medium density attached and multi-family housing (C, D, E, E3, E4, H, H1), and small scale commercial (L4). The narrow lots, non-traditional street system, and owners with little incentive to redevelop work together to make land assembly a very difficult task in this area.

B.7 BEAVERTON INDUSTRIAL

Figure B.7.1 Beaverton Industrial study area.



Data sources: Metro RLIS, April 2012; Bing aerial basemap 2012.

tenth of the area. Catalytic Site 1 has an even greater share of industrial land (65.1%). The unused/unoccupied land within the study area and catalytic site may have been previously used for industrial purposes. Parcel size, on a per acre basis, is consistent between the study area and Site 1. Assessor-estimated market values for improvements are higher in the study area: this fact is confirmed by Figure B.7.1, which suggests high levels of development on parcels across the study area. Much of the future development in the area, if it occurs, will have to involve re-use of existing industrial buildings or tear-downs. Real market land values are consistent between the two areas; these values are low relative to denser and more urban case study areas.

Study area summary

The Beaverton Industrial study area includes the Beaverton urban renewal commercial, office, and industrial employment area, including Metro Title 4 lands east of Highway 217. The study area is bisected by SW Western Ave; Highway 217 falls along the western boundary. Catalytic Site 1 is bounded by SW Allen Rd to the south and cuts along railroad tracks in the north.

Figure B.7.2 below displays summary statistics for the study area and the catalytic site. According to this figure, the study area is predominately land used for industrial purposes, with commercial uses making up roughly one-

Figure B.7.2 Beaverton Industrial study area summary statistics

Statistic	Units	Catalytic Site 1	
		1	Beaverton Industrial
Area/Density			
Area	Acres	172.0	313.6
Parcels (excl. res, public)	Total/Acre	0.2	0.3
Land Use			
Commercial	Pct of Total	2.1%	12.7%
Industrial	Pct of Total	65.1%	56.5%
Single Family Residential	Pct of Total	0.0%	0.0%
Condominium	Pct of Total	0.0%	0.0%
Multi-Family Residential	Pct of Total	0.0%	0.0%
Public/Institutional/Utility	Pct of Total	5.0%	9.8%
Unused / Unoccupied	Pct of Total	27.8%	21.0%
Other	Pct of Total	0.0%	0.0%
Real Market Value			
Land Value	\$/SqFt	\$ 4.39	\$ 5.09
Improvement Value	\$/SqFt	\$ 8.06	\$ 11.71
Total	\$/SqFt	\$ 12.44	\$ 16.80

Source: ECONorthwest.

Note: Real market value figures exclude public, institutional, and residential uses.

Development assessment

Figure B.7.3 below presents a quantitative assessment of development challenges facing the catalytic site, in addition to measures of parcelization. According to the metrics, Site 1 is facing challenges posed by some metrics but not others: there is less vacancy per acre and more land designated as brownfield relative to the study area. Floodplain-designated land is less concentrated per acre and based on assessor market values, Site 1 is also less developed as a function of estimate land to improvement values (IMP/LV ratio). The study area has almost six times the brownfield designated land per acre than the UGB, owing the high proportion of industrial uses.

Figure B.7.3 Beaverton Industrial development assessment metrics.

Metric	Units	Catalytic Site Relative to Study Area	Average Values for:	
		1	Study Area Beaverton Industrial	Region UGB
of Land Availability				
Vacancy	SqFt/Acre	✘	3,374.8	7,309.9
Brownfields	SqFt/Acre	✘	12,509.8	1,917.7
IMP/LV Ratio	SqFt/Acre Over .75	○	28,451.5	15,122.9
Metro Title 3 Land	SqFt/Acre	○	6,143.1	5,167.5
of Parcelization				
Parcel Size	Parcels/Acre	■	0.3	0.6
Ownership	Owners/Acre	✘	0.3	0.3
Lot Coverage	SqFt/Acre	■	11,676.4	5,212.4

Source: ECONorthwest

Note: Real market value figures exclude public, institutional, and residential uses.

The parcelization metrics in Figure B.7.3 indicate Site 1 exhibits characteristics of parcelization: compared to the study area, Site 1 has greater than 10% more owners per acre. Relative to the UGB, however, neither the study area nor Site 1 are parcelized: both areas have larger parcels, on average, compared to the UGB. The study area parcels are equal, however, to the average size of industrial parcels across the entire UGB (0.3 parcels per acre, or roughly 3.3 acres per parcel).

From the developer's perspective, the intent of the Beaverton Civic Plan is to catalyze job growth in the area. But this cannot be done without connectivity: it is vital to get rid of anything that impedes traffic flow and connectivity, and make the area accessible to the already-existing WES commuter line. The truck traffic moving on and off Highway 217 will be an impediment to creating pedestrian friendly zones within the area. The City should also make clear what it envisions for the area in the future: Does it make sense to reduce the intensity of the industrial uses and work to achieve commercial or flex (e.g., office industrial)? Are retail and restaurant uses desirable and feasible in the future?

It does appear, however, that parcelization is not a problem here—in fact, parcels are too big, and too institutional if the goal is to encourage less intense industrial and commercial uses. The parcels, as they currently exist, are likely too large to encourage incubator or flex spaces. In fact, the large parcels produce a development opportunity because they can be master planned, if necessary, and subdivided for smaller-scale and/or higher density uses as existing and future zoning allows.

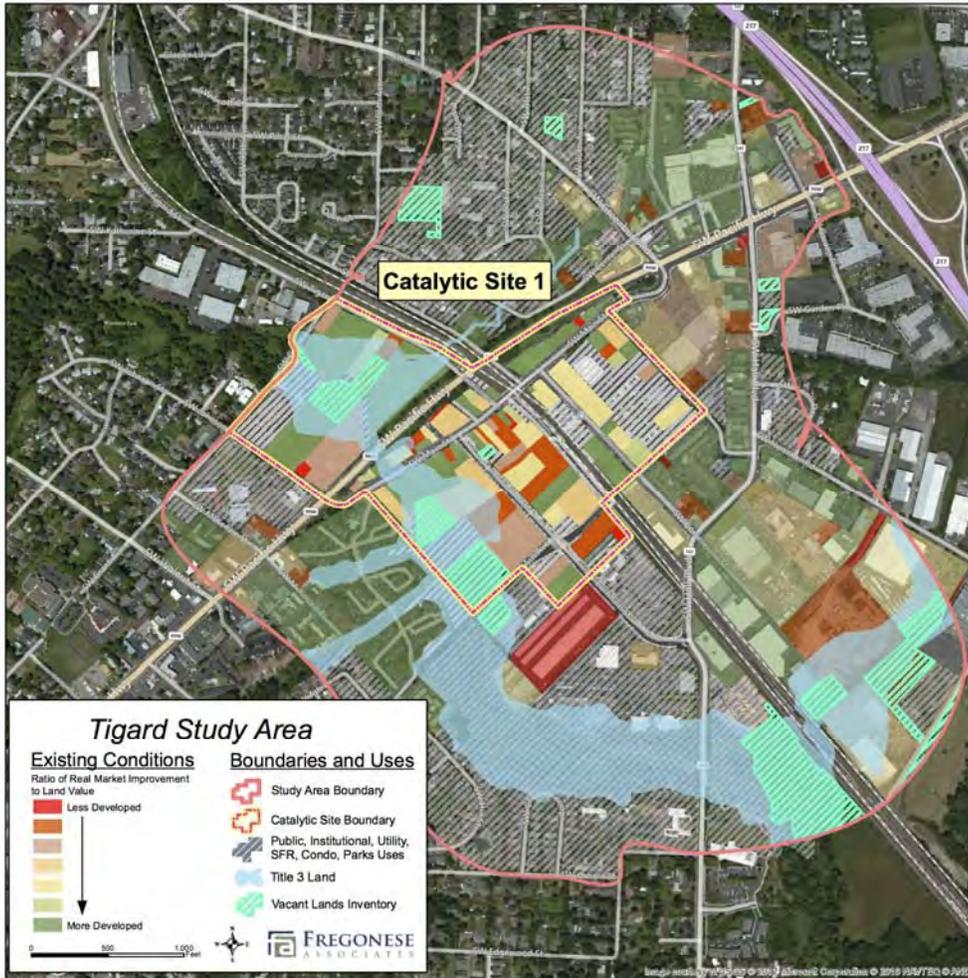
City staff indicate that Site 1 is a priority area for the City for employment growth and reinvestment as identified in the Civic Plan. The City has few Industrial or Office Industrial lands within its limits, and this area is identified as a primary redevelopment opportunity for Office Industrial in the near future. The study area is within a recently approved Urban Renewal Area, which was created to help overcome known development impediments related to infrastructure and floodplain, and spur development of these types of uses.

The average Site 1 parcel size is roughly 222,000 square feet, which is large enough for any of the *Climate Smart* building types. This average is twice as large as the UGB average. 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).

B.8 TIGARD

Figure B.8.1 Tigard study area.



Data sources: Metro RLIS, April 2012; Bing aerial basemap 2012.

the study area is not dominated by any single use, and is made up of a mix of commercial, industrial, SFR, and public/institutional/utility uses. Catalytic Site 1 is predominately commercial, with public/institutional/utility uses making up almost one-quarter of the area. There are roughly twice as many parcels per acre, on average, in Site 1 relative to the study area. Assessor-estimated market values for land and improvements are higher per square foot within the catalytic site, owing to a higher percentage of commercial uses, its central location, and proximity to transportation infrastructure.

Study area summary

The Tigard study area includes the Metro SW Corridor Plan Downtown Tigard focus area. The major east-west oriented highway intersecting the study area is SW Pacific Hwy (99W)., SW Hall Blvd bisects the study area north-south, and Interstate 5 follows the eastern boundary. Catalytic Site 1 contains the historic downtown area and is bounded roughly by SW Grant Ave to the north and SW Ash Ave to the south. It is bisected by railroad tracks that carry the WES transit line.

Figure B.8.2 below displays summary statistics for the study area and catalytic site. According to this figure,

Figure B.8.2 Tigard study area summary statistics.

Statistic	Units	Catalytic Site	Study Area
		1	Tigard
Area/Density			
Area	Acres	84.5	427.0
Parcels (excl. res. public)	Total/Acre	1.9	1.1
Land Use			
Commercial	Pct of Total	50.2%	23.1%
Industrial	Pct of Total	13.0%	16.7%
Single Family Residential	Pct of Total	6.0%	18.5%
Condominium	Pct of Total	0.0%	0.2%
Multi-Family Residential	Pct of Total	5.9%	11.8%
Public/Institutional/Utility	Pct of Total	22.5%	26.3%
Unused / Unoccupied	Pct of Total	2.4%	3.4%
Other	Pct of Total	0.0%	0.0%
Real Market Value			
Land Value	\$/SqFt	\$ 12.96	\$ 9.96
Improvement Value	\$/SqFt	\$ 15.11	\$ 14.25
Total	\$/SqFt	\$ 28.07	\$ 24.21

Source: ECONorthwest.

Note: Real market value figures exclude public, institutional, and residential uses.

Development assessment

Figure B.8.3 below presents a quantitative assessment of development challenges facing the Catalytic Site 1, in addition to measures of parcelization. According to the metrics, Catalytic Site 1 is facing many challenges with regards to physical site characteristics: relative to the study area (excluding single family and public uses), there exists more brownfields and land with natural hazard risk (Title 3 land) on a per acre basis. Vacancy, however, is greater than 10% above the study area average. Based on assessor market values, the site is just developed as a function of estimated land to improvement values (IMP/LV ratio), and each are more developed than the UGB on average. Compared to the UGB, the study area has significantly more identified brownfields and land at risk for flood and landslide hazards, on a per acre basis.

The parcelization metrics in Figure B.8.3 indicate Catalytic Site 1 is more parcelized than the study area as a whole: The number of parcels and owners are higher per acre relative to the study area. Lot coverage is roughly similar, however, indicating development of consistent density.

According to City staff, multiple Tigard-area redevelopment opportunity studies have recognized achievable rents as not being high enough to make desired development products pencil out as the main obstacle inhibiting Downtown Tigard redevelopment. If rents are not high enough, developers cannot justify building to the density and parking ratios local plans and zoning codes desire (e.g., higher parking ratios necessitate more costly underground parking). The Tigard City Center Redevelopment Agency is willing to consider incentives for private sector developers to help mitigate these issues, but the right project has not yet been proposed. Additionally, there exist many owners with fully capitalized development, stable rents, and thus little to no compelling reason incur risk and redevelop.

City staff also noted that parcelization has proven a factor that has inhibited study area development. Developers looking for 4 acre sites, for instance, have only been able to find one or two suitable options. Average parcel sizes within Site 1 are a fraction of this amount: 23,000 square feet (0.5 acres). Of the *Climate Smart Communities* building types consistent with existing zoning (C, D, E, E1, E2, F, H, H1, H2, L1, L4) land assembly would be required for all except for C or D (medium to high density attached housing), E, E1, F (multi-family residential), H1 (low density mixed use residential/retail), or L4 (small scale main street commercial). Development of C, D, or H1 would only be feasible – regardless of current zoning – on just fewer than half of the parcels within Site 1. Commercial development consistent with the size and density of L4 would be feasible – regardless of current zoning – on roughly 71.5% of the parcels before assembly. Many of the parcels, such as those facing SW Main St on the south side of the street, are long and narrow, which may pose issues of accessibility (e.g., little to no space for parking in front or in back of the property) for some potential users. The remaining building types require parcel sizes of greater than 25,000 square feet, and would be difficult to develop without assembly on all but a handful of parcels. Larger sites would make development of more desired building products easier, but this factor alone would not change the

Figure B.8.3. Tigard development assessment metrics.

Metric	Units	Catalytic Site Relative to Study Area	Average Values for:	
		1	Study Area Tigard	Region UGB
of Land Availability				
Vacancy	SqFt/Acre	○	2,177.6	7,309.9
Brownfields	SqFt/Acre	✘	6,205.4	1,917.7
IMP/LV Ratio	SqFt/Acre Over .75	■	26,214.3	15,122.9
Metro Title 3 Land	SqFt/Acre	✘	8,891.1	5,167.5
of Parcelization				
Parcel Size	Parcels/Acre	✘	1.1	0.6
Ownership	Owners/Acre	✘	1.5	0.3
Lot Coverage	SqFt/Acre	■	7,692.6	5,212.4

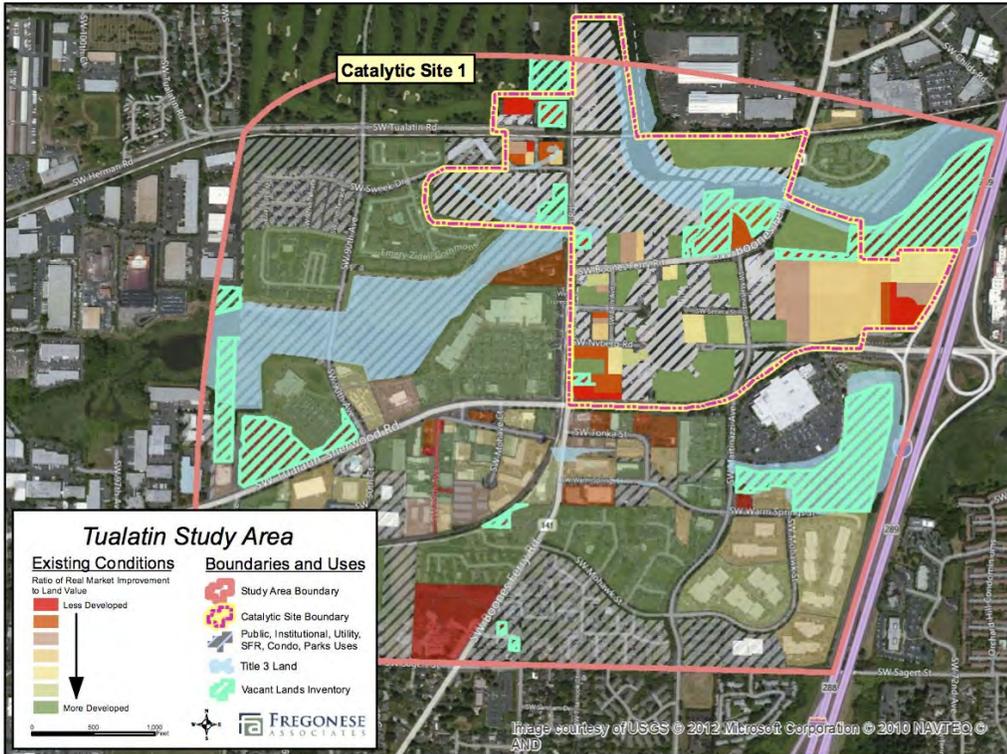
Source: ECONorthwest

Note: Excludes public, institutional, utility, single family residential, and condo

overall equation: expected rents are not yet high enough to attract private sector investment without public incentives.

B.9 TUALATIN

Figure B.9.1 Tualatin study area.



Data sources: Metro RLIS, April 2012; Bing aerial basemap 2012.

Study area summary

The Tualatin study area is identical to the Metro SW Corridor Plan Downtown Tualatin focus area. Major east-west oriented roads and highways intersecting the study area are SW Nyberg Rd, with SW Sagert St as the southern boundary. SW Tualatin Rd bisects the study area north-south and Interstate 5 is the eastern boundary. Catalytic Site 1 is generally the area

bounded by SW Tualatin Rd, SW Nyberg St, Interstate 5, and SW Boones Ferry Rd.

Figure B.9.2 displays summary statistics for the study area and the catalytic site. According to this figure one-third of the study area is made up of commercial uses with roughly one-fifth being public, institutional, and utility uses. Catalytic Site 1 is over one-third commercial, with a higher percentage used for public, institutional, and utility uses (42.3%). Relative to the rest of the study area, Site 1 has almost three times as many parcels per acre on average. In addition to being more dense, assessor-estimated market values for land and improvements are significantly higher per square foot within the catalytic site.

Development assessment

Figure B.9.3 below presents a quantitative assessment of development challenges facing the study area and catalytic site, in addition to measures of parcelization. According to the metrics, Catalytic Site 1 is not facing many challenges with regards to physical site characteristics: relative to the study area (excluding single family and public uses), there exists nearly the same amount of vacancy and land identified as at risk for flood and

Figure B.9.2 Tualatin study area summary statistics.

Statistic	Units	Catalytic Site	Study Area
		1	Tualatin
Area/Density			
Area	Acres	143.1	634.1
Parcels (excl. res, public)	Total/Acre	1.1	0.4
Land Use			
Commercial	Pct of Total	35.3%	32.2%
Industrial	Pct of Total	4.9%	11.8%
Single Family Residential	Pct of Total	0.9%	2.8%
Condominium	Pct of Total	3.2%	4.7%
Multi-Family Residential	Pct of Total	5.4%	19.1%
Public/Institutional/Utility	Pct of Total	42.3%	21.3%
Unused / Unoccupied	Pct of Total	5.0%	8.1%
Other	Pct of Total	0.0%	0.0%
Real Market Value			
Land Value	\$/SqFt	\$ 16.75	\$ 10.17
Improvement Value	\$/SqFt	\$ 20.36	\$ 15.53
Total	\$/SqFt	\$ 38.12	\$ 25.70

Source: ECONorthwest.

Note: Real market value figures exclude public, institutional, and residential uses.

landslide hazards (Title 3 land). Based on assessor market values, Site 1 is less developed as a function of estimated land to improvement values (IMP/LV ratio), and has significantly less brownfield-identified land per acre. Compared to the rest of the UGB, the study area and catalytic site has less vacancy and is more developed on a square foot per acre basis. The study area also has higher instances of brownfields. Compared to the UGB, the study area is displaying more obstacles for development in terms of land availability.

The parcelization metrics in Figure B.9.3 indicate the catalytic site is more parcelized than the study area as a whole. Within Site 1 the concentration of parcels and owners is greater than 10% higher, per acre, compared to the study area. Lot coverage is lower within the catalytic site, however, indicating that while parcel sizes are smaller their uses are not as dense relative to the study area.

Figure B.9.3. Tualatin development assessment metrics.

Metric	Units	Catalytic Site Relative to Study Area	Average Values for:	
		1	Study Area Tualatin	Region UGB
of Land Availability				
Vacancy	SqFt/Acre	■	3,049.3	7,309.9
Brownfields	SqFt/Acre	○	2,845.6	1,917.7
IMP/LV Ratio	SqFt/Acre Over .75	○	25,396.2	15,122.9
Metro Title 3 Land	SqFt/Acre	■	5,868.8	5,167.5
of Parcelization				
Parcel Size	Parcels/Acre	✘	0.4	0.6
Ownership	Owners/Acre	✘	0.6	0.3
Lot Coverage	SqFt/Acre	○	5,913.2	5,212.4

Source: ECONorthwest

Note: Excludes public, institutional, utility, single family residential, and condo uses.

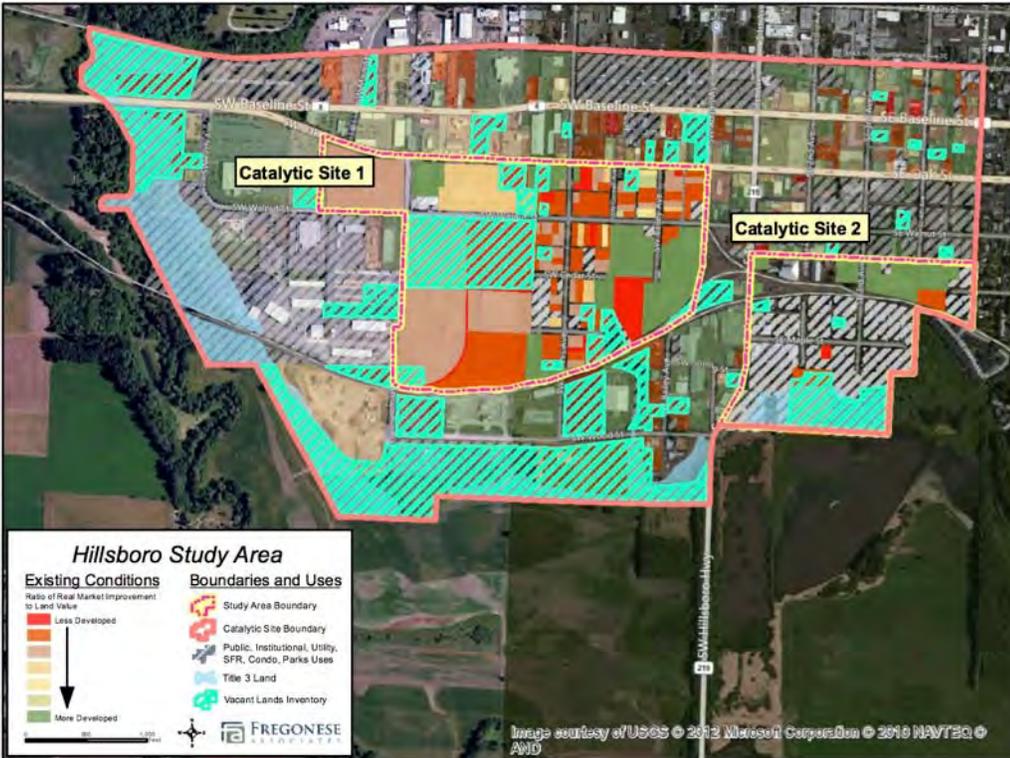
The City has long recognized that the development of Tualatin’s downtown has been challenging due to fragmented parcels. In 1975, Tualatin created the Central Urban Renewal District to help solve this issue and spur development of a more vibrant town center. City staff note that it is not surprising that two of the highest valued properties and most successful developments are the two largest parcels at the northwest corner of SW Tualatin-Sherwood Rd and Martinazzi Avenue (located in the southeast corner of Catalytic Site 1). City staff also recognizes that opportunities for catalytic development exist in areas such as the northeast corner of Tualatin-Sherwood Road and Boones Ferry Road but it is being hampered by parcelization and competing desires of multiple owners. In addition, several of the properties north of SW Boones Ferry Rd face wetland and floodplain issues (hence the large amount of park land in the northern part of the study area).

The metrics in Figure B.9.3 indicate that there is room for additional development within Catalytic Site 1, and that parcelization may be inhibiting that growth. The area is also facing market-related challenges. Developers indicate that land values are still a little too high in the study area to make spec office/commercial developments (e.g., built with no prelease) feasible. Further, targeted infrastructure improvements could improve connectivity among pedestrians, cars, and transit riders. A land use visioning process now in a draft stage, Linking Tualatin, promises to address these issues and increase area densities.

Linking Tualatin identifies a target density of about 18 dwelling units/ acre for multi-family residential developments in the downtown area. For commercial and retail uses, densities envisioned are roughly 20 jobs/acre. Comparable *Climate Smart Communities* building types suggest uses at these densities require 20,000 (MFR) and between 5,000 and 40,000 (office, commercial, mixed-use) square foot lots. The average lot size in Site 1, excluding public/institutional, and SFR uses is roughly 39,000 square feet. Therefore, land assembly – by pulling together adjacent commercial, MFR uses, or converting land with an institutional use – would be necessary to achieve high intensity commercial and mixed-use building types, but may be large enough for moderate density multi-family residential building products. Adapting policy to allow lower parking ratios and increased maximum heights could be a solution, but such development may not prove feasible due to higher construction costs (and rents), and a lack of desire by residents to live without a parking stall.

B.10 HILLSBORO

Figure B.10.1 Hillsboro study area.



Study area summary

The Hillsboro study area is roughly identical to the Old Town Refinement Plan Southwest Plan Area Major east-west oriented roads and highways intersecting the study area are SW Baseline St and SW Oak St. SW Hillsboro Hwy (S 1st Ave) bisects the area north-south. Catalytic Site 1 contains the intersection of SW Walnut St and SW Dennis Ave, and is bounded to the south by railroad tracks.

Data sources: Metro RLIS, April 2012; Bing aerial basemap 2012.

Catalytic Site 2 falls to the southeast of the study area, and contains the intersection of SE Maple St and SE 3rd Ave.

Figure B.10.2 below displays summary statistics for the study area and the two catalytic sites. According to this figure, the study area is roughly equal parts commercial, industrial, and public/institutional/utility uses. The City of Hillsboro Downtown Community Plan building use inventory from November 2009 suggests that the case-study area (and Site 1) have more single family residential uses and fewer commercial/industrial uses than Figure B.10.2 indicates. Half of the Catalytic Site 2 area is used for single family residential, with industrial uses being the second most predominate use. Average parcel size, per acre, is consistent between Site 1 and the study area; non-residential and

Figure B.10.2. Hillsboro study area summary statistics.

Statistic	Units	Catalytic Site		Study Area
		1	2	Hillsboro
Area/Density				
Area	Acres	106.7	53.9	613.4
Parcels (excl. res. public)	Total/Acre	1.6	1.0	1.6
Land Use				
Commercial	Pct of Total	27.6%	4.3%	27.6%
Industrial	Pct of Total	50.0%	22.1%	25.1%
Single Family Residential	Pct of Total	2.6%	49.2%	7.0%
Condominium	Pct of Total	0.0%	0.0%	0.0%
Multi-Family Residential	Pct of Total	0.0%	0.0%	0.6%
Public/Institutional/Utility	Pct of Total	2.6%	17.8%	28.6%
Unused / Unoccupied	Pct of Total	17.0%	6.6%	11.5%
Other	Pct of Total	0.0%	0.0%	0.0%
Real Market Value				
Land Value	\$/SqFt	\$ 6.79	\$ 2.23	\$ 7.51
Improvement Value	\$/SqFt	\$ 4.01	\$ 7.83	\$ 7.91
Total	\$/SqFt	\$ 10.80	\$ 9.86	\$ 15.42

Source: ECONorthwest.

Real market value figures exclude public, institutional, and residential uses.

Note: City of Hillsboro Downtown Community Plan building use map (Nov 2009) suggests that the case-study area and Site 1 have fewer commercial and industrial uses, and more single family residential uses, than the Metro RLIS data and Figure B.10.2 indicate.

public parcels within Site 2 are larger, on average. Land and improvement values in both sites are lower than the study area average (Site 1 having significantly lower improvement values; Site 2 having significantly lower land values).

Development assessment

Figure B.10.3 below presents a quantitative assessment of development challenges facing the two catalytic sites, in addition to measures of parcelization. According to the metrics Catalytic Site 1 has more brownfields relative to the study area, owing to the large proportion of industrial uses, but does not face additional land availability challenges. Catalytic Site 2 has additional constraints due to vacancy and Title 3 land (located in the southern portion of the site) but has less brownfield identified land relative to the study area and Site 1. Based on assessor market values, Site 2 is just as developed as a function of estimate land to improvement values (IMP/LV ratio

The parcelization metrics in Figure B.10.3 indicate that Catalytic Site 1 features characteristics of parcelization relative to the study area, with greater than 10% more parcels and lot coverage per acre. Catalytic Site 2 has the opposite characteristics: fewer than 10% less parcels and owners per acre than the study area. Lot coverage is greater within each catalytic site, indicating higher development densities relative to the study area.

Figure B.10.3 Hillsboro development assessment metrics.

Metric	Units	Catalytic Site Relative to Study Area		Average Values for:	
		1	2	Study Area Hillsboro	Region UGB
of Land Availability					
Vacancy	SqFt/Acre	■	✗	8,264.6	7,309.9
Brownfields	SqFt/Acre	✗	○	3,060.7	1,917.7
IMP/LV Ratio	SqFt/Acre Over .75	○	■	16,984.8	15,122.9
Metro Title 3 Land	SqFt/Acre	○	✗	4,980.8	5,167.5
of Parcelization					
Parcel Size	Parcels/Acre	■	○	1.5	0.6
Ownership	Owners/Acre	✗	○	2.8	0.3
Lot Coverage	SqFt/Acre	✗	✗	6,304.8	5,212.4

Source: ECONorthwest

Note: Excludes public, institutional, utility, single family residential, and condo uses.

City staff reports that a multitude of owners with sometimes competing interests is a contributing factor in the lack of coordinated redevelopment and reuse in the area to date. Another likely factor is the low cost of ownership for many property owners who have fully capitalized residential or commercial rental units on their property. For cash-flow reasons, these owners have little incentive to tear down existing, low intensity uses in order to invest significant capital in redevelopment of small sites.

Catalytic Site 2 faces several challenges unrelated to parcelization: for instance, the presence of aging mobile home parks, poor infrastructure (e.g., especially unimproved streets and lack of lighting, little pedestrian or bike access, etc.). Many of the sites have historic industrial/agriculture use, causing brownfield issues. One brownfield site, the City’s fleet and facilities site along S 1st Ave, would make an attractive transit-oriented mixed-use redevelopment opportunity if issues with cleanup could be resolved. Catalytic Site 1 also contains a couple of old mobile home parks that present unique challenges for redevelopment (partially because of their protected status under state law) if an appropriate opportunity presented itself. This area might be appropriate for small-scale manufacturing reuse or even mixed use redevelopment in the future if market conditions improve and produce a return on investment (ROI) high enough to attract private investment.

In the Old Town area, according to city staff, redevelopment challenges partially spring from the economics of redevelopment (e.g., the cost of land plus redevelopment costs do not create an ROI sufficient to spur changes in use or attract investment). Redevelopment has occurred recently in the style of single-family residential “plexes” (similar to building type E) south of the railroad tracks and

north of Jackson Bottom along SE Heathcliff Ln and SE Bronte Way. The City's Downtown Framework Plan suggests building types such as H, H1 mixed with L1, M1 and even L4 along SW Oak and SW Baseline St would be appropriate. The average parcel size in Site 1, excluding public/institutional uses, is under 30,000 square feet and may only be large enough for small scale commercial (L4), attached housing (C or D), or moderate density multi-family residential (E, E1, E3) without land assembly.