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Market Analysis for Regional Transfer of Development Rights in Central Puget Sound

Design, Community and Environment

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EXECUTIVE SUMMARY

A. Introduction

This report is meant to inform the creation of a regional Transfer of Development Rights (TDR) program for the four-county central Puget Sound area, which was directed by the state legislature in Chapter 43.362 RCW, enacted in July 2007. This report is focused on analyzing the market feasibility of a regional TDR program and providing the Washington State Department of Community, Trade and Economic Development (CTED) with recommendations on how the program should be structured. The report was commissioned by CTED to inform CTED and its Policy Advisory Committee as they formulate recommendations to the Legislature and the Governor on how to implement a regional TDR program.

Local governments have always had the option of adopting a TDR program under the planning laws of the State. TDR programs are encouraged under the Growth Management Act (GMA) as an innovative land use technique. All four counties have adopted such a program; and several cities also have TDR programs.

It is important to note that a TDR program is only one of many different land conservation programs used in the Puget Sound region and elsewhere. A TDR program is not a policy goal, but, rather, an implementation tool designed to help achieve policy goals associated with land conservation and urban development.

CTED hired the consultant to provide the following:

- Conduct a study of the feasibility of establishing one or more TDR market mechanisms in the four central Puget Sound counties, including a TDR bank, brokerage, or direct buyer-seller exchange.
- Conduct an analysis of the market for acquiring and selling TDRs in the four central Puget Sound counties.
- Assess the feasibility of inter-jurisdictional transfers of development rights relative to intra-jurisdictional transfers.

- Develop a methodology for determining exchange rates that would support the successful transfer of development rights from designated sending areas in one jurisdiction to receiving areas in another.

This work is intended to inform CTED and their Policy Advisory Committee in developing a regional marketplace for TDRs in central Puget Sound and possibly making legislative recommendations as well.

B. Receiving-Area Analysis

Based on a set of criteria designed to provide geographical balance and a wide variety of market and regulatory situations, nine receiving areas were selected for market analysis. These nine were:

- **King County:** Redmond, Tukwila, and Carnation in King County. In Redmond, the receiving area was in the vicinity of Microsoft; in Tukwila, in the vicinity of Southcenter Mall; and in Carnation, the downtown area.
- **Kitsap County:** Downtown Bremerton.
- **Snohomish County:** Downtown Everett and a single-family greenfield location outside Arlington in the unincorporated urban growth area (UGA)[1].
- **Pierce County:** Downtown Tacoma; the Martin Luther King district in Tacoma; and a large-lot subdivision district in unincorporated UGA of South Hill.

These case study receiving areas are located throughout the Puget Sound region (see regional map in Appendix G) and represent a range of sizes from the small rural City of Carnation with about 4,000 residents, to the high-rise City

[1] Two scenarios were examined for the unincorporated UGA outside Arlington. The first looked at the existing area and the second examined a hypothetical UGA expansion that required use of TDRs.

of Tacoma with over 200,000 residents. The goal was not to be conclusive for all cities in the region, but rather provide information about illustrative receiving areas from a wide variety of situations around the region.

Our methodology was to identify a prototypical development project for each receiving area in consultation with local real estate experts and the individual local government, and then conduct a financial pro forma analysis to determine whether such a project would be feasible. Part of the pro forma analysis is to determine how much value receiving-area developers would place on the additional density or other benefits they would receive by purchasing transferable development rights.

In most cases, we assumed that the benefit that TDR purchasers would receive was the ability to build more residential units than would otherwise be the case. However, the report recognizes that TDRs from sending areas could be converted into a wide variety of other "commodities" that buyers can use in receiving areas, including commercial floor area, lower parking ratios, the ability to create more impervious surface, higher buildings and other benefits. Some existing TDR programs, including those in Redmond and Issaquah, already permit some of these "conversion commodities".

Regarding our pro forma analysis, however, the goal is to try to determine how much these developers are "willing to pay" for more density or these other commodities. That is why we call this a "Willingness To Pay" analysis (see Table ES-1).

Consistent with this range of study areas, the developments analyzed range from 12-story condominium towers in Bremerton to single-family subdivisions in Arlington and South Hill. We concluded that, in most cases, developers were willing to pay some amount for the ability to build additional density. The highest "willingness to pay" – more than $100,000 – was found in downtown Tacoma. We found that TDR purchases for higher density were not economically feasible in Everett, Bremerton, or Arlington. We did conclude, however, that TDR purchases might be feasible in Bremerton in

TABLE ES-1 **RESULTS OF RECEIVING AREA WILLINGNESS TO PAY MARKET ANALYSIS**

	Bremerton	Tacoma DR	Tacoma MLK	South Hill (0.25)[a]	South Hill (0.5)[a]
Total Max WTP	$2,603	$4,111,456	$22,379	$332,829	$120,289
Max WTP/unit	$90	$105,422	$1,721	$36,981	$13,365
Max WTP/SF	$0	$93	$2	$26	$10

	Carnation	Redmond	Everett	Arlington[b]	Tukwila
Total Max WTP	$25,913	$763,936	–	$481,733	$154,851
Max WTP/unit	$12,957	$0	–	$1,570	$1,936[c]
Max WTP/SF	$6	$35	–	$1	$6

[a] Two scenarios were conducted in South Hill, one assuming the development is 0.25 miles from the main infrastructure hookup and the other 0.5 miles away from the hookup.
[b] This is the result of a hypothetical scenario, the current scenario in Arlington is infeasible.
[c] A unit in Tukwila is a Parking Stall.

the future when the real estate market is again strong. Through the Arlington we concluded there is potential to link TDRs to some developments proposed in recently annexed UGA areas.

C. Sending-Area Analysis

This report also analyzed the likely value of development rights in sending areas where the policy goal is to conserve undeveloped land.

Together, King, Pierce, Snohomish and Kitsap Counties have identified over 1.7 million acres of TDR sending areas in their respective TDR programs.[2] For the purposes of this study, we have confined our analysis to a smaller area of approximately 372,000 acres of TDR sending areas, which includes smaller areas in King and Pierce Counties and all of the Snohomish and Kitsap sending areas.

In general, we concluded that the range of values for development rights in the Puget Sound region is approximately as follows, based on 2006-2008 market sales:

- ***$5,050 per acre and below:*** Low density farm and forest land.
- ***$7,000 to $11,500 per acre:*** Higher-value farmlands and most rural land in Kitsap.
- ***$14,500 to $22,000 per acre*:** Most rural land in King County and the highest-density rural Kitsap lands. This range represents lands that are under development pressures yet still within a feasible value range to effectively allocate development right ratios.
- ***$30,000 and up per acre*:** Land selling for a premium under current market conditions, the highest of which is 5-acre lots outside Redmond.

D. Supply and Demand Analysis

Based on information we gathered for both the sending- and receiving-area locations, we estimated the supply of TDRs in sending areas and the theoretical maximum demand for TDRs in receiving areas. It is important to note, however, that these figures represent only those areas we studied in the report – 372,000 out of 1.7 million acres of sending-area land and nine small receiving areas for which we conducted market analysis (see Table ES-2).

[2] The sending area used for Snohomish County is based on a proposed county-wide program that was under consideration during this study but that the County chose not to adopt.

TABLE ES-2 **SENDING AREA SUPPLY ANALYSIS**

Sending Area	Zone	Number of Parcels	Total Acres	Total Units	Total Dev. Rights	Rem. Dev. Rights
King – Carnation	A-35	525	12,979	188	371	183
	RA-5	2,112	13,039	1,216	2,608	1,392
	RA-5 SO	78	1,071	29	214	185
	RA - 10	1,073	9,722	507	972	465
King – Redmond	RA- 5	9,160	18,704	7,638	3,741	-3,897
	RA-5 P	889	2,470	665	494	-171
King – Tukwila	RA-5	9,486	28,203	6,867	5,641	-1,226
	RA-5 SO	1,663	8,575	1,161	1,715	554
Kitsap	RP	7,389	28,383	5,311[a]	2,838	-2,473
	RR	34,360	77,486	25,944[a]	15,497	-10,447
	RW	1,414	49,059	283[a]	2,453	2,170
Pierce	ARL	1,585	24,682	757	2,468	1,711
	FL	892	273,142	25	3,414	3,389
	R-10	1,115	7,474	403	747	344
Snohomish	A-10	4,241	53,990	1,703[a]	5,399	3,696
Total						**14,090**

[a] Calculated by counting number of dwelling improvement records in sending area, zoning descriptions can be found in Table 3-1 on page 3-2.

We concluded that approximately 14,000 unused development rights exist in the sending areas that we analyzed.

Analysis of theoretical demand in receiving areas was more complicated. However, we concluded that in most of the receiving areas we analyzed TDRs could be applied to help create somewhere between several hundred and several thousand housing units. This is a theoretical maximum, because it includes all parcels in our study area, most of which are not likely to be redeveloped with or without TDRs. Also, it is important to understand that the nine receiving areas we analyzed represent a small though important cross-section of possible receiving areas in the region (see Tables ES-3).

E. Ratios and Likely Prices

The diversity of receiving area scenarios and subsequent markets results in a significant range of willingness to pay values from $0 to $105,000 per unit. This mixture of values is reflected in the sending areas as well, with the development right values per acre ranging from $3,000 to $51,000. Given the disparities in values and sending area parcel sizes, it is important to structure a system that includes the whole range of potential TDR market players. We believe there are three options in developing a market:

- **Regional Market**. Under this model, development rights would flow freely throughout the entire region, but transfer ratios would be determined on a subarea basis.
- **Geographical Market**. Under this model, development rights could flow across county lines, but only based on some nexus between sending and receiving areas. For example, such an approach could connect Tacoma to sending areas in King County's Green River watershed, or Carnation to sending areas upriver in Snohomish County.
- **Value Based Market.** This market would include a bank that would set exchange rates based on sending and receiving area economics.

TABLE ES-3 **ESTIMATED CAPACITY AND REVENUE FOR TDR LINKED UNITS TO BE DEVELOPED IN RECEIVING AREAS**[a]

Receiving Area	TDR Units at Buildout	Max WTP	Max WTP – 20%	Revenue Estimate
Number of TDR Linked Units at Prototype Buildout – Floor Area Bonuses				
Bremerton DC	767	–	–	–
Tacoma DR	8.854	$105,422	$84,338	$746,692,501
Tacoma MLK NCX	1.037	$1,721	$1,377	$1,427,538
Everett CBD B-3	4.722	–	–	–
Redmond OBAT	N/A	N/A	N/A	N/A
Carnation CBD	138	$12,957	$10,366	$1,429,614
Number of Parking Spaces Reduced at Buildout				
Tukwila[a]	-3,224	$1,936	$1,549	$4,994,292
Number of Single-Family TDR Units with Upzone				
South Hill MSF[b] (0.25)	9,340	$36,981	$29,585	$276,322,032
South Hill MSF[b] (0.5)	9,340	$13,365	$10,692	$99,863,280

[a] Descriptions of the receiving area zones are located in section 2-C, Receiving-Area Economic Analysis.

[b] Tukwila analyzed 600ft radii around transit stations.

[c] South Hill analyzed 2 scenarios, one 0.25 miles and the other 0.5 miles from infrastructure hook up.

We believe it would make sense to allow some market player, most likely the bank, to buy and sell TDRs in fractions (fractional TDRs), in order to allow more market activity on both the sending and receiving side. Fractional TDRs would serve as a form of currency that would be more flexible than prescribed allocation rates. Based on our market analysis we would expect the

fractional TDRs to be sold in units of $5,000, with the actual fraction dependent on sending-area land value.

In addition, we reach the following conclusions:

1. It might make sense to limit transactions only between those areas that have somewhat similar sending and receiving areas. Otherwise, the net effect of TDR program activity will be to retire development rights on low-value land.
2. If established, a bank will play an essential role, especially at the beginning, in purchasing and banking development rights for later resale when willingness to pay increases in more markets.

F. Inter-jurisdictional Feasibility of Regional TDR Program

In our previous work, we have found that the feasibility of inter-jurisdictional TDRs depends on, above all else, a belief within the receiving-area jurisdiction (usually a City) that "there's something in it for them," either tangible for the jurisdiction or intangible for their constituents. In the context of the Puget Sound, the key is encouraging cities to participate as receiving sites when they already can and are encouraged by the GMA to up-zone for free. The incentive to do so generally depends on the amount of money received and what types of amenities can be funded with the additional revenues from TDR purchases. In practical terms, this falls into one of two categories:

A. There are "shared values" between the two jurisdictions, especially about land conservation, that the TDR program helps promote.

B. There is a financial incentive for the receiving-area jurisdiction.

Based on these considerations, we believe the state could craft a regional TDR Program one of three different ways:

1. **The program could be designed to strengthen and assist local programs.** This could be done by creating a regional bank to assist in local transactions, as well as a regional information clearinghouse and technical

assistance center. The political impediments to this approach would be minimal.

2. **The program could be designed to facilitate selected inter-county transfers.** In addition to undertaking #1, the state could also determine that a very selective inter-county transfer program should be established. This would require the cooperation of subject counties and cities to determine which inter-county sending and receiving areas would be included. It would also require the establishment of a regional or state structure to operate this program.

3. **The State could create a freewheeling regional TDR market.** This would be by far the most aggressive approach, allowing transfers from any sending or receiving area in the region. This would require either cooperation from local governments (possibly involving financial or regulatory inducements) or else a state-sanctioned override of local TDR powers.

We also believe the State has three opportunities to provide funding. Those are:

1. Funding of a regional TDR clearinghouse and technical assistance program.

2. Funding of local amenities and infrastructure improvements in receiving areas.

3. Funding of a regional TDR Bank.

G. Feasibility of Market Mechanisms

Using experiences from other jurisdictions around the country, we analyzed the feasibility of using a variety of market mechanisms in order to stimulate and/or stabilize market activity in a regional TDR program. These included:

- **Information Clearinghouse:** An information clearinghouse role is essential, but it must be played by an "honest broker of information" not otherwise engaged in market activity.
- **Active Transactional Players**: There are at least three different types of active transactional players that can play a role.
  - *Chartered banks:* A typical step is for the sponsoring agency to charter and stake a bank that is charged with "making" and stabilizing the market. This bank can be operated by a public agency or a non-profit entity, but it should be separate for the public agency's land use regulatory role.
  - *Real estate brokers:* Real estate brokers can play an important role in a TDR market, especially if most land transactions involving landowners hoping to develop their property require acquisition of TDRs. The entity playing the clearinghouse function can also play an outreach role to real estate brokers, helping them to understand the TDR market; when TDRs are needed; and how to obtain market information.
  - *Private investors***:** National experience in mitigation banking suggests that private speculators are willing to invest in commodities such as land rights when markets are structured and stable and they see the possibility of a profitable reward. Any outreach associated with the regional TDR program should also include outreach to land investors and land speculators, focusing on those receiving areas which have the most active land markets. This may stimulate some interest among investors.

1. Alternatives to a TDR Market

One way to view a TDR is to think of it as a fee on up-zoning to protect open space and conserve natural resource land. Receiving-area developers pay money for the right to build a higher-density project; and that money is used to protect open space or natural resource land. This process can easily be transformed into a fee, which is paid to a government land conservation agency whose mission is to buy land or development rights for conservation purposes.

An upzoning-for-development-rights fee would be simple to administer and eliminate the need for buyers and sellers to find each other. However, it could delay conservation of land and/or increase the cost. In addition, if it is a voluntary regional fee, receiving-area developers would have to assess whether it is the cheapest method of obtaining more density.

H. Recommendations

Based on our research above, we make the following recommendations:

- ***The regional program should be designed to facilitate selected intercounty transfers.*** In our view, the clearinghouse and banking functions alone would not meet the legislative mandate. The "freewheeling regional TDR program" might lead to many transactions but we believe it would be difficult to achieve program goals. For example, TDR buyers would probably purchase the cheapest TDRs wherever they are located. Therefore, we recommend the creation of a regional program that builds on the existing county programs and permits selected intercounty transactions.
- ***TDRs should be broken into fractional TDRs that function as a currency to transfer development rights from sending to receiving-areas.*** At a price of about $5,000 per fractional TDR, all receiving area projects that are feasible in this analysis can afford to purchase. The modest price also permits TDRs to be effectively included in existing density bonus menus. A regional TDR bank could sell the fractional TDRs to receiving areas and assemble them to purchase complete development rights from sending areas.
- ***The value of sending-area rights should be based on appraisal value with the "use" value subtracted.*** While the cost of an appraisal may be an impediment to sending-area transactions, this is the best method to ensure sending-area landowners receive adequate compensation. If the land owner is able to continue to harvest the land for timber or agricultural

production, the monetary value of the production should be reduced from the appraised value of the property.[3]

- ***Sending-area land-use regulators should be required to adopt a standard method of identifying TDR rights and issuing TDR certificates*** to standardize the regional program mechanics and streamline the process for the information clearing house and the TDR bank.
- ***A regional information clearinghouse should be created*** to track the issuance of TDR certificates; track transactions; provide information on how both regional and local TDR programs work; and conduct outreach to landowners, developers, land speculators and real estate brokers with the goal of stimulating transactional activity on the part of private market players. The clearinghouse should be operated by a government agency, possibly the Puget Sound Regional Council.
- ***A regional TDR bank should be created and capitalized.*** The bank could be capitalized by the state with the understanding that the capitalization would be used as a revolving fund. The bank might also be capitalized with a revenue stream from the real estate excise tax.

  Because the bank must operate as a nimble market player, it should not be housed within a government agency. The bank should be chartered by the state but operated as an independent nonprofit organization. The state could contract with a land conservation nonprofit to operate the bank. However, the bank must play an exclusively transactional role, and the bank needs to be completely separated from other functions, including the creation, revision, and implementation of the TDR programs and policies themselves.
- ***Only the bank should be able to purchase partial increments of sending-area development rights.*** Rounding down to the nearest whole development right for sending-area transactions is an impediment because some landowners will not want to retain small parcels that are undevel-

[3] This is especially true in Washington State where a landowner cannot be paid with public funds for more than the development right is worth. It is prohibited by the state constitution.

opable under existing zoning. The remaining area should be bundled with transactions for one or more development rights all under the same landowner. This will increase the number of transactions by reducing the number of small parcels that would be overlooked in a program that trades only in whole development rights.

- ***The State should use either new or existing revenue, or provide additional local authority to raise revenues, to provide receiving-areas with infrastructure and/or amenity funds.*** If amenity or infrastructure funds are not available, it is unlikely that many jurisdictions will be interested in participating in a regional program. The "carrot" of additional funding, however, may stimulate considerable interest.
- ***We do not recommend the creation of a regional conservation fee instead of a regional TDR program.*** A fee program always creates the problem of "lag time" described above; and fees work better when the TDR or fee is mandatory rather than voluntary.

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1 INTRODUCTION

This report is meant to inform the creation of a regional Transfer of Development Rights (TDR) program for the four-county central Puget Sound area. Creation of the program was directed by the State legislature in Chapter 43.362 RCW, enacted in July 2007. This report is focused on analyzing the market feasibility of a regional TDR program and providing the Washington State Department of Community, Trade and Economic Development (CTED) with recommendations on how the program should be structured. The report was commissioned by CTED to inform CTED and its Policy Advisory Committee as they formulate recommendations to the Legislature and the Governor on how to implement a regional TDR program.

The regional TDR program is focused on four central Puget Sound counties (King, Kitsap, Pierce, and Snohomish), and the 71 cities within their boundaries. A TDR program is a market-based mechanism that encourages the voluntary transfer of growth from places where a community would like to see less development, referred to as sending areas, to places where a community would like to see more development, referred to as receiving areas. The regional program will focus on conservation of rural, agricultural and forest lands. It will build upon existing TDR programs, pilot projects, and private initiatives through the creation of a market-based program in central Puget Sound.

Local governments have always had the option of adopting a TDR program under the planning laws of the State. TDR programs are encouraged under the Growth Management Act (GMA) as an innovative land use technique.[1] King County has had a TDR program for many years and currently operates a TDR bank that holds more than $20 million in development rights. Pierce and Kitsap Counties have adopted county-wide programs and are working on implementation. Snohomish County has an interlocal agreement with the

[1] RCW 36.70A.090.

City of Arlington for a TDR program.[2] King County is the only program that has experienced a transfer of development rights to a receiving area to date. Several cities in the Puget Sound region also have TDR programs, including Seattle, Redmond, and Issaquah.

It is important to note that a TDR program is only one of many different land conservation programs used in the Puget Sound region and elsewhere. A TDR program is not a policy goal, but, rather, an implementation tool designed to help achieve policy goals, especially in sending areas. TDRs can be used to protect undeveloped land from development and maintain that land in revenue-producing rural uses such as farming and timbering; or they can be used to protect low-revenue urban uses, such as affordable housing or historic preservation. In each case, landowners who could reap considerable profit by developing their properties are instead encouraged to maintain lower revenue uses by selling their development rights into receiving areas.

Long before adopting a TDR program, King County had a "purchase of development rights" program, using county bond money to buy development rights from farmers who might otherwise have developed their property. A wide variety of other land conservation programs are in place as well.

CTED hired the consultant to provide the following:

- Conduct a study of the feasibility of establishing one or more TDR market mechanisms in the four central Puget Sound counties, including a TDR bank, brokerage, or direct buyer-seller exchange. The study will include the feasibility of the sponsorship of the market mechanism. For example, the feasibility of sponsorship by the state, local or regional government, or a non-profit organization.

[2] Snohomish County considered adopting a county-wide TDR program earlier this year, but chose not to adopt at this time. It will be working with Arlington to make that program work and pursuing TDRs elsewhere with interlocal agreements, development agreements, and some code revisions.

- Conduct an analysis of the market for acquiring and selling TDRs in the four central Puget Sound counties. The consultant will work with the four counties and at least six cities within them to identify appropriate sending and receiving areas for analysis consistent with the principles in Appendix ?, Working Principles of the Regional Transfer of Development Rights Policy Advisory Committee ("Working Principles"). The analysis will include:
  - A determination of the maximum available supply of, and demand for, TDRs.
  - An evaluation of the "actual" or likely ratios of supply to demand in the TDR market(s). This analysis will be based on development rates in the sending and receiving areas within the various jurisdictions. The analysis will include for each identified sending and receiving area an estimate of developer willingness to pay for TDRs; an estimate of landowner willingness to sell TDRs; and a prediction of the price of the TDR commodity.
- Assess the feasibility of inter-jurisdictional transfers of development rights relative to intra-jurisdictional transfers. The consultant will:
  - Identify the hurdles to accomplishing inter-jurisdictional transfers.
  - Identify potential policies at the state, county, and city levels that would enable development rights to move across political boundaries.
  - Assess whether or not trading "sub-areas" within the four-county region should be established.
- Develop a methodology for determining exchange rates that would support the successful transfer of development rights from designated sending areas in one jurisdiction to receiving areas in another. The methodology will include increased residential density in receiving areas and other incentives such as increased commercial capacity, provision of infrastructure, parks and other urban amenities.
- The consultant will gather information for the above-described analyses from the four central Puget Sound counties, at least six cities within

them, a representative number of landowners in identified sending areas, and a representative number of developers in identified receiving areas.

- The consultant's work will inform CTED and Policy Advisory Committee in developing a regional marketplace for TDRs in central Puget Sound. The consultant's work will also assist CTED and Policy Advisory Committee in making legislative recommendations to the Legislature and the Governor to implement a regional TDR program.

This analysis required for this report took place in several steps.

The largest and most important part of the analysis was a market analysis of illustrative sending and receiving areas around the region. We attempted to estimate the value of TDRs to both sending-area landowners and receiving-area developers; and therefore determine what types of TDR transactions might be feasible. Selected sending areas were chosen from all four counties based upon existing TDR programs; whereas selected receiving areas were chosen in eight jurisdictions based on criteria developed by CTED and their Policy Advisory Committee.

This analysis also provided the basis for a "supply and demand" analysis for TDRs in the region, as well as an analysis of the ratios and likely prices.

This report analyzed inter-jurisdictional issues associated with a regional TDR program, including the role of the state, as well as the feasibility of various market mechanisms.

The intent is to inform CTED and the Policy Advisory Committee about the market feasibility of a regional TDR program and to make recommendations for how the program might be structured, including a market mechanism the feasibility of inter-jurisdictional transfers.

2 RECEIVING AREA ANALYSIS

A. Final Criteria for Selection of Receiving Areas

The receiving areas analyzed in this report represent a mere illustration of receiving areas available in the region. It is not intended as a comprehensive list of possible receiving areas.

The selection criteria for receiving areas were designed to identify a wide range of illustrative situations around the region. They were developed by CTED, in consultation with the Policy Advisory Committee and the consultant team. These criteria included the following:

- At least one city from each of the four counties should be included.
- At least one receiving area will include unincorporated areas within the urban growth boundary.
- At least one combination of sending and receiving areas analyzed will cross county lines and include a topological nexus such as a watershed or valley.
- No receiving area shall be an existing or planned TDR sending area.
- Receiving areas will include at least one area that is embedded in the major urban growth area UGA and at least 1 area located in or adjacent to a UGA that is freestanding or in which the eastern boundary forms the edge of the major UGA.
- Receiving areas should include at least three regional growth centers designated in the Puget Sound Regional Council's Vision 2040. If possible, it would be preferable to get centers in both Metropolitan and Core cities.
- Participating cities should include a mix of population sizes - for example, two large urban cities, two suburban cities, and two smaller more "rural" cities or towns. These parameters are advisory, not mandatory.
- Receiving areas considered should be consistent with the PAC's Working Principles (Appendix B). However, a lack of adequate infrastructure

alone should not in and of itself disqualify a receiving area from consideration.

- Participating cities are committed to providing the level of in-kind cooperation necessary for CTED to successfully complete its analysis.
- If comprehensive planning and zoning revisions are pending in a receiving-area jurisdiction, these proposed revisions will not significantly impair CTED's ability to successfully complete its analysis. However, we are open to including receiving-area jurisdictions interested in identifying planning and zoning revisions that would facilitate a regional TDR program.
- Increased capacity for development in the receiving area is consistent with the goals and requirements of the GMA.
- The receiving-area city or county has a vision or plan for dealing with growth – for example, a subarea plan for higher density, commercial, or mixed use – but for some reason is not "hitting the target" in implementing the vision or plan.

B. Receiving-Area Outreach for Selection of Study Areas

There are 71 cities in the four-county Puget Sound area. Virtually all were contacted through emails and phone calls that inquired about interest in participating in a regional TDR feasibility study. Twenty-seven responded within the timeframe and were surveyed for eligibility to participate through the Selection Criteria and overall interest.[1] Of these, the final pool was distilled to 17 cities and one county with an unincorporated UGA that were interested in the study.

The selection of the final cities and unincorporated UGA to study was compiled by CTED and the consultants to include a wide variety of locations, real

[1] The outreach was conducted on a short timeframe of about two weeks; in so doing the response rate was not as high as could have been possible with more time.

estate markets and types of development. Given more time and resources, it would have been optimal to include all the receiving jurisdictions that were willing to participate in the study[2]. The time and resource constraints meant that the study had to focus on as wide an array of receiving typologies as could be achieved with the participation of eight jurisdictions. The heterogeneous receiving-areas were also chosen because they were interesting and sometimes challenging situations to include TDRs.

Overall the cities and county that were interested in participation as receiving areas in the program had three attributes that attracted them to the study.

1. Many cities had an existing TDR program and wanted to know more about a regional program and how it would compare to existing programs. There was interest in both preserving adjacent open space and farmland as well as increasing TDR transactions in the existing programs.
2. Some cities were underperforming in terms of economic development and growth. These cities looked to a regional TDR program as a method to spark development in areas designated for mixed-use development or slated for redevelopment.
3. Most cities approached the analysis as an opportunity to obtain market information that could inform their own efforts. The typical response was that the city wanted to see how TDRs could be of benefit on a local level or how a TDR program could be implemented. Sometimes this translated into testing how new development regulations work with market conditions; while other times it was to determine how infrastructure costs would affect a development. In the unique case of Pierce County, the analysis provided an opportunity to study the infill potential on relatively small exurban parcels that were overlooked by medium-density tract home developments in South Hill.

[2] Funding for the study had to be expended in fiscal year 2008 per the budget.

1. Selected Receiving Areas

All of the confirmed cities were consistent with the Policy Advisory Committee's Working Principles (criterion #8) with the exception of principle number five, "Prior to designation, receiving areas should have adequate infrastructure planned and funding identified for development at densities consistent with what can be achieved under the local transfer of development rights (TDR) program." Cities that lack adequate infrastructure in terms of this principle are noted in the following discussion.

All of the confirmed cities' and the county's increased capacity for development in the receiving areas was consistent with the goals and requirements of the GMA (criterion #11).

The final receiving-areas selected were:

a. King County

- *City of Redmond*, King County: Located on the edge of the major UGA, this Core city has grown consistently and is becoming a Metropolitan center[3]. Redmond has implemented a successful local TDR program since 1995 that conducts transactions for height bonuses and commodities and provides many options in terms of how and for what types of development allocations can be used. Recently adopted land use and zoning updates in its Overlake urban center and Downtown urban center provide incentives for additional density through TDR, and includes plans for infrastructure enhancements. Further, the city would like to require TDR purchases for development in annexed areas. The City would like to learn how the existing program can benefit from working with a larger regional program.

[3] Per the Puget Sound Regional Council's recently adopted Vision 2040 designation. For more information on this visit http://psrc.org/projects/vision/index.htm.

- *City of Tukwila*, King County: Embedded within the major UGA, this Core city[4] is becoming more urban in character and is willing to participate in a regional TDR program. The city is preparing a Southcenter Mall sub-area plan that could incorporate TDRs. However current development in the area is not building to planned capacity.
- *City of Carnation*, King County: Freestanding from the major UGA, this Small city[5] of 2,000 residents would like to develop more cottages, commercial and industrial space. The city is fitted with new sewer and water systems and can accommodate growth through infill in a mixed-use zone, but the city notes that its capacity for mixed-use and multi-family product probably exceeds demand at this time. Conducting an accurate real estate market assessment has previously proven difficult and it is unlikely this rural city would consider an inter-county transfer.

b. Kitsap County

- *City of Bremerton*, Kitsap County: Embedded within the major UGA, this Metropolitan city has implemented a new sub-area plan with increased permitted densities. Demand for development is high and new developments are building to capacity. Existing infrastructure is adequate. An inter-county TDR program is unlikely to be accepted.

c. Snohomish County

- *City of Everett*, Snohomish County: Embedded within the major UGA, this Metropolitan city decided not to participate in the county TDR program because the council perceived the city would not receive enough amenities to balance the costs of accommodating additional density. The planning department is very interested in participating in this analysis

[4] Per the Puget Sound Regional Council's recently adopted Vision 2040 designation. For more information on this visit http://psrc.org/projects/vision/index.htm.

[5] Per the Puget Sound Regional Council's recently adopted Vision 2040 designation. For more information on this visit http://psrc.org/projects/vision/index.htm.

and hopes that a regional TDR program could revitalize underperforming commercial corridors within the city. Everett is amending a few zoning regulations but nothing that should impede this study. A TDR program in this city could be constrained by affordable housing programs.

- *City of Arlington*, Snohomish County: Freestanding from the major UGA, this city is a Small city. The city is a rural community with planned infrastructure enhancements that will be completed in 2010 and will permit the city to accommodate additional growth. The City currently has an interlocal agreement with Snohomish County to accept TDRs in a designated receiving area from agricultural land surrounding the City. The City perceives the need to reduce developer overhead by providing infrastructure and improving transaction liquidity in order to provide developers with incentives to purchase TDRs. Arlington generally lacks demand for density such that a TDR program resulting in transactions could end up trading units in one area for units in another. A cross-county TDR program could be considered if there was a topographical nexus to the city such as a watershed.

d. Pierce County

- *City of Tacoma*, Pierce County: Embedded within the major UGA, this city is a Metropolitan city under PSRC's Vision 2040 typology. Tacoma has affirmed commitment to this project. In 2007 the council adopted policies for review of options for TDRs and designated mixed-use centers as potential receiving areas. The council also approved a contract to explore TDRs with the Cascade Land Conservancy to produce an analysis regarding inclusion of a TDR component in a comprehensive plan update that includes mixed-use center regulations. The comprehensive plan update is tasked with removing barriers to development that could be the cause of underperforming density and intensity of new development in centers. These centers are the primary tool the city will use to accommodate additional population and maintain GMA consistency. Existing infrastructure is adequate in these receiving areas.

- *South Hill*, Pierce County (unincorporated UGA): South Hill was previously a rural area that has mostly transitioned into suburban development. There is sufficient demand for single-family residential product as well as infill development opportunities that make this an interesting study area for "single-family infill development".

These case study receiving areas are located throughout the Puget Sound region (see regional map in Appendix E) and represent a range of sizes from the small rural City of Carnation with about 4,000 residents to the high-rise City of Tacoma with over 200,000 residents. Consistent with this range of study areas, the developments analyzed range from 12-story condominium towers in Bremerton to single-family subdivisions in Arlington and South Hill. The demand and opportunities for TDRs in these receiving-areas are described in the following discussions. This study is not intended to be conclusive for all cities in the region but rather provide information about the characteristics of a wide range of receiving areas that might be considered for a regional TDR program.

C. Receiving-Area Economic Analysis

To succeed, transferable development rights programs must include receiving areas that are large enough to have many possible TDR buyers, and also strong enough in market terms so that developers find it worthwhile to purchase the TDRs in order to obtain additional density. Market value of TDRs is determined in large part by the price that receiving-area developers are willing to pay in order to obtain one unit or one increment of additional density. This is often known as a "Willingness To Pay" (WTP) analysis.

1. Willingness to Pay Analysis

The methodology used to estimate WTP is based on the "residual land value" of a development project. The residual land value calculation is commonly used in the real estate development industry to determine if a developer could profit from purchasing the land and improving it in the manner specified in the analysis. All project costs and revenues (including expected profit) are

calculated *except* the cost of the land. Any leftover positive cash-flow is considered "residual" land value.

If the residual land value is more than the actual cost of the land (i.e. residual land value of $50 per square foot while the land costs $40 per square foot) the project is feasible and the developer would purchase the land and build the project on it. If the land is more expensive than the residual land value, then the project is worth less than the land acquisition costs and the project is infeasible. The developer would analyze another project or decide not to purchase the land at this time.

The residual land value calculation includes an acceptable profit margin for the developer, yet some projects result in additional profit (i.e. if the residual land value is $50 per square foot while the land costs $40 per square foot, the developer would accrue $10 per square foot in addition to the profit margin already calculated). This profit that is greater than the profit margin is more discretionary than the profit included in the profit margin that is required to continue business. It could be used for research and design, it could be invested in contingencies for other projects or it could be reinvested into the same project to provide more amenities. In this analysis, we refer to profit that is greater than the profit margin as the maximum WTP and we assume it could be spent on TDRs.[6]

Another method to determine the amount of capital that a development project could invest in TDRs was not implemented in this analysis, but was discussed with developers and has merit. This method would include the cost of TDRs in the residual land value analysis itself. The benefit of this method is that the costs of TDRs could be included with the development and financing

[6] All of the WTP estimates in this analysis are the *maximum* amount a developer would be willing to pay. This amount would actually need to be reduced in order for transactions to occur because, in order to seek higher density, the developer needs an incentive to purchase TDRs by accruing increased profit above the 12%-15% margin that is the accepted industry minimum for most projects. Additional discussion is included in Appendix B.

costs and thereby be covered by contingency, insurance and included in other factors. The disadvantage of this method is that TDRs would become an indirect or predevelopment cost that functions like an impact fee.[7]

In a voluntary TDR program, a developer would wait to see if the project is feasible before deciding to purchase TDRs. If a TDR purchase was mandatory, including fees in the residual land value analysis would increase accountability. This analysis assumes a voluntary regional TDR program is more plausible than a regional TDR requirement; therefore we model the economics of development projects first, and then assume additional revenue greater than the profit margin could be spent on TDRs.

2. Receiving Areas

This study examined market conditions in nine possible receiving areas in the Puget Sound region to determine developers' "Willingness To Pay" for TDRs. Each receiving-area conforms to a specific zone district that regulates the permitted intensity of development in each area. "Typical" development projects based on proposals, or projects that are expected to be proposed based on new development regulations, were analyzed in detail for each receiving area. The scope was limited such that only minor alternatives to the scenarios were analyzed. The results are used to describe the overall market for development in each receiving-area and potential demand for TDRs that would be associated with implementation of a regional TDR program.[8]

These nine receiving areas within the participating jurisdictions were selected by CTED in consultation with the consultant and those jurisdictions. They are meant to illustrate different types of receiving-area situations in the Puget Sound area. They are not meant to represent all possible receiving areas in the region nor are they an exact determination of WTP in all situations. A suc-

[7] See page Market Mechanisms, Section 7, for discussion about why TDRs should not be implemented as a fee.

[8] In some cases this portion of the analysis includes recommendations as to how the current development regulations in the receiving areas affect local conditions, and when appropriate, provides recommendations for the receiving area jurisdictions.

cessful regional program would include more receiving areas and perhaps larger receiving areas as well.

The results we found were extremely varied.

In Everett it was determined that there is no WTP because the large multifamily projects that are being developed have unique characteristics that are uncommon to typical development projects or that are beyond the scope of this project to analyze. Bremerton resulted in similar results with essentially zero WTP. These areas are also constrained by relatively low unit selling prices and lease rates.

These results are contrasted by high-density condominium developments in downtown Tacoma, which are able to sell condominium units with harbor views for $500 per square foot.[9] The factor that would minimize the WTP in these projects however is the density bonus menus that already provide density bonuses in exchange for amenities. In a number of cases, we found the City's current efforts to allow increased density in exchange for a variety of concessions from developers, including community amenities, makes a TDR program less attractive. A receiving-area developer is willing to pay only so much money for increased density no matter what the funds are used for.

All of the other receiving areas have WTP estimates that fall between top-generating Tacoma and zero-WTP Bremerton/Everett. The estimated WTP values are revealed below in Table 1. Two study areas were analyzed in Tacoma, the downtown residential zone (DR) and the Martin Luther King mixed-use center (MLK).

Redmond yields the highest WTP behind the Tacoma DR. This is a large office development in which the WTP is largely dependent on the land selling price.

[9] The WTP for these developments will fluctuate with the weak economy, but local developers expect the demand for condominiums downtown will rebound in about 2 years.

Carnation and Tukwila also have potential for an active TDR market, albeit under extremely different circumstances in this analysis. Tacoma's MLK mixed-use center is a weak market currently, but could have potential for TDRs with reinvestment in the area.

South Hill is a redevelopment scenario that doubles the permitted density in a single-family residential zone in order to spur redevelopment of underutilized (large lot) parcels, while generating revenue for a TDR program. The distance for hookup to sewer and water mains is the limiting factor for WTP in this receiving area.

The two Arlington scenarios model a larger single-family subdivision, one inside the incorporated city boundaries and the other a hypothetical UGA expansion. The development of 300 units in a 100-acre incorporated area was not feasible under current market conditions. This scenario was adapted to create a hypothetical to discuss the potential of linking the use of TDRS for traditional residential development to UGA expansions.

The "Willingness To Pay" estimates are displayed in Table 2-1 below. The market price assumptions are displayed in the Price Points table in Appendix B. Total Maximum WTP describes the aggregate WTP for the project prototype as a whole. The Max WTP per unit calculates the Total Maximum WTP divided by the additional units permitted with TDRs. For example, the Tacoma prototype contains 106 units, 39 of which are permitted with a density bonus. The Total Maximum WTP of $4,111,456 divided by 39 equals a WTP value of $105,422 per unit permitted with the bonus. The same method, calculating the Total Maximum WTP divided by the additional floor area, is also applied because unit sizes and quantities vary by prototype. The Redmond receiving-area analysis calculated the WTP for a commercial floor area bonus; therefore there is no Maximum WTP per unit value. Tukwila's project level Total Maximum WTP is divided by the number of parking spaces reduced to estimate the additional value per parking space reduced.

TABLE 2-1 **RESULTS OF RECEIVING AREA WILLINGNESS TO PAY MARKET ANALYSIS**

	Bremerton	Tacoma DR	Tacoma MLK	South Hill (0.25)[a]	South Hill (0.5)[a]
Total Max WTP	$2,603	$4,111,456	$22,379	$332,829	$120,289
Max WTP/unit	$90	$105,422	$1,721	$36,981	$13,365
Max WTP/SF	$0	$93	$2	$26	$10

	Carnation	Redmond	Everett	Arlington	Tukwila
Total Max WTP	$25,913	$763,936	–	$481,733	$154,851
Max WTP/unit	$12,957	$0	–	$1,570	$1,936[b]
Max WTP/SF	$6	$35	–	$1	$6

[a] Two scenarios were conducted in South Hill, one assuming the development is 0.25 miles for the main infrastructure hookup and the other 0.5 miles away from the hookup.
[b] This is a hypothetical scenario; the current scenario in Arlington is infeasible
[c] A unit in Tukwila is a Parking Stall.

A detailed discussion of the prototypes and willingness to pay in each of the receiving areas follows. Pro formas for each prototype and receiving area are provided in Appendix B.

The City of Sammamish was not selected to participate in the study as a receiving area. However, the City very graciously agreed to have the results of a similar study it had commissioned for a TDR program the City is considering. A summary of the results of that study is attached after the pro formas in Appendix C.

a. Bremerton, Kitsap County

Prototype: Residential Condominium Tower in Downtown Core

The City of Bremerton identified the downtown core (DC zone) as the appropriate study area in which to consider development bonus options for

regional TDRs (Figure 2-1). The DC zone permits high intensity, market-driven development that is served by a Bonus Amenity Program. The baseline permitted building height and floor-area-ratio is 45 feet and 3.25, respectively. But these guidelines can be exceeded if the developer participates in the Bonus Amenity Program.[10]

High-density residential condo projects are proposed in the DC zone currently. But market analysis revealed that under current conditions, high-density residential condominiums are mostly being developed in the adjacent downtown waterfront (DW zone). This analysis models the willingness to pay for TDRs from a developer's perspective based on the economic feasibility of a residential tower built in the DR zone. This is followed by a brief discussion the implications of these results to the DW zone.

The existing development regulations for both the DR and the DW zones contain a program that permits developers to obtain density bonuses in exchange for including public amenities in their projects. Referred to as the Amenity Bonus Program, the program is designed in two tiers. The first provides an incentive for developers to include public spaces into large projects, balancing open space with the intensity of large towers; while the second tier provides an incentive to include other amenities such as structured parking, public artwork and to develop buildings that meet Leadership in Energy and Environmental Design (LEED)[11] criteria for sustainable development.[12]

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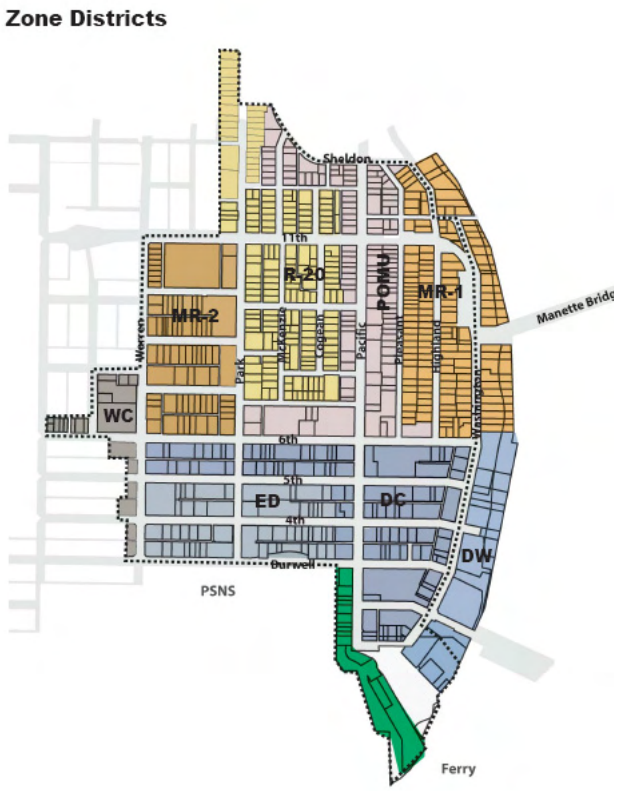
[10] Floor-area-ratio or FAR is a calculation of gross building floor area divided by parcel area that is used to measure the relative size of a building. For example, if a lot is 10,000 square feet and the FAR is 1:1, this means that the building can be no greater than 10,000 square feet.

[11] The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ encourages and accelerates global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performance criteria.

[12] Chapter 6, Section 11, Development Regulations, Downtown Sub Area Plan.

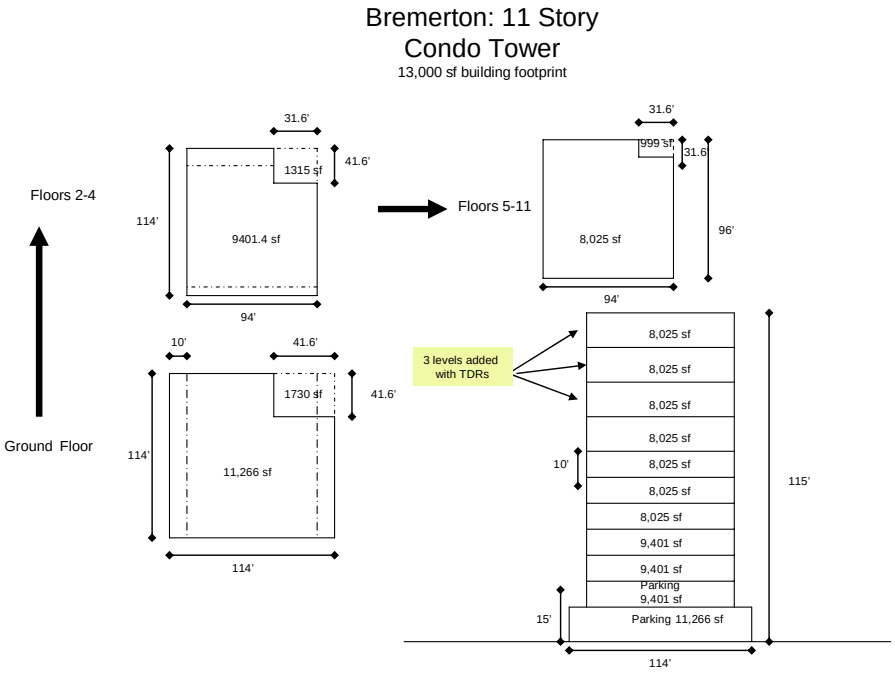
Figure 2-1 The DC and DW are Regulated by Development Standards Amenable to TDRs



The program permits additional floor area in exchange for amenity area based on ratios ranging from 1:1 to 1:30 (one square foot of bonus area for 30 square feet of additional floor area). Lower ratios, up to 1:5, are permitted for developments in the DW while the highest bonus ratios, up to 1:30, are permitted in the DR. The floor bonus ratios in the DR are weighted to stimulate high density development.

Based on discussions with the City of Bremerton and local developers, a 12-story condominium tower prototype was designed for this analysis (Figure 2-2). To meet Tier 1 requirements a public plaza was included in the project. A TDR option was considered as a possible amendment to the Tier 2 amenity bonus menu. The additional floor area from the Tier 1 bonus equals two additional levels; additional floor area from the Tier 2 bonus (linked to TDRs) equals three additional levels. The value that the three Tier 2 levels add to project profit represents the potential willingness to pay for TDRs in the Bremerton DC.

Figure 2-2 Bremerton TDR Prototype in DC



*Not to Scale

*The corner indented from the building footprint represents open space dedication required for Tier 1 of the Amenity Bonus Program.

Based on current market conditions, this analysis determined an 11-story tower with the density bonus is not feasible, but only by a small margin. The project results in a net feasibility gap of $70,000, or 0.04 percent of total project costs. A marginal gap of this size could be considered close enough to break-even and still develop this project, unfortunately it results in zero WTP.

This project becomes more profitable when a 12th floor is added and the WTP increases to $90 per additional unit.[13] This illustrates the price point break for steel construction in this scenario is 12 floors. Density beyond this would require an offsite parking structure or underground parking.

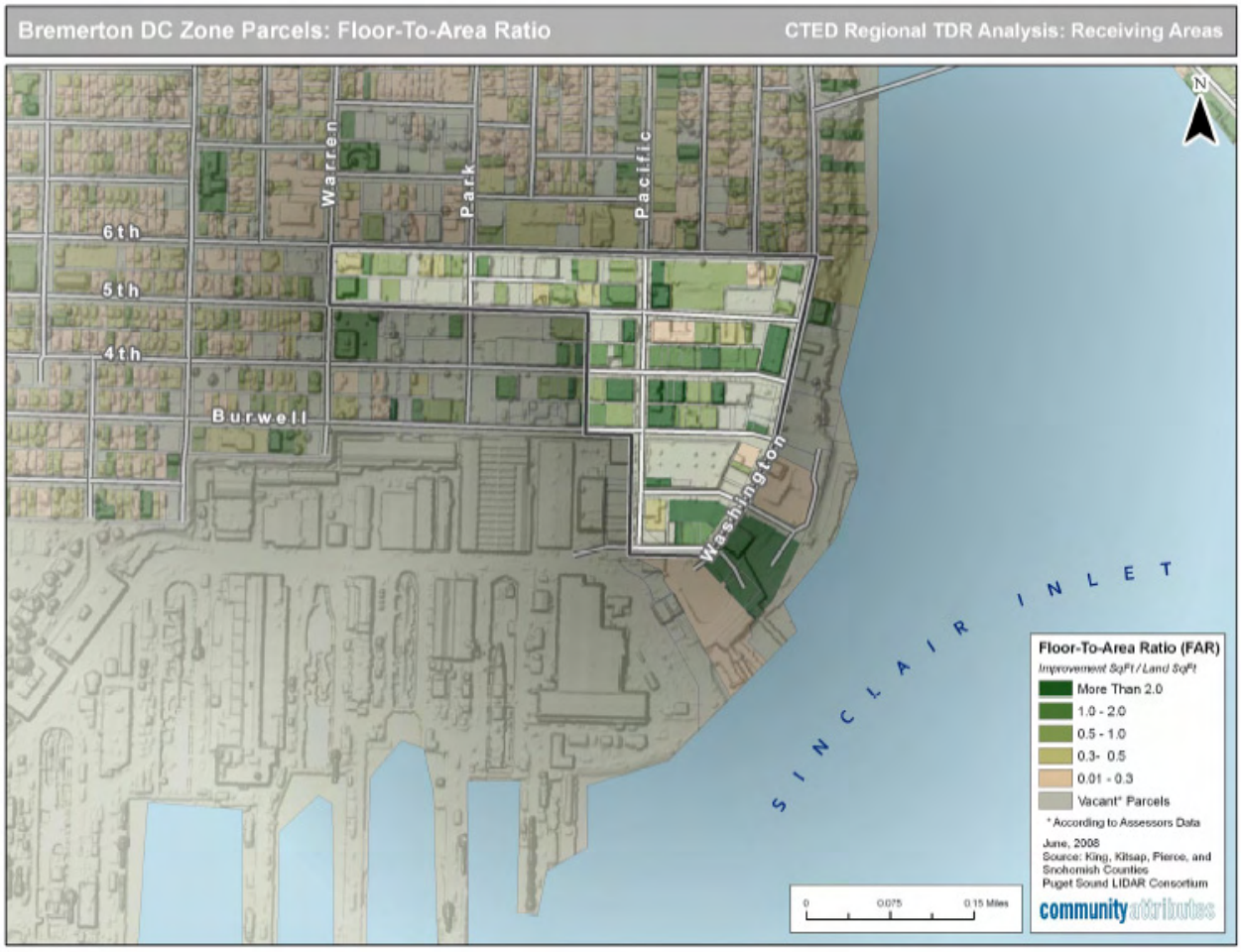
The amenity bonus program, including both bonus tiers, provides an additional 29 units at $90 in additional profit per unit. Of these, 17 units would be permitted under the Tier 2 portion of the program, where a TDR option would be included. This project could afford to pay a total of $2,600 to Tier 1 and Tier 2 bonus amenities that include a TDR option.

Development regulations in the DW are nearly the same as in the DR zone, but the baseline FAR is limited at 2.0 rather than 3.25, and the floor bonuses for amenities are significantly reduced or eliminated. Since the market for residential condominiums is strongest in the DW, and the bonuses are costlier per square foot than in the DR, the DW ultimately holds the greatest potential to generate revenue for TDRs. Nearly all Tier 2 bonus amenities in the DW consume space that could otherwise be sellable floor area, such as public meeting rooms and to a lesser extent bicycle commuter spaces. When a de-

[13] Recently condominium selling prices have decreased in Bremerton. In March 2008, 28 waterfront condominiums were auctioned for 58% percent of the original asking price. Because of this, it is likely that the WTP value reported here will increase substantially when the market recovers. This corresponds to a conversation with a local condominium tower developer in Bremerton. He said that in five years the WTP for units on the waterfront will be $65,000 to $75,000 per unit. Further from the water, where the DC zone is located, he predicts that the WTP for additional units will be between $35,000 and $55,000.

veloper is looking to maximize the for-sale floor area, the purchase of TDRs that do not trade for sellable floor area could be a commodity.

Map 1 Bremerton DC Zone Parcels, Floor-Area-Ratio



b. Tacoma, Pierce County

In Tacoma, the City receives requests for comprehensive plan changes to increase land use intensities as a prerequisite for the rezoning process. A comprehensive TDR policy could charge a standard basic TDR fee for land use up-zones or a variable fee based on the development potential of each applicant project. The latter approach would require integration of TDRs into a broad regulatory framework that would require analysis of the development economics of an assortment of current and past projects.[14] A TDR fee for up-zones holds potential to send revenue to sending areas.

Another approach to TDRs for Tacoma would be to include the purchase of TDRs into a "by-right" density bonus program. The Comprehensive Plan identifies mixed-use centers that will host the bulk of Tacoma's future population growth, and these centers, including downtown, will increase densities over time. Most mixed-use centers, such as the Martin Luther King (MLK) mixed-use center, have permissive height and minimum density requirements that promote investment and redevelopment. The downtown core represents the high end of Tacoma's land use intensity range, with height limits up to 400 feet.

This analysis examined the Downtown Residential District (DR) and the MLK corridor in the MLK Mixed-Use center as case study receiving areas and assumes a TDR option will be added into respective bonus programs.

i. Prototype A: Large Mixed-Use in Downtown Residential District

The Downtown Residential District (DR) permits high-density residential and mixed-use development less than 90 feet in height. It was selected because it contains the lowest downtown height limits (90 feet) and a development bonus program, either of which could be adapted to include a TDR compo-

[14] The up-zone fee for TDRs could be based on the difference in land value generated through the rezoning to higher density, it could be a fraction of project costs, or it could be a fee based on additional floor area or extra units that could be developed as a result of the up-zone. A standard TDR fee for up-zones could also be applied.

nent. Tacoma's Design Standards bonus program encourages premium design standards and special features in new buildings in exchange for additional permitted floor area. This large mixed-use scenario looks at the value to developers of the Design Standards bonus program that provides space for additional units, rather than the value of a height bonus. This is because the DR market is not building to the 90 foot limit at this time without three or four floors of concrete construction.[15]

Tacoma has a two-tier density bonus program that permits bonuses up to an FAR of 10 for mixed-use projects in the DR. The first tier, called Design Standards for Increasing Allowable FAR, permits FAR bonuses up to six for mixed-use projects in the DR (Figure 2-3). The large mixed-use scenario modeled in this analysis is based on the development of a seven-story condominium project, typically participating in the first tier of the program.[16] It con

[15] A 90-foot-high development is between price point breaks. Steel construction is typically required for a development this tall., In order to recoup enough revenue to pay for steel construction, the developments must generally be 11-14 stories, or about 110 to 140 feet in height.

[16] The perquisite for participation is four of the Design Standards for Increasing Allowable FAR. These were included in the pro forma. Assuming TDRs would be added to the Standards options this project included:

- "Architectural expression of the base of buildings through more refined materials....The base of the building is the first floor above grade." Expressed in the pro forma as increased construction costs to the concrete portion of the prototype; with $5 added per square foot in the retail component construction costs and $100 cost increase per parking space.
- Exterior Public space equivalent to at least five percent of the site area (expressed in Figure 4 as the indented corner of the building footprint and in the pro forma as 1,400 sq ft of open space.
- Parking contained entirely within structures or structures on site.
- A TDR component.

The first menu option was chosen because it would be relatively inexpensive to integrate into the project and the pro forma. The second option was chosen to suggest that a TDR component does exclude inclusion of public open space in projects and that both can be incorporated. This illustrates an advantage to including TDRs in

Figure 2-3 Development Standards Table

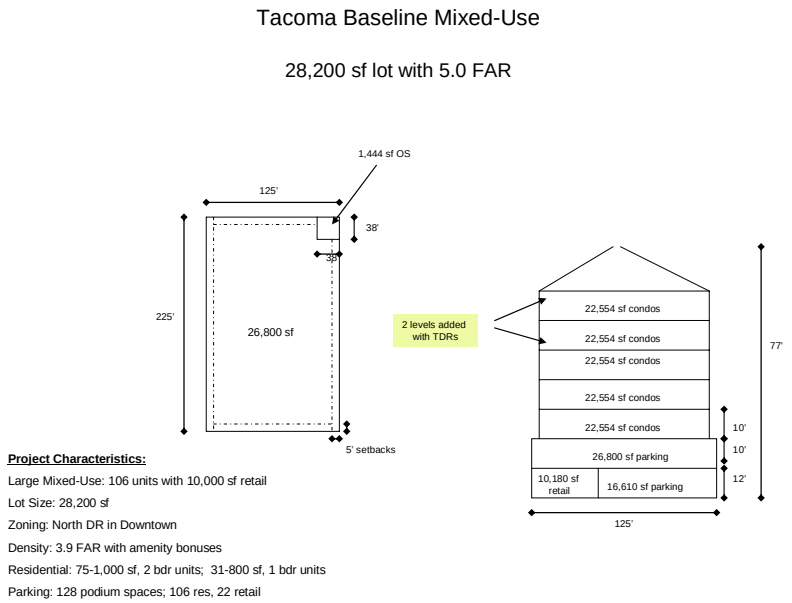
13.06A.060 Development standards.

Development Standards Table.

Districts	Maximum Allowable Floor Area Ratio (FAR)[1]						Height Limits	Non-Res Parking[2,3,4]	
	"As of Right"		With Design Standards		With Special Features			Min	Max
	Non-Res	Res	Non-Res	Res	Non-Res	Res		(stalls/floor area sf)[5]	
DCC	3	3	6	6	12	12	400'	2.4/1000	3.6/1000
DMU	2	3	4	5	6	7	100'	2.4/1000	3.6/1000
DR	1	2	2	4	4	6	90'	1.2/1000	3.6/1000
WR	3	4	4	5	6	7	100'	1.2/1000	3.6/1000

From Chapter 13 of Tacoma Municipal Code, including the Downtown Commercial Core District (DCC), the Downtown Mixed-Use District (DMU), the Downtown Residential District (DR, receiving area for this analysis), and the Warehouse/Residential District (WR).

Figure 2-4 Mixed-Use Prototype in Tacoma DR



market and regulations result in development at high densities that already necessitate structured parking.

tains two concrete levels with retail and structured parking, and five levels of wood construction for residential units (Figure 2-4). The prototype contained a 0.36 floor-area-ratio (FAR) in the ground-floor retail component and a 3.54 FAR in the residential component. The bonus was required for the residential portion only since it exceeded the "As of Right" density by 1.54. ("As of Right" means a developer can gain approval of the project without discretionary review.)

This prototype is feasible under current market conditions, developing 106 total residential condominium units with 39 bonus units from the Design Standards for Increasing Allowable FAR. A developer would be willing to pay $105,400 per bonus unit. Since the pro forma analysis includes the costs of the other three required Design Standards, this $105,400 represents the willingness to pay for the fourth required menu option, TDRs. The project as a whole provides a total $4.1 million in willingness to pay for the fourth menu option.

The key difference between the Tacoma and Bremerton scenarios is that each reflects current proposed projects in their respective jurisdiction; one project with steel core construction in Bremerton and one with wood in Tacoma. This reveals different real estate markets, each dictating the depth of participation in the bonus programs developers will pursue and describing the level of demand that fuels the programs.

Bremerton assumes developers will develop with steel construction. In order to recoup costs the building must be 11-12 levels in height. In Tacoma, the market is not maximizing FAR potential; rather it is building to much lower limits using wood or light steel construction and avoiding densities that would require underground parking.

The Tacoma condominium market also is not absorbing enough units to justify a 10.0 FAR. While Bremerton is encountering similar constraints, demand for premium waterfront units is forecast to continue to drive steel core structure development. However, it should be noted that this analysis did not

look at the intensity of developments in the other Tacoma downtown zones. But for the DR, the city could respond to demand and link to the TDR program in the future by:

1. Adding a height bonus option to permit up to 120 foot high buildings so heavy steel construction can "pencil out". This would be an excellent option to link to TDRs.

2. Waiting for the demand for condominiums in the DR to increase to the price point where developers want to pursue 120-foot heavy steel frame developments. Ideally, the city would have a TDR height bonus established.

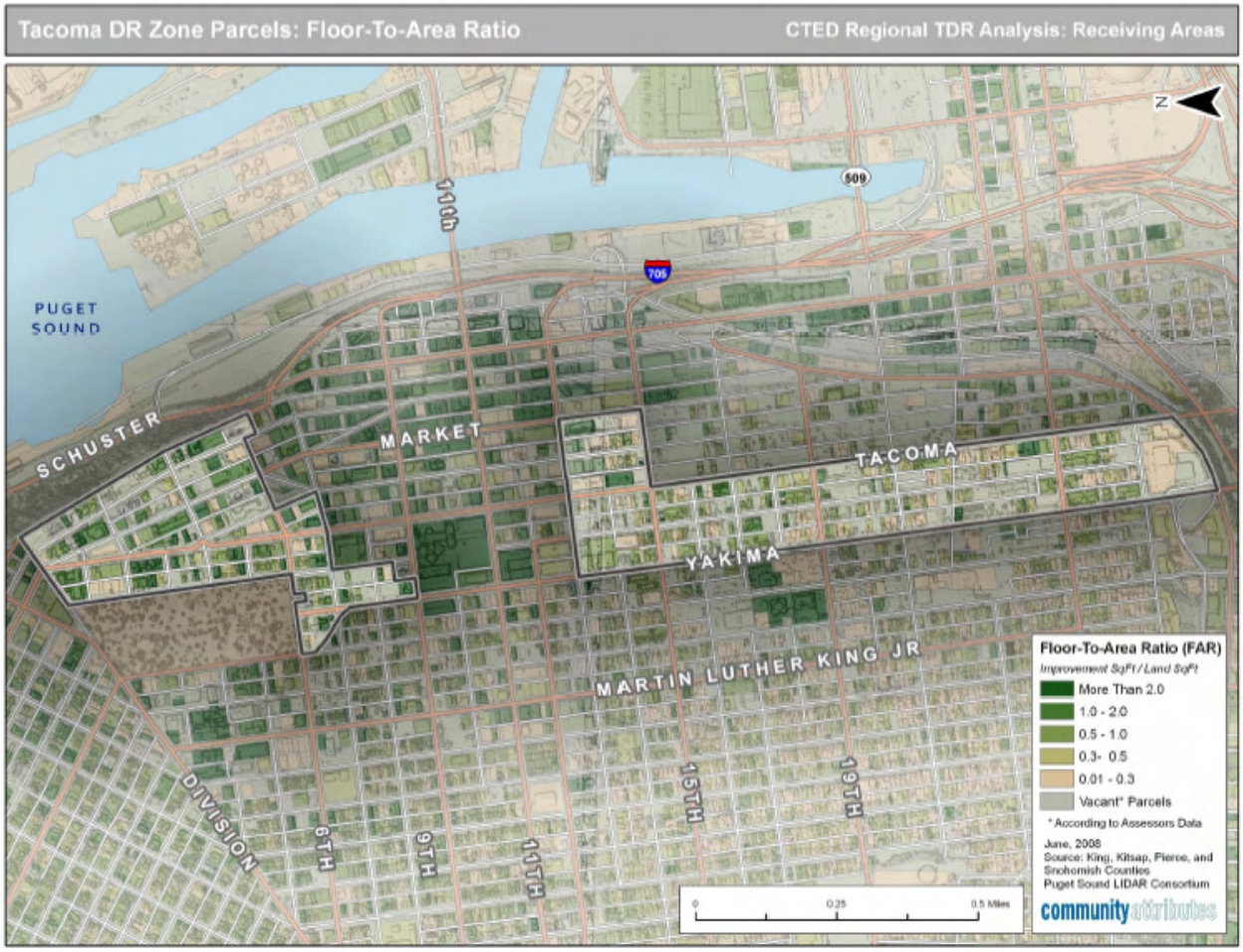
3. Adding a TDR option to the Design Standards for Increasing Allowable FAR and downgrading some other Design Standards for Increasing Allowable FAR to basic design standards, forcing developers to look deeper into the menu for the bonuses to include in projects. For example:
    a. The standard for structured parking may not be necessary because demand is already sufficient to pay for this. High permitted densities and high selling prices is enough incentive to develop projects with structured parking.
    b. Architectural expression, delineation of the tops of buildings, and enhanced pedestrian elements should be included in the basic standard regulations, especially since developers will likely incorporate them anyway to increase the selling prices of their projects.
    c. The landscaping "green roof" option on the menu may already reduce costs in some large projects because the improvement reduces storm water runoff that would otherwise require expensive offsite storm water infrastructure enhancements.
    d. The entertainment/retail option for development within the Downtown Commercial Core will already be included in many projects as development increases in the area, retail lease rates increase, and residents choose to drive less due to expensive fuel costs.

If these options were removed from the menu, and a TDR option was added, TDRs could compete with, and actually be less costly, than the remaining options that include:

- Exterior public space equivalent to at least five percent of site area. This is one of the most costly Design Standards because it precludes the potential sellable floor area on all the floors that would be built in its place.
- A Public Benefit Use in the project. This would consume valuable sellable area, in which case a purchase of TDRs, or fractions of TDRs, could be less expensive.
- Retention of Historic Structures. Depending on the type of structure, this can be prohibitively expensive to integrate in high-density projects.
- Mixed-rate housing would compete with TDRs but depending on the amount of revenue lost for selling units at below cost, TDRs could be a less costly development strategy.

The advantage of the menu is that it requires *four* of these options. Therefore projects that participate in the program can be developed with a mix of public open space, mixed-rate units and the purchase of TDRs. Further analysis would be required to determine the number of TDR purchases that should required on the menu, and to determine how TDRs would compete with the costs of the other Design Standards options. But a requirement to purchase 10 fractional TDRs for each additional unit built with the Design Standards FAR bonus (at a cost of about $5,000 per fractional TDR) would be an adequate starting assumption based on the recommendations in this analysis.

Map 2 Tacoma DR Zone Parcels, Floor-Area-Ratio



ii. Prototype B: Mixed-Use in Martin Luther King Mixed-Use Center

Tacoma has proposed mixed-use center code revisions that cap height limits in its mixed-use zones. On designated pedestrian streets the cap limits could be supplemented by height bonuses in exchange for public benefits provided by developers.[17] A portion of the Martin Luther King (MLK) mixed-use center is a Designated Pedestrian Street that would qualify for this proposed height bonus program. The area is zoned Neighborhood Commercial (NCX) in which the building heights could be capped at 45 feet.[18] A 20-foot height bonus is proposed and this analysis assumes there is potential this bonus could be obtained through purchase of TDRs, assuming a TDR option will be added to the Bonus Program Palette.[19]

A 65-foot structure on the MLK corridor is an unproven product at this time. Difficulties arise making such a project feasible due to the following reasons:

- With some exceptions, the parcels along the corridor are generally thin and deep. 50-75 foot width parcels are common and present design challenges to build up to the to the six-story limit.
- The area currently generates low condominium selling prices and retail lease rates.[20]

[17] Designated pedestrian streets are characterized by increased pedestrian safety, accessibility, activity and overall environment as described in the Mixed-Use Centers Update Project.

[18] This analysis was conducted based on a draft of the Mixed-Use Center Codes Revisions. Tacoma is also considering 65 foot height caps with total heights permitted with bonuses up to 85 feet. In the interest of TDRs and the height bonus program in general, the height should be capped at 45' and any additional height permitted should be so through the bonus features that include TDRs.

[19] The Height Bonus corridor is proposed to extend from South 9th to South 15th street. It would cap building heights at 45 feet then permit bonuses up to 65 feet.

[20] Older single-family homes built in the 1940s are selling for about $200,000. This analysis assumes new condominium product would sell for between $200,000-$250,000 in the MLK

- Current real estate conditions are not robust enough for developers to finance projects with 100 percent structured parking.

With these considerations in mind, we used the mixed-use prototype in Figure 2-5. The primary objective was to reduce the costs of structured parking by including 50% surface parking. This mix of surface and structured parking represents a neighborhood in transition to higher densities that begin to require inclusion of structured parking but cannot afford an entire level of podium parking.

Based on this prototype and current market conditions the scenario resulted in a willingness to pay value of $22,400 at the project level, or $1,720 per additional unit built above the baseline 40 foot height cap.[21]

Tacoma could include TDR bonus feature option in the proposed mixed-use code amendments linked to the height bonus. The purchase of one ($5,000) fractional TDR per 10-foot height bonus would set a precedent for TDR regulations and be accessible when development in the area increases to sufficiently require additional building heights.

The City should also consider strategies to promote larger lots that result in greater returns for high density projects. Height bonuses in exchange for lot assemblages in the MLK mixed-use center would promote larger building footprints. Furthermore, if the City could get one large mixed-use project built, it could stimulate more investment in the area.

[21] In order for the condominiums to generate revenues between $200,000 and $250,000 per unit, robust amenities and outstanding views of Commencement Bay would be required.

Figure 2-5 Mixed-Use Prototype in Tacoma MLK Mixed-Use Center

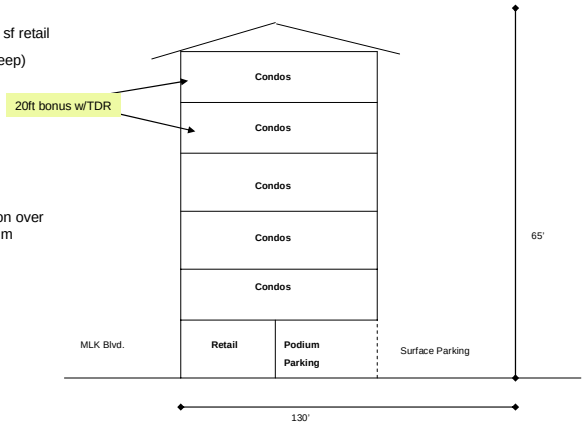
Tacoma MLK Corridor Mixed-Use
9,750 sf lot

Project Characteristics:

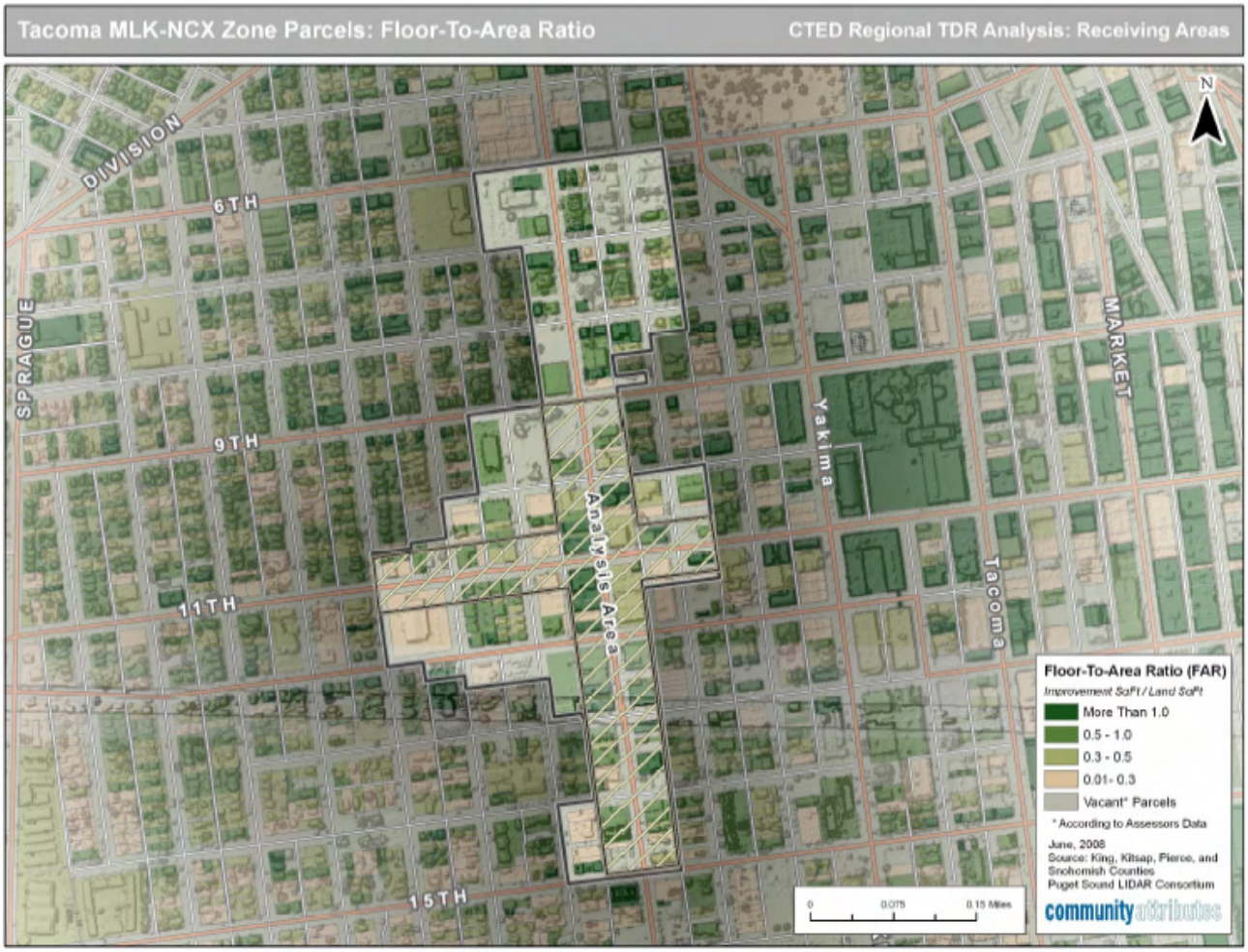
Mixed-Use – 22 condo units, 2,300 sf retail

lot size	9,750 sf (75' wide x130' deep)
zoning	NCX
height	65 ft
commercial	3%
parking	50% surface
	50% podium

5 levels of Type V wood construction over 1 level above grade concrete podium parking



Map 3 Tacoma MLK-NCX Zone Parcels, Floor-Area-Ratio



c. South Hill, Unincorporated UGA in Pierce County

Prototype: Single-Family Infill in Moderate Density Single Family Zone

Working with Pierce County, we considered an intensification scenario for large-lot areas that would redevelop parcels in the unincorporated UGA of South Hill.

This development scheme represents two-acre infill opportunity parcel zoned at moderate density single family (MSF), with a base density of four units per acre. In the South Hill Community Plan Area there are 530 parcels that sum to about 1,200 acres under this zone class, each greater than one acre in area and containing *one existing unit*. Increasingly, these parcels, which are developed at densities well under the permitted MSF maximum (often two-acre lots) are being surrounded by tract home neighborhoods developed to the permitted MSF density (4-6 units per acre). Some of the reasons these remaining parcels are not redeveloped up to the permitted density are:

- The existing improvements significantly increase the land acquisition costs for a speculative developer.
- It is costlier per unit to provide infrastructure for a one-acre development with 4 homes than for a 100-acre development with 40 homes.
- The main-line infrastructure hook-up points vary by location.
- Some parcels contain sensitive habitat that is prohibited from development.
- The prospect of developing a small project with a net increase of only three or four extra units is not profitable under current market conditions.

Pierce County could stimulate redevelopment of the infill opportunity parcels by increasing the permitted density. If the density is increased to a level such that the single-family infill project is feasible, there could also be additional revenue for TDRs.

This analysis determines that, depending on the distance to infrastructure, MSF infill opportunity parcels that are up-zoned to high density single family (HSF) projects could be feasible. This is because the permitted base density is increased from four units per acre to 10 units per acre.[22]

Under existing zoning, a two-acre MSF parcel with streets and open space represents a Net Developable Acreage of about 1.5 acres.[23] Under the base MSF and then HSF density, the development potential increases from six to 15 units permitted. With the HSF zoning, pro forma analyses revealed WTP values of $37,000 and $13,400 for each unit built *beyond* the MSF zoning if the development site is within 0.25 and 0.5 miles of a main sewer/water connection, respectively. This is based upon a hook up cost of $340,000 for 0.25 miles (eight percent of total project costs) and $520,000 for 0.5 miles[24] (13 percent of project costs) and assumes the new houses would sell for $250,000 in the current market and be constructed with basic materials.

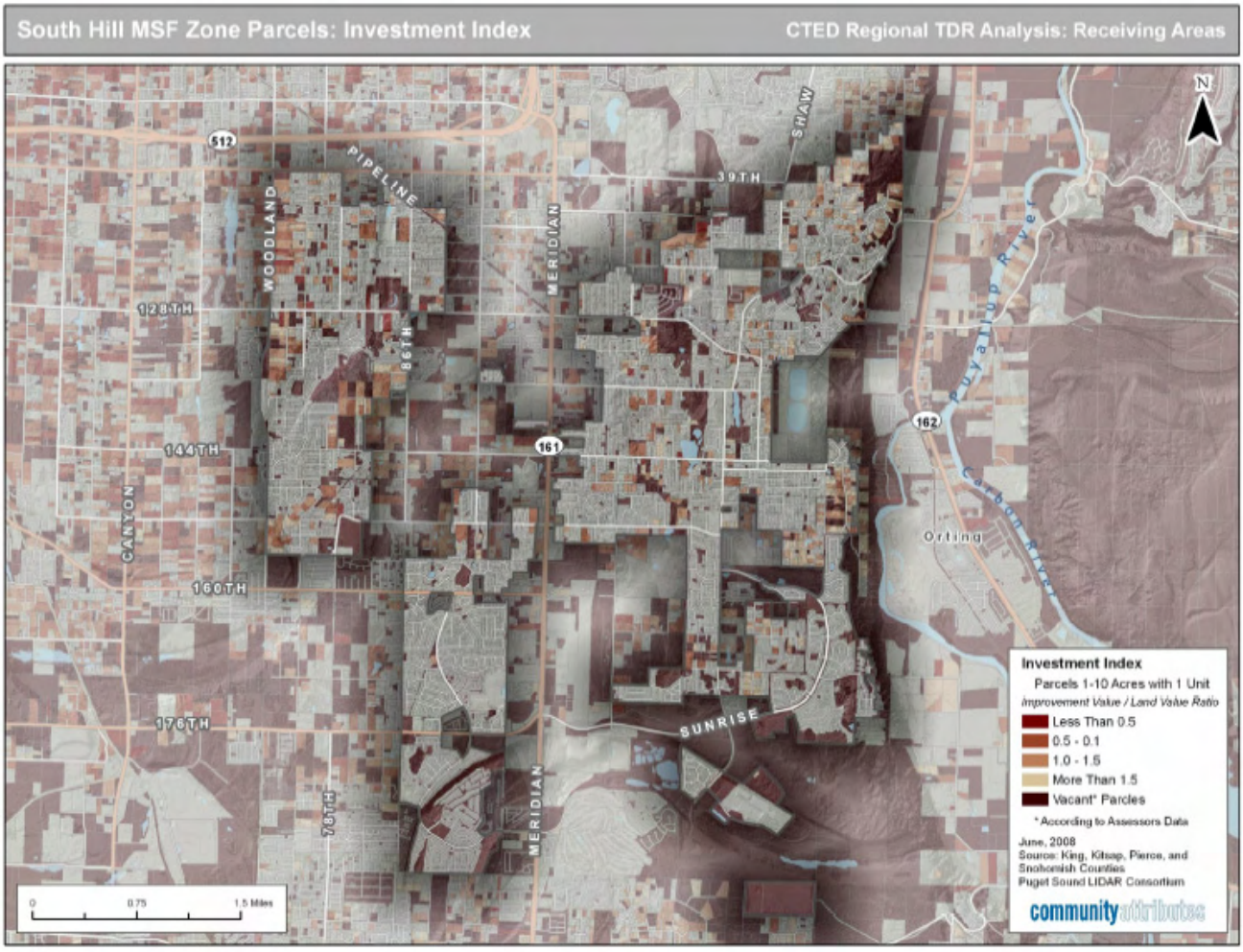
Illustrated in Map 4 below, this analysis identified about 1,200 acres in which infill development could be stimulated by doubling the density permitted in the MSF zone. This strategy could help the county by promoting infill development on parcels that have been overlooked for larger tracts in the past, while generating significant revenue for a regional TDR program.

[22] The MSF and HSF *base* densities are respectively four and 10 units per acre but the maximum densities permitted under these zones are six and 12 units, respectively.

[23] Net Developable Acreage applies the zoned density to a parcel *after* area for roads and sensitive habitats have been excluded.

[24] Sewer water hookup costs described under Development Costs sections in pro formas in Appendix C as "sewer treatment/disposal & water supply/storage", "sewer & water main extensions", "sewer & water in subdivision collection/distribution", and "sewer/water hook up".

Map 4 South Hill MSF Zone Parcels, Investment Index



d. Redmond, King County

Prototype: Office in Overlake Business and Advanced Technology Zone

The City of Redmond, home to Microsoft, contains a strong employment and economic base. The City also has an active local TDR program to protect environmentally sensitive areas, recreational, and historic areas within the City. For these reasons, the City was selected as a receiving area to assist in the identification of regional TDR opportunities that could be linked to commercial development in the Overlake Business and Advanced Technology (OBAT) zone. OBAT is a hi-tech research and development district that is an employment center. The baseline FAR permitted is 0.40 with a four-story height limit.

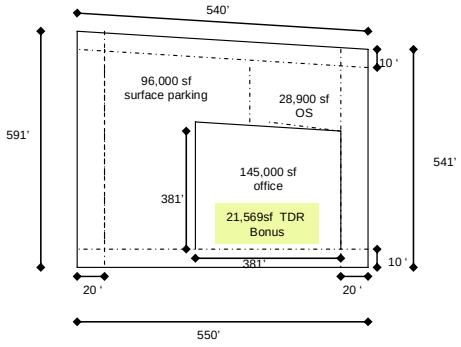
The profitability of commercial office development is driven by leasable floor area and the configuration of parking. Past transactions under the city's local TDR program have averaged $30,000 per credit with a 0.2-acre allocation rate for each credit.[25] Demand for about half of the transactions stemmed from the Microsoft Corporation with corporate offices in the OBAT and adjacent Overlake Village Design District (OV). This data suggests the local market has reached an average equilibrium of $3.44 per additional foot of floor area or parking (the City does not serve as a bank, nor does it broker agreements).

The prototype modeled consists of a 145,000-square-foot office development on a vacant seven-acre parcel (Figure 2-6 below). This includes the FAR bonus from 0.40 FAR to 0.47 FAR that is permitted under the current TDR program. The model is feasible with a WTP value of $35 per square foot for the 0.07 FAR bonus of 21,500 square feet. The entire project would generate $760,000 in WTP. This is based on a development scenario with surface parking only and Class A office space. If the parking were structured the WTP

[25] Based on TDR Transaction History (updated January 2, 2008). Transferred from environmentally sensitive, recreational and historic areas within the city, each TDR equals 8,712 SF. TDRs are purchased and sold in certificate form and can be used at City Planning for a floor area bonus or parking bonuses and reductions equal to 43 stalls. For more information go to http://www.ci.redmond.wa.us/insidecityhall/planning/compplanning/transfer.asp.

Figure 2-6 Office Prototype in Redmond's OBAT

Redmond Office Prototype
7.1 acre opportunity parcel



Project Characteristics:

Single level office development with 145,000 sf of floor area

Zoning: OBAT

Density: 0.47 FAR

Parking: 290 surface spaces at 2.0/1000 sf gfa ratio

20% landscaped area--10% in setbacks, 10% in open space

would be zero. The land selling price is also an important consideration for this large parcel and would be the most variable pro forma input, depending on parcel size and existing improvements.[26]

In some cases when the land acquisition costs are higher than that of a vacant parcel, or when more than the minimum about pf parking, or structured parking, is required, the WTP could equal the local program average of $3.44 per square foot or be less. The advantage of the local program is in the variety options it provides for the receiving site use of TDRs. This flexibility, with many commodities, would be difficult to calibrate into a regional program. A regional program would also have difficulty competing with the open market

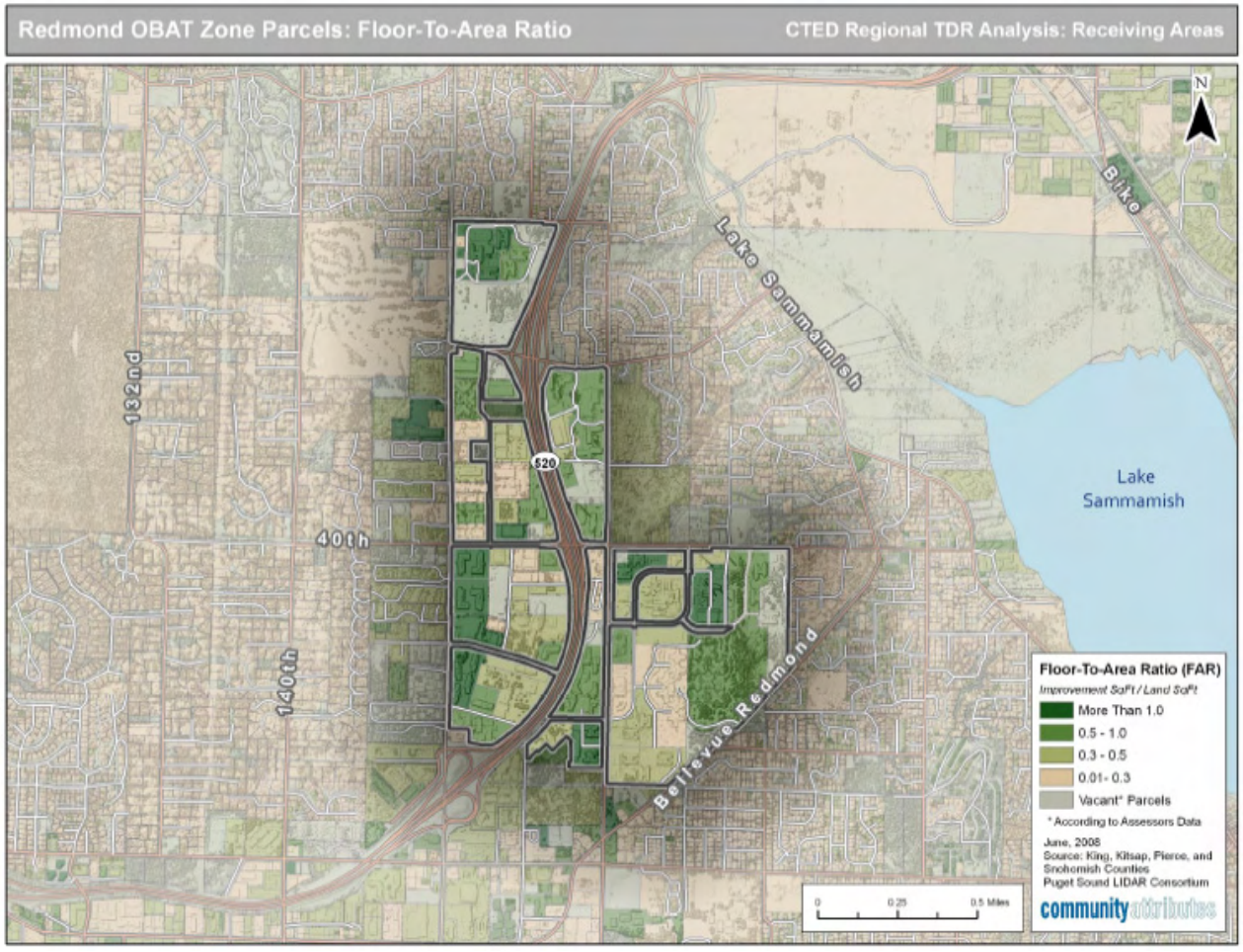
[26] There is not a relatively high amount of vacant parcels remaining in the OBAT receiving-area (see map below). The recent land sale in the study area that this land selling price was based on in this analysis was a 27-acre vacant parcel sold in July, 2007 for $42,000,000, or $35/sq. ft.

approach of the local program unless regional TDRs cost less than the asking prices of local TDRs. In that case an inter-jurisdictional agreement could prove difficult to implement. Perhaps the best approach for meeting the goals of both programs could be to group the local sending areas with the regional sending areas and work to preserve both. A regional program could provide more stability and reduce the City's administration fees required to run the local program.

The Bell-Red Overlake Transportation Study (BROTS) affects the feasibility of a TDR project in Redmond.

BROTS is an interlocal land use and transportation planning agreement between Bellevue and Redmond for the Bel-Red Corridor and-Overlake areas. The agreement caps the floor area of commercial development, effectively limiting automobile trips generated, and specifies a list of transportation improvements the cities will complete. This agreement is currently being revisited with a successor agreement anticipated to be adopted by both cities by the end of 2008. The successor agreement is anticipated to update the commercial cap for both Overlake and Bel-Red and update and simplify the list of transportation projects to be jointly undertaken. If the commercial development cap is increased, allowing higher permitted FARs, enough additional revenue could be generated to promote a better market for TDRs.

Map 5 Redmond OBAT Zone Parcels, Floor-Area-Ratio



e. Carnation, King County

Prototype: Small Mixed-Use in Central Business District

The City of Carnation serves as an example of the TDR potential for other small cities that have their own freestanding UGAs. These cities will encounter increasing pressure to accommodate population growth, either by UGA expansion and/or increasing densities through infill and redevelopment. In Carnation, we looked at modeling a small mixed-use project in the downtown Central Business District (CBD) and considered the implications of developing this prototype in the City's mixed-use zones. The CBD permits the highest density in the city with 40-foot height limits (with setbacks), zero impervious surface requirements, and 24 units per acre.

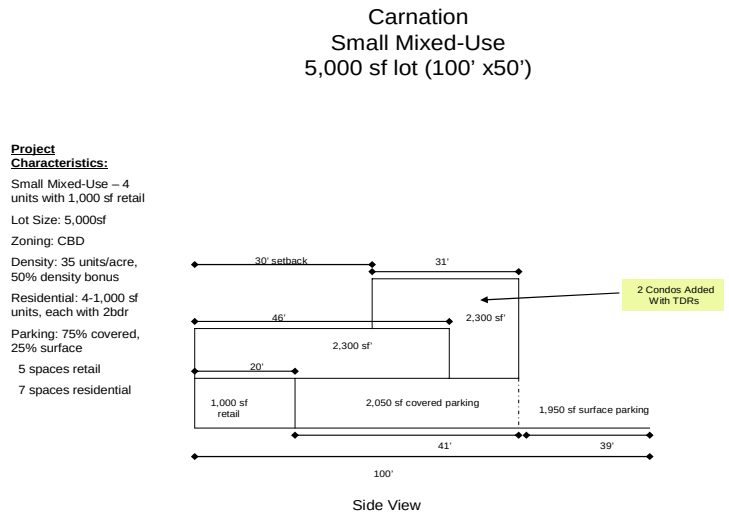
A mixed-use prototype design for this area was challenging due to lack of a track record for this product. In developing the prototype it was essential to respect the city's small scale. Carnation's downtown is mostly a one-story environment. Through conversations with the City, we created the small mixed-use prototype illustrated in Figure 2-7. It models a developer's willingness to pay for a TDR bonus that increases the permitted density from 24 units per acre to 35 units per acre. With the bonus, two additional condominium units were added to the project.

Carnation's proximity to Redmond and other job centers gives it a strong residential market. Based on the assumption that each two-bedroom condominium unit will sell for $300,000 and that a 5,000-square-foot parcel can be purchased for $100,000, a developer would be willing to pay $13,000 per extra unit, or about $26,000 for the overall project density bonus.[27]

We originally planned to apply this prototype to all of Carnation's mixed-use zones, but an impervious surface regulation restricts development in all zones

[27] Demand for development in the downtown area is sluggish currently. Cottage units are selling for the same price as the condominium prototype and are the most popular new product in Carnation.

Figure 2-7 Small Mixed-Use in Carnation CBD



besides the CBD to 65% lot coverage.[28] This requirement severely impeded the market viability of a small mixed-use project because the additional density combined with the surface and height limits necessitates more expensive parking solutions to accommodate the extra units. The cost of structured parking has severe cost impacts on a small project in Carnation.

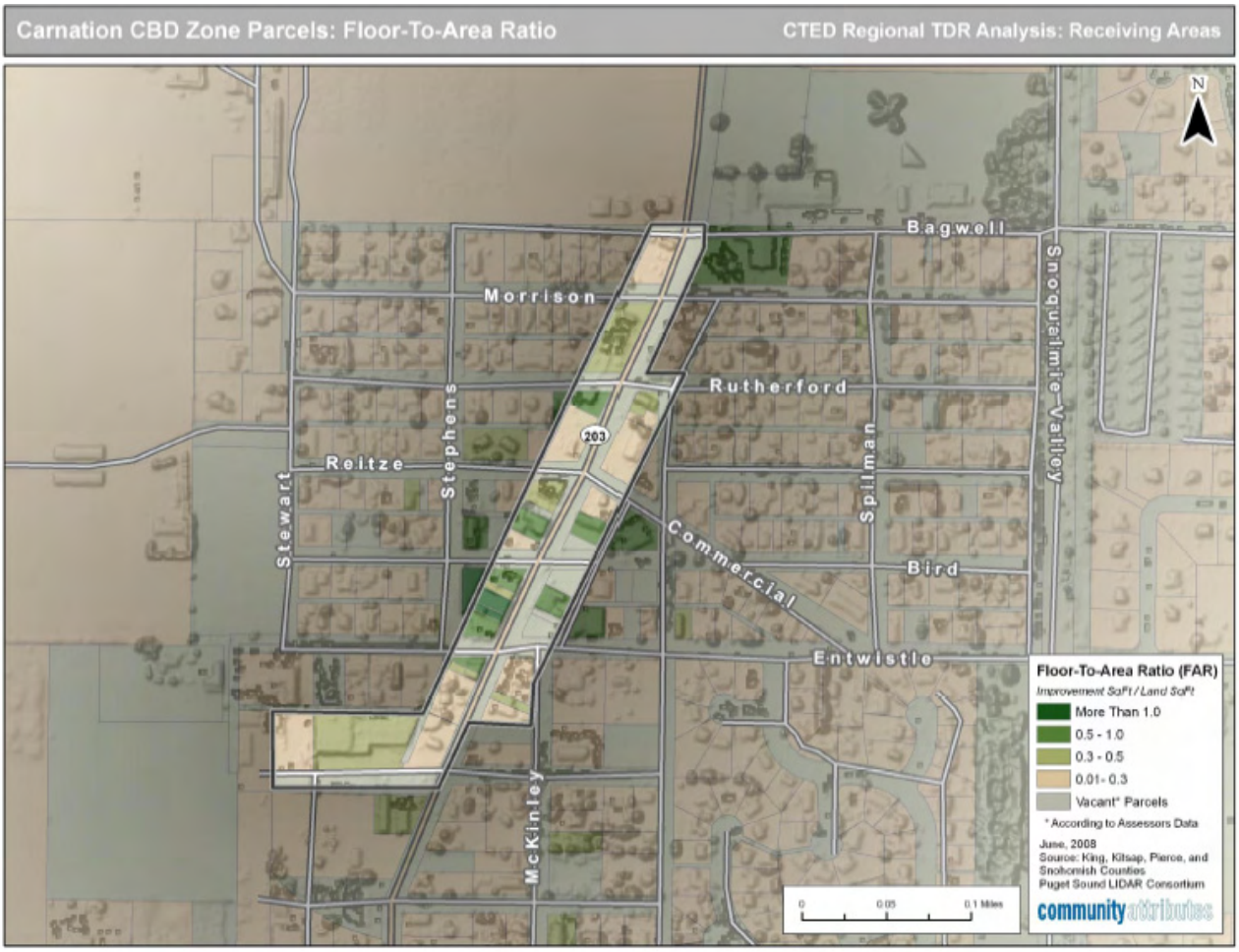
A large mixed-use project would have a better chance to meet impervious surface regulations while permitting a density bonus for TDRs; however a density bonus could be difficult to include in any project, given that the City is very conscientious about the scale of projects permitted.

In addition, a higher-density project with a TDR bonus would be more likely to work if the downtown Carnation area could deal with the impervious sur-

[28] This requirement exists because the City of Carnation is a ground water recharge area that does not have a NPDES permit.

face question on a district level, rather than a parcel level, thus allowing some parcels to cover more than 65%.

Map 6 Carnation CBD Zone Parcels, Floor-Area-Ratio

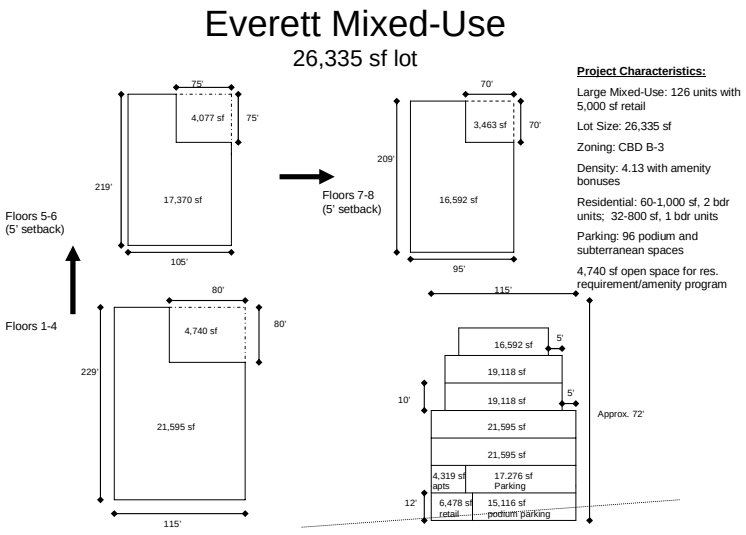


f. Everett, Snohomish County

Prototype: Large Mixed-Use Tower in Central Business District

The City of Everett is the metropolitan center of Snohomish County. The Central Business District (CBD) in downtown allows maximum building heights that vary depending on the location of the development in the zone (the zone is divided into height transects that increase up to the summit of Coby Street). Development in the downtown is driven by a FAR bonus incentive program that is similar in nature to the bonus programs of Tacoma and Bremerton. Based on the assumption that a developer would participate in the bonus amenity program, we modeled a seven-story mixed-use apartment building with 6,000 square feet of retail on the ground floor (Figure 2-8).

Figure 2-8 Large Mixed-Use in Everett CBD

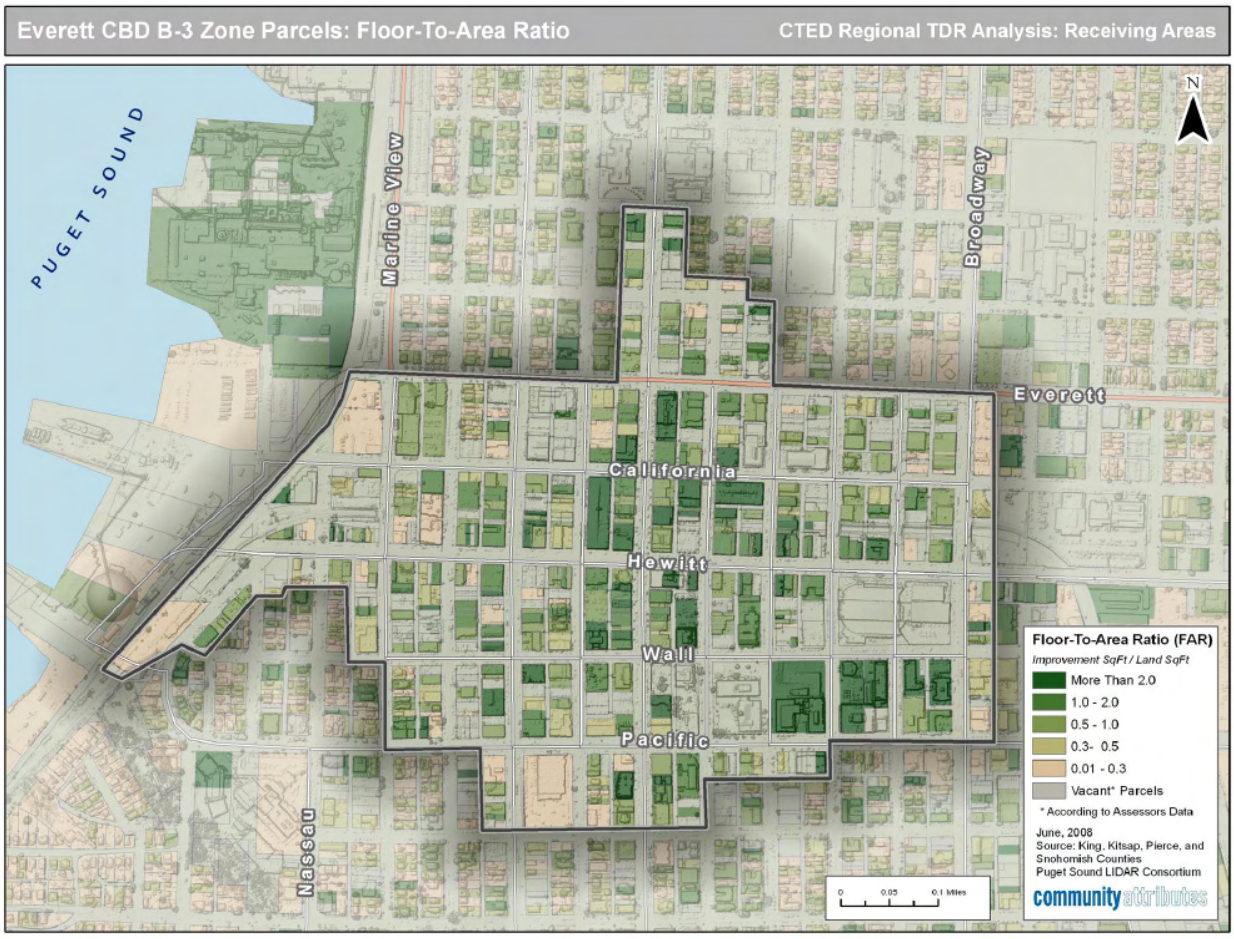


Based on existing market conditions, this project is currently not economically feasible. Assuming the need to generate a 15 percent internal rate of return, the project falls short by between $650,000 and $750,000. Rents would

have to go up 30-40% to generate sufficient revenues that would provide the foundation for a TDR market.

Developers in the area are using a variety of creative solutions to make projects economically feasible, including 40-year amortized loans and phased development of large apartment projects. They are starting with two levels of concrete construction that contain leasable commercial space and townhomes, then building the wood frame apartments on top at a later date. Overall, the most limiting factor for TDRs in Everett is that rental rates are too low to support high-density projects that could include TDRs–premium rents are required to accrue enough revenue for developers to purchase TDRs.

Map 7 Everett CBD B-3 Parcels, Floor-Area-Ratio



g. Arlington, Snohomish County

Scenario 1: Single-Family Master Planned Development under Existing Conditions in Unincorporated UGA Adjacent to City boundary

The Arlington analysis looked at a single-family subdivision in an unincorporated UGA area zoned for medium density residential development by the county. This site is adjacent to the Arlington city boundary. A proposal to develop the site was submitted then relinquished when the housing market slowed.

Under current conditions, the high cost of land and offsite infrastructure enhancements negatively impacts a single-family development. This 113-acre subdivision (59 buildable acres) in the Lindsey Area with 300 units is not feasible under the current market conditions. The pro-forma includes the $200,000 per acre acquisition cost of the land. The price of this land is high due to the medium-density single-family development potential the site zoning holds. In order for this subdivision to be feasible, the price of the land would need to decrease by about 80 percent, or off-site infrastructure improvements would need alternative funding sources other than the developer.

This project is not feasible under current market conditions for this site, with development costs that exceed project revenue by $12.8 million.

Scenario 2: Single-Family Master Planned Development under Hypothetical Conditions

The first scenario confirmed that the 300-unit subdivision is infeasible under current conditions. The costs of land and infrastructure impacted the feasibility of the project more than initially anticipated. To extract additional useful information from the Arlington case study, the analysis was adjusted to portray land acquisition costs for farmland outside the UGA that does not have the additional value of medium-density zoning attached to it. This value was assumed to be $40,000 per acre, a price associated with land that is outside of the UGA.

If the developer purchased the land outside the UGA and then applied for and received a UGA expansion to include the land contingent upon the purchase and use of TDRs .the receiving-area in this scenario might incur less expensive land acquisition costs. The pro forma resulted in a WTP for TDRs of $1,700 per unit above the farmland zoning. This analysis could be used to illustrate a nexus between WTP for TDRs and UGA expansions. However, those costs would have to assume that farmland adjacent to the UGA was less expensive. This hypothetical scenario is based partially on the Snohomish County pilot program in which the City has signed an interlocal agreement with the county to require TDR purchases for development in a UGA expansion area that is annexed into the City.[29]

The hypothetical case applies an assumption that when the area was up-zoned with the UGA expansion, an interlocal agreement was created between the City and the County, requiring that applicants for development approvals purchase TDRs. This type of agreement has been reached for a property east of the City in which a development is proposed.[30] However the current agreement is constrained by the developer's negotiations with sending area landowner's who want premium prices for their farms and other issues.

This case study shows some potential for combining UGA expansions and TDRs even though this nexus is untested or unsuccessful in existing county programs.

The pro forma analysis reveals that, if a single-family residential development is built at an average density of 5.5 units per net developable acre (excluding sensitive habitat and roads) on land currently zoned for agriculture, the developer would be willing to pay $44,300 per acre while the land selling price is estimated to be $40,000 per acre. This results in $482,000 in WTP for the

[29] Based on interlocal agreement between City of Arlington and Snohomish County, established by amended ordinance numbers 05-141 ad 05-142, in which the expanded UGAs serve as TDR receiving areas. The city shall require applicants for development approvals within the TDR Receiving Area to provide TDR certificates.

[30] This area is Brekus Beach.

entire 113-acre subdivision. This could theoretically be used to purchase TDRs. However there are a number of caveats that should be considered:

- Developer-funded infrastructure enhancements vary considerably by location. This analysis includes $4.8 million in off-site sewer and water enhancements but does not include costs for arterial road expansion, bridges, reservoirs and a number of other costs that are not incurred if the development is on a smaller tract or infill in the city. These can be significant costs that can impact a developer's ability and willingness to participate.
- Timing is crucial: If the interlocal agreement requires a developer to purchase TDRs in a later phase of a project, such as the marketing phase, it increases a developer's ability to pay for TDRs and reduces risk. The purchase of TDRs can be far costlier if required to purchase during an earlier project phase, such as during the map amendment process or building permit application. The ability to pay increases due to the time value of money and elimination of risk. Having the surety of a TDR locked up in front, and having to pay for it at the very end of the process maximizes willingness to participate in the process, and the amount a builder/developer could pay for the TDR.
- Generalized pro formas for large subdivisions tend to oversimplify complicated developer economics and can result in underestimated costs.

If the number of development rights is considered in the UGA expansion and up-zoning of the Lindsey Addition, the number of permitted units increases from 23 units under rural zoning to 386 units under medium density residential zoning. With streets, 329 units are developed, resulting in a maximum willingness to pay of about $1,600 for each unit beyond the 23-unit base zoning.

While requiring the use of TDRs for any expansion of the UGA has some merit, it is very complex and difficult to implement.[31] UGA expansion in Washington State under the GMA is a highly complex and politically charged issue. Counties considering a UGA expansion must justify the expansion with a land capacity analysis that shows additional land is needed in the UGA to accommodate 20-year population projections. Counties must also meet capital facilities planning requirements by demonstrating that the infrastructure needed to serve the UGA expansion area is in place or is planned.

On the other hand, this scenario is based upon the de-designation of agricultural land for inclusion in the UGA. This can be a significant hurdle for counties because GMA requires the conservation of agricultural lands of long-term commercial significance. Several counties have been challenged and found out of compliance with the GMA for failing to justify a de-designation of agricultural land.

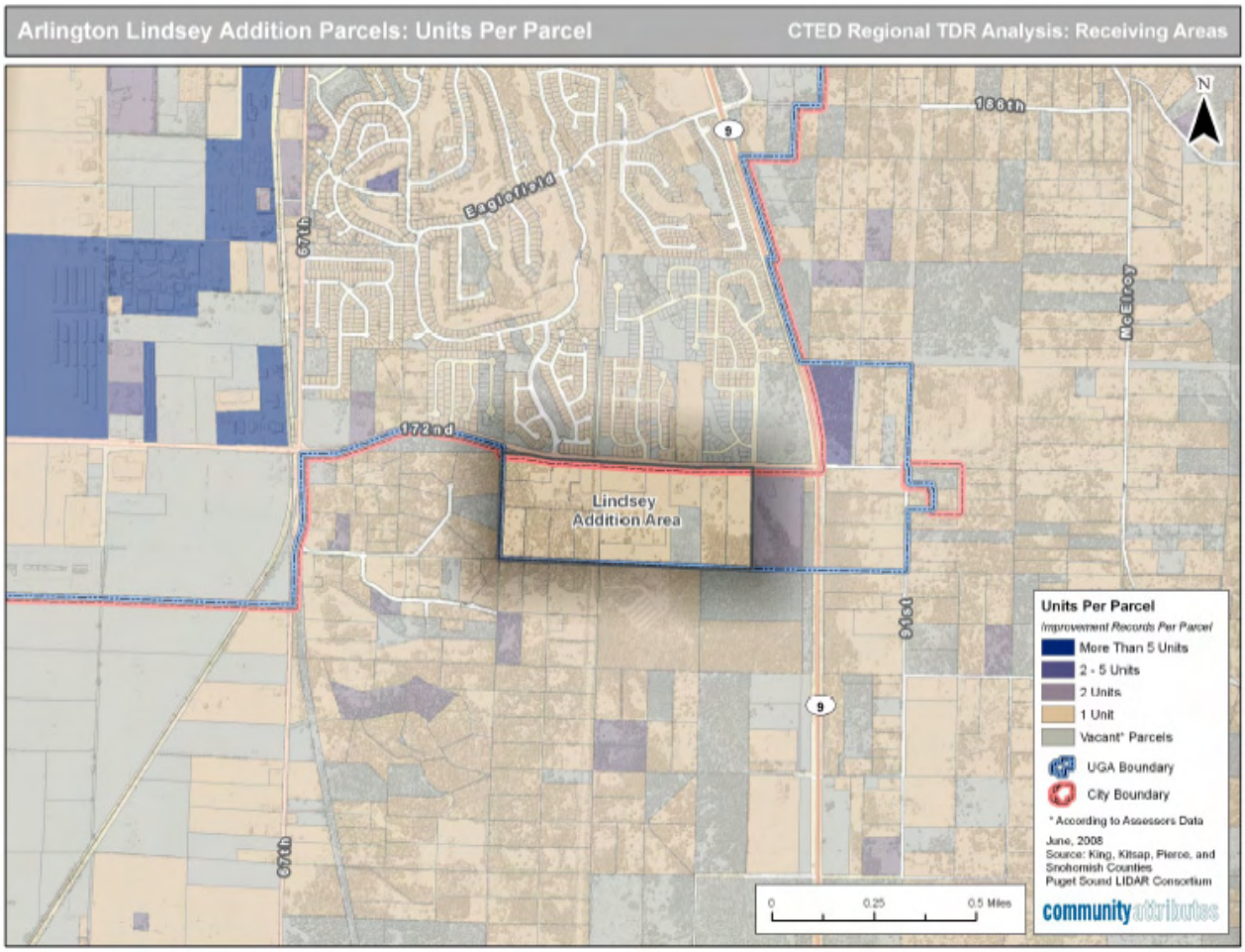
Finally, all four central Puget Sound counties have an additional requirement to meet for expansions of the UGA. Prior to any UGA expansion, they must identify reasonable measures other than adjusting the UGA. Reasonable measures include establishing minimum densities within the UGA, increasing densities, etc.

Landowners can realize a substantial gain in value if and when their property is brought into the UGA. However, the reality of the marketplace is that landowners who anticipate that their property is prime for UGA expansion will see the potential profit to be made and price their land accordingly. If all of the infrastructure extensions are the responsibility of the developer, the "willingness to pay" is quickly eroded by off-site infrastructure improvement costs. This is a double-edged sword when considered with the issue of land owner expectations. If the infrastructure is available at the site, the land-

[31] Pierce County and Kitsap County have provided for this in their TDR programs, but no UGA expansions based on the use of TDRs have occurred to date. King County is currently considering allowing a UGA expansion with TDRs, but it has not been adopted.

owner expectations will rise and the cost of the land will rise accordingly. Willingness to pay becomes very difficult to calculate in light of so many unknowns.[32]

Map 8 Arlington Lindsey Addition Parcels: Units per Parcel



[32] Conversations with developers suggest that if a UGA conversion does not include a large number of additional enhancements, and is financially feasible the TDR values would typically range between $1,000 and $2,500 per unit.

h. Tukwila, King County

Prototype: Mixed-Use Apartment in the Tukwila Urban Center

The City of Tukwila is developing a form-based code for the Tukwila Urban Center (TUC) that could provide an excellent opportunity to include a TDR component from the implementation stage of the revised regulations. The center has strong potential to become a pedestrian environment with a Link Light Rail station in development, a bus transit center with high ridership levels, and the expanding Westfield Southcenter Mall.

A six-story mixed-use project with condominiums is currently being developed adjacent to the planned rail station, albeit under existing development regulations and not the form-based code. A mixed-use development prototype similar to the condominium project under construction was designed for this analysis. It serves a dual function, testing the feasibility of the development product the City envisions for the area under new regulations and answering the question about how Tukwila's TUC could become a receiving area for a regional TDR program.

Instead of transferring density on a unit-for-unit basis, we identified two possible "conversion commodities" to test the feasibility of TDR purchases in the TUC.[33]

- Reduce required parking for two bedroom units from two spaces to one space within 600 feet of transit stations (bus and rail).[34]
- Add one story above the eight story limit.

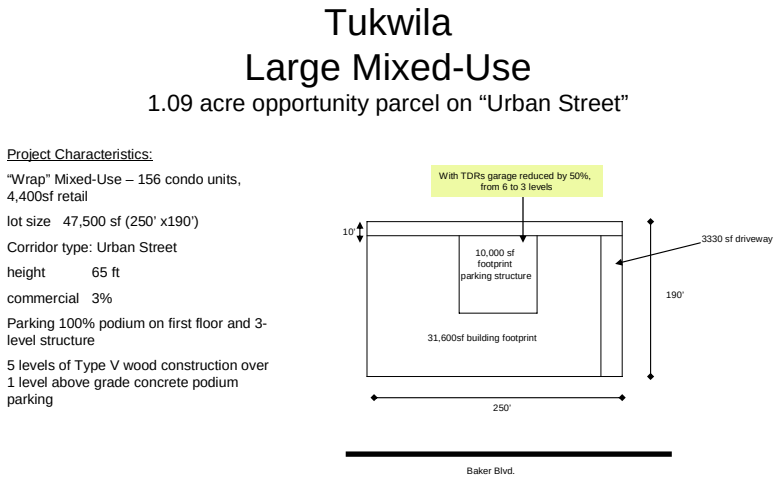
Option 1, reduction of parking requirements around transit stations, revealed the best opportunity to generate revenue for a TDR program. Option 2, an additional level, is a development mix that would be difficult for the market to absorb at this time and could result in high vacancy rates.

[33] Conversion commodities are explained in more detail in the following section.

[34] That is, rather than adding more housing units, the TDRs could be converted into reduced parking ratio requirements for higher buildings.

The resulting development prototype is illustrated in Figure 2-9. It represents a six-story mixed-use project that wraps around a parking a parking garage located in the back of the parcel. This design permits easy access to parking from the units and shelters the parking structure from street-level views. It contains five levels of condominiums over a level of parking with 5,000 square feet of retail. This project does not include surface parking because the local market is transitioning from surface to structured parking.[35]

Figure 2-9 Large Mixed-Use in Tukwila TUC



Under required parking standards, the prototype contains a six-story parking garage. The developer can afford to pay $13 per square foot, or about $640,000 for the one acre parcel. This is well below current market value.

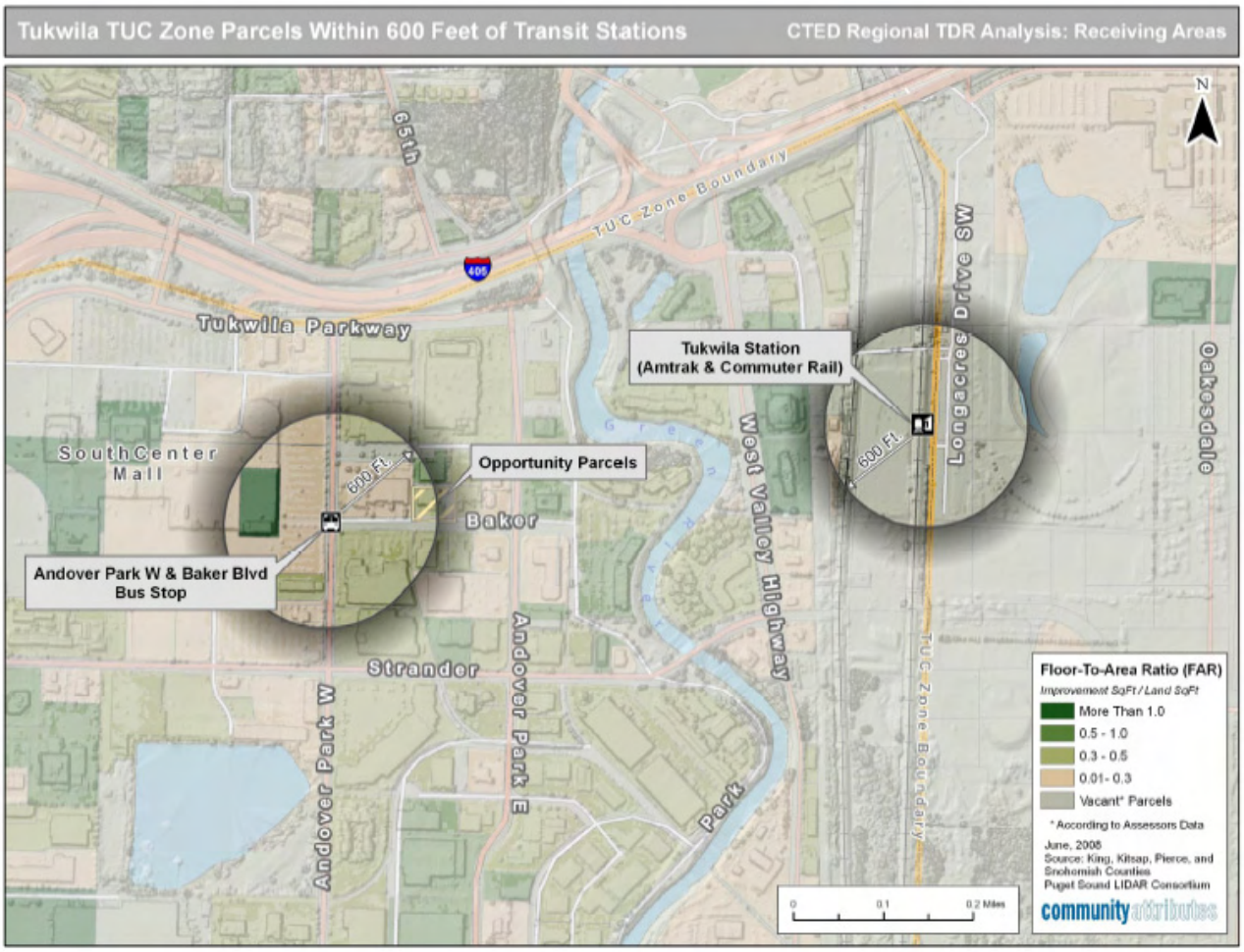
[35] The Southcenter Mall is developing parking structures in the process of expansion.

We estimate a 1.1-acre parcel in the northern portion of TUC to sell for $1.9 million, or $40 per square foot. This parcel would typically hold some improvement value that would be a marginal factor in the land price, consisting of an outdated office building that would be razed to redevelop the site.

When the parking requirements are reduced to one space per two-bedroom unit, the parking garage can be reduced by 50 percent, or to three levels instead of six. These results reveal a developer would now purchase the land to develop this project for $38 per square foot. The maximum a developer would be willing to pay for the reduction in required parking, or parking bonus, would be $155,000, or about $2,000 per parking space.

Overall, the parking bonus would provide an incentive to build higher density projects with less surface parking because it is easier to maximize sellable floor area and accrue additional revenue. This bonus would also promote the City's goal of increasing residential development in the area and provide an impetus for transit-oriented development. It will also generate important revenue to incentivize developers to purchase TDRs.

Map 9 Tukwila TUC Zone Parcels, Floor-Area-Ratio within 600 Feet of Transit Stations



D. Identification of Possible Conversion Commodities

In most TDR programs, that seek to protect open space or natural resource land in sending areas, the sending-area development right available for sale is the right to build a residential unit. (In the case of some urban-to-urban TDR programs in downtown areas, which seek to protect historic buildings and other existing urban features, the sending-area commodity can be height or commercial floor area.)

In some TDR programs, however, the development right for sale from the sending area can be *converted* into another type of commodity in the receiving area. For example, a TDR created by extinguishing the right to build a residential unit in a residential area could be converted into the right to build additional commercial floor area or additional building height in the receiving area.

The use of such "conversion commodities," as we will call them in this report, may help stimulate the TDR market by providing receiving-area landowners with more options for TDR use. A receiving-area developer can make a project "pencil" (that is, make a project "pencil out" as profitable) through additional office or retail space, reduced parking ratios. These could be provided among other development rights, rather than just increased residential density, which is what TDRs are traditionally used for.

In theory, a conversion commodity could include a waiver or relaxation of anything that can be regulated or restricted through the land use process for which a developer would be willing to pay. Some such commodities are already used in TDR programs around the country. Others are not currently used in TDR programs but could be because they are regulated or restricted by the land use regulation system.

Commodities Currently Included in TDR Programs

1. Commercial Floor Area (CFA)
2. Building Height
3. Parking Ratio

4. Impervious Surface
5. Parkland and Open Space
6. Setbacks

Other Possible Commodities to be Included in TDR Programs

1. FAR
2. Impact Fees and Concurrency Conformance

When conversion commodities function properly, they save developers money while conserving open space. Affordable housing is often perceived at odds with TDRs that protect open space because they compete for the same limited financial resources created by increased density in receiving areas. But because it can be advanced through other development rights, affordable housing is a possible *outcome* of open space TDR programs.

1. Commodities Currently Included in TDR Programs

a. Commercial Floor Area

As a marketable right, commercial floor area (CFA) is a commodity that consists of the right to create or retain built square footage for commercial purposes. Frequently employed as part of an economic development strategy, policies regulating commercial floor area can be used as an alternative or in addition to a residential density bonus under a traditional TDR program. Many communities that are experiencing a jobs/housing imbalance choose to place a "cap" on whichever of the two is in greater supply to ensure a proper mix. Rather than limit residential development, the option to purchase more commercial square footage can result in the same outcome.

In the Puget Sound area, TDR programs in both Issaquah and Redmond allow receiving-area developers to convert a TDR into increased commercial square footage.

One TDR unit in Issaquah equates to the following:

- One residential dwelling unit/or comparable additional commercial square footage in commercial zones; AND
- the associated number of p.m. peak hour trips; AND

- impervious surface; OR
- building height.

In Redmond, receiving-area landowners can purchase TDRs from a sending area in the form of a residential right, and are able to convert it to multiple development rights, including commercial floor area. They can be used them in any number of combinations in commercial and mixed-use zones. Each TDR in the city of Redmond may be used to increase the amount of building floor area by 8,712 square feet, or one-fifth of an acre.

Microsoft has been a significant program participant both for floor area and parking in the Overlake district, which is overlain with an overall cap on CFA agreed to by the Cities of Redmond and Bellevue. Microsoft, or any TDR program participant, can exceed development intensity allowed by base zoning regulations, but only within the overall maximum floor area restrictions.

The Central Pine Barrens TDR program on the east end of Long Island, New York, allows developers to purchase credits for increased commercial floor area in the towns of Brookhaven, Riverhead, and Southampton. One Pine Barrens Credit (PBC) which confers a residential right, is allocated per acre in commercial and light industrial zones, of which the amount of additional commercial floor area allowable is contingent upon the underlying zoning.

The bistate TDR program at Lake Tahoe uses CFA conversion as part of an unusual program that permits the trading of many commodities.

Under the tradable development commodities program in the Tahoe Basin, Tourist Accommodation Units (motel or hotel units) are convertible to CFA at the ratio of 1 square foot to 1 square foot.[36] Before a property owner can

[36] The Tahoe program appears to be the only program in the country which restricts and permits trading of hotel/motel units. No program in the Puget Sound area either restricts or allows trades of this commodity.

build a commercial business, they must obtain newly allocated CFA from the Tahoe Regional Planning Agency (TRPA) or purchase CFA from other commercial property owners on the open market.

Because the requirement to purchase CFA as part of the entitlement process is an additional cost to developers, TRPA passed an ordinance permitting the conversion of TAUs to CFA, encouraging commercial developers to acquire TAUs for commercial development. Tradable CFA is created only when commercial property owners demolish existing structures or in the instance where new allocations are released by TRPA.

Under some circumstances it is also possible to convert TAU or CFA into residential development rights for affordable housing in the Tahoe Basin. The Tahoe Regional Plan restricts residential growth, prohibiting subdivision of land and assigning landowners one residential development right per undeveloped lot. To build more than one unit on site, developers must purchase additional rights. In the case of affordable housing, developers can construct a portion of bonus units offsite as market rate multifamily units, provided that the units that remain on-site are the result of TAU conversion to affordable housing.

b. Building Height

Additional building height is one of the most commonly used development commodities available for purchase through a TDR program. Combined with a regulated floor area ratio, or FAR, additional building height enables developers to fit more square footage within the building envelope than would otherwise be the case.

In Issaquah, one TDR unit equals 2,000 square feet above the maximum building height established in any zoning district within a TDR receiving site--with some exceptions for projects in the Shoreline Jurisdiction--if the project meets all development standards in the Municipal Code. If the project deviates from development standards, including building design, pervious surface ratio, and consistency with the Shoreline Master Program, the City permits

only 1,000 square feet of additional floor area above maximum building height.

The City of Redmond allows TDRs to be used to increase the height limitation on a project by up to one story over each increment of floor area of 8,712 square feet.

c. Parking Ratio

Parking requirements can either be increased or decreased through the land use regulation process. Developers who seek to provide less parking than required by the local government can buy that right by purchasing a TDR or whatever portion of a TDR constitutes a parking space. Typically measured as a percentage of floor area square footage or number of spaces, the parking ratio can also be decreased to allow developers to fit more parking into a project.

Redmond permits developers to purchase and combine TDRs to add up to 25 percent or 30 percent more parking per 1,000 square feet of gross floor area than would be allowed by the underlying parking requirements. However, the total parking ratio must not exceed five spaces per 1,000 square feet of gross floor area.

d. Impervious Surface

In jurisdictions where there are specific regulations on storm water run-off, either for watershed protection or public health and safety, there may be an opportunity to incorporate impervious surface area in a TDR program. Generally expressed as a percentage of the proposed project site, the amount of impervious surface, either as a man-made structure or paved surface that restricts water from reaching the underlying land, can trigger development review or be restricted at the entitlement phase.

Impervious surface is a tradable commodity in the Tahoe Basin and also in some cities in King County.

For each underlying zoning district in Issaquah, there is a set of conditions that enable the augmentation of impervious surface area. In Issaquah, one TDR unit equals the following amount of impervious surface area in addition to one residential unit or the comparable commercial square footage:

- 2,000 square feet of impervious surface outside the Critical Aquifer Recharge Area (CARA), or
- 1,000 square feet of impervious surface inside CARA.

The process and conditions for increasing impervious surface ratio limits in receiving sites are based on the type of zone and the associated impervious surface ratio allowed in that underlying zoning district, including multifamily, mixed-use and commercial zones.[37] The City is also currently investigating ways to increase the permitted amount of lot coverage for a project that incorporates Low Impact Design (LID) techniques.

Redmond permits developers to increase the maximum impervious surface or maximum lot coverage by 8,712 square feet, provided that the total increase does not exceed 10% of the project site.

The 1987 Tahoe Regional Plan restricts the overall amount of impervious surface, known as coverage, in the Tahoe Basin. Therefore, in this one instance, impervious surface is actually a commodity held by sending-area landowners. It is tradable but cannot be converted to another commodity by buyers.

The coverage market serves residential lot owners who wish to build at levels that exceed their allotted base coverage. Property owners who have created less than their allotted amount of coverage may sell that coverage to other property owners within the same watershed or hydrologic area on a square-foot for square-foot basis.

[37] Because storm water run-off can counteract conservation efforts, impervious surface area ratios in receiving areas are tailored to improve storm water management of specific land uses.

Under the TRPA planning system, newly developing parcels are permitted a higher percentage of coverage than existing parcels, discouraging the recycling of already urbanized land. But owners of the most sensitive land are given very few coverage rights by the regulatory system so they have little incentive to participate in the program.

e. Parkland and Open Space

Developers are often required to provide parkland and open space as a community benefit accompanying development, which also fall within the realm of marketable commodities. Commonly known as an exaction, the dedication of land for recreational use is tied to the project review process. Exactions are conditions or financial obligations imposed on developers to deal with specific problems arising from the development in question.

Each development right in Redmond may also be used to substitute for the requirement to provide 8,712 square feet, or one-fifth of an acre, of public or private parkland.

f. Setbacks

Similar in theory to the parking ratio or impervious surface area, waived or decreased setback requirements on a project site enable developers to increase residential and/or commercial floor area. Taken together, setbacks and building heights create the building envelope but can also contribute to the "wedding cake," or tiered, appearance of buildings associated with tightly defined massing.

Issaquah permits developers to exchange one TDR for 1,000 square feet to modify building setbacks, minimizing the "wedding cake" effect.

2. Other Possible Commodities to be Included in TDR Programs

a. FAR

Many zoning ordinances restrict non-residential building size by restricting the floor-to-area ratio (FAR). FAR is the ratio of building square footage to

square footage of the underlying land. For example, if a lot is 10,000 square feet and the FAR is 1:1, this means that the building can be no greater than 10,000 square feet.

Even for zoning ordinances that do not have an explicit FAR limit, the amount of square footage is implicitly restricted by the combination of set-back and height requirements. Thus, FAR is an important consideration in defining the size and shape of buildings in any urban area.

In Everett, developers can transfer unused floor area per the maximum FAR standards for historic properties to a proposed development site within the B-3 (Central Business District) zone, provided the proposed development does not exceed the maximum FAR.

In addition, an explicit or implicit FAR limit may come into play if a TDR can be converted into either commercial floor area or additional building height. For example, a receiving-area landowner may obtain more height by purchasing a TDR but may not be able to use that additional height because of FAR restrictions. Thus, in cases where floor area and building height are conversion commodities, the interplay among all these regulations must be taken into consideration.

b. Impact Fees

Local governments often permit or require developers to pay an impact fee to mitigate the impact of a development project.

In Washington, impact fees are authorized under the GMA (RCW 82.02.050 - .100), as part of "voluntary agreements" under RCW 82.02.020, under the Local Transportation Act (RCW 39.92.040), and as mitigation for impacts under the State Environmental Policy Act (SEPA Ch. 43.21C RCW). [38] GMA impact fees may be levied and spent for only four capital facilities owned and operated by government entities including: (1) public streets and roads; (2)

[38] Municipal Research and Services Center of Washington.

publicly owned parks, open space and recreation facilities; (3) school facilities; and (4) fire protection facilities in jurisdictions that are not part of a fire district.

Transportation impact fees for building and maintaining roads and streets are commonly imposed in Washington.[39] The GMA requires that transportation improvements or strategies to accommodate development impacts need to be made concurrently with land development. By paying transportation mitigation fees, developers can meet transportation concurrency requirements of the GMA.

Although the trend has been towards exempting or moderating projects with good transit service from impact fees, Washington state statute makes it difficult to waive or reduce adopted fees. Fees may also be varied across zones so they are not uniformly applied throughout the jurisdiction. So in theory, a TDR program could permit a receiving-area developer who purchases TDRs to convert those TDRs into fee credit and transfer them between zones. Although we found no examples of this, in concept it is no different than permitting TDRs to be used to reduce, say, parking ratios.

However, many jurisdictions in the state have mitigation provisions under the State Environmental Policy Act (SEPA). Local governments have some limited ability to establish thresholds for exempting certain projects from environmental review. Consequently, jurisdictions are more disposed to use SEPA to mitigate the impacts of development. Depending on the scale, location, and regulatory framework for a given receiving site, the local jurisdiction may be able to amend its SEPA ordinance to exempt a TDR project from some levels of review, which would save developers time and money.

In theory, TDRs could also be used as credit toward conformance with the concurrency requirement under the GMA. A bill introduced but not enacted in the 2008 legislative session, House Bill 2577, would have given jurisdictions

[39] Municipal Research and Services Center of Washington.

the right to approve development that does not meet concurrency requirements if the proposed development utilizes TDRs from designated natural resource lands or critical areas within the same or an adjoining county.

3. Using Conversion Commodities to Advance Affordable Housing

The question of affordable housing and TDRs that protect open space is a difficult one, because they are often perceived as two different priorities competing for the same financial resources created by increased density in receiving areas.

Some jurisdictions permit increased residential density in exchange for affordable units. In California, state law requires local governments to provide a density bonus of 25 percent if a developer sets aside 20 percent of a project's units for affordable housing.[40] Some other local governments around the country have similar requirements.

Such regulations can be viewed as competing with TDRs for open space and natural resource land conservation because affordable housing usually requires a subsidy, and increased density is only worth a certain amount of money to developers. If the additional financial resources are devoted to subsidizing affordable housing, those funds may not be available to buy conservation TDRs.

However, under some circumstances, other development rights can be incorporated in a conservation-based TDR program in a manner that indirectly advances affordable housing development. For instance, TDRs can make an affordable or mixed-income project financially feasible if a developer can in essence "buy" additional height or floor area than otherwise permitted.

Take a hypothetical, for example, where a developer can increase the height of a mixed-income residential project and offer market-rate units in the additional floors through the purchase of TDRs. If the additional floors offer out-

[40] California Government Code § 65915.

standing viewsheds or some other amenity that can be sold for a premium, the sale of the market rate units can in essence subsidize the development of the affordable units. Thus, the developer is able to build a high-end mixed-income project while simultaneously conserving open space and natural resource land.

In the City of Seattle, TDRs and affordable housing work in tandem, but this is because preservation of affordable housing is a goal in sending areas. A city lot where affordable housing is preserved can be used to create sending-area TDRs that can be purchased by receiving-area developers. Sending-area TDRs are also used to preserve landmark buildings.

3 SENDING AREA ANALYSIS

A. Development Right Values

Together, King, Pierce, Snohomish and Kitsap Counties have identified over 1.7 million acres of TDR sending areas in their respective TDR programs. For the purposes of this study, we have confined our analysis to a smaller area of approximately 372,000 acres of TDR sending areas, which includes smaller areas in King and Pierce Counties and all of the Snohomish and Kitsap sending areas.[1] The analysis is based on assessed land values and recent undeveloped parcel sales, but includes a mix of zones with rural, agriculture and forest lands described in Table 3-1. Even though the overall area analyzed was reduced from the maximum, these sending areas contain a variety of topographies, typologies, and real estate markets spanning the Puget Sound region.[2]

The price of recent land sales in each sending area was distilled to determine the average market value per acre of each sending area zone class (Table 3-1). We also tried to separate out the underlying "use value" of the land (for agricultural or forest operations, for example) in those zones where there might be underlying value based on land-based economic activity. So there are two columns of land values:

1. The landowner plans to sell the remaining development rights of a sending area property and let the land lie fallow—see Average Mkt. Price/Dev. Right column.
2. The landowner plans to sell the remaining development rights of a sending area property but still harvest the land—see Use Price/Dev. Right column.

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[1] Both King and Pierce Counties note that the reduction in sending areas included in this analysis is not an indication that the counties have prioritized which sending areas to preserve. Rather, the areas were decreased solely for the purpose of providing examples and to conduct this analysis efficiently.

[2] There are two lines of thought on TDR sending area supplies that are illustrated in the county programs. One line of thought is that a high amount of sending areas increases the likelihood of a buyer easily finding a willing TDR seller: conversely some programs seek to balance sending area supply with receiving area demand, so as not to flood the market with product.

TABLE 3-1 **DEFINITIONS OF SENDING AREA ZONE CLASSES**

County	Zone	Typology	Density
King	A-35	Agriculture	1 unit/35 acres
	F	Forest	1 unit/80 acres
	RA-10	Rural Area	1 unit/10 acres
	RA-5	Rural Area	1 unit/5 acres
Kitsap	RP	Rural Protected	1 unit/10 acres
	RR	Rural Residential	1 unit/5 acres
	RW	Rural Wooded	1 unit/20 acres
	UR	Urban Reserve	1 unit/10 acres
Pierce	ARL	Agriculture Resource Lands	1 unit/10 acres
	Fl	Forest Lands	1 unit/80 acres
	R-10	Rural	1 unit/10 acres
Snohomish	A-10	Agriculture	1 unit/10 acres

A "rural" land production value was not deducted since it is unlikely to produce significant revenue apart from the development right. The result of this calculation is displayed in the Use Price/Dev. Right column on the right side of Table 3-2. This represents our calculation of the value of development rights on a per-acre basis.

TABLE 3-2 **SENDING AREA VALUES, ACRE PER ZONE, BASED ON UNIMPROVED PARCEL SALES BETWEEN 2006-2008**

Study Area	Typology	Zone	Divisor	Use Value	Average Market Price/ Dev. Right	Use Price/ Dev. Right	Average Market Price (Acre)	Use Price (Acre)
King-Red[a]	Agriculture	A-35	35	$3,500	$108,125	-$14,375	$3,089	$3,500
Snohomish	Agriculture	A-10	10	$3,500	$107,624	$72,624	$10,762	$7,262
King-Carn[c]	Rural	RA-5	5	$0	$76,542	$76,542	$15,308	$15,308
King-Carn[c]	Rural	RA-5-SO[d]	5	$0	$91,929	$91,929	$18,386	$18,386
Kitsap	Rural	RR	5	$0	$94,200	$94,200	$18,840	$18,840
King-Red[a]	Rural	RA-5-P[e]	5	$0	$94,988	$94,988	$18,998	$18,998
Kitsap	Rural	UR	10	$0	$99,000	$99,000	$9,900	$9,900
King-Tuk[b]	Rural	RA-5	5	$0	$108,954	$108,954	$21,791	$21,791
Kitsap	Rural	RP	10	$0	$114,952	$114,952	$11,495	$11,495
Pierce	Agriculture	ARL	10	$3,500	$180,286	$145,286	$18,029	$14,529
King-Tuk[b]	Rural	RA-5-SO[d]	5	$0	$150,000	$150,000	$30,000	$30,000
Kitsap	Rural	RW	20	$500	$180,833	$170,833	$9,042	$8,542
King-Carn[c]	Agriculture	A-35	35	$3,500	$299,250	$176,750	$8,550	$5,050
King-Carn[c]	Rural	RA-10	10	$0	$188,313	$188,313	$18,831	$18,831
Pierce	Forest	Fl	80	$500	$280,807	$240,807	$3,510	$3,010
King-Red[a]	Rural	RA-5	5	$0	$258,333	$258,333	$51,667	$51,667
King-Tuk[b]	Forest	F	80	$500	$329,000	$289,000	$4,113	$3,613
Pierce	Rural	R-10	10	$0	$418,167	$418,167	$41,817	$41,817

[a] Representative of sending areas in proximity to Redmond receiving area.
[b] Representative of sending areas in proximity to Tukwila receiving area.
[c] Representative of sending areas in proximity to Carnation receiving area.
[d] Special district overlay.
[e] Parcel specific development condition.

Our results suggest the following conclusions:

- Forest and low-density agricultural lands have the lowest per-acre value. But low-density farmland around Carnation and forest land have the highest market selling prices because the parcels are large.
- Including the use value in farmland and forest land development right significantly reduces the development right value. The "use value" for A-35 farmland near Redmond is greater than the market selling price.
- Low-density agriculture is less valuable near Redmond than Carnation.
- A-10 lands in Snohomish are about half the value of the comparable ARL zone lands in Pierce County.
- Forest land price per acre values indicate there is less demand to develop these areas than rural land. In Kitsap the rural wooded (RW) land is the closest example to forest lands in other counties. The higher value of RW in Kitsap compared to forest in King and Pierce can be explained by the higher permitted density--four times higher than Pierce and King forest lands.
- With some exceptions rural lands tend to generate lower-end of development right values, around $100,000 per development right. However development right values are very high in some places, notably around Redmond and Carnation where rural parcels often consist of high-end estates. This also appears to be true in Pierce, where R-10 lands generate extremely high average selling prices, albeit based on a small number of sales.

When the sending area values are arranged by price per acre the sending area values as illustrated in Table 3-3, both the can be separated into four quartiles that are significant for determination of allocation rates:

- ***$5,050 and below:*** Low density farm and forest land.
- ***$7,000 to $11,500:*** Higher-value farmlands and most rural land in Kitsap.

TABLE 3.3 **AVERAGE PRICE PER ACRE**

Study Area	Type	Zone	Market Price (Acre)	Use Price (Acre)
King-Red[a]	Agriculture	A-35	3,089	3,500
Pierce	Forest	Fl	3,510	3,010
King-Tuk[b]	Forest	F	4,113	3,613
King-Carn[c]	Agriculture	A-35	$8,550	$5,050
Snohomish	Agriculture	A-10	$10,762	$7,262
Kitsap	Rural	RW	$9,042	$8,542
Kitsap	Rural	UR	$9,900	$9,900
Kitsap	Rural	RP	$11,495	$11,495
Pierce	Agriculture	ARL	$18,029	$14,529
King-Carn[c]	Rural	RA-5	$15,308	$15,308
King-Carn[c]	Rural	RA-5-SO[d]	$18,386	$18,386
King-Carn[c]	Rural	RA-10	$18,831	$18,831`
Kitsap	Rural	RR	$18,840	$18,840
King-Red[a]	Rural	RA-5-P[e]	$18,998	$18,998
King-Tuk[b]	Rural	RA-5	$21,791	$21,791
King-Tuk[b]	Rural	RA-5-SO[d]	$30,000	$30,000
Pierce	Rural	R-10	$41,817	$41,817
King-Red[a]	Rural	RA-5	$51,667	$51,667

[a] Representative of sending areas in proximity to Redmond receiving area.
[b] Representative of sending areas in proximity to Tukwila receiving area.
[c] Representative of sending areas in proximity to Carnation receiving area.
[d] Special district overlay.
[e] Parcel specific development condition.

- ***$14,500 to $22,000*:** Most rural land in King County and the highest-density rural Kitsap lands. This range represents lands that are under development pressures yet still within a feasible value range to effectively allocate development right ratios.
- ***$30,000 and up*:** Land selling for a premium under current market conditions, the highest of which is five acre lots outside Redmond.

Because the values contained in this memo are based, in some cases, on a small number of transactions, we recommend sending-areas be valued by an appraisal to ensure fair compensation for all parties.

4 SUPPLY AND DEMAND FOR TDRS

This analysis of supply and demand for TDRs in the Puget Sound region included only those areas selected for market analysis in this study, which represent only a small portion of potential sending and receiving areas in the region.

The analysis included 372,000 acres of TDR sending areas identified by King, Pierce, Snohomish and Kitsap counties. (King and Pierce Counties in particular have much greater sending areas than we used for the analysis.)

The analysis also included nine receiving areas that totaling 2,400 acres. Receiving areas such as the downtown areas in Tacoma, Everett and Bremerton represent some of the highest densities for development in the state. These receiving areas represent only a small portion of the possible receiving areas in the region as a whole (and, in fact, they do not include many receiving areas already included in existing TDR programs). Even so, it is unlikely these and the other receiving area will have enough capacity to receive, and enough demand to purchase development rights from all of the sending areas.

This analysis seeks to estimate how much revenue these nine receiving areas could generate for a regional TDR program, and through county prioritization of sending areas, revenue from these receiving areas could preserve some sending area that are the most at risk to development pressures.

A. Sending Areas

The true amount of sending-area supply and the rate at which sending area development rights would be sold through TDR programs is extremely difficult to estimate due to the following considerations:[1]

[1] The Cascade Land Conservancy has estimated the total number of development rights in King, Pierce, Snohomish and Kitsap County sending areas.

- Landowners in sending areas will have varying perspectives on whether or not they want to sell the development rights to their land and what is the amount of adequate compensation for the development rights.
- Some sending areas contain existing residential units and agricultural facilities. As such these development rights have been extinguished. The assessor data estimates these numbers but is not "real time" data.
- Agricultural and forest land owners may opt to step away from their property and cease farming and forestry operations while others may want to continue to harvest their land while preserving it from future development. These would result in varying willingness to sell prices that may be higher or lower than the landowner would be willing to sell for.

In order to estimate the amount of development rights in the sending areas contained in this analysis, assessor data was analyzed from each county and distilled into Table 4-1.

Based on the assessor data it is difficult to determine the precise number of development rights, estimated here at about 14,000. Some areas have been downzoned. In particular, 5-acre parcels in King County, in the sending areas near Redmond, were downzoned in the mid 1990s. A similar discrepancy is found in the Kitsap County assessor numbers, as it was required to downzone some areas under the GMA in 1998. If these sending areas with reduced permitted densities were significantly developed prior to the decrease in permitted density, the number of existing units exceeds the number permitted under zoning. These higher densities were essentially "grandfathered" into the new zoning designations. Thus in Table 4-1 there are instances where the number of acres in the areas are multiplied by the zoning density, the number of units "permitted" is less than the number that exist.

There have been few sending-area sales linked to county TDR programs. Snohomish County spent $2.1 million to purchase development rights for 71 acres of farmland in 2006. King County purchased development rights for 156 potential units on Sugarloaf Mountain in November of 2006 for $1.5 million; and in 2004 King County spent $22 million to preserve the Snoqualmie Tree

TABLE 4-1 **SENDING AREA SUPPLY ANALYSIS**

Sending Area	Zone	Number of Parcels	Total Acres	Total Units	Total Dev. Rights	Rem. Dev. Rights
King – Carnation	A-35	525	12,979	188	371	183
	RA-5	2,112	13,039	1,216	2,608	1,392
	RA-5 SO	78	1,071	29	214	185
	RA - 10	1,073	9,722	507	972	465
King – Redmond	RA- 5	9,160	18,704	7,638	3,741	-3,897
	RA-5 P	889	2,470	665	494	-171
King – Tukwila	RA-5	9,486	28,203	6,867	5,641	-1,226
	RA-5 SO	1,663	8,575	1,161	1,715	554
Kitsap	RP	7,389	28,383	5,311[a]	2,838	-2,473
	RR	34,360	77,486	25,944[a]	15,497	-10,447
	RW	1,414	49,059	283[a]	2,453	2,170
Pierce	ARL	1,585	24,682	757	2,468	1,711
	FL	892	273,142	25	3,414	3,389
	R-10	1,115	7,474	403	747	344
Snohomish	A-10	4,241	53,990	1,703[a]	5,399	3,696
Total						**14,090**

[a] Calculated by counting number of dwelling improvement records in sending area

Farm east of Carnation. This translated to the purchase of 990 TDRs from 89,000 acres of forest land. Whether a regional program would provide an impetus to increase sending area property transactions is difficult to measure and depends on the prices, the markets, the actions of the county programs, and the regional mechanism with which rights are purchased (i.e. if price paid for development rights in a regional program are negotiable or set).

B. Receiving Areas

The consultant team worked with CTED, their Policy Advisory Committee, and the counties and cities to choose a variety of receiving areas that encapsulate the diversity of the region. The majority of receiving areas represent infill scenarios in which developers of multi-family projects purchase TDRs or fractions of TDRs in exchange for a density bonus. The capacity for these types of receiving areas to demand TDRs is impacted by the fact that the demand for TDRs would compete with other density bonus options on "bonus feature menus".[2]

This analysis included three metropolitan centers, Tacoma, Bremerton, and Everett. These were expected to reveal the highest demand for condominiums and townhomes, both in quantity and price. But the Bremerton and Everett prototypes were not financially feasible because current real estate market conditions are adversely affecting prices and demand.[3] This analysis cannot estimate the demand and subsequent revenues for a regional TDR program for areas with projects that are infeasible; thus the demand for additional density is zero (at least currently).

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[2] Tacoma, Everett and Bremerton have density bonus menus that could compete for TDRs if they are included as an option onto the menus. These menus are more fully described in section 2.C.

[3] In March 2008, premium waterfront condominiums in Bremerton were auctioned at unit prices reduced by 58%.

The fact that the prototype was not feasible in Everett and Bremerton is not indicative that these projects are not being developed in the areas. In fact, both Bremerton and Everett each have projects being developed that are similar to the prototype. As stated in the market analysis, developers of a condominium tower project in Bremerton are using economies of scale to their advantage. They have proposed a project with the tall condominium tower modeled in the prototype, along with separate retail components and shared parking structures, that help make the large project feasible.[4] There are two large condominium projects in Everett. One is being developed in phases to reduce financing costs, and the other uses creative financing techniques such as 40-year amortized loans to make the project work.

The Tacoma downtown residential district (DR) also has a handful of large condominium projects proposed and being developed. Based on this and the slow market conditions, the area can expect two to three such projects a year with an increase to five or so in two to three years when the real estate market rebounds.

Carnation and the Tacoma MLK area have no market-rate projects proposed at this time that are similar to the prototypes modeled. Carnation is probably a few years off until mixed-use development in the downtown is seen as a profitable investment strategy. The City of Tacoma is currently working to implement the height bonus program in its mixed-use centers. Reinvestment in the MLK Mixed-Use Center area is probably five to ten years away, after the real estate market rebounds and once a large catalytic project is developed that will attract additional investors.

Tukwila has one condominium project proposed next to the rail station that is similar to the prototype, except that it contains some surface parking. The rate of development that can occur around the two transit stations in Tukwila is limited by the fact that there are only 16 parcels within the 600-foot radius

[4] This development is very large and complicated and was beyond the scope of this analysis to model in entirety; therefore the condominium tower alone was analyzed.

of the two areas that will be permitted for parking reductions. The effect of the pending new development regulations has yet to be seen. Therefore, it is very difficult to estimate the rate of turnover and new developments that would match the prototype in the area.[5]

The rate of demand for TDRs in Redmond is constrained by the existing local TDR program that could compete with a regional program and the results of the Bell-Red Overlake Transportation Study (BROTS), and renegotiated transportation agreement between Redmond and Bellevue. If permitted development densities are increased under the new agreement, there could be more investment in the area. However, if the current permitted densities remain, the rate of investment will depend on the attractiveness of the Overlake Business and Advanced Technology zone (OBAT) office market to investors and the number of redevelopable and vacant parcels (see map 5). The market can be assumed to be relatively strong, since clustering around the Microsoft campus will lure office developers. One office project a year that would purchase TDRs is an adequate assumption in the Redmond OBAT.

In the unincorporated receiving area of South Hill in Pierce County, an upzone that would result in redevelopment of underutilized parcels could result in significant capacity to demand TDRs. The amount of money available for TDR purchase on a typical site analyzed is a function of the parcel's distance to infrastructure access. Generally, there is not a high number of "infill" single family detached unit developers that would pursue a project that is only a few acres. But if the proper incentives are in place, such as the upzone from medium to high density single family zoning, and a short distance to infrastructure, then the appropriate developers would be drawn to the area.

[5] It is possible that the 600-foot radius for parking reductions permitted around transit stations could be changed. Many other jurisdictions' regulations for development around transit stations prescribe a ¼-mile radius for parking reductions. It the radius was increased in the Tukwila regulations, there would be about double the demand for TDRs linked to parking reductions.

Table 4-2 reveals assessor data formatted to reveal the intensity of existing development and the total acreages of each receiving area. The data is broken into floor area measurements for study areas that receive floor area density bonuses in the market analysis prototypes. The intensity of existing development in Tukwila is of little significance as it is likely these uses will eventually be completely redeveloped into transit-serving neighborhoods. The South Hill area is measured in number of existing units. This study analyzed only existing medium density single family zones (MSF) that are underutilized, with only one unit on parcels of one acre or more.

In terms of gross area, South Hill study area parcels represent the largest area at close to 1000 acres. This is followed by the Redmond OBAT study area with 500 acres, and Tacoma Downtown Residential Zone (DR) with nearly 150 acres. There are 16 large parcels within 600 feet of transit stations in Tukwila. The MLK area is limited to the 18 acre core of the corridor in which the density bonuses would be permitted.

Table 4-2 is designed to be compared with Table 4-3, which summarizes the intensity of the prototypes modeled in the market analysis.

The methodology subtracts the current level of development intensity in Table 4-2 from the higher-intensity development modeled with TDRs in Table 4-3 (except in Tukwila). This is assuming the prototypes modeled the "most likely" course for development based on current and near-term projects in each area. It also assumes that, as each receiving area is further developed, new buildings will be constructed similar to those modeled in the prototypes. The resulting difference in floor area between the prototype and median assessor FAR is an estimate of additional floor area that will be developed. We assume that some of this floor area will be due to a density bonus linked to TDRs (% TDR SF), although density bonus menus would make this percentage lower in most cases unless TDRs are required (see menu discussion in Tacoma market analysis Section 2.C)

TABLE 4-2 **ILLUSTRATING THE ASSESSOR DATA ANALYSIS RESULTS FOR THE DEVELOPMENT IN EACH RECEIVING AREA (BY ZONE)**

Receiving Area	No. of Parcels	Total Acres	Total Floor Area (SF)	Median FAR	Median Parcel Size (SF)
Floor Area Bonuses					
Bremerton DC	97	18.97	827,422	0.99	6,182
Tacoma DR	812	143.31	3,537,907	0.96	4,207
Tacoma MLK NCX	87	17.93	401,249	0.64	6,496
Everett CBD B-3	352	66.33	4,098,455	1.00	5,760
Redmond OBAT	79	574.29	14,945,802	0.50	221,330
Only Office	51	455.86	14,687,542	0.54	310,372
Carnation CBD	36	9.40	104,768	0.37	7,680
Parking Reduction					
Tukwila[a]	16	43.92	431,232	0.33	110,736
Single-Family Upzone					
South Hill MSF[b]	494	943	434 Units		

[a] Analysis area includes parcels centroids within 600 feet of Tukwila Station and the Andover Park West and Baker Boulevard bus stop.

[b] Parcels that have greater than 1 acre, less than 10 acres, and 0 to 1 units.

TABLE 4-3 **ILLUSTRATING DEVELOPMENT INTENSITY DATA FOR PROTOTYPES MODELED IN MARKET ANALYSIS**

Receiving Area	Parcel Size	Total Floor Area	Prototype FAR	FAR from TDR Bonus	% TDR (SF)
Receiving Areas with Floor Area Bonuses					
Bremerton DC	17,300	81,117	4.69	1.29	18%
Tacoma DR	28,200	128,883	3.88	1.57	34%
Tacoma MLK NCX	9,750	26,666	2.7	1	44%
Everett CBD B-3	26,335	126,091	4.07	0.55	37%
Redmond OBAT	308,135	144,823	0.47	0.07	15%
Carnation CBD	5,000	7,650	1.12	0.4	30%
Parking Reduction					
Tukwila[a]	47,500	162,360	3.42	-80	-32%
Single-Family Upzone					
South Hill MSF[b]	2 Acres	10 Units			

[a] Analysis area includes parcels centroids within 600 feet of Tukwila Station and the Andover Park West and Baker Boulevard bus stop.

[b] Parcels that have greater than 1 acre, less than 10 acres, and 0 to 1 units.

The Tukwila scenario assumes that the amount of parking reduction is a function of the building's FAR. This FAR is based on the assumption that the typical project will consist of six floors and no surface parking. Based on this assumption, we assume other projects in the study area radii will be developed at similar scale and thereby receive the same ratio of parking reductions.

This scenario does not subtract the existing floor area because the existing structures will be demolished over time.

South Hill's prototype is a two-acre parcel that is upzoned from medium (6 units per acre) to high-density (14 units per acre) single-family zoning that assumes the base zoning and net developable acreage equals 10 units per acre (see market analysis for assumptions).

Based on the differences between the two tables, the following Table 4-3 was developed. Table 4-4 takes the percentage of future development that would occur with TDRs, based on the prototypes, minus the median existing FAR, and estimates the total number of units that would be added. These unit counts are then multiplied by the maximum willingness to pay. Also shown is a willingness to pay that is reduced by 20 percent to reflect a more likely amount a developer would be willing to pay in order to ensure some extra profit to participate in the program.

The table does not contain calculations for Bremerton and Everett, where the prototypes were not feasible. The office prototype in Redmond was feasible, but the median FAR was slightly more than the prototype FAR, resulting in a negative calculation. This is probably a result of some outlier assessor data points in Redmond.

In terms of gross purchasing power, the Tacoma DR and the South Hill area represent the most potential to generate purchasing power for sending area TDRs. Tacoma's DR is an unusual mix of vacant and high density parcels (see map 2) that results in significant potential to build more units. Nearly 9,000 of these would be bonus units tied to TDRs or other bonus menu options. The high amount of infill opportunities, relatively large receiving area, and high willingness to pay per unit values results in a total of $750 million for TDRs if the Tacoma DR zone is "built out" in accordance with the seven story prototype design. Again, the selection of TDRs from a menu of less-costly amenities would severely impact this amount unless TDRs were a required component.

TABLE 4-4 **ESTIMATED CAPACITY AND REVENUE FOR TDR LINKED UNITS TO BE DEVELOPED IN RECEIVING AREAS**

Receiving Area	Existing Floor Area	Max WTP	Max WTP – 20%	Revenue Estimate
Number of TDR Linked Units at Prototype Buildout – Floor Area Bonuses				
Bremerton DC	767	–	–	–
Tacoma DR	8.854	$105,422	$84,338	$746,692,501
Tacoma MLK NCX	1.037	$1,721	$1,377	$1,427,538
Everett CBD B-3	4.722	–	–	–
Redmond OBAT	N/A	N/A	N/A	N/A
Carnation CBD	138	$12,957	$10,366	$1,429,614
Number of Parking Spaces Reduced at Buildout				
Tukwila[a]	-3,224	$552	$1,549	$4,994,292
Number of Single-Family TDR Units with Upzone				
South Hill MSF[b] (0.25)	9,340	$36,981	$29,585	$276,322,032
South Hill MSF[b] (0.5)	9,340	$13,365	$10,692	$99,863,280

[a] Tukwila analyzed 600ft radii around transit stations.

[b] South Hill analyzed 2 scenarios, one 0.25 miles and the other 0.5 miles from infrastructure hook up.

It is interesting that, despite extremely different characteristics, in Tukwila, Carnation, and Tacoma's MLK, the "Revenue Estimates" in the right column of Table 4-3 are all nearly exactly the same. Tukwila's gross potential TDR revenue is based on charging $440 a stall to reduce parking around transit stations by a total of 3224 spaces at "prototype buildout". Carnation and Tacoma's MLK are small receiving areas. MLK has a very low willingness to pay but higher density that permits more units than Carnation. Carnation is very

small but this area is estimated to have a higher willingness to pay per unit than MLK.

The South Hill values vary depending on distance to infrastructure hookups. The amount of infrastructure required can make or break a project. In South Hill, if all of the underutilized parcels considered in this analysis were less than a half mile away from a main water/sewer line connection, there could be $100 to $300 million for TDRs.

C. TDRS and UGA Expansions in Central Puget Sound

The receiving area omitted from the above discussion is Arlington. It is difficult to estimate the capacity and demand for TDRs in the unincorporated UGA outside Arlington because it is a hypothetical scenario based on the assumption that TDRs could be linked to all UGA expansions.

The market analysis of Arlington was intended to reveal whether there is revenue that could be generated for a regional TDR program that includes UGA expansions. The results revealed that while the specific UGA expansion and subsequent development scenarios differed significantly depending on situation, *some* UGA expansions could be willing to pay about $1,500 per single-family unit to purchase TDRs (see Arlington market analysis). The following UGA expansion data in Table 4-5 was obtained from the PSRC that can be extrapolated to assume gross potential revenue for TDRs. Table 4-4 describes the numbers of acres contained in each county's UGA in 2001, 2005, 2006, and 2008. The columns between these intervals calculate the difference in UGA area from one period to the next.

TABLE 4-5 **UGA EXPANSION RATES ESTIMATES SINCE 2001, BY ACRE**[a]

County	2001	Change '01-'05	7/27/05	Change '05-'06	12/12/06	Change '06-'08	3/3/08	Change Since '01
King	322,285	164	322,450	181	322,630	499	323,129	844
Kitsap	56,109	1,352	57,460	3,383	60,844	400	61,244	5,135
Pierce	166,701	-1	166,700	-323	166,377	94	166,471	-230
Snohomish	117,441	0	117,441	-350	117,092	2,817	119,909	2,468

Note: Numbers are approximate due to slight inaccuracies, especially in older files.

[a] Calculated from PSRC UGA Acreage since 2001 GIS shape files.

Source: PSRC.

The data in Table 4-5 is not exact as methods with which to measure the rate of expansions have been refined. It reveals that Snohomish and Kitsap Counties have increased their UGA by about 7,500 acres since 2001.[6] Most of Snohomish County's expansions have occurred recently, since 2006. King and Kitsap Counties also have also expanded about 500 acres since 2006.

A very coarse estimate of potential for TDR revenue from UGA expansions can be conducted with these numbers. However, there would be a need to analyze each proposed development in an expansion area on a case-by-case basis to determine the actual potential for TDR purchases.[7] Based on the data from 2001 to 2008, if only 25 percent of the previous UGA expansion area is assumed to have a WTP of $1,500 per unit and all of the expansion areas are

[6] Such refinements could include more accurate aerial photography that refines the previous UGA line measurements, in some instances resulting in an apparent decrease in UGA.

[7] A TDR bank could analyze each proposed development in a recently expanded UGA area and determine if there is revenue for TDRs. Proving that there is or is not, a WTP for TDRs could be a requirement for developments proposed in UGA expansion areas that were somehow "earmarked" for TDRs.

assumed to have been developed into medium density detached residential product zoned at 6 units per acre, this would have equaled nearly $2 million for TDRs in King County (844 x 25% x 6 x $1,500), $11.5 million for TDRs in Kitsap County, and $5.5 million for TDRs in Snohomish County. Clearly however, the true percent of developments that occur in areas added to the UGA that can afford to pay additional revenue will vary by geography and market demands. The percentage of developments in areas recently added to the UGA, that could have afforded to pay for TDRs, is an analysis that has not been conducted and is beyond the scope of this project. The goal here is to illustrate that there is potential for TDRs revenues to be linked to UGA expansions in the future.

The concept of requiring TDRs to expand the UGA has been considered in some form by all four counties, and has been adopted by two. The Kitsap County Board of Commissioners may require the use of TDRs as part of an expansion of a UGA. Pierce County requires that all UGA expansions include the use of TDRs. In considering a county-wide TDR program that was not adopted, Snohomish County proposed that all UGA expansions require TDRs. At this time of this report, King County is considering requiring TDR purchases for 50% of the allowed density on land that is added to the UGA via the County's 4-1 program[8]. The County is also considering pilot programs for expansions of the UGA requiring the purchase of TDRs from Rural Preservation Districts – surrounding the expansion areas – that consist of rural, agricultural or forest lands.

D. Sub-Prime Market Effects

Any TDR program is more successful in a strong market for real estate development. A TDR program is based on the assumption that developers in receiving areas are willing to pay for the privilege of building projects at higher densities (or with other concessions in the form of "conversion commodi-

[8] The 4-1 program allows expansions of the UGA if four acres of land are set aside for conservation for every acre that is included in the UGA.

ties"). Obviously, if the market for housing (or other relevant types of development) in the receiving area is weak, then a TDR program is not likely to succeed. Of course, real estate development markets are almost always cyclical, swinging from strong to weak and back to strong. This means that TDR markets will likely be cyclical as well.

The current subprime mortgage crisis is an example of a market downturn that could temporarily cause a decrease in TDR market activity. The most important effect of the subprime mortgage crisis on the real estate development business is that it has depressed housing prices and therefore temporarily decreased market interest in new housing development. Simply put, projects that "penciled" a year or two ago are no longer financially attractive to developers or to the capital investors who often provide funding for such projects. The current market downturn has been especially hard on starter-home subdivisions and some urban condominium markets.

It is reasonable to assume that the subprime mortgage crisis will create a temporary chill in TDR markets in the Puget Sound and elsewhere, just as it has put a temporary chill in housing development markets generally. However, many developers interviewed for this project indicated that TDR markets that are currently marginally feasible – Bremerton, for example – are likely to be robust in a few years because the subprime mortgage crisis will have passed and the market for high-density urban housing will have rebounded.

5 RATIOS AND LIKELY PRICES

To be successful, any TDR program must be based on a realistic understanding of the value of the TDRs to both buyers and sellers. In many successful TDR programs, these values are similar and so market transactions are similar. If they are not similar, the TDR program seeks to "equalize" the value through what is known as a "transfer ratio" – that is, a ratio of how many units (or other development rights) the buyer may obtain in exchange for purchasing one development right from the seller. When values are extremely disparate, transfer ratios can become very high. This makes it difficult for the market to work because it is difficult to use so many development rights on the receiving area site.

In addition, in successful TDR programs, sellers are often given motivation to sell their TDRs by making the TDR more valuable than the underlying right itself. For example, in Montgomery County Maryland the County's agricultural areas are zoned for 1 unit per 25 acres. However, farmers who sell property rights can sell up to 5 TDRs for every unit they can actually build. In other words, a sending-area landowner has the right to build only one house for 25 acres. But he has the right to sell 5 TDRs from the same property.

In the receiving areas, the TDRs are equivalent to one house and a receiving-area landowner who purchases 1 TDR is entitled to build 1 additional house. The idea is to make selling TDRs more attractive than building, especially in a voluntary program.

A Regional TDR program in a large and complex metropolitan area like the Puget Sound will necessarily involve an extremely wide range of land and development right values. The sending and receiving areas selected for this analysis are illustrative of the Puget Sound region. The receiving areas range from downtown towers to single family subdivisions, with a variety of development scenarios in between.

The diversity of sending area scenarios and subsequent markets results in a significant range of willingness to pay values from $0 to $27,000 per unit. This mixture of values is reflected in the receiving areas as well, with the de-

velopment right value per acre ranging from $3,000 to $51,000. Given the disparities in values and sending area parcel sizes, it is important to structure a system that includes the whole range of potential TDR market players. We believe there are three options in developing a market:

- **Regional Market**. Under this model, development rights would flow freely throughout the entire region, but transfer ratios would be determined on a subarea basis .
- **Geographical Market**. Under this model, development rights could flow across county lines, but only based on some nexus between sending and receiving areas. For example, such an approach could connect Tacoma to sending areas in King County's Green River watershed, or Carnation to sending areas upriver in Snohomish County.
- **Value Based Market.** This market would include a bank that would set exchange rates based on sending and receiving area economics.

One consistent finding is that receiving-area development rights (i.e., the right to build one housing unit) are worth far less than a sending-area development right (i.e., the right to build one house on a large piece of property). Thus, in some cases, receiving-area developers may have little choice but to purchase a fraction of a development right. This is one of the most powerful arguments for a transfer ratio, which would equalize, and/or for creating a bank, which could buy development rights whole and sell them in fractions. Another way to approach this is to translate TDRs into fractions that function as a currency to transfer development rights from sending to receiving areas.

A. Sending Area TDRs

The section on Sending Area Analysis ended with the following sending area value per acre quartiles that will be the foundation for the value of a fractional development right:

- ***$5,050 and below:*** Low density farm and forest land.
- ***$7,000 to $11,500:*** Higher-value farmlands and most rural land in Kitsap.

- ***$14,500 to $22,000*:** Most rural land in King County and the highest-density rural Kitsap lands. This range represents lands that are under development pressures yet still within a feasible value range to effectively allocate development right ratios.
- ***$30,000 and up*:** Land selling for a premium under current market conditions, the highest of which is five acre lots outside Redmond.

It is important to understand that this is the *per-acre* price of land. But a development right in most of these zones is attached to *multi-acre* parcel. Thus, the development credit is worth far more than the per-acre amount.

In order to create transfer ratios, we can use the range of values in each of these "quartiles" to reflect the values of the different sending areas (Table 5-1). By selecting a range in which fractional TDRs result in calculating close to a whole increment, the $5,000 cost permits fractional TDRs to be assembled into whole development right values that are very close to the market price.

Thus, the "Fractional TDRs" is the total number of development credits per acre, based on the land value. These fractional TDRs can be assembled into the number of development rights as illustrated in Table 5-2.

The numbers of fractional TDRs are presented in whole number increments that result in values that are generally very close to the recent market selling price of the land.

B. Receiving Area TDRs/Fractional TDRs

With sending area fractional TDRs at affordable $5,000 increments, developers in all receiving areas with project feasibility can pursue transactions. Based on maximum willingness to pay market analysis results, the number of credits each project can afford and each unit is worth is displayed in Table 5-3.

TABLE 5-1 **DEVELOPMENT OF $5,000 FRACTIONAL TDR VALUE (PER ACRE)**

Quartile	Values	Quartile Range	Fractional TDRs Assigned	Credit Total
1	less than $5,050	$5,050	1	1
2	$7,000-$11,500	$4,500	1	2
3	$14,500-$22,000	$7,500	1.5	3.5
–	gap	$8,000	1.5	5
4	greater than $30,000		1+	6+

The fractional development rights are transposed and sorted in Table 5-4 below to show how many fractional development rights would be available in each receiving area per project and per unit. The table reveals great variation in receiving area projects' capacity to purchase TDRs. Single-family developments and condominium projects in Tacoma have the greatest potential to preserve the highest priced development rights. In Tacoma this is because premium condo prices buttress the WTP for TDRs while in single-family areas like South Hill and Arlington, the large receiving area and high number units aggregate small WTP per unit values into significant WTP per project values. The lesser purchasing power associated with smaller projects in other areas may be better suited to preserve low- to mid-range value development rights.

Based on the information in Table 5-5 and Tables 5-2 and 5-3 there are a number of options in which a bank or broker could direct the market:

- A condominium project in Tacoma could retire 13 development rights at Average Market Value in the Green River Watershed, or 1,040 acres.

TABLE 5-2 **AVERAGE SENDING AREA DEVELOPMENT RIGHT VALUES WITH USE VALUES SUBTRACTED FROM AGRICULTURE AND FOREST LANDS**

Study Area	Zone	Use Price/ Dev. Right	TDCs/ Use Dev. Right	TDCs/ Use Dev. Right Rnd	Price Check	% Diff.
Snohomish	A-10	$72,624	14.4	**14**	$70,700	-2.7%
King-Carn[c]	RA-5	$76,542	15.2	**15**	$75,750	-1.0%
King-Carn[c]	RA-5-SO[d]	$91,929	18.2	**18**	$90,900	-1.1%
Kitsap	RR	$94,200	18.7	**19**	$95,950	1.8%
King-Red[a]	RA-5-P[e]	$94,988	18.8	**19**	$95,950	1.0%
Kitsap	UR	$99,000	19.6	**20**	$101,000	2.0%
King-Red[a]	A-35	$108,125	21.4	**21**	$106,050	-2.0%
King-Tuk[b]	RA-5	$108,954	21.6	**22**	$111,100	1.9%
Kitsap	RP	$114,952	22.8	**23**	$116,150	1.0%
Pierce	ARL	$145,286	28.8	**29**	$146,450	0.8%
King-Tuk[b]	RA-5-SO[d]	$150,000	29.7	**30**	$151,500	1.0%
Kitsap	RW	$170,833	33.8	**34**	$171,700	0.5%
King-Carn[c]	A-35	$176,750	35.0	**35**	$176,750	0.0%
King-Carn[c]	RA-10	$188,313	37.3	**37**	$186,850	-0.8%
Pierce	Fl	$240,807	47.7	**48**	$242,400	0.7%
King-Red[a]	RA-5	$258,333	51.2	**51**	$257,550	-0.3%
King-Tuk[b]	F	$289,000	57.2	**57**	$287,850	-0.4%
Pierce	R-10	$418,167	82.8	**83**	$419,150	0.2%

[a] Representative of sending areas in proximity to Redmond receiving area.
[b] Representative of sending areas in proximity to Tukwila receiving area.
[c] Representative of sending areas in proximity to Carnation receiving area.
[d] Special district overlay.
[e] Parcel specific development condition.

TABLE 5-3 **NUMBER OF TDC'S BY STUDY AREA BY MAXIMUM WTP VALUES**

	Bremerton	Tacoma DR	Tacoma MLK	South Hill (0.25)	South Hill (0.5)	Tukwila	Carnation	Redmond	Everett	Arlington
Total WTP	$2,603	$4,111,456	$22,379	$332,829	$120,289	$154,851	$47,956	$763,936	–	$481,733
WTP/unit	$90	$105,422	$1,721	$36,981	$13,365	$1,936*	$23,978	–	–	$1,570
Credits/Project	0.5	822.3	4.5	66.6	24.1	31.0	9.6	152.8	–	96.3
Credits/Unit	0.02	21.1	0.3	7.4	2.7	0.4	4.8	–	–	0.3

[a] The units in Tukwila are parking stalls.

TABLE 5-4 **NUMBER OF FRACTIONAL TDRS (FTDRS) AVAILABLE PER PROJECT**

	Total WTP	WTP/ Unit	FTDRs/ Project	FTDRs/ Unit
Tacoma DR	$4,228,080	$108,412	845.6	21.7
Redmond	$763,936	–	152.8	–
Arlington	$481,733	$1,570	96.3	0.3
South Hill (0.25)	$332,829	$36,981	66.6	7.4
Tukwila	$298,086	$3,726[a]	59.6	0.7
South Hill (0.5)	$120,289	$13,365	24.1	2.7
Carnation	$47,956	$23,978	9.6	4.8
Tacoma MLK	$22,379	$1,721	4.5	0.3
Bremerton	$2,603	$90	0.5	0.02

[a] A unit in Tukwila is a parking space reduction.

- The transportation-oriented development project in Tukwila could retire four development rights totaling 40 acres of farmland in the Snoqualmie Valley in Snohomish.
- Based on credits alone, each unit in a Tacoma project could preserve one five-acre rural parcel near Redmond.
- In a free-flowing market in which a UGA expansion requires a density mitigation, purchase of fractional TDRs a developer in the Arlington hypothetical UGA expansion could purchase 6 development rights at 10 acres each of farmland in Snohomish.

C. Conclusion

The basic message here is that, generally speaking, sending-area development right value is high and receiving-area "willingness to pay" is low. The only receiving area capable of retiring large amounts of land is downtown Tacoma. Although we did not study close-in neighborhoods in Seattle, it is likely that the willingness to pay (WTP) there is significantly higher in some instances, but in two existing transactions the purchase of development credits has resulted in WTP values ranging from $11-15 per square foot in the Denny Triangle. We do believe some markets, such as Bremerton, will see greatly increased willingness to pay in the next few years, thus making transactions more feasible. Based on this analysis, we would conclude that:

- It might make sense to limit transactions only between those areas that have somewhat similar sending and receiving areas. Otherwise, the net effect of TDR program activity will be to retire development rights on low-value land.
- If established, a bank will play an essential role, especially at the beginning, in purchasing and banking development rights for later resale when willingness to pay increases in more markets.

6 INTER-JURISDICTIONAL FEASIBILITY OF REGIONAL TDR PROGRAM

Inter-jurisdictional or interlocal agreements are not uncommon in TDR programs. In many locations – including the current King County program – the best sending areas are located in County territory and the best receiving areas are located inside Cities. Although inter-jurisdictional agreements are not always used, primarily because they are voluntary agreements between two local governments, they are often essential to a successful TDR program.

Inter-jurisdictional agreements in the context of a regional TDR program are rare, primarily because regional programs usually fall into one of two categories: Either they are linked to a mandatory regional land-use regulatory system (as in Lake Tahoe) and therefore inter-jurisdictional agreements are unnecessary; or they are designed to assist and facilitate local programs (as in the Central Pine Barrens on Long Island) and therefore do not really operate regionally.

A. Feasibility of Inter-Jurisdictional TDRs Generally

In our previous work, we have found that the feasibility of inter-jurisdictional TDRs depends on, above all else, a belief within the receiving-area jurisdiction (usually a City) that "there's something in it for them," either tangible for the jurisdiction or intangible for their constituents. In the context of the Puget Sound, the key is encouraging cities to participate as receiving sites when they can and are encouraged by the GMA to up-zone for free. The incentive to do so generally depends on the amount of money received and what types of amenities can be funded with the additional revenues from TDR purchases. In practical terms, this falls into one of two categories:

1. There are "shared values" between the two jurisdictions, especially about land conservation, that the TDR program helps promote.
In other words, the receiving-area jurisdiction and its constituents must believe that there is something culturally or ecologically significant about the sending area. In Boulder, city residents value open space in the surrounding county. In the pending TDR program in Santa Barbara, we have found a simi-

lar sense of connection between the City and the nearby coastal area to be preserved.

Generally speaking, it has been our experience that the sending area should be in close proximity to the receiving area, though this does not necessarily have to be the case. The sending area could be farther away but have some compelling connection. It may serve as a drinking water source, for example; or simply represent such a compelling area that the receiving-area residents believe strongly in its preservation.

2. There is a financial incentive for the receiving-area jurisdiction.
If the receiving city can obtain funds that are unavailable any other way, they will be more receptive to accepting the added density. This has been proven in King County, where the County has gained receptivity for inter-jurisdictional agreements through its amenity funding for a receiving area. In the Puget Sound, the experience in existing TDR programs suggests that additional amenity funding and transit projects are the most attractive incentives for participation.

B. Local Political Conditions and Opportunities and Constraints at the City, County, and State Level

1. Cities
There are several factors at play in determining political conditions and opportunities and constraints for cities, including the considerations listed above. These include:

a. Existing city TDR programs
Many cities have existing programs. Will a regional program compete with these? Will it assist/facilitate? In many areas, cities and counties have different purposes in mind in their TDR programs. Cities often seek to conserve land important to them on the edge of the city (sending areas); whereas counties often view that same land as receiving areas because of its proximity to existing development.

This is an issue that will be worked out in the case of the county programs anyway, but it is also a consideration in a regional program.

b. What conservation areas are important to the city and its residents?
For example, a watershed that helps protect drinking water or local rivers and streams. Would the King County watershed be important to Tacoma; would the Snohomish County watershed be important to Carnation?

c. What if cities already have a menu of density bonus options?
Through a variety of mechanisms, the GMA is already encouraging cities to increase densities in key locations. Many cities already have a menu of density bonus options tied to other goals rather than land conservation TDRs, including affordable housing and community amenities. If a regional TDR program is put in place, the regional TDRs would either have to be (1) added to the menu as an option [which reduces willingness to pay]; (2) added on top of the local menu [which might make TDR purchases economically infeasible]; or (3) used to override the local menu.

d. What role do conversion commodities play?
At least two cities currently allow land conservation TDRs to be converted in the receiving areas into commodities other than residential development rights. Such conversion commodities include additional building height, additional floor-area, and lower parking ratios. Can regional TDRs be converted in this same way, with a local option? Should the state consider permitting conversion commodities only under certain circumstances – for example, limiting local conversion options and permitting some conversion commodities only if the city participates in a Regional TDR program?

e. Amenity and infrastructure funds
Clearly, the availability of amenity and infrastructure funds would be a powerful inducement for cities to participate as receiving-areas. Can these funds be provided, either (1) from the TDR revenues (unlikely given the results of the market analysis; (2) from some new source such as a real estate excise tax; (3)

from counties even when TDRs cross county lines; or (4) from the state?

f. UGA Expansions

As stated above, UGA expansions could be a powerful inducement as well. A cross-county transaction under the regional TDR program would require a county-county inter-jurisdictional agreement or a county-city jurisdictional agreement across state lines. Would it also require any changes to the GMA?

2. County

All counties have TDR programs and either have or are in the process of establishing inter-jurisdictional agreements. Based on the discussion above, some important questions are:

- Can the counties provide infrastructure or amenity funds to receiving area cities?
- Are the counties willing to permit UGA expansions in exchange for TDR program participation?
- Would counties be willing to allow cross-county TDR transactions involving either funding or UGA expansions, and what inter-jurisdictional agreements would have to be in place to do that?

3. State

Based on the foregoing discussion and the discussion in the market mechanisms recommendations, most of the issues associated with the state go to the question of what role the state should play.

Chapter 43.362 RCW directs CTED to create a regional TDR program "that comports with" the GMA. It calls for building on existing TDR programs and instructs CTED to encourage the four counties and the cities "to participate in the development and implementation of regional frameworks and mechanisms that make TDR programs viable and successful.'

Therefore, depending on the role the state adopts, different opportunities and constraints may exist at the state level.

C. Overall Nature of Program

The State could craft a regional TDR program one of three different ways:

1. **The program could be designed to strengthen and assist local programs.** This could be done by creating a regional bank to assist in local transactions, as well as a regional information clearinghouse and technical assistance center. The political impediments to this approach would be minimal.

2. **The program could be designed to facilitate selected intercounty transfers.** In addition to undertaking #1, the state could also determine that a very selective inter-county transfer program should be established. This would require the cooperation of subject counties and cities to determine which intercounty sending and receiving areas would be included. It would also require the establishment of a regional or state structure to operate this program.

3. **The state could create a freewheeling regional TDR market.** This would be by far the most aggressive approach, allowing transfers from any sending or receiving area in the region. This would require either cooperation from local governments (possibly involving financial or regulatory inducements) or else a state-sanctioned override of local TDR powers.

D. Funding

The State has three opportunities to provide funding. Those are:

1. Funding of a regional TDR clearinghouse and technical assistance program. This cost would probably be minimal and these functions – which could be housed at the Puget Sound Regional Council – would probably be welcomed by the local government. Even if the state does not set up a full-scale regional TDR program, the clearinghouse still could be the re-

pository of all information about local TDR programs in the Puget Sound area.

2. Funding of local amenities and infrastructure improvements in receiving areas. This could be from existing state funds or some "new" revenue stream, both of which are politically difficult to accomplish, but a sufficient level of funding is necessary to kick-start the program.

3. Funding of a regional TDR Bank. As our market mechanisms discussion in section 7 suggests. We believe a regional bank should be established in any event and capitalized by the state. The details of how the bank should be chartered are contained in the market mechanisms memo. However, it is our view that, to be effective, the bank must be staked at a level somewhere in the eight figures.

E. UGA Expansion

If the option of UGA expansion in exchange for regional TDR program participation is pursued (or the requirement of TDR program participation in exchange for UGA expansion is pursued), this may require GMA amendments or changing administrative practices on the part of CTED.

7 FEASIBILITY OF MARKET MECHANISMS

A. Information Clearinghouse

Transferable development rights programs use a market approach to create more efficiency and flexibility in implementing a set of land-use regulations. However, markets do not always function smoothly on their own.

To be successful in the marketplace, a TDR program usually has the following attributes:

- Low administrative cost for sponsoring entity.
- Procedural transparency to landowners and developers.
- Market information readily available to players.
- Ease of participation by buyers and sellers.

Therefore, market "mechanisms" may be necessary to inform, stimulate, or otherwise assist TDR markets to function properly, especially at the beginning of a program, especially to encourage the last two bullets above.

It is important to note that the function of a market mechanism is different from the function of the policy or regulatory aspects of a TDR program. In fact, to succeed, a TDR program must have three well-operating functions:

1. Consistent Regulation.
2. Transparent Information.
3. Active Transactional Players.

The policy or regulatory mechanism creates the TDR program, including both its goals and its rules. In all TDR programs, this function is carried out by the government land-use regulatory agencies. In a few locations, such as the New Jersey Pinelands and Lake Tahoe, these government land-use regulators operate at the regional level. In the Central Puget Sound area, these regulators operate at the local level, but within the parameters of the GMA. This regulatory function is not the subject of this paper.

The availability of transparent information and the presence of active transactional players are also vital to the effective functioning of TDR markets.

These are not always present in TDR programs. These two functions are the subject of this paper.

Transparent information means information about market conditions – who the prospective buyers and sellers are, what the TDR commodity consists of, what recent transactional activity has occurred, and so forth. Most TDR programs also have an "information clearinghouse" function, often housed with either the land-use regulators or with a transaction-oriented bank. Confusingly, in many cases information clearinghouses are referred to or formally titled as "banks".

This paper will consider several mechanisms on the information and transactional side of the TDR equation and recommend how they might be used in the context of a regional TDR bank for the Central Puget Sound region. These include:

1. Information Clearinghouse
2. Active Transactional Players
    a. Chartered banks
    b. Real estate brokers
    c. Private investors
3. Alternatives to a TDR market
    d. Fee in lieu of TDRs

1. Information Clearinghouse

Markets require information to succeed. Buyers and sellers in any marketplace must have access to knowledge and information about the market in order for it to thrive.

In successful TDR programs, some official entity plays a documentation and/or clearinghouse function. This role is sometimes played by the sponsoring (regulatory) agency; sometimes by an entity that also serves as a bank; and sometimes by a clearinghouse entity that is called a bank.

The information clearinghouse can perform a range of functions that increase the frequency of TDR transactions, both those that occur in the field through private buyer-seller exchange, and though purchase or sale of credits. The clearinghouse can also provide a registry containing the names of willing sellers who have undergone the "severance process" and are eligible to sell off their development rights.

a. New Jersey and Long Island, New York

In the New Jersey Pinelands and the Long Island, New York, Pine Barrens, the TDR bank also performs the duties of information clearinghouse. For example, in New Jersey, the Pinelands Development Credit Bank is an independent state agency that does the following:

- Maintains a registry of people who have severed Pinelands Development Credits (PDCs) and received a PDC certificate,
- Maintains a listing of all PDCs that are available for sale, including recent sales prices,
- Maintains a listing of individuals interested in purchasing PDCs, and
- Facilitates contact with potential buyers or sellers.

In the Central Long Island Pine Barrens, the Clearinghouse, or Bank, reports to the Pinelands Commission and oversees day-to-day operations of the program. In addition to managing and utilizing funds for the purchase of credits, the bank maintains a registry that identifies sellers with letters of interpretation, or an estimated number of credits, and PBC certificates readily available for purchase or redemption.

Within the Central Pine Barrens, the Town of Southampton TDR Clearinghouse and Bank serves an informational role by issuing sending area certificates and monitoring their use in receiving areas.

b. California

In the California TDR programs, the sponsoring role is often played by state-chartered conservancies, such as the Coastal Conservancy or the California

Tahoe Conservancy. The conservancies, which also engage in a wide variety of land acquisitions and transactions, including the buying and selling of TDRs. Generally the regulatory agency, or the California Coastal Commission and the Tahoe Regional Planning Agency (TRPA), is charged with tracking transactions that occur on the private market.

In the Tahoe basin, the California Tahoe Conservancy maintains an inventory of rights in addition to providing an easy way for developers to comply with the TRPA regulations by acting as a market player.[1] But for such an extensive program, the marketable rights program is hindered by inadequate routine recording of transfer information.[2] The regulatory agency, TRPA, responsible for tracking trades, has not maintained reliable records on the issuance of TDR certificates.

c. King County

King County itself, an objective third-party, provides information on current prices, recent sales data, and private-to-private transactions to existing and potential market players. When a transaction occurs, the original TDR certificate issued by the Department of Natural Resources is invalidated and replaced with a new certificate issued to the new owner. This procedure facilitates the tracking system for the private market. In most other programs, the bank or sponsoring agency oversees transactions, but does not record new ownership of the existing credits.

A separate County department, the Department of Environmental Services enforces the code by approving or denying projects based on TDR density.

2. Lessons Learned

Experiences from elsewhere suggest the following lessons for a regional TDR program in Central Puget Sound:

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[1] Pruetz, Rick. "Beyond Takings and Givings." February 2003.

[2] Fulton, William et.al. "TDRs and Other Market-Based Land Mechanisms: How They Work and Their Role in Shaping Metropolitan Growth." Written for the Brookings Institution Center on Urban and Metropolitan Policy. June 2004.

- Because landowners sometimes have a hard time understanding the difference between land ownership and ownership of development rights, the sponsoring (regulatory) agency should issue Certificates of TDR Ownership.
- An official entity should serve as the TDR Registry, recording all outstanding TDRs and all transactions.
- This clearinghouse role should not be played by a TDR Bank, which is an active market player; nor should the clearinghouse be called a "bank" if it only plays a clearinghouse role, as that causes confusion.
- The sponsoring (regulatory) agency can probably play the clearinghouse role so long as that role is purely informational and documentational and this role is clear to all concerned.

B. Active Transactional Players

1. Chartered Banks

A chartered TDR bank is simply a financial entity chartered by the sponsoring agency to buy, sell, and hold TDRs. Of course, any private investor can engage in this same activity (see letter ***c*** below), but most successful TDR programs have established and capitalized an official bank – operated by either a government agency or a nonprofit entity – for the purpose of helping to "make" the TDR market at the beginning and manage it over time.

One difference between the prospective Puget Sound regional program and other programs is the sponsoring agency of the program is likely to be regional, but the regulators are likely to be the local governments, operating within the constraints of the GMA. Any bank or market mechanism is also likely to operate at the regional, not local, level.

This paper will now discuss several regional TDR banks around the country.

a. New Jersey

Passed in 2004, the New Jersey State Transfer of Development Rights Act made New Jersey the first state to authorize statewide comprehensive TDR enabling legislation. The TDR Bank Act created the state TDR Bank but also permits the establishment of local TDR banks in jurisdictions with existing TDR ordinances to suit their individualized conservation goals, provided they do not unduly impact the market.[3] For this reason, municipalities that have established TDR ordinances may use the State TDR Bank, establish their own bank or use a county managed bank, if available, to facilitate transfers within their jurisdiction.

i. State Bank

The New Jersey State Transfer of Development Rights Bank offers assistance to municipalities that have established TDR programs. When the bank was designed, one of the roles was to serve as the transfer bank for any municipality that had adopted a TDR ordinance, or any county in which at least one municipality has adopted a TDR ordinance. To date, none of the active TDR programs in the state have approached the State TDR bank for this purpose. Instead, bank funds have been commonly used by jurisdictions for technical assistance in establishing and implementing their TDR ordinances.[4] Other major tasks of the State TDR bank include:

- The purchase, or provision of matching grants for the purchase of 80 percent of the value of development rights in sending areas;
- The provision of a financial guarantee with respect to any loan secured using a development right as collateral;

[3] SB 1287, State of New Jersey, Statewide TDR Program, March 8, 2004.

[4] Grants are commonly used to finance the development and preparation of specific growth forecasts in their master plans as required by State law in municipalities interested in adopting and implementing a TDR program. The State TDR Act authorizes the State TDR Bank to provide planning assistance grants up to $40,000, with a 50% local match, for the purpose of preparing the documents required by the legislation.

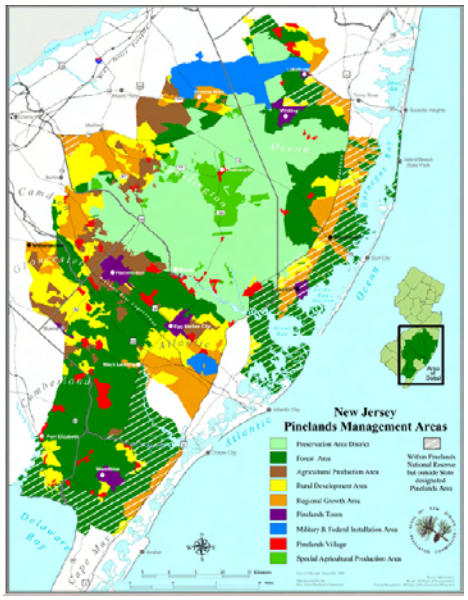
- The establishment and maintenance of a formal registry to record all credit transfers.

The State bank was originally funded through an open space and preservation bond act which also financed the Pinelands Development Credit Program and Burlington County pilot TDR program in the 1980s. Remaining funds capitalized the State TDR bank at $20 million, which can be used to buy development rights in sending areas, provide 50 percent matching grants to municipalities for up to $10,000 for planning expenses, and technical assistance.

But the bank is mostly used for technical assistance. At present, access to these resources is restricted to Burlington County, where a 1989 statute established a pilot TDR program. While this is expected to change as several municipalities, including those in the Highlands region, pursue the steps necessary to adopt TDR ordinances, the state bank is currently not used for actual transactions.

ii. Pinelands Bank

The Pinelands, located in southeastern New Jersey, is comprised of fifty-three municipalities in seven counties and has a total land area of over 1 million acres, making it one of the most extensive TDR programs in the country. The Pinelands Development Credit Bank (PDC) was established in 1985 by the State of New Jersey to promote transfers in the unique ecological and hydrological resources located in the region. The State originally created and staked the Pinelands bank to promote, record, and track TDR market activity prior to the establishment of a State TDR bank.



Although the PDC Bank primarily serves to administer the PDC program, it periodically buys and sells PDCs. The bank is a buyer of "last resort" where the only circumstance under which it can purchase credits is when a sending area landowner cannot find willing buyers in the open market. When the bank does step in, it can pay no more than 80 percent of the market price of a PDC so that it does not interfere with the open market. As a seller, the bank must hold a public auction only when the demand for PDCs exceeds the

number available for sale privately, but this has only happened twice during the history of the program. The bank currently has no funds.

iii. Burlington County

A 1989 statute established a pilot TDR program in Burlington County, making TDRs available to its municipalities. Burlington is the largest county in New Jersey and part of it is located in the Pinelands. Under this legislation, only the Townships of Chesterfield and Lumberton have pursued TDR programs. The bank is part of the Department of Resource Conservation and is staked by a share of a preservation trust fund which finances other preservation activities in the County. The dedicated tax has been increased twice since its origination and just last year, when County voters agreed to extend the tax for another 30 years. For this reason, the County has not had to seek state funding for actual transactions.

The Burlington County Development Credit Bank also periodically buys and sells credits. In Chesterfield, the County is the largest holder of credits, which were obtained through the Farmland Preservation Program in the late 1980s. The County has held two public auctions to encourage landowners to sell credits on the open market. In the most recent auction held last year, the County sold credits to developers. In that sense, the County is not a "market maker," but rather the bank serves as a buyer and seller of last resort. The bank also may act as a guarantor of commercial farm loans that use the credits as collateral.

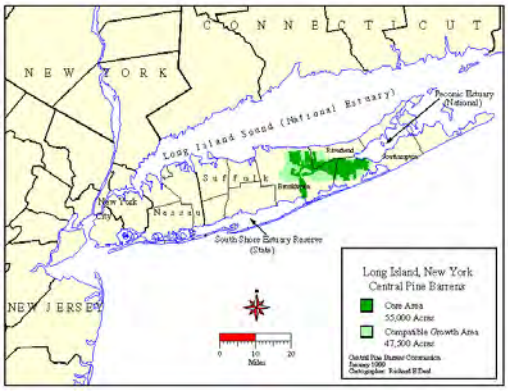
b. Central Pine Barrens, Long Island, New York

Occupying 102,500 acres, the Central Pine Barrens region of New York State is located in east central Suffolk County, at the intersection of the Towns of Brookhaven, Riverhead, and Southampton. The Pine Barrens are overseen by a joint state agency and planning body known as the Pine Barrens Commission and governed by the Central Pine Barrens Plan, which instituted the adoption of the Pine Barrens Credit (PBC), or TDR, Program in 1995. The purpose of the program is primarily to protect groundwater supplies.

The Pine Barrens Clearinghouse was originally staked with a $5 million interest-free loan from the State Department of Environmental Conservation's Natural Resource Damages Program. These funds are used to purchase credits from private owners, and are replenished when these credits are resold, thus creating a revolving fund. The bank currently does not hold any credits, but has been active in the past.

Periodically the bank makes "offerings" to sending area landowners in the core preservation area to buy their credits at a price that does not compete with the open market. Through an offering, the bank identifies a number of parcels to purchase at a certain dollar amount. In the past, the bank was trying to focus more on encouraging the participation of the very small size lot owners that often hold the minimum allocation of PBCs.

Recently, transfers have occurred between the three towns, as well as outside of the region. With permission from both the sending area town and the receiving area town, transfers are allowed to the jurisdiction that needs to satisfy County Health Department sanitary flow regulations as "septic credits."



Within the Pine Barrens, the Town of Southampton Development Credit Bank is funded by a 2 percent real estate transfer tax enacted through Southampton's Community Preservation Project Plan. Community Preservation Funds can be used by the Town to purchase TDR rights for the Bank. The Bank sells credits on the open market through sealed bid auctions. Town law enables the establishment of a revolving loan fund to administer the funds generated and allocated from the credits that originated from parcels within the receiving areas. If transfers occur in the designated Pine Barrens Core Area, town credits must be used.

c. California

i. The Tahoe Basin

One of the most important players in the Tahoe Basin TDR program is the California Tahoe Conservancy (CTC), a state agency which often purchases land for preservation and then resells the rights from that land through its

Land Coverage Bank. Although private buyers and sellers participate in the market, often with the assistance of real estate brokers, the CTC may acquire marketable rights, or credits, for land coverage (impervious surface), as well as rights required for residential, commercial, and tourist development.

In the case of commercial and tourist rights, the South Lake Tahoe Redevelopment Agency has also been an active market player by using redevelopment powers to buy, bank, and reallocate development rights. The redevelopment agency often acquires rights as part of land purchases, banks them, and then sells them at a discounted price to private developers. Although it is a public agency, the redevelopment agency is not seeking to serve the regional public interest as many TDR banks do; rather, it is using the traditional tools of redevelopment to operate in the TDR market to achieve the development goals of the City of South Lake Tahoe.

ii. Malibu Coastal Zone

In the Malibu Coastal Zone Program, the California Coastal Conservancy, a state agency, staked the bank for property and TDR acquisitions. The Conservancy also created the Mountains Restoration Trust which offers alternatives to market rate acquisition, including accepting charitable donations and then selling them for a reduced rate.

The sale of TDC credits replenishes the revolving fund, allowing ongoing acquisitions. The program is not mandatory, but it is an attractive because it is necessary to subdivide land in a profitable market. Receiving area developers cannot create a new lot unless an existing lot is deed restricted.

d. King County, Washington

In the King County program, the TDR bank acts as a market player, buying and selling credits on the open market, stabilizing it when there are not sufficient willing buyers and sellers. The bank also strategically buys TDRs for high-priority conservation land as well as sells development rights to cities to create and encourage interlocal TDR agreements. There is also a TDR bank

board that approves and denies the recommendations of the bank, creating an additional layer of oversight in the process.

Both the regulatory and the transactional TDR mechanisms are housed in the County, but there remains a separation of powers; the TDR bank is located in the County Department of Natural Resources while development projects using TDR credits are denied or approved by the Department of Development and Environmental Services.

The King County TDR bank was originally capitalized with $1.5 million from Conservation Futures tax revenues. The money has been used to buy development rights since the inception of the program in 2001.

e. Lessons Learned

The purpose of a TDR bank is to stimulate and stabilize a TDR market by bringing patient capital, usually public funds, into the marketplace. Generally, no TDR program can be successful without a successful bank. The experience from King County and elsewhere around the country suggests several lessons for a regional TDR bank:

- TDR banks have to be well-capitalized in order to operate effectively; and they operate best in a "revolving fund" manner. If they run out of money, they lose their ability to help "make the market".
- It is unusual for a TDR bank to operate on a regional level unless there is a single, regional TDR program.
- Regional and statewide banks often don't really perform a "banking" function; rather, they often play a technical assistance or information function.

2. Real Estate Brokers

Private real estate markets greatly depend on real estate brokers to function smoothly. These brokers represent buyers or sellers; and they seek out transactions and parties with which to engage in those transactions. Brokers must have deep knowledge of local markets in order to operate effectively.

In the majority of TDR programs, buyers/developers and sellers/landowners locate each other and negotiate the terms of the sale. However, brokers are effectively used in some markets to assist buyers and sellers in finding each other.

Montgomery County, Maryland boasts one of the most successful TDR programs in the country, primarily based on the amount of acreage preserved since the program's creation in 1980. There is no banking system available in Montgomery County, but rather the TDR market is operated solely through independent real estate agents.[5] The County directs potential buyers and sellers to agents that specialize in the sale of TDRs and act as brokers between interested parties.

Real estate brokers in the Tahoe Basin are often involved in transactions for "coverage," or impervious surface area. The regulations on the amount of land areas that can be developed on a site are sufficiently stringent that virtually all landowners seeking to improve their property purchase coverage. For this reason, coverage is a component in most transactions involving raw land; therefore, real estate brokers are knowledgeable about the coverage market and coverage is often part of a land transaction.

a. Lessons Learned

Real estate brokers can play an important role in a TDR market, especially if most land transactions involving landowners hoping to develop their property require acquisition of TDRs.

The entity playing the clearinghouse function can also play an outreach role to real estate brokers, helping them to understand the TDR market; when TDRs are needed; and how to obtain market information.

[5] Wells, Margaret and Virginia McConnell. "Transfer of Development Rights in U.S. Communities: Evaluating Program Design, Implementation, and Outcomes." Published by Resources for the Future. September 2007.

However, it is likely that in a regional TDR market, two factors will be at play that must be taken into consideration:

1. Most land transactions will not require TDR purchases; and
2. TDR transactions may be regional in nature.

These two factors will likely dampen real estate brokers' interest in the program, because brokers generally focus on local markets and on conditions that will be required in every sale.

Therefore, outreach efforts to brokers will have to be especially aggressive and will also have to focus on brokers willing to play a very specialized role in a regional market. Such outreach efforts could be made more powerful if they also include information about local TDR markets throughout the Central Puget Sound region.

3. Private Investors

Just as there are private investors who deal in land markets, private investors could also play a role in TDR markets as well. Under the private investment model, investors would purchase TDRs and hold them when they might be sold for a profit. Essentially, private investors could speculate on TDRs.

Traditionally, not many private investors have speculated in TDRs because it can be difficult to predict their future value. This is because markets are often "thin" – meaning there are few transactions and little market information – and because receiving-area developers have other options to obtain increased density, thus tempering the possible speculative increases in TDR value. To have confidence in the TDR market, private speculators must have confidence in the "currency" and believe that they will not go down in value because regulators will increase "supply" by making it easier to obtain increased densities.

However, there is strong precedent for private speculative investment in land rights in the world of wetlands mitigation, which is a somewhat analogous

situation where land rights are more structured and the path to increased value is more clear.

Whereas TDRs seek to conserve open space in exchange for higher density somewhere else, wetlands mitigation – usually pursuant to the Clean Water Act -- seeks to protect or restore wetlands in exchange for damage to wetlands somewhere else as part of a development project. Wetlands mitigation banks permit the owners of healthy or restored wetlands to sell mitigation credits to other landowners who are developing property. A federal guidance document published in 1995 gave key market players certainty and the procedural framework for a successful transactional mechanism.[6] Similar banks are sometimes created for the purpose of mitigating endangered species habitat, especially in California.

The majority of bank sponsors are private, for-profit entities. Private investors often have established banks that are officially recognized by the program regulator and play a very similar role to a public or nonprofit bank found in the typical TDR program.
Endangered species banks in particular tend to operate on a regional scale because state and federal regulators identify habitat on a regional scale.[7]

One example of a private, for-profit mitigation bank is Wildlands, Inc., (http://www.wildlandsinc.com), a private, for-profit company that operates about a dozen wetlands and endangered species mitigation banks in California. One difference from a TDR program is that a private company such as Wildlands can create value through its own efforts by purchasing degraded wetlands or habitat and restoring the natural condition before selling the credits.

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[6] "Federal Guidance for the Establishment, Use and Operation of Mitigation Banks." Federal Register Vol. 60, No. 228. 58605-58614. November 28, 1995.

[7] Fulton, William et.al. "TDRs and Other Market-Based Land Mechanisms: How They Work and Their Role in Shaping Metropolitan Growth." Written for the Brookings Institution Center on Urban and Metropolitan Policy. June 2004.

The Washington Department of Ecology has created a wetland mitigation banking program in conjunction with federal agencies. For example, the Department of Ecology is currently considering a proposal from a private investor, Habitat Banc NW, LLC, to construct and operate a mitigation bank for the Lake Washington-Sammamish watershed.

a. Lessons Learned

Private speculators are willing to invest in commodities such as land rights when markets are structured and stable and they see the possibility of a profitable reward. As the mitigation banking example shows, investors are also willing to enter land rights markets when they believe that some action they take – restoring wetlands, for example – can increase the value of the property.

Because receiving-area TDR value is based on the individual regulatory actions of local cities, it is hard to assure the ongoing value of TDRs on a regional basis. This would dampen the interest of private investors in receiving areas in a regional basis. However, some investors may be willing to speculate on the value of TDRs in individual receiving areas where they know "the lay of the land" and can confidently predict the future of the regulatory system. Such investors may welcome the opportunity to purchase TDRs from a wider area within the region.

Therefore, any outreach associated with the regional TDR program should also include outreach to land investors and land speculators, focusing on those receiving areas which have the most active land markets. This may stimulate some interest among investors.

C. Alternatives to a TDR Market

1. Payment in Lieu of TDRs: Regional Conservation Fee

One way to view a TDR is to think of it as a fee on up-zoning to protect open space and conserve natural resource land. Receiving-area developers pay

money for the right to build a higher-density project; and that money is used to protect open space or natural resource land.

In most TDR programs, that money is paid to the sending-area landowner, which conserves the land; or to a bank, which then pays the money to a landowner. This process can easily be transformed into a fee, which is paid to a government land conservation agency whose mission is to buy land or development rights for conservation purposes.

Such a fee completely eliminates the need for TDR market mechanisms. But it can also increase the opportunity cost associated with holding onto credits in the face of increasing land prices. With a conservation fee, funds are often banked until a later date. They are held by a sponsoring agency that uses it to buy sending rights once sufficient funds are assembled, rather than going directly to the retirement of development on resource lands as with the purchase of TDRs. In the meantime, the cost of acquiring land or development rights can go up.

Again, the experience of habitat mitigation banking from California is instructive. Riverside County, California, has established the Local Development Mitigation Fee for funding the preservation of natural ecosystems in accordance with the Western Multiple Species Habitat Conservation Plan (MSHCP). The County established a system where mitigation credits can be sold before the mitigation has successfully been carried out. A Regional Conservation Authority, a joint-planning authority (JPA), consisting of 14 cities and the County was created to administer the MSHCP and collect mitigation fees to buy land for preservation. Whereas TDR purchases are usually voluntary, the payment of the Riverside County fees was mandatory.

a. Lessons Learned

An upzoning-for-development-rights fee would be simple to administer and eliminate the need for buyers and sellers to find each other. However, it could delay conservation of land and/or increase the cost. In addition, if it is

a voluntary regional fee, receiving-area developers would have to assess whether it is the cheapest method of obtaining more density.

8 RECOMMENDATIONS

Based on our research above, we make the following recommendations:

- ***The regional program should be designed to facilitate selected inter-county transfers.*** In our view, the clearinghouse and banking functions alone would not meet the legislative mandate. The "freewheeling regional TDR program" might lead to many transactions but we believe it would be difficult to achieve program goals. For example, TDR buyers would probably purchase the cheapest TDRs wherever they are located. Therefore, we recommend the creation of a regional program that builds on the existing county programs and permits selected inter-county transactions.
- ***TDRs should be broken into fractional TDRs that function as a currency to transfer development rights from sending to receiving areas.*** At a price of about $5,000 per fractional TDR all receiving-area projects that are feasible in this analysis can afford to purchase. The modest price of each fractional TDR also permits them to be effectively included in existing density bonus menus. A regional TDR bank could sell the fractional TDRs to receiving areas and assemble them to purchase complete development rights from sending-areas.
- ***The value of sending area rights should be based on appraisal value with the "use" value subtracted.*** While the cost of an appraisal may be an impediment to sending area transactions, this is the best method to ensure sending-area landowners receive adequate compensation. If the landowner continues to harvest the land for timber or agricultural production the monetary value of the production should be reduced from the appraised value of the property.
- ***Sending-area land-use regulators should be required to adopt a standard method of identifying TDR rights and issuing TDR certificates*** to standardize the regional program mechanics and streamline the process for the information clearing house and the TDR bank.
- ***A regional information clearinghouse should be created*** to track the issuance of TDR certificates; track transactions; provide information on how both regional and local TDR programs work; and conduct outreach

to landowners, developers, land speculators and real estate brokers with the goal of stimulating transactional activity on the part of private market players. The regional clearinghouse could also provide technical assistance to sending- and receiving-area local governments. The regional clearinghouse can play the same role on behalf of local TDR programs, as it would be in the State's interest to encourage an active TDR market in all circumstances.

Because the clearinghouse would play an important role in tracking and documenting market activity, it is important to separate the clearinghouse role from any transactional role played by a nonprofit or private market player. Therefore, the clearinghouse should be operated by a government agency, possibly Puget Sound Regional Council. Cost would be small and could be funded on an ongoing basis through a small portion of the real estate transfer tax or by a new tax or fee on TDR transactions.

- ***A regional TDR bank should be created and capitalized.*** The role of the bank would be to stimulate market activity when the bank is first set up and then use its future activity to smooth out ups and downs in the market. Major capitalization would be required. The bank could be capitalized by the State with the understanding that the capitalization would be used as a revolving fund. The bank might also be capitalized with a revenue stream from the real estate transfer tax.

  Because the bank must operate as a nimble market player, it should not be housed within a government agency. The bank should be chartered by the State but operated as an independent nonprofit organization. The State could contract with a land conservation nonprofit to operate the bank.

  However, the bank must play an exclusively transactional role, and the bank needs to be completely separated from other functions, including the creation, revision, and implementation of the TDR programs and policies themselves. The State legislation establishing the bank should also specify the members of the bank's board, which should include rep-

resentatives both of the State and of the local government agencies that sponsor and regulate TDR programs.

- ***Only the Bank should be able to purchase partial increments of sending-area development rights (fractional TDRs).*** Rounding down to the nearest whole development right for sending-area transactions is an impediment because some landowners will not want to retain small parcels that are undevelopable under existing zoning. The remaining area should be bundled with transactions for one or more development rights all under the same landowner. This will increase the number of transactions by reducing the number of small parcels that would be overlooked in a program that trades only in whole development rights.

- ***The State should use either new or existing revenue, or provide additional local authority to raise revenues, to provide receiving-areas with infrastructure and/or amenity funds.*** If amenity or infrastructure funds are not available, it is unlikely that many jurisdictions will be interested in participating in a regional program. The "carrot" of additional funding, however, may stimulate considerable interest.

- ***We do not recommend the creation of a regional conservation fee instead of a regional TDR program.*** A fee program always creates the problem of "lag time" described above; and fees work better when the TDR or fee is mandatory rather than voluntary.

Appendix A: Semi-Final List of Receiving Areas Appendix

King County

- *City of Sammamish*, King County: Embedded within the major UGA, this city is a Large city under the Puget Sound Regional Council's (PSRC) Vision 2040 typology[1]. This city has clearly expressed the willingness to participate in this study. A local TDR program is currently being developed by the city to facilitate growth in its town center redevelopment area while preserving critical habitat areas within the city. Growth in Sammamish is outpacing the 20-year residential growth target and the city has provided adequate infrastructure. (Sammamish is a "contract" city that is served by non-governmental water and sewer districts) Sammamish could be interested in a regional program that includes watershed lands.

- *City of Renton*, King County: Embedded within the major UGA, this Core city[2] is highly driven by economic development and contains redevelopment areas with mixed-use projects. The city is interested in TDRs and in getting involved with the inter-local county program. The primary receiving area is an urban center with a sub-area plan in progress, but the city also plans to annex an area, that while planned for mostly single-family, will contain some multi-family zoning that could meet the criterion for a (currently) unincorporated receiving area. Whether there is sufficient demand for additional density beyond existing zoning is questionable, and as such the city would like consultation as to how a TDR program could work for them.

- *City of Redmond*, King County: Located on the edge of the major UGA, this Core city has grown consistently and is becoming a Metropolitan center[3]. Redmond has implemented a successful local TDR program since 1995 that conducts transactions for height bonuses and commodities and provides many options in terms of how and for what types of development allocations can be used. Recently adopted land use and zoning updates in its Overlake urban center and Downtown urban center provide incentives for additional density through TDR, and includes plans for infrastructure enhancements. Further, the city would like to require TDR purchases for development in annexed areas. The City would like to learn how the existing program can benefit from working with a larger regional program.

- *City of Tukwila*, King County: Embedded within the major UGA, this Core city is becoming more urban in character and is willing to participate in a regional TDR program. The city is preparing a Southcenter Mall sub-area plan that could incorporate TDRs. However current development in the area is not building to planned capacity.

- *City of Issaquah*, King County: Located on the edge of the major UGA this Large city[4] has implemented its own TDR program that identified discrete receiving areas as infill opportunity areas and has an inter-local agreement with the county. The real estate market is

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[1] The PSRC typologies groups Metropolitan City Centers and Core City Centers together as Regional Growth Centers and groups Larger City Centers and Small City or Town Centers as Other Centers. For more information on this visit http://psrc.org/projects/vision/index.htm

[2] Per the Vision 2040 designation.

[3] Per the Vision 2040 designation.

[4] Per the Vision 2040 designation.

strong, and the city will be updating the receiving areas' sub-area plan in 2009 and is looking for recommendations that would promote infill development with TDRs.

- *City of Shoreline*, King County: Embedded within the major UGA, this Large city has identified two potential receiving areas, Aurora Square and Shoreline park-and-ride transportation-oriented development (TOD). The city requires additional infrastructure enhancements to accommodate growth.

- *City of SeaTac*, King County: Embedded within the major UGA, this Core city is interested in regional programs but is unsure how a TDR program would affect existing regulations and the local real estate market. The commercial and residential market is underperforming but the City contains adequate infrastructure for growth. Parking commodities could be of special interest for TDRs in this city.

- *City of Seattle*, King County: Embedded within the major UGA, this Metropolitan city[5] has conducted many TDR feasibility analyses and has an active local TDR program that is preferred over the county program. Landowners in sending areas and receiving areas purchase and sell TDRs in the downtown area. Seattle is rezoning urban centers this year and is conducting stakeholder outreach to determine prioritization of public benefits for each. In order to purchase additional densities, developers will be required to purchase from a menu of choices that include providing affordable housing, purchase of open space or historic preservation TDRs and fee payments that benefit art museums or other neighborhood amenities. An additional menu item that preserves lands in another county would be unlikely to be frequently purchased. Existing infrastructure in these centers is adequate to support incremental growth and transactions could cross county lines if developers perceive the incentive. Overall, Seattle is interested in participating if the PSRC study promulgates regional knowledge of opportunities and constraints of TDRs and if the study can provide consultation on the City's density bonus allocation process.

- *City of Carnation,* King County: Freestanding from the major UGA, this Small city of 2,000 residents would like to develop more cottages, commercial and industrial space. The city is fitted with new sewer and water systems and can accommodate growth through infill in a mixed-use zone, but the city notes that its capacity for mixed-use and multi-family product probably exceeds demand at this time. Conducting an accurate real estate market assessment has previously proven difficult and it is unlikely this rural city would consider an inter-county transfer.

Kitsap County

- *City of Bremerton*, Kitsap County: Embedded within the major UGA, this Metropolitan city has implemented a new sub-area plan with increased permitted densities. Demand for development is high and new developments are building to capacity. Existing infrastructure is adequate. An inter-county TDR program is unlikely to be accepted.

Snohomish County

- *City of Mountlake Terrace*, Snohomish County: Embedded within the major UGA, this Large city contains redevelopment opportunities that could accommodate growth but existing

[5] Per the Vision 2040 designation.

demand for development is low. Mountlake Terrace is currently completing an economic development plan to promote sustainable business. Existing infrastructure is adequate and the city would be willing to consider an inter-county TDR program.

- *City of Everett*, Snohomish County: Embedded within the major UGA, this Metropolitan city decided not to participate in the county TDR program because the council perceived the city would not receive enough amenities to balance the costs of accommodating additional density. The planning department is very interested in participating in this analysis and hopes that a regional TDR program could revitalize underperforming commercial corridors within the city. Everett is amending a few zoning regulations but nothing that should impede this study. The City staff would consider presenting comprehensive plan amendments and zoning revisions to the council to adjust the current regulations that permit higher densities, but the market cannot currently bear these densities. A TDR program in this city could be constrained by affordable housing programs.

- *City of Mukilteo*, Snohomish County: Embedded within the major UGA, this Large city would like to require TDR purchases in order to promote development in annexed UGA expansion areas. The city plans to look at working with the county on an inter-local TDR program but wants a UGA annexation agreement with the county to be approved prior to any TDR agreement.

- *City of Lake Stevens*, Snohomish County: Located on the edge of the major UGA, this city is a Small city under PSRC's Vision 2040 typology. Lake Stevens has previously offered to be a receiving area for the county's TDR program. Development in the downtown and commercial corridor is underperforming and the city would like to see more demand for multi-family units in the downtown's mixed-use zone. The city is conducting a UGA expansion study leading to potential annexation area to meet demand for growth. Lake Stevens has planned infrastructure enhancements through the next 50 years and could consider an inter-county TDR transfer.

- *City of Arlington*, Snohomish County: Freestanding from the major UGA, this city is a Small city. The city is a rural community with planned infrastructure enhancements that will be completed in 2010 and will permit the city to accommodate additional growth. The City currently has an interlocal agreement with Snohomish County to accept TDRs in a designated receiving area from agricultural land surrounding the City. The City perceives the need to reduce developer overhead by providing infrastructure and improving transaction liquidity in order to provide developers with incentives to purchase TDRs. Arlington generally lacks demand for density such that a TDR program resulting in transactions could end up trading units in one area for units in another. A cross-county TDR program could be considered if there was a topographical nexus to the city such as a watershed.

Pierce County

- *City of Tacoma*, Pierce County: Embedded within the major UGA, this city is a Metropolitan city under PSRC's Vision 2040 typology. Tacoma has affirmed commitment to this project. In 2007 the council adopted policies for review of options for TDRs and designated mixed-use centers as potential receiving areas. The council also approved a contract to explore TDRs with the Cascade Land Conservancy to produce an analysis regarding inclusion of a TDR component in a comprehensive plan update that includes mixed-use center regulations. The comprehensive plan update is tasked with removing

barriers to development that could be the cause of underperforming density and intensity of new development in centers. These centers are the primary tool the city will use to accommodate additional population and maintain GMA consistency. Existing infrastructure is adequate in these receiving areas.

- *South Hill*, Pierce County (unincorporated UGA): South Hill was previously a rural area that has mostly transitioned into suburban development. There is sufficient demand for single-family residential product as well infill development opportunities that make this an interesting study area for "single-family infill development".

Appendix B: PAC Regional TDR Working Principles

11/19/07

Regional Transfer of Development Rights Program
Policy Advisory Committee
Working Principles/Goals

The Department of Community, Trade and Economic Development (CTED) is directed to fund a process to develop a regional transfer of development rights (TDR) program that comports with the Growth Management Act (2SHB 1636).

Consistent with the Legislature's intent, the Policy Advisory Committee finds that a TDR program is a creative approach that will assist in slowing the conversion of rural, agricultural and forested lands. It is good public policy to build upon existing TDR programs, pilot projects, and private initiatives that foster effective use of transferred development rights through the creation of a market-based program that focuses on the central Puget Sound Region.

These goals are proposed only for the regional TDR program and not intended to apply to other programs that local governments may choose to adopt. These principles may need to be revisited because the development of a TDR program is an iterative process.

1. The focus of this Committee is to make TDR programs work.
2. TDR programs should be included in local comprehensive land use plans and development regulations, including zoning ordinances.
3. Sending areas should be designated to preserve forests, farms, and open space in rural and resource areas. Designation of sending areas should support local farming and forestry industries.
4. Designation of receiving areas will be guided by the priorities in the Puget Sound Regional Council's VISION 2040.
5. Prior to designation, receiving areas should have adequate infrastructure planned and funding identified for development at densities consistent with what can be achieved under the local transfer of development rights (TDR) program.
6. Designation of sending and receiving areas should include significant public outreach.
7. Work toward the creation of a marketplace that builds on and enhances existing TDR and other open space programs.
8. Develop a regional approach that provides a common process that is flexible enough to accommodate the unique circumstances and needs of individual counties and cities.
9. Develop a process that results in actual transfers from sending to receiving areas within two years of its establishment.

Appendix C: Pro Formas

Methodology

This appendix includes the pro forma analysis for all the development scenarios analyzed, totaling 11 scenarios in all. Feasibility is revealed under the existing zoning regulations (density, parking, height, setbacks) and market cost assumptions. Any additional revenue accrued beyond the 12-15 percent profit hurdle rate is assumed to be revenue available for purchase of TDRs.

The model strives to accurately portray how developers approach the economics of development, and in so doing is broken into three basic sections: development program, project revenues, and projects costs.

The development program section describes the type and amount of residential units, amount of parking spaces, and building envelope based on the site characteristics.

The project revenues section calculates the revenues generated with the given unit counts. For the mixed-use project we include retail valuation using market lease rates, vacancy rates, and capitalization rates.

The array of fixed costs a developer would incur are organized as follows:

1. Pre-development Costs (land, land carry, entitlement, professional fees),
2. Development Costs (building & construction, indirect costs),
3. Developer Fee (3% of revenue covers costs of developer overhead),
4. Contingency (10% of building & construction costs),
5. Marketing Costs (2.5% revenue),
6. Financing Costs (see below),
7. Commission & Closing Costs (5% of revenue).

Land costs were obtained through market research and are displayed in Table B.1 below with other market price assumptions.

We assumed building construction cost to be broken into:

1. Demolition costs,
2. Sites development costs (sewer, water, roads),
3. Residential construction costs
4. Commercial construction costs
5. Parking costs: $25,000/space for above grade podium, $34,000/space for below grade parking, and $3000/space above grade surface parking,
6. Various indirect costs (as shown on pro forma).

Financing costs - that is, the interest paid to the banks for lent money, is calculated assuming a linear draw on debt with an interest rate that is 1% above prime rates. This amounts to a 7% interest payment on 50% of 65% of development and land costs. The remaining 35% of costs are assumed to be financed by equity investors. Typical development projects can acquire bank finance up to 75% of costs. However, with infill projects, it is harder to secure financing and thus are generally financed with 65% bank loans.

Further detailed assumptions are indicated in the notes in the bottom of the excel worksheets.

Summary of Price Point Assumptions Included in Pro Formas

	Bremerton	Tacoma DR	Tacoma MLK	South Hill	Tukwila	Carnation	Redmond	Everett	Arlington
Office Lease Rate*							$ 2.35		
Retail Lease Rate		$ 2.00	$ 1.75		$ 2.90	$ 2.50			
Office Cap Rate							6.0%		
Retail Cap Rate		7.0%	7.5%		7.25%	7.25%			
Office Vaccancy Rate							5%		
Retail Vaccancy Rate		5%	5%		5%	10%			
Condo Selling Price 1br (800 sf)	$ 300,000	$ 304,000	$ 203,000		$ 246,000				
Condo Selling Price 2br (1100 sf)	$ 375,000	$ 380,000	$ 250,000		$ 300,000	$ 300,000			
Detached Home Selling Price				$ 250,000					$ 260,000
Apartment Mthly Rent 1br								$807	
Apartment Mthly Rent 2br								$1,040	
Construction Costs Res(sf)	$ 175	$ 140	$ 120	$125,000/unit	$ 140	$ 135	$ 130	$ 115	$105,000/unit
Construction Costs Comm(sf)	-	$ 165	$ 130		$ 165	$ 110			
Land Selling Price	$60/sf	$50/sf	$25/sf	$361,360/acre	$35/sf	$30/sf	$35/sf	$70/sf	$200,000/acre
Zone	**DC**	**DR**	**MLK MU**	**MSF**	**TUC**	**CBD**	**OBAT**	**CBD-B4**	**MPN**

Pro Formas

Bremerton Large Mixed-Use Tower Prototype

Parcel Size (sf) :	17,300	0.40 acres
Zoning	DC	
Max Base FAR :	3.25	
Max Base SF :	56,225	

Land Use Mix #1

	% of total area	size (sf)
Open Space*	20%	3,460
Addtl. Open Space Under Bonus **	5%	648
Building Footprint	75%	12,975
Uncovered Surface Parking	0%	-

Gross Building Composition:			size (sf)	w/Bonus Ammentiy Program size (sf)
total site building footprint*** (excluding sidewalks and setbacks)	100%		12,975	12,233
vertical mixed use componen	**100%**		12,975	12,233
ground floor				-
parking	100%		12,975	12,233
retail	0.0%		-	-
office	0.0%		-	-
2nd floor****	parking	100%	12,975	9,551
3rd floor****	Parking	20%	2,595	1,910
	condos	80%		7,641
4th floor****	condos	100%	12,975	9,551
5th floor****	condos	0%	-	7,495
6th floor****	condos	0%	-	7,495
7th floor****	condos	0%	-	7,495
8th floor****	condos	0%	-	7,495
9th floor****	condos	0%	-	7,495
10th floor****	condos	0%	-	7,495
11th floor****	condos	0%	-	7,495
12th floor****	condos		-	7,495
13th floor****	condos		-	-
GFA			41,520	88,611
FAR			2	5.12

* meets minimum 75% lot coverage requirement in DC for structures above 75'
**Under Bonus Ammenity Program, 40% of bonus area must orginate from Tier 1, included here as open space
*** area assumption includes driveway space for podium parking and building common areas
**** area assumptions based on above setback requirements in DC zone and assumption development includes a public plaza
floors 2-4 - 72% of site buildable area
floors 4-11 - 62% of site buildable area

SITE CHARACTERISTICS			ac	sf
Parcel(s) Size			0.40	17,300
Total Open Space				4,108
Total Uncovered Surface Parking				-
Total Buildable Footprint				12,233
Existing Zoning				DC
zoning density (GFA)				56,225
zoning density with bonus ammenity program (GFA)				88,611
density awarded by bonus ammentity program (GFA)				32,386
	tier 1	40%		12,955
	tier 2 (see not	60%		19,432
height restriciton (ft above grade)				none
current affordable density bonus				none

DEVELOPMENT PROGRAM

Residential

Maximum # of residential units w/ existing zoning			0
vertical mixed use component			
# market rate units	size	mix	
1 BDR Unit Size (2)	800	30%	24
2 - 3 BDR Unit Size (2)	1,000	70%	45
# affordable units			
1 BDR Unit Size	650	0%	0
2 BDR Unit Size	1,000	0%	0
townhouse component			
# market rate 2-3 Bdr units (2)	0		
added market rate units w/ aff. density bonus			0
added affordable rate units w/ density bonus			0
Total # of Units			69
Total For Sale Residential Square Footage			64,200
Infrastructure capacity requirements (3)			none

Commercial

Retail Space	0

Office

Office Space	0

Parking (4)

Residential 1 bdrm		24
Residential 2 bdrm		45
Guest		0
Retail		0
Regular Office		0
Total Required parking spaces		69
Total parking square footage		23,460
	# spaces	square ft
below grade parking (5)	0	-
above grade podium parking (5)	69	23,460
above grade uncovered surface parking (5)	0	0

PROJECT REVENUE — **Total**

Residential

50% Market Rate Condo Units			
1 BDR market price / sf (6)		$250	
Unit Sale Price		$200,000	2,400,000
2 - 3 BDR market price / sf (6)		$250	
Unit Sale Price		$250,000	5,625,000
50% Premium Market Rate Condo Units			
1 BDR market price / sf (6)		$500	
Unit Sale Price		$400,000	4,800,000
2 - 3 BDR market price / sf (6)		$500	
Unit Sale Price		$500,000	11,250,000
Townhomes			
2 - 3 BDR market price / sf (6)		-	
Unit Sale Price		-	0

Commercial Retail (6)

leasable Retail square footage		0	
Lease Rate		$0.01	
Revenue Periods/year		12	
Gross Annual Income			0
Less Vacancy		10%	-
Less Operating Expenses		7%	-
Net Operating Income			-
Capitalized Value	cap rate	0.01%	0

Office (6)

Office square footage		0	
Lease Rate		$0.00	
Revenue Periods/year		12	
Gross Annual Income			0
Less Vacancy		5%	-
Less Operating Expenses		7%	-
Net Operating Income			-
Capitalized Value	cap rate	0.01%	0

TOTAL PROJECT REVENUE 24,075,000

PROJECT COSTS

Pre Development Costs			
due diligence			(25,000)
land carry (% of raw land cost, see note 7)	8%		(83,248)
land entitlement / legal fees (% raw land, see note 8)	2%		(20,812)
professional fees (per unit, see note 9)	5%		(768,902)
RESIDUAL LAND VALUE (10)	$60		(1,040,603)
Development Costs			
Building Construction Costs			
Demolition Costs (% of land value)	5%		(52,030)
Site Development Costs (11)	$5		(86,500)
Residential Construction Costs			
Condo Units ($/sf, see note 12)	$175		(13,501,297)
Townhomes ($/sf)	-		0
Retail / Office Construction Costs $/sf	$0		0
Parking Construction (see note 13)			(1,725,000)
Additional Infrastructure enhancement costs			(13,211)
Indirect Costs			
building permit (per unit, see note 14)	$21,202.50		(21,203)
insurance (% of revenue)	2.4%		(369,073)
property tax (% raw land, see note 15)	1.1%		(34,340)
Developer Fee (16)	3%		(474,080)
Contingency (17)	8%		(1,230,243)
Marketing / Advertising Costs	2.5%		(384,121)
SUBTOTAL DEVELOPMENT & LAND COSTS			(19,829,662)
Financing Costs			
Equity (equity interest paid w/ profit sharing, see note 18)	25%	5,615,760	
Permanent Debt (19)	75%	16,765,979	
loan horizon (yrs)	2		
loan fees	2%		(335,320)
average draw	50%		
interest rate	7%		
debt service			(1,089,789)
Commission & Closing Costs	3.0%		(240,750)
TOTAL PROJECT COSTS			(21,495,520)
Project Profit			2,579,480
Project Profit less landowner equity payment (% profit)	0%		2,579,480
Project Profit (% of total costs)			12.0%

	SF	TOTAL
RESIDUAL LAND VALUE	$60	$ 1,040,603
CURRENT LAND SELLING PRICE (20)	$60	$ 1,038,000
Willingness to Pay for Bonus Ammenities (21)	$0	$ 2,603
Willingness to Pay per Unit (22)		$ 90
Willingness to Pay per Square Foot (23)		$ 0

Lending Criteria	
loan to value ratio (LTV)	0.70

NOTES:

(1) This would be the floor area bonus linked to TDRs
(2) includes 15% residential common space
(3) no additional infrastructure capacity required
(4) one parking space per unit; each space 340 sf.(includes stall and driveway area)
(5) This analysis models 100% podium parking
(7) area standard commercial retail lease rates, vacancy rates and cap rates as determined in market survey
(8) money paid upfront to hold land through the entitlement process; assumes a 1 year earnest money contract
(9) Professional Fees include architectual design, engineering & environmental consultants
(10) Residual land value is the amount of $ the developer is willing to pay for the land after receiving the project profit
(11) % construction costs for grading, sewer, water, and roads
(12) Assumes core and shell steel construction
(13) Assumes podium parking costs= $25,000/stall
(14) impact fees, building permits
(15) % of land value taxed each year developer has ownership of land; assumes 2 years
(16) % of development costs charged to cover developer overhead
(17) % construction costs to buffer against unexpected increases in costs
(18) borrowed money from joint equity investors; require returns through a higher 'preferred' rate and profit sharing with developer
(19) lent money developer acquires from a bank or other lending institution; the fees and interest costs are also financed
(20) as determined in the market survey for vacant land with similar zoning
(21) the difference between the current land selling price and the residual land value (i.e. what the developer is willing to pay for the
(22) the difference between the current land selling price and the residual land value divided by number of additional permitted units
(23) the difference between the current land selling price and the residual land value divided by number of additional square footage

Tacoma Large Mixed-Use Tower Prototype

Parcel Size (sf) :	28,200	0.65 acres	approx 225'x125' parcel
Zoning	DR		
Max Res Base FAR :	2		
Max Non-Res Base FAR:	1		
Max Res Base SF :	56,400		
Max Non-Res Base SF:	28,200		

Land Use Mix #1

	% of total area	size (sf)
Open Space*	5%	1,410
Building Footprint	95%	26,790
Uncovered Surface Parking	0%	-

Gross Building Composition:			Baseline size (sf)	w/Basic Design Standards size (sf)
total site building footprint** (excluding sidewalks and setbacks)	100%		28,200	26,790
vertical mixed use component	**100%**		28,200	26,790
ground floor				-
parking	62%		17,484	16,610
retail	38%		10,716	10,180
office	0%		-	-
2nd floor***	parking	100%	28,200	26,790
3rd floor***	condos	100%	28,200	23,740
4th floor***	condos	0%	-	23,740
5th floor***	condos	0%	-	23,740
6th floor***	condos	0%	-	23,740
7th floor***	condos	0%	-	23,740
8th floor***	condos	0%	-	-
9th floor***	condos	0%	-	
10th floor***	condos	0%	-	
11th floor***	condos	0%	-	
12th floor***	condos		-	-
13th floor***	condos		-	-
GFA			84,600	128,883
FAR*****			3	3.88

-

* meets design stadard for 5% of site area landscaping
** area assumption includes driveway space for podium parking and building common areas
***based assumption development includes 5% landscaping and 5' setbacks on levels 3-7 with Design Standards for increased FAR
**** FAR calcs exclude 15% for common areas

SITE CHARACTERISTICS	ac	sf
Parcel(s) Size	0.65	28,200
Total Open Space		1,410
Total Uncovered Surface Parking		-
Total Buildable Footprint		26,790
Existing Zoning		DR
zoning density (GFA)		84,600
zoning density with bonus ammenity program (GFA)		128,883
density awarded by bonus ammentity program (GFA)(1)		44,283
height restriciton (ft above grade)		none
current affordable density bonus		none

DEVELOPMENT PROGRAM

Residential

Maximum # of residential units w/ existing zoning			0
vertical mixed use component			
# market rate units	size	mix	
1 BDR Unit Size (2)	800	25%	31
2 - 3 BDR Unit Size (2)	1,000	75%	75
# affordable units			
1 BDR Unit Size	650	0%	0
2 BDR Unit Size	1,000	0%	0
townhouse component			
# market rate 2-3 Bdr units (2)	0		0
added market rate units w/ aff. density bonus			0
added affordable rate units w/ density bonus			0
Total # of Units			106
Total For Sale Residential Square Footage			99,800
Infrastructure capacity requirements (3)			none

Commercial

Retail Space	10,180

Office

Office Space	0

Parking (4)

Residential 1 bdrm	31
Residential 2 bdrm	75
Guest	0
Retail	22
Regular Office	0
Total Required parking spaces	128
Total parking square footage	43,520

	# spaces	square ft
below grade parking (5)	0	-
above grade podium parking (5)	128	43,520
above grade uncovered surface parking (5)	0	0

PROJECT REVENUE **Total**

Residential

Market Rate Condo Units

1 BDR market price / sf (6)	$380	
Unit Sale Price	$304,000	9,424,000
2 - 3 BDR market price / sf (6)	$380	
Unit Sale Price	$380,000	28,500,000

Affordable Units

Area Median Income (4-person HH)		
Income Category (% of AMI)	-	
1 Bdr Mandatory Sales Price		0
2 Bdr Mandatory Sales Price		0

Townhomes

2 - 3 BDR market price / sf (6)	-	
Unit Sale Price	-	0

Commercial Retail (6)

leasable Retail square footage	8,653	
Lease Rate	$2.00	
Revenue Periods/year	12	
Gross Annual Income		207,676
Less Vacancy	5%	(10,384)
Less Operating Expenses	7%	(14,537)
Net Operating Income		182,755
Capitalized Value	cap rate 7.00%	2,610,785

Office (6)

Office square footage	0	
Lease Rate	$0.00	
Revenue Periods/year	12	
Gross Annual Income		0
Less Vacancy	5%	-
Less Operating Expenses	7%	-
Net Operating Income		-
Capitalized Value	cap rate 0.01%	0

TOTAL PROJECT REVENUE 40,534,785

PROJECT COSTS

Pre Development Costs				
due diligence				(25,000)
land carry (% of raw land cost, see note 7)	8%			(441,716)
land entitlement / legal fees (% raw land, see note 7)	2%			(110,429)
professional fees (per unit, see note 8)	5%			(1,090,876)
RESIDUAL LAND VALUE (9)	$196			(5,521,456)
Development Costs				
Building Construction Costs				
Demolition Costs (% of land value)	3%			(165,644)
Site Development Costs (10)	$5			(141,000)
Residential Construction Costs				
Condo Units ($/sf)	$140			(16,618,350)
Townhomes ($/sf)	-			0
Retail / Office Construction Costs $/sf	$165			(1,679,733)
Parking Construction (see note 11)				(3,212,800)
Additional Infrastructure enhancement costs (see note 12)				0
Indirect Costs	total	per unit	psf	
impact fees (13)	$11,814.45	$111.46	$0.09	(11,814)
environmental review	$1,406.48			(1,406)
buildings over 20,000 sf	$2,081.59			(2,082)
site approval fees	$8,326.38			(8,326)
insurance (% of revenue)	2.4%			(523,621)
property tax (% raw land, see note 14)	1.1%			(182,208)
Developer Fee (15)	3%			(676,410)
Contingency (16)	8%			(1,745,402)
Marketing / Advertising Costs	2.5%			(545,438)
SUBTOTAL DEVELOPMENT & LAND COSTS				(32,703,712)
Financing Costs				
Equity (equity interest paid w/ profit sharing, see note 17)	25%	9,261,691		
Permanent Debt (18)	75%	27,650,988		
loan horizon (yrs)	2			
loan fees	2%			(553,020)
average draw	50%			
interest rate	7%			
debt service				(1,797,314)
Commission & Closing Costs	3.0%			(1,137,720)
TOTAL PROJECT COSTS				(36,191,766)
Project Profit				4,343,019
Project Profit less landowner equity payment (% profit)	0%			4,343,019
Project Profit (% of total costs)				12.0%

	SF	TOTAL
RESIDUAL LAND VALUE	$196	$ 5,521,456
CURRENT LAND SELLING PRICE (19)	$50	$ 1,410,000
Willingness to Pay (20)	$146	$ 4,111,456
Willingness to Pay per unit(21)		$ 105,422

Lending Criteria	
loan to value ratio (LTV)	0.68

NOTES:

(1) represents additonal floor area that could be linked to TDRs
(2)includes 15% residential common space
(3) additional infrastructure capacity as determined by Public Works Division
(4) # parking spaces = 1 space /res unit; 1space/333sf commercial; each space 340 sf.(includes stall and driveway area)
(5) This analysis models no surface stalls, all parking is concrete podium
(6) area standard unit selling pirces, commercial retail lease rates, vacancy rates and cap rates as determined in market survey
(7) money paid upfront to hold land through the entitlement process; assumes a 1 year earnest money contract
(8) Professional Fees include architectual design, engineering & environmental consultants
(9) Residual land value is the amount of $ the developer is willing to pay for the land after receiving the project profit
(10) % construction costs for grading, sewer, water, and roads
(11) Assumes structured parking cost = $24,000/stall plus $100/stall for façade improvements
(12) no additional infrastructure capacity enhancement costs required
(13) impact fees for environmental review and site approval fees as indicated in Land Use Application Fees: Billing and Land Use Services
(14) % of land value taxed each year developer has ownership of land; assumes 2 years
(15) % of development costs charged to cover developer overhead
(16) % construction costs to buffer against unexpected increases in costs
(17) borrowed money from joint equity investors; require returns through a higher 'preferred' rate and profit sharing with developer
(18) lent money developer acquires from a bank or other lending institution; the fees and interest costs are also financed
(19) as determined in the market survey for vacant land with similar zoning
(20) the difference between the current land selling price and the residual land value
(21) the difference between the current land selling price and the residual land value divided by number of additional permitted units

DEVELOPMENT PROGRAM

Residential

Minimum # of residential units w/ existing zoning (1)			2
vertical mixed use component			
# market rate units	size	mix	
1 BDR Unit Size (2)	700	25%	7
2 - 3 BDR Unit Size (2)	1,000	75%	15
# affordable units			
1 BDR Unit Size	650	0%	0
2 BDR Unit Size	1,000	0%	0
townhouse component			
# market rate 2-3 Bdr units (2)	0		0
added market rate units w/ aff. density bonus			0
added affordable rate units w/ density bonus			0
Total # of Units			22
Total Residential Square Footage			24,375
Infrastructure capacity requirements (3)			none

Commercial

Retail Space	2,291

Office

Office Space	0

Parking (4)

Residential 1 bdrm	7
Residential 2 bdrm	15
Guest	-
Retail	-2
Regular Office	0
Total Required parking spaces	22
Total parking square footage	7,480

	# spaces	square ft
below grade parking (5)	0	-
above grade podium parking (5)	7	2,331
above grade uncovered surface parking (5)	15	4995

Vertical mixed use Building envelope		height
1st Floor	Commercial Retail / Covered Parking	10
2nd Floor	Residential	10
3rd Floor	Residential	10
4th Floor	Residential	10
5th Floor	Residential	10
6th Floor	Residential	10
total height (6)		65

FAR 2.74

PROJECT REVENUE			Total
Residential			
Market Rate Condo Units			
1 BDR market price / sf (7)		$290	
Unit Sale Price		$203,000	1,421,000
2 - 3 BDR market price / sf (7)		$250	
Unit Sale Price		$250,000	3,750,000
Affordable Units			
Area Median Income (4-person HH)		-	
Income Category (% of AMI)		-	
1 Bdr Mandatory Sales Price (7)		0	0
2 Bdr Mandatory Sales Price (7)		0	0
Townhomes			
2 - 3 BDR market price / sf (7)		$ 0	
Unit Sale Price		$0	0
Commercial Retail (7)			
leasable Retail square footage		1,948	
Lease Rate		$1.75	
Revenue Periods/year		12	
Gross Annual Income			40,899
Less Vacancy		5%	(2,045)
Less Operating Expenses		7%	(2,863)
Net Operating Income			35,991
Capitalized Value	cap rate	7.50%	479,879
Office (7)			
Office square footage		0	
Lease Rate		$1.75	
Revenue Periods/year		12	
Gross Annual Income			0
Less Vacancy		5%	-
Less Operating Expenses		7%	-
Net Operating Income			-
Capitalized Value	cap rate	7.00%	0
TOTAL PROJECT REVENUE			5,650,879

PROJECT COSTS

Pre Development Costs			
due diligence			(25,000)
land carry (% of raw land cost, see note 8)	8%		(21,290)
land entitlement / legal fees (% raw land, see note 8)	2%		(5,323)
professional fees (per unit, see note 9)	5%		(174,161)
RESIDUAL LAND VALUE (10)	$27		(266,129)
Development Costs			
Building Construction Costs			
Demolition Costs (% of land value)	10%		(26,613)
Site Development Costs (11)	$5		(48,750)
Residential Construction Costs			
Condo Units ($/sf)	$120		(2,925,000)
Townhomes ($/sf)	$0		0
Retail / Office Construction Costs $/sf	$130		(297,863)
Parking Construction (see note 12)			(185,000)
Indirect Costs			
impact fees (per market rate unit, see note 13)	$3,852		(3,852)
insurance (% of revenue)	2.4%		(83,597)
property tax (% raw land, see note 14)	1.1%		(8,782)
Developer Fee (15)	3%		(107,384)
Contingency (16)	8%		(278,658)
Marketing / Advertising Costs	2.5%		(87,081)
SUBTOTAL DEVELOPMENT & LAND COSTS			(4,544,482)
Financing Costs			
Equity (equity interest paid w/ profit sharing, see note 17)	25%	1,286,997	
Permanent Debt (18)	75%	3,842,360	
loan horizon (yrs)	2		
loan fees	2%		(76,847)
average draw	50%		
interest rate	7.0%		
debt service			(268,965)
Commission & Closing Costs	3.0%		(155,130)
TOTAL PROJECT COSTS			(5,045,425)
Project Profit			605,455
Project Profit less landowner equity payment (% profit)	0%		605,455
Project Profit (% of total costs)			12.0%

	SF	TOTAL
RESIDUAL LAND VALUE	$27	$ 266,129
CURRENT LAND SELLING PRICE (19)	$25	$ 243,750
Willingness to Pay (20)	$2	$ 22,379
Willingness to Pay per unit (21)		$ 1,721

Lending Criteria	
loan to value ratio (LTV)	0.68

NOTES:

(1) minmum density requires 9 units per acre
(2) includes 15% residential common space
(3) no additional infrastructure capacity required
(4) # parking spaces = 1/res unit, no spaces required for retail under 3,000 sf
(5) This analysis modelssurface stalls and concrete podium parking
(6) each level assumed to be 10' with an additional 5' roof pitch
(7) area standard units selling prices, commercial retail lease rates, vacancy rates and cap rates as determined in market survey
(8) money paid upfront to hold land through the entitlement process; assumes a 1 year earnest money contract
(9) Professional Fees include architectual design, engineering & environmental consultants
(10) Residual land value is the amount of $ the developer is willing to pay for the land after receiving the project profit
(11) % construction costs for grading, sewer, water, and roads
(12) Assumes surface parking costs = $3000/stall, podium = $25,000/stall
(13) includes $111.46 in impact fees per unit, $1,400 for environmental review
(14) % of land value taxed each year developer has ownership of land; assumes 2 years
(15) % of development costs charged to cover developer overhead
(16) % construction costs to buffer against unexpected increases in costs
(17) borrowed money from joint equity investors; require returns through a higher 'preferred' rate and profit sharing with developer
(18) lent money developer acquires from a bank or other lending institution; the fees and interest costs are also financed
(19) as determined in the market survey for vacant land with similar zoning
(20) the difference between the current land selling price and the residual land value
(21) the difference between the current land selling price and the residual land value divided by number of additional permitted units

SouthHill TDR
Receiving Area: Moderate Density Single Family Zone with one unit, upzoned and redeveloped into High Density Single Family Zone
Development Scenario 1: 0.25 miles away from sewer hookup

SUBDIVISION CHARACTERISTICS				
Gross Acreage				2
Gross Square Footage				87,120
Open Space (1)			15%	13,068
Dedicated to roads			10%	8,712
Net Developable Square Footage				65,340
Base Density (4 unit / ac)				4.0
TDC density (10units/acre) (2)				10.0
DEVELOPMENT PROGRAM				
Residential				*units*
# units with existing base density				6.0
# of Total residential units with TDCs				15.0
# of TDCs demanded				9.0
Average Lot size				4,356
Avg Building footprint with setbacks/private yard				3,356
		av. size (sf)	mix	
# Singlefamily detached homes		2,100	100%	15.0
# Affordable units (3)		2,000	0%	0
# Multifamily units			0%	0
Commercial Retail				0
Total # of Units				15
FAR				0.36
TDR FAR				0.22
PROJECT REVENUE				
Residential				*$ revenue totals*
Single family detached homes	unit selling price (4)	$300,000		
	price per sf	$143		4,500,000
Affordable Units				
Area Median Income (4-person HH)		0		
Income Category (% of AMI)		50%		
Mandatory Sales Price (5)		0		0
TOTAL PROJECT REVENUE				4,500,000

PROJECT COSTS				
				$ cost totals
Pre Development Costs				
land carry (% of raw land cost) (6)		4%		(1)
land entitlement / legal fees (% raw land) (6)		2%		(0)
professional fees (% of dev costs) (7)		2%		(45,891)
RESIDUAL LAND COSTS $/ac (8)		$10		(855,549)
Development Costs				
Direct Construction Costs				
Site Development Cost Scenarios				
#1 Tieing into Existing Sewer/Water System (9)		fixed costs	yes = 1, no = 0	
Sewer treatment/disposal & Water supply/storage		$10,000	1	(150,000)
			av distance (mile)	
Sewer & Water Main Extensions ($/ft) (13)		$70	0.25	(92,400)
Sewer & Water in subdivision collection/distribution ($/sf) (14)		$70	0.25	(92,400)
Subdivision Roads ($/mile) (15)	urban	$1,648,443	0.05	(77,712)
	rural	$875,532		0
Sewer / Water hook up ($/unit)		$500	0.50	(3,750)
Fire Protection ($/unit; scenario 4 only)	rural	$5,000	0	0
Landscaping ($/sf of OS)		$0.25		(3,267)
Residential Unit Construction Costs ($/unit) (16)		$125,000		(1,875,000)
Indirect Costs				
Impact Fees ($/unit) (17)		$6,219		(93,285)
platting review etc.		$8,836		(8,836)
insurance (% of direct costs)		1%		(22,945)
property tax (18)				(38,841)
Developer Fee (19)		1%		(24,584)
Contingency (20)		10%		(229,453)
Marketing / Advertising Costs		1.0%		(22,945)
SUBTOTAL DEVELOPMENT & LAND COSTS				(3,636,860)
Financing Costs				
Equity (equity interest paid w/ profit sharing (21)		25%	1,029,959	
Permanent Debt (22)		75%	3,074,965	
loan horizon (yrs)		2		
loan fees		2%		(30,750)
average draw		50%		
interest rate		7.00%		
debt service				(215,248)
Commission & Closing Costs		3.0%		(135,000)
TOTAL PROJECT COSTS				(4,017,857)

PROJECT PROFIT	
Project Profit	482,143
Project Profit (% of total costs) (23)	12.0%

	PER S/F	TOTAL
RESIDUAL LAND COSTS	$10	$ 855,549
CURRENT LAND SELLING PRICE (24)	$6	$ 522,720
Willingness to Pay (25)	$4	$ 332,829
WTP per unit		$ 36,981

NOTES:

(2) The number of units the developer can build above the base zoning with TDC purchases
(3) the number of requiref below-market-rate affordable units required
(4) based on data from Heartland LLC
(5) as idetified by the affordable housing requirements
(6) money paid upfront to hold land through the entitlement process; assumes a 2 year earnest money contract
(7) professional fees include architectual design, engineering & environmental consultants
(8) The amount of $ the developer is willing to pay for the land based on the land's income potential (after project profit)
(13) costs per linear foot to extend to existing provider - $70/ft
(14) costs per linear foot for sewer/water distribution/collection in the subdivision; $70 for tie-in system and $140 for package system
(15) road costs will vary depending on whether the subdivision is rural-county ($875,532/ft) versus urban annexing into City with curb/gutter ($1,648,443)
(16) residential construction costs vary, estimated using National Building Cost Manual, www.building-cost.net, Assumes Class 4 w/ 400 sq ft garage
(17) County $2860/unit - no sewer fees; road impact fees $3359/unit (TSA 4)
(18) assumes 3.86% of assesed value, 385 millrate; 5 year ownership of land
(19) % of development costs charged to cover developer overhead
(20) % construction costs to buffer against unexpected increases in costs
(21) borrowed money from joint equity investors; require returns through a higher 'preferred' rate and profit sharing with developer
(22) lent money developer acquires from a bank or other lending institution; the fees and interest costs are also financed
(23) the industry average margin (i.e. profit) is 10-15% of total project costs
(24) as determined by market analysis of multi-acre parcels with one exisitng unit, built 10+ years ago
(25) the difference between the current land selling price and the residual land value

SouthHill TDR
Receiving Area: Moderate Density Single Family Zone with one unit, upzoned and redeveloped into High Density Single Family Zone
Development Scenario 1: 0.5 miles away from sewer hookup

SUBDIVISION CHARACTERISTICS				
Gross Acreage				2
Gross Square Footage				87,120
Open Space (1)			15%	13,068
Dedicated to roads			10%	8,712
Net Developable Square Footage				65,340
Base Density (4 unit / ac)				4.0
TDC density (10units/acre) (2)				10.0
DEVELOPMENT PROGRAM				
Residential				*units*
# units with existing base density				6.0
# of Total residential units with TDCs				15.0
# of TDCs demanded				9.0
Average Lot size				4,356
Avg Building footprint with setbacks/private yard				3,356
		av. size (sf)	mix	
# Singlefamily detached homes		2,100	100%	15.0
# Affordable units (3)		2,000	0%	0
# Multifamily units			0%	0
Commercial Retail				0
Total # of Units				15
FAR				0.36
TDR FAR				0.22
PROJECT REVENUE				
Residential				*$ revenue totals*
Single family detached homes	unit selling price (4)	$300,000		
	price per sf	$143		4,500,000
Affordable Units				
Area Median Income (4-person HH)		0		
Income Category (% of AMI)		50%		
Mandatory Sales Price (5)		0		0
TOTAL PROJECT REVENUE				4,500,000

PROJECT COSTS				
				$ cost totals
Pre Development Costs				
land carry (% of raw land cost) (6)		4%		(1)
land entitlement / legal fees (% raw land) (6)		2%		(0)
professional fees (% of dev costs) (7)		2%		(49,587)
RESIDUAL LAND COSTS $/ac (8)		$7		(643,009)
Development Costs				
Direct Construction Costs				
Site Development Cost Scenarios				
#1 Tieing into Existing Sewer/Water System (9)		fixed costs	yes = 1, no = 0	
Sewer treatment/disposal & Water supply/storage		$10,000	1	(150,000)
			av distance (mile)	
Sewer & Water Main Extensions ($/ft) (13)		$70	0.50	(184,800)
Sewer & Water in subdivision collection/distribution ($/sf) (14)		$70	0.50	(184,800)
Subdivision Roads ($/mile) (15)	urban	$1,648,443	0.05	(77,712)
	rural	$875,532		0
Sewer / Water hook up ($/unit)		$500	0.50	(3,750)
Fire Protection ($/unit; scenario 4 only)	rural	$5,000	0	0
Landscaping ($/sf of OS)		$0.25		(3,267)
Residential Unit Construction Costs ($/unit) (16)		$125,000		(1,875,000)
Indirect Costs				
Impact Fees ($/unit) (17)		$6,219		(93,285)
platting review etc.		$8,836		(8,836)
insurance (% of direct costs)		1%		(24,793)
property tax (18)				(38,841)
Developer Fee (19)		1%		(26,451)
Contingency (20)		10%		(247,933)
Marketing / Advertising Costs		1.0%		(24,793)
SUBTOTAL DEVELOPMENT & LAND COSTS				(3,636,858)
Financing Costs				
Equity (equity interest paid w/ profit sharing (21)		25%	1,029,958	
Permanent Debt (22)		75%	3,074,963	
loan horizon (yrs)		2		
loan fees		2%		(30,750)
average draw		50%		
interest rate		7.00%		
debt service				(215,247)
Commission & Closing Costs		3.0%		(135,000)
TOTAL PROJECT COSTS				(4,017,855)

PROJECT PROFIT	
Project Profit	482,145
Project Profit (% of total costs) (23)	12.0%

	PER S/F	TOTAL
RESIDUAL LAND COSTS	$7	$ 643,009
CURRENT LAND SELLING PRICE (24)	$6	$ 522,720
Willingness to Pay (25)	$1	$ 120,289
WTP per unit		$ 13,365

NOTES:

(2) The number of units the developer can build above the base zoning with TDC purchases
(3) the number of requiref below-market-rate affordable units required
(4) based on data from Heartland LLC
(5) as idetified by the affordable housing requirements
(6) money paid upfront to hold land through the entitlement process; assumes a 2 year earnest money contract
(7) professional fees include architectual design, engineering & environmental consultants
(8) The amount of $ the developer is willing to pay for the land based on the land's income potential (after project profit)
(13) costs per linear foot to extend to existing provider - $70/ft
(14) costs per linear foot for sewer/water distribution/collection in the subdivision; $70 for tie-in system and $140 for package system
(15) road costs will vary depending on whether the subdivision is rural-county ($875,532/ft) versus urban annexing into City with curb/gutter ($1,648,443)
(16) residential construction costs vary, estimated using National Building Cost Manual, www.building-cost.net, Assumes Class 4 w/ 400 sq ft garage
(17) County $2860/unit - no sewer fees; road impact fees $3359/unit (TSA 4)
(18) assumes 3.86% of assesed value, 385 millrate; 5 year ownership of land
(19) % of development costs charged to cover developer overhead
(20) % construction costs to buffer against unexpected increases in costs
(21) borrowed money from joint equity investors; require returns through a higher 'preferred' rate and profit sharing with developer
(22) lent money developer acquires from a bank or other lending institution; the fees and interest costs are also financed
(23) the industry average margin (i.e. profit) is 10-15% of total project costs
(24) as determined by market analysis of multi-acre parcels with one exisitng unit, built 10+ years ago
(25) the difference between the current land selling price and the residual land value

Redmond Office Prototype

Parcel Size (sf) :	308,135	7.07 acres
Zoning	OBAT	
density (FAR) :	0.47	
allowed floor area :	144,823	
Extra FAR w/TDR Bon	21,569	

Land Use Mix Under Basline Regulations

	% of total area	size (sf)
Open Space*	20%	61,627
Building Footprint	40%	123,254
Uncovered Surface Parking	40%	123,254

Gross Building Composition:		size (sf)
total site building footprint** (excluding sidewalks and setbacks)	100%	123,254
vertical mixed use component	**100%**	123,254
ground floor		
parking	0%	-
retail	0.0%	-
office	100.0%	123,254
2nd floor***	office	21,569
3rd floor***	office	-
4th floor***	office	-
5th floor***		-

* meets minimum 20% landscaped area requirement and setback requirements
** area assumption includes building common areas

DEVELOPMENT PROGRAM

Commercial

Retail Space	0

Office

Office Space	144,823

Parking (4)

Residential 1 bdrm	0
Residential 2 bdrm	0
Guest	0
Retail	0
Regular Office	363
Total Required parking spaces	363
Total parking square footage	120,879

	# spaces	square ft
below grade parking (5)	0	-
above grade podium parking (5)	0	-
above grade uncovered surface parking (5)	363	120,879

Vertical mixed use Building envelope		height
1st Floor	Office / Commercial Retail / Covered Parking	15
2nd Floor	Office	10
3rd Floor	Office	0
4th Floor	Office	0
5th Floor	Office	0
total height (6)		30
FAR		0.47

PROJECT REVENUE			Total
Residential			
Market Rate Condo Units			
1 BDR market price / sf (7)		$0	
Unit Sale Price		-	0
2 - 3 BDR market price / sf (7)		$0	
Unit Sale Price		-	0
Affordable Units			
Area Median Income (4-person HH)		64,700	
Income Category (% of AMI)		50%	
1 Bdr Mandatory Sales Price (7)		163,737	0
2 Bdr Mandatory Sales Price (7)		202,939	0
Townhomes			
2 - 3 BDR market price / sf (7)		$ 0	
Unit Sale Price			0
Commercial Retail (7)			
leasable Retail square footage		0	
Lease Rate		$0.01	
Revenue Periods/year		12	
Gross Annual Income			0
Less Vacancy		5%	-
Less Operating Expenses		7%	-
Net Operating Income			-
Capitalized Value	cap rate	0.01%	0
Office (7)			
Office square footage		123,100	
Lease Rate		$2.36	
Revenue Periods/year		12	
Gross Annual Income			3,486,190
Less Vacancy		5%	(174,310)
Less Operating Expenses		7%	(244,033)
Net Operating Income			3,067,847
Capitalized Value	cap rate	6.00%	51,130,788
TOTAL PROJECT REVENUE			51,130,788

PROJECT COSTS

Pre Development Costs			
due diligence			(25,000)
land carry (% of raw land cost, see note 8)	8%		(923,893)
land entitlement / legal fees (% raw land, see note 8)	2%		(230,973)
professional fees (per unit, see note 9)	5%		(1,101,708)
RESIDUAL LAND VALUE (10)	$37		(11,548,661)
Development Costs			
Building Construction Costs			
Demolition Costs (% of land value)	5%		(577,433)
Site Development Costs (11)	$5		(1,540,675)
Residential Construction Costs			
Condo Units ($/sf)	$140		0
Townhomes ($/sf)	$145		0
Retail / Office Construction Costs $/sf	$130		(18,827,049)
Parking Construction (see note 12)			(1,089,000)
Additional Infrastructure enhancement costs (see note 13)			0
Indirect Costs			
Site Plan Entitlement			(10,297)
SEPA			(2,776)
building permit (per sf, see note 15)			(233,361)
impact fees	$16		(2,324,416)
insurance (% of revenue)	2.4%		(528,820)
property tax (% raw land, see note 16)	1.1%		(381,106)
Developer Fee (17)	3%		(765,448)
Contingency (18)	8%		(1,762,733)
Marketing / Advertising Costs	2.5%		(550,854)
SUBTOTAL DEVELOPMENT & LAND COSTS			(42,424,202)
Financing Costs			
Equity (equity interest paid w/ profit sharing, see note 19)	25%	12,014,534	
Permanent Debt (20)	75%	35,869,663	
loan horizon (yrs)	2		
loan fees	2%		(717,393)
average draw	50%		
interest rate	7.0%		
debt service			(2,510,876)
Commission & Closing Costs	3.0%		0
TOTAL PROJECT COSTS			(45,652,472)
Project Profit			5,478,316
Project Profit less landowner equity payment (% profit)	0%		5,478,316
Project Profit (% of total costs)			12.0%

	SF	TOTAL
RESIDUAL LAND VALUE	$37	$ 11,548,661
CURRENT LAND SELLING PRICE (21)	$35	$ 10,784,725
Maximum Willingness to Pay (22)	$2	$ 763,936
Maximum Willingness to Pay per Sq Ft		$ 35

Lending Criteria	
loan to value ratio (LTV)	0.70

NOTES:

(1) density bonus (additional market rate units allowed per additional affordable units built)
(2) based on 4 level building structures; 2,3, and 4th story devoted to residential; includes 25% residential common space
(3) additional infrastructure capacity as determined by Public Works Division
(4) # parking spaces = ; 1space/400sf commercial each space 333 sf.
(5) This analysis models no surface stalls, podium is the priority with remaining spaces required considered to be underground
(6) each level assumed to be 10' with an additional 5' roof pitch
(7) area standard commercial retail lease rates, vacancy rates and cap rates as determined in market survey
(8) money paid upfront to hold land through the entitlement process; assumes a 1 year earnest money contract
(9) Professional Fees include architectual design, engineering & environmental consultants
(10) Residual land value is the amount of $ the developer is willing to pay for the land after receiving the project profit
(11) % construction costs for grading, sewer, water, and roads
(12) Assumes surface parking costs = $3000/stall, podium = $25,000/stall; underground = $34,000/stall
(13) additional infrastructure capacity enhancement costs as indicated by Public Works Division
(14) impact fees and building permits as indicated in Housing Element and development guidelines
(15) LADBS Permit Fee Estimator Online
(16) % of land value taxed each year developer has ownership of land; assumes 2 years
(17) % of development costs charged to cover developer overhead
(18) % construction costs to buffer against unexpected increases in costs
(19) borrowed money from joint equity investors; require returns through a higher 'preferred' rate and profit sharing with developer
(20) lent money developer acquires from a bank or other lending institution; the fees and interest costs are also financed
(21) as determined in the market survey for vacant land with similar zoning
(22) the difference between the current land selling price and the residual land value (i.e. what the developer is willing to pay for the land)

Carnation Small Mixed-Use Prototype

Parcel Size (sf) :	5,000	0.11 acres
Zoning:	CBD	
density (u/ac) :	35	
allowed # of units :	**4**	

	% of total area	size (sf)
Open Space (1)	0%	-
Building Footprint	61%	3,050
Uncovered Surface Parking	39%	1,950

Gross Building Composition:			size (sf)
total site building footprint (2) (excluding sidewalks and setbacks)	100%		3,050
vertical mixed use compone	**100%**		3,050
ground floor			
parking	61%		2,050
retail	25%		1,000
office	0.0%		-
2nd floor (3)	100%	residential "for sale" condos	3,050
3rd floor (3)	100%	residential "for sale" condos	1,550
			7,650
town house component	**0%**		-

(total townhome buildable area is reduced to 70% for driveway and setback requirements)

Residential Composition:		# units	
vertical mixed use component (4)			
# of 1 bdr units	**0%**	0	
unit siz	700		
# 2 bdrm units	**100%**	4	
unit siz	1,000		
town house component		-	
unit siz	1,200		
total # units		**4**	
total residential space (sf)		**4,600**	2,300

SITE CHARACTERISTICS	ac	sf
Parcel(s) Size	0.11	5,000
Total Open Space		
Total Uncovered Surface Parking		
Total Buildable Footprint		
Existing Zoning		CBD
zoning density (units/acre)		35
height restriciton (ft above grade)		35

DEVELOPMENT PROGRAM

Residential

Maximum # of residential units w/ existing zoning				4
vertical mixed use component				
# market rate units		size	mix	
1 BDR Unit Size		700	0%	0
2 - 3 BDR Unit Size		1,000	100%	4
# affordable units				
1 BDR Unit Size		650	0%	0
2 BDR Unit Size		1,000	0%	0
townhouse component				
# market rate 2-3 Bdr units		1,200		0
added market rate units w/ aff. density bonus				0
added affordable rate units w/ density bonus				0
Total # of Units				4
Total Residential Square Footage				4,600
Infrastructure capacity requirements (5)				none

Commercial

Retail Space	1,000

Office

Office Space	0

Parking (6)

Residential 1 bdrm	0
Residential 2 bdrm	6
Guest	1
Retail	5
Regular Office	0
Total Required parking spaces	12
Total parking square footage	4,080

	# spaces	square ft
below grade parking	0	-
above grade podium parking	0	-
above grade uncovered surface parking (7)	12	4560

Vertical mixed use Building envelope

		height
1st Floor	Office / Commercial Retail / Covered Parking	10
2nd Floor	Residential / Office	10
3rd Floor	Residential	10
4th Floor	Residential	0
total height (8)		35

FAR 1.12

FAR	1.12
TDR FAR	0.40

PROJECT REVENUE				**Total**
Residential				
Market Rate Condo Units (9)				
1 BDR market price / sf		$0		
Unit Sale Price		$0		0
2 - 3 BDR market price / sf		$300		
Unit Sale Price		$300,000		1,200,000
Affordable Units				
Area Median Income (4-person HH)		na		
Income Category (% of AMI)		0%		
1 Bdr Mandatory Sales Price		0		0
2 Bdr Mandatory Sales Price		0		0
Townhomes				
2 - 3 BDR market price / sf		$ -		
Unit Sale Price		$0		0
Commercial Retail (9)				
leasable Retail square footage		900		
Lease Rate		$2.50		
Revenue Periods/year		12		
Gross Annual Income				27,000
Less Vacancy		10%		(2,700)
Less Operating Expenses		7%		(1,890)
Net Operating Income				22,410
Capitalized Value	cap rate	7.25%		309,103
Office (9)				
Office square footage		0		
Lease Rate		$2.50		
Revenue Periods/year		12		
Gross Annual Income				0
Less Vacancy		5%		-
Less Operating Expenses		7%		-
Net Operating Income				-
Capitalized Value	cap rate	7.25%		0
TOTAL PROJECT REVENUE				1,509,103
PROJECT COSTS				
Pre Development Costs				
due diligence				(25,000)
land carry (% of raw land cost, see note 10)		8%		(14,073)
land entitlement / legal fees (% raw land, see note 10)		2%		(3,518)
professional fees (per unit, see note 11)		5%		(40,480)
RESIDUAL LAND VALUE (12)		$35		(175,913)
Development Costs				
Building Construction Costs				
Demolition Costs (% of land value)		10%		(17,591)
Site Development Costs (13)		$5		(25,000)
Residential Construction Costs				
Condo Units ($/sf)		$135		(621,000)
Townhomes ($/sf)		$0		0
Retail / Office Construction Costs $/sf		$110		(110,000)
Parking Construction (see note 14)				(36,000)
Indirect Costs				
impact fees (per market rate unit, see note 15)		$3,596		(14,384)
insurance (% of revenue)		2.4%		(19,430)
property tax (% raw land, see note 16)		1.1%		(5,805)
Developer Fee (17)		3%		(25,476)
Contingency (18)		8%		(64,767)
Marketing / Advertising Costs		2.5%		(20,240)
SUBTOTAL DEVELOPMENT & LAND COSTS				(1,218,678)
Financing Costs				
Equity (equity interest paid w/ profit sharing, see note 19)		25%	345,130	
Permanent Debt (20)		75%	1,030,392	
loan horizon (yrs)		2		
loan fees		2%		(20,608)
average draw		50%		
interest rate		7.0%		
debt service				(72,127)
Commission & Closing Costs		3.0%		(36,000)
TOTAL PROJECT COSTS				(1,347,414)

Project Profit		161,690
Project Profit less landowner equity payment (% profit)	0%	161,690
Project Profit (% of total costs)		12.0%

	SF	TOTAL
RESIDUAL LAND VALUE	$35	$ 175,913
CURRENT LAND SELLING PRICE (21)	$30	$ 150,000
Willingness to Pay (22)	$5	$ 25,913

Lending Criteria

loan to value ratio (LTV)	0.68

NOTES:

(1) all mixed-ue zones limit impervious surface to 65% of area, this is not required in CBD
(2) area assumption includes driveway space and building common areas
(3) area assumptions based on above 1st story setback requirements in CBD zone
    1st floor - 0ft setback in CBD
    2nd floor - 0ft setback in CBD
    3rd floor - 30' setback
(4) the # of condo units accounts for 15% non-sellable residential common areas
(5) no significant additional infrastructure required for this project
(6) # parking spaces = 1.5/unit, guest 1/4units; 1space/200sf commercial
(7) this analysis models surface stalls
(8) each level assumed to be 10' with an additional 5' roof pitch
(9) area standard commercial retail lease rates, vacancy rates and cap rates as determined in market survey
(10) money paid upfront to hold land through the entitlement process; assumes a 1 year earnest money contract
(11) professional fees include architectual design, engineering & environmental consultants
(12) Residual land value is the amount of $ the developer is willing to pay for the land after receiving the project profit
(13) % construction costs for grading, sewer, water, and roads
(14) Assumes surface parking costs = $3000/stall
(15) impact fees and building permits as indicated in Housing Element and development guidelines
(16) % of land value taxed each year developer has ownership of land; assumes 2 years
(17) % of development costs charged to cover developer overhead
(18) % construction costs to buffer against unexpected increases in costs
(19) borrowed money from joint equity investors; require returns through a higher 'preferred' rate and profit sharing with developer
(20) lent money developer acquires from a bank or other lending institution; the fees and interest costs are also financed
(21) as determined in the market survey
(22) the difference between the current land selling price and the residual land value (i.e. what the developer is willing to pay for the land)

Everett Large Mixed-Use Tower Prototype

Parcel Size (sf) :	26,335	0.60 acres	219x105
Zoning	CBD B-3		
Max Base FAR :	3		
Max Base SF :	79,005		

	% of total area	size (sf)
Open Space*	16%	4,214
Addtl. Open Space Under Bonus (2)	5%	3,950
Building Footprint	79%	18,171
Uncovered Surface Parking	0%	-

Gross Building Composition:				size (sf)	w/Bonus Ammentiy Program size (sf)
total site building footprint (excluding sidewalks and setbacks)	100%			18,171	18,171
vertical mixed use component	**100%**			18,171	18,171
ground floor					-
parking	70%			12,720	12,720
retail	30%			5,451	5,451
office	0%			-	-
2nd floor (3)					
parking		80%		14,537	14,537
condos		20%		3,634	3,634
3rd floor (3)	condos		100%	18,171	18,171
4th floor (3)	condos		100%		18,171
5th floor (3)	condos		100%		15,910
6th floor (3)	condos		100%		15,910
7th floor (3)	condos		100%		13,598
8th floor	condos		0%		-
9th floor	condos		0%	-	
10th floor	condos		0%	-	
11th floor	condos		0%	-	
12th floor	condos			-	-
13th floor	condos			-	-
GFA				54,513	90,845
FAR				2	3.45

LAND USE MIX

SITE CHARACTERISTICS	ac	sf
Parcel(s) Size	0.60	26,335
Total Open Space		8,164
Total Uncovered Surface Parking		-
Total Buildable Footprint		18,171
Existing Zoning		CBD B-3
zoning density (GFA)		79,005
zoning density with bonus ammenity program (GFA)		90,845
density awarded by bonus ammentity program (GFA)		11,840
height restriciton (ft above grade)		none
current affordable density bonus		none

DEVELOPMENT PROGRAM

Residential

Maximum # of residential units w/ existing zoning			0
vertical mixed use component			
# market rate units	size	mix	
1 BDR Unit Size	800	30%	27
2 - 3 BDR Unit Size	1,000	70%	50
# affordable units			
1 BDR Unit Size	650	0%	0
2 BDR Unit Size	1,000	0%	0
townhouse component			
# market rate 2-3 Bdr units	-	-	
added market rate units w/ aff. density bonus			0
added affordable rate units w/ density bonus			0
Total # of Units			77
Total For Sale Residential Square Footage			71,600
Infrastructure capacity requirements (4)			none

Commercial

Retail Space	5,451

Office

Office Space	0

Parking (5)

Residential 1 bdrm	27
Residential 2 bdrm	50
Guest	0
Retail	4
Regular Office	0
Total Required parking spaces	81
Total parking square footage	27,540

	# spaces	square ft
below grade parking	0	-
above grade podium parking (6)	81	27,540
above grade uncovered surface parking	0	0

PROJECT RENTAL INCOME

			Total
Residential			
Market Rate Units (7)			
1 BDR rent / sf		$ 1.22	
Unit Rent		$ 976	26,352
2 BDR rent / sf		$ 1.14	
Unit Rent		$ 1,140	57,000
Affordable Units			
Area Median Income (4-person HH)			
Income Category (% of AMI)		0%	
1 Bdr Mandatory Rent	$ 0.01	$ -	0
2 Bdr Mandatory Rent	$ 0.01	$ -	0
Commercial			
Retail square footage		5,451	
Lease Rate / sf (7)		$ 1.42	
Average Monthly Lease Income			7,723
Gross Potential Annual Rent			1,092,897
Less: Vacancy		5%	(54,645)
Adjusted Gross Rent			1,038,252
Annual Operating Expenses			
Property management		3.70%	(38,415)
Controllable Costs (salaries, maintenance, repairs, marketing)		$ 2,400	(184,800)
Real Estate Tax		8.20%	(89,618)
Insurance (per unit)		$ 300	(23,100)
subtotal operating expenses			(335,933)
NET OPERATING INCOME (NOI)			**$ 702,319**

PROJECT DEVELOPMENT COSTS

Pre Development Costs				
due diligence				(25,000)
land carry (% of raw land cost, see note 8)		8%		(147,476)
land entitlement / legal fees (% raw land, see note 9)		5%		(92,173)
professional fees (per unit, see note 10)	$	15,000		(1,155,000)
Raw land	$	70		(1,843,450)
		per sf		
Development Costs				
Building Construction Costs				
Demolition Costs (% of land value)		2%		(36,869)
Site Development Costs (11)	$	5		(131,675)
Residential Construction Costs $/sf	$	115		(8,234,000)
Commercial Construction Costs $/sf	$	160		(872,215)
Parking Construction (see note 12)				(2,025,000)
Indirect Costs				
building permit (see note 13)				(74,959)
design review in B-3	$	1,000		(1,000)
insurance during construction (per unit)	$	275		(21,175)
taxes during construction (% raw land, see note 14)		2.6%		(47,930)
Developer Fee (15)		3%		(398,648)
Contingency (16)		10%		(1,129,976)
Marketing / Advertising Costs (per unit)	$	1,000		(77,000)
SUBTOTAL DEVELOPMENT & LAND COSTS				(16,313,546)
Financing Costs				
Equity (equity interest paid w/ profit sharing, see note 17)		25%	4,340,219	
Permanent Debt (18)		75%	13,213,972	
loan fees				(264,279)
interest rate (1% above prime)		6.50%		
monthly payment			($83,521)	
annual debt service			($1,002,255)	
loan payment during construction (65% draw)				(651,466)
Costs during Lease -Up				
lease up period (months)		12		
average occupancy		50%		
rent during lease-up	$	546,448		
operating expenses		(335,933)		
NOI during lease-up	$	210,516		
loan interest during lease-up		(1,002,255)		
first year required reserve				$ (791,740)
TOTAL PROJECT COSTS				$ (18,021,031)

ANNUAL CASH FLOWS *(# years are after full lease-*		*0*	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Feasibility Gap *inflation rate*	3%			667,519	687,545	708,171	729,416	751,299	773,837	797,053	820,964	845,593	870,961
Gross Rent *inflation rate*	3%			1,092,897	1,125,684	1,159,454	1,194,238	1,230,065	1,266,967	1,304,976	1,344,125	1,384,449	1,425,983
Vacancy	5%			(88,021)	(90,661)	(93,381)	(96,183)	(99,068)	(102,040)	(105,101)	(108,254)	(111,502)	(114,847)
Operating Expen *inflation rate*	5%			(541,114)	(568,169)	(596,578)	(626,407)	(657,727)	(690,614)	(725,144)	(761,401)	(799,472)	(839,445)
Net Operating Income				1,131,281	1,154,397	1,177,666	1,201,064	1,224,568	1,248,151	1,271,783	1,295,434	1,319,069	1,342,651
Annual Debt Service				(1,002,255)	(1,002,255)	(1,002,255)	(1,002,255)	(1,002,255)	(1,002,255)	(1,002,255)	(1,002,255)	(1,002,255)	(1,002,255)
				32%	33%	34%	34%	35%	36%	36%	37%	38%	38%
Profit from sale													24,411,840
Remaining Debt Balance *(after year 10)*													(11,364,016)
Before Tax Cash Flow (19)		(4,340,219)		129,026	152,142	175,411	198,809	222,313	245,895	269,527	293,178	316,813	13,388,220
		100% equity											
RETURN MEASURES													
Return On Investment (NOI/ Total Costs)		0%	0%	6.3%	6.4%	6.5%	6.7%	6.8%	6.9%	7.1%	7.2%	7.3%	7.5%
Return on Equity (BTC/equity)		0%	0%	3.0%	3.5%	4.0%	4.6%	5.1%	5.7%	6.2%	6.8%	7.3%	308.5%
Average ROI							5.7%						
Average ROE							29.6%						
Internal Rate of Return (IRR)							14.8%						
NPV							(61,351)						
ANNUAL FEASIBILITY GAP (to produce 15% IRR)							667,519						

NOTES:

(1) inlcudes 50 sq ft open space per unit
(2) this 5% is publicly accessible open space for FAR bonus of 1
(3) floor area assumptions based on 5' setbacks on floors 5-6 and again on floors 7-8, this would meet the distinctive building geomery criteria for a FAR bonus of 1
(4) no significant iprovements required
(5) # parking spaces = 1/unit; 4 space for commercial; each space assumed to be 340 sf.
(6) this project models 100% podium parking on 1st and 2nd floors
(7) based on market research
(8) money paid upfront to hold the land through the entitlement process; assumes a 1 year earnest money contract
(9) legal fees for land purchase, zone changes and plan amendments
(10) Professional Fees include architectual design, engineering & environmental consultants
(11) % construction costs for grading, sewer, water, and roads
(12) Assumes podium parking costs $25,000/stall
(13) building permits calculated with Building Permit Fee form
(14) % of land value taxed once developer assumed full ownership of property prior to full lease-up
(15) % of fixed costs developers charge to cover project overhead
(16) % construction costs to buffer against unexpected increases in costs
(17) borrowed money from joint equity investors; require returns through a higher 'preferred' rate and profit sharing with developer
(18) lent money developer acquires from a bank or other lending institution; the fees and interest costs are also financed
(19) includes profit from sale of rental units after year 10 (year 10 NOI / cap rate)

CTED Regional TDR
Receiving Area: City of Arlington, Lindsey Addition
Development Scenario 1: Land acquisition costs *inside* the UGA

SUBDIVISION CHARACTERISTICS				
Subdivision Gross Acreage				113
Open Space (1)			37%	41.6
Dedicated to roads			10%	11.3
Net Buildable Acreage (2)				59.6
Base Density (1 unit / 5ac, see note 3)				0.2
TDC density (units/acre, see note 4)				5.45
Density (units/acre)of suburban lot requirement (5)				4.5
Density (units/acre) MF/Townhomes (6)				6.4
DEVELOPMENT PROGRAM				
Residential				*units*
# units with existing base density				23
# of Total residential units with TDCs				386
# of additional units				364
Average Lot size				6,729
suburban lot size				9,300
MF/Townhome lot size				6,845
		av. size (sf)	mix	
# Singlefamily detached homes		2,000	50%	140
# Multifamily units		1,800	50%	190
# Affordable units (7)		2,000	0%	
Commercial Retail				0
Total # of Units				329
PROJECT REVENUE				
Residential				*$ revenue totals*
Single family detached (9,300 sf lots)	unit selling price (8)	$270,000		
	price per sf	$135		37,702,234
Single family detached (6,800 sf lots)	unit selling price (8)	$250,000		
	price per sf	$125		47,431,445
Affordable Units				
Area Median Income (4-person HH)		0		
Income Category (% of AMI)		50%		
Mandatory Sales Price		0		0
TOTAL PROJECT REVENUE				85,133,679

PROJECT COSTS				
				$ cost totals
Pre Development Costs				
land carry (% of raw land cost, see note 9)		4%		(1,800,000)
land entitlement / legal fees (% raw land)		2%		(450,000)
professional fees (% of dev costs, see note 10)		2%		(950,578)
RESIDUAL LAND COSTS $/ac (11)		$16,274		(1,830,863)
Development Costs				
Direct Construction Costs				
Site Development Cost Scenarios				
#1 Tieing into Existing Sewer/Water System		fixed costs	yes = 1, no = 0	
Sewer treatment/disposal & Water supply/storage (12)		$10,890	1	(3,586,771)
			av distance (mile)	
Sewer & Water Main Extensions ($/ft) (13)		$70	0.9	(332,640)
Sewer & Water in subdivision collection/distribution ($/sf) (14)		$70	1.7	(623,700)
Subdivision Roads ($/mile) (15)	urban	$1,648,443	1.7	(2,781,748)
	rural	$875,532	-	0
Sewer / Water hook up ($/unit)		$500	1	(164,682)
Developer funded city sewer/water enhancements (16)		$4,800,000		(4,800,000)
Landscaping ($/sf of OS)		$0.50		(906,593)
Residential Unit Construction Costs ($/unit, see note 17)		$105,000		(34,332,747)
Indirect Costs				
Impact Fees ($/unit, see note 18)		$10,843		(3,571,290)
permit/entitlement fees (19)				($791,446)
insurance (% of direct costs)		1.0%		(475,289)
property tax (20)				(1,671,863)
Developer Fee (21)		1%		(540,388)
Contingency (22)		15%		(7,129,332)
Marketing / Advertising Costs		1.0%		(475,289)
SUBTOTAL DEVELOPMENT & LAND COSTS				(67,215,217)
Financing Costs				
Equity (equity interest paid w/ profit sharing (23)		25%	19,035,349	
Permanent Debt (24)		75%	56,830,466	
loan horizon (yrs)		2		
loan fees		2%		(1,136,609)
average draw		50%		
interest rate		8.00%		
debt service				(4,546,437)
Commission & Closing Costs		3.0%		(1,131,067)
TOTAL PROJECT COSTS				(74,029,331)

PROJECT PROFIT	
Project Profit	11,104,349
Project Profit (% of total costs, see note 25)	15.0%

	PER ACRE	TOTAL
RESIDUAL LAND COSTS	$16,274	$ 1,830,863
CURRENT LAND SELLING PRICE (26)	$200,000	$ 22,500,000
Maximum Willingness to Pay (27)	($183,726)	$ (20,669,137)
Maximum WTP per unit		$ (67,356)

CTED Regional TDR
Receiving Area: City of Arlington, Lindsey Addition
Development Scenario 2: Land acquisition costs *outside* the UGA

SUBDIVISION CHARACTERISTICS			
Subdivision Gross Acreage			113
Open Space (1)		37%	41.6
Dedicated to roads		10%	11.3
Net Buildable Acreage (2)			59.6
Base Density (1 unit / 5ac, see note 3)			0.2
TDC density (units/acre, see note 4)			5.45
Density (units/acre)of suburban lot requirement (5)			4.5
Density (units/acre) MF/Townhomes (6)			6.4

DEVELOPMENT PROGRAM			
Residential			*units*
# units with existing base density			23
# of Total residential units with TDCs			386
# of additional units			364
Average Lot size			6,729
suburban lot size			9,300
MF/Townhome lot size			6,845
	av. size (sf)	mix	
# Singlefamily detached homes	2,000	50%	140
# Multifamily units	1,800	50%	190
# Affordable units (7)	2,000	0%	
Commercial Retail			0
Total # of Units			329

PROJECT REVENUE			
Residential			*$ revenue totals*
Single family detached (9,300 sf lots)	unit selling pr	$270,000	
	price per sf	$135	37,702,234
Single family detached (6,800 sf lots)	unit selling pr	$250,000	
	price per sf	$125	47,431,445
Affordable Units			
Area Median Income (4-person HH)		0	
Income Category (% of AMI)		50%	
Mandatory Sales Price		0	0
TOTAL PROJECT REVENUE			85,133,679

PROJECT COSTS				
				$ cost totals
Pre Development Costs				
land carry (% of raw land cost, see note 9)		4%		(360,000)
land entitlement / legal fees (% raw land)		2%		(90,000)
professional fees (% of dev costs, see note 10)		2%		(950,578)
RESIDUAL LAND COSTS $/ac (11)		$44,282		(4,981,733)
Development Costs				
Direct Construction Costs				
Site Development Cost Scenarios				
#1 Tieing into Existing Sewer/Water System		fixed costs	yes = 1, no = 0	
Sewer treatment/disposal & Water supply/storage (12)		$10,890	1	(3,586,771)
			av distance (mile)	
Sewer & Water Main Extensions ($/ft) (13)		$70	0.9	(332,640)
Sewer & Water in subdivision collection/distribution ($/sf) (14)		$70	1.7	(623,700)
Subdivision Roads ($/mile) (15)	urban	$1,648,443	1.7	(2,781,748)
	rural	$875,532	-	0
Sewer / Water hook up ($/unit)		$500	1	(164,682)
Developer funded city sewer/water enhancements (16)		$4,800,000		(4,800,000)
Landscaping ($/sf of OS)		$0.50		(906,593)
Residential Unit Construction Costs ($/unit, see note 17)		$105,000		(34,332,747)
Indirect Costs				
Impact Fees ($/unit, see note 18)		$10,843		(3,571,290)
permit/entitlement fees (19)				($791,446)
insurance (% of direct costs)		1.0%		(475,289)
property tax (20)				(334,373)
Developer Fee (21)		1%		(527,013)
Contingency (22)		15%		(7,129,332)
Marketing / Advertising Costs		1.0%		(475,289)
SUBTOTAL DEVELOPMENT & LAND COSTS				(67,215,221)
Financing Costs				
Equity (equity interest paid w/ profit sharing (23)		25%	19,035,351	
Permanent Debt (24)		75%	56,830,470	
loan horizon (yrs)		2		
loan fees		2%		(1,136,609)
average draw		50%		
interest rate		8.00%		
debt service				(4,546,438)
Commission & Closing Costs		3.0%		(1,131,067)
TOTAL PROJECT COSTS				(74,029,335)

PROJECT PROFIT	
Project Profit	11,104,344
Project Profit (% of total costs, see note 25)	15.0%

	PER ACRE	TOTAL
RESIDUAL LAND COSTS	$44,282	$ 4,981,733
CURRENT LAND SELLING PRICE (26)	$40,000	$ 4,500,000
Maximum Willingness to Pay (27)	$4,282	$ 481,733
Maximum WTP per unit		$ 1,570

NOTES:

(1) includes 39.5 acres for Critcial Areas and 2.1 acres to meet 300sf per unit for parks
(2) amount of developbale land excluding roads and open space
(3) assumes rural land zoned 1unit/5 acres
(4) the average density with upzone from rural to single family = based on 325 unit target citied in previous development proposals for this area
(5) based of master plan neighborhood regulations requiring 50% of development must contain 9,300 sf single family rural units
(6) based on 325 unit target minus 50% inclusion of required single family rural units
(7) no below-market-rate affordable units required
(8) based on market analysis of study area
(9) money paid upfront to hold land through the entitlement process; assumes a 2 year earnest money contract
(10) professional fees include architectual design, engineering & environmental consultants
(11) the amount of $ the developer is willing to pay for the land based on the land's income potential (after project profit)
(12) $10,890 per unit according to public works
(13) costs per linear foot to extend to existing 10" HDPE at Crossing at Edgecomb, approx 0.9 mile from center of subdvisionprovider - $70/ft,
(14) costs per linear foot for sewer/water distribution/collection in the subdivision; $70 for tie-in system and $140 for package system, assumes lines laid under subdivision roads
(15) road costs will vary depending on whether the subdivision is rural-county ($875,532/ft) versus urban annexing into City with curb/gutter ($1,648,443), assumes 11.3 acres of roads, 55' in wi
(16) this cost assumes 60% of total $7,833,000 in estimated offsite enhancement costs necessary to develop Lindsey Addition and Star Annexation are associated w/Lindsey Addition
(17) residential construction costs vary, estimated using National Building Cost Manual, www.building-cost.net, unit constrcutions costs $100,000/1,800 sf unit;$110.000/2,000 sf unit. Assumes Class 4 w/ 400 sq ft garage
(18) road impact fees $3355/unit; mini park $484/unit; park $1662/unit; school $5432/unit
(19) includes $200/unit for each lot platted, 2.5% of construction costs for permit, and $1,000 misc fees
(20) assumes 3.86% of assesed value, 385 millrate; 5 year ownership of land
(21) % of development costs charged to cover developer overhead
(22) % construction costs to buffer against unexpected increases in costs
(23) borrowed money from joint equity investors; require returns through a higher 'preferred' rate and profit sharing with developer
(24) lent money developer acquires from a bank or other lending institution; the fees and interest costs are also financed
(25) the industry average margin (i.e. profit) is 10-20% of total project costs
(26) as determined by market research in rural agriculture land for sale inside/outside a UGA
(27) the difference between the current land selling price and the residual land value

Tukwila Mixed-Use Prototype with Parking Reduction

Parcel Size (sf) :	47,500	1.09 acres	250x190
Zoning:	TOD Urban		

	% of total area	size (sf)
Open Space (rear setback)	6%	2,613
Building Footprint	67%	31,588
18' Driveway	7%	3,325
Structured Parking footprint	22%	10,213

Gross Building Composition:		size (sf)
total site building footprint* (excluding sidewalks and setbacks)	100%	31,588
vertical mixed use component	**100%**	31,588
ground floor		
parking	86%	27,165
retail	14%	4,422
office	0.0%	-
2nd floor		
parking	0%	-
condos	100%	31,588
3rd floor	100% residential "for sale" condos	31,588
4th floor	100% residential "for sale" condos	31,588
5th floor	100% residential "for sale" condos	31,588
6th floor	100% residential "for sale" condos	31,588
7th floor	100% residential "for sale" condos	-
		162,360
town house component	**0%**	-
structured parking garage		
ground floor	100%	10,213
2nd floor	100%	10,213
3rd floor	100%	10,213
4th floor	0%	-
5th floor	0%	-
6th floor	0%	-
7th floor	0%	-
		30,638

Residential Composition:			# units
vertical mixed use component**			
# of 1 bdr units		**40%**	76
unit size (sf)	700		
# 2 bdrm units		**60%**	80
unit size (sf)	1,000		
town house component			-
unit size (sf)	0		
total # units			**156**
total residential space (sf)			**157,938**

*area assumption includes driveway space for podium parking and building common areas

**the # of condo units accounts for 15% non-sellable residential common areas

LAND USE MIX

SITE CHARACTERISTICS		ac	sf
Parcel(s) Size		1.09	47,500
Total Open Space			
Total Uncovered Surface Parking			
Total Buildable Footprint			
Existing Zoning			TOD Urban
height restriciton (ft above grade)			8-stories
current affordable density bonus			0

DEVELOPMENT PROGRAM

Residential

	size	mix	
vertical mixed use component			
# market rate units			
1 BDR Unit Size (2)	700	40%	76
2 - 3 BDR Unit Size (2)	1,000	60%	80
# affordable units			
1 BDR Unit Size	650	0%	0
2 BDR Unit Size	1,000	0%	0
townhouse component			
# market rate 2-3 Bdr units (2)	0		0
added market rate units w/ aff. density bonus			0
added affordable rate units w/ density bonus			0
Total # of Units			156
Total Residential Square Footage			157,938
Infrastructure capacity requirements (3)			none

Commercial

Retail Space	4,422

Office

Office Space	0

Parking (4)

Residential 1 bdrm	76
Residential 2 bdrm	80
Guest	-
Retail	15
Regular Office	0
Total Required parking spaces	171
Total parking square footage	58,140

	# spaces	square ft
below grade parking (5)	0	-
above grade podium parking (5)	171	58,140
above grade uncovered surface parking (5)	0	0

Vertical mixed use Building envelope		height
1st Floor	Commercial Retail / Covered Parking	10
2nd Floor	Residential	10
3rd Floor	Residential	10
4th Floor	Residential	10
5th Floor	Residential	10
6th Floor	Residential	10
total height (6)		65

FAR 3.42

PROJECT REVENUE				**Total**
Residential				
Market Rate Condo Units				
1 BDR market price / sf (7)		$351		
Unit Sale Price		$245,700		18,673,200
2 - 3 BDR market price / sf (7)		$300		
Unit Sale Price		$300,000		24,000,000
Affordable Units				
Area Median Income (4-person HH)		-		
Income Category (% of AMI)		-		
1 Bdr Mandatory Sales Price (7)		0		0
2 Bdr Mandatory Sales Price (7)		0		0
Townhomes				
2 - 3 BDR market price / sf (7)		$ 0		
Unit Sale Price		$0		0
Commercial Retail (7)				
leasable Retail square footage		3,759		
Lease Rate		$2.90		
Revenue Periods/year		12		
Gross Annual Income				130,810
Less Vacancy		5%		(6,541)
Less Operating Expenses		7%		(9,157)
Net Operating Income				115,113
Capitalized Value	cap rate	7.25%		1,587,765
Office (7)				
Office square footage		0		
Lease Rate		$1.75		
Revenue Periods/year		12		
Gross Annual Income				0
Less Vacancy		5%		-
Less Operating Expenses		7%		-
Net Operating Income				-
Capitalized Value	cap rate	7.00%		0
TOTAL PROJECT REVENUE				44,260,965
PROJECT COSTS				
Pre Development Costs				
due diligence				(25,000)
land carry (% of raw land cost, see note 8)		8%		(145,388)
land entitlement / legal fees (% raw land, see note 8)		2%		(36,347)
professional fees (per unit, see note 9)		5%		(1,371,421)
RESIDUAL LAND VALUE (10)		$38		(1,817,351)
Development Costs				
Building Construction Costs				
Demolition Costs (% of land value)				(75,000)
Site Development Costs (11)		$5		(237,500)
Residential Construction Costs				
Condo Units ($/sf)		$140		(22,111,250)
Townhomes ($/sf)		$0		
Retail / Office Construction Costs $/sf		$165		(729,671)
Parking Construction (see note 12)				(4,275,000)
Driveway/Promenade Construction ($/sf)		$10		(33,250)
Balconies to meet open space requirement ($/per unit)		$200		(31,200)
Indirect Costs				
traffic impact ($/per unit)		$ 712		(111,072)
traffic concurency		$ 12,000		(12,000)
demolition permit				(1,889)
misc fees (see note 13)				(2,115)
building permit fee				(68,625)
insurance (% of revenue)		2.4%		(658,282)
property tax (% raw land, see note 14)		1.1%		(59,973)
Developer Fee (15)		3%		(852,205)
Contingency (16)		8%		(2,194,274)
Marketing / Advertising Costs		2.5%		(685,711)
SUBTOTAL DEVELOPMENT & LAND COSTS				(35,534,523)
Financing Costs				
Equity (equity interest paid w/ profit sharing, see note 17)		25%	10,063,377	
Permanent Debt (18)		75%	30,044,440	
loan horizon (yrs)		2		
loan fees		2%		(600,889)
average draw		50%		
interest rate		7.0%		
debt service				(2,103,111)
Commission & Closing Costs		3.0%		(1,280,196)
TOTAL PROJECT COSTS				(39,518,719)

Project Profit		4,742,246
Project Profit less landowner equity payment (% profit)	0%	4,742,246
Project Profit (% of total costs)		12.0%

	SF	TOTAL
RESIDUAL LAND VALUE	$38	$ 1,817,351
CURRENT LAND SELLING PRICE (19)	$35	$ 1,662,500
Willingness to Pay (20)	$3	$ 154,851
Willingness to Pay per parking space (21)		$ 1,936

Lending Criteria

loan to value ratio (LTV)	0.68

NOTES:

(1) minmum density requires 9 units per acre
(2) includes 15% residential common space
(3) no additional infrastructure capacity required
(4) # parking spaces = 1/res unit, no spaces required for retail under 3,000 sf
(5) This analysis modelssurface stalls and concrete podium parking
(6) each level assumed to be 10' with an additional 5' roof pitch
(7) area standard units selling prices, commercial retail lease rates, vacancy rates and cap rates as determined in market survey
(8) money paid upfront to hold land through the entitlement process; assumes a 1 year earnest money contract
(9) Professional Fees include architectual design, engineering & environmental consultants
(10) Residual land value is the amount of $ the developer is willing to pay for the land after receiving the project profit
(11) % construction costs for grading, sewer, water, and roads
(12) Assumes surface parking costs = $3000/stall, podium = $25,000/stall
(13) Includes SEPA, public hearing design review and public notice mailing
(14) % of land value taxed each year developer has ownership of land; assumes 2 years
(15) % of development costs charged to cover developer overhead
(16) % construction costs to buffer against unexpected increases in costs
(17) borrowed money from joint equity investors; require returns through a higher 'preferred' rate and profit sharing with developer
(18) lent money developer acquires from a bank or other lending institution; the fees and interest costs are also financed
(19) as determined in the market survey for vacant land with similar zoning
(20) the difference between the current land selling price and the residual land value
(21) the difference between the current land selling price and the residual land value divided by number of additional permitted units

Appendix D: City of Sammamish TDR Study Summary

City of Sammamish TDR study summary

The City of Sammamish is contemplating the development of a TDR program that will simultaneously preserve targeted areas and promote high-density commercial and residential construction in a new town center. The basic tenet of the TDR program calls for the transfer of residential development rights into a newly developed town center, and their conversion for use as commercial or perhaps residential development credits. The City hired Cascade Land Conservancy (CLC) to develop the contemplated TDR program. Working with RE SOLVE, CLC prepared a market analysis to understand the potential for TDR. The results of the analysis provided to City staff are summarized below.

Specific sending areas have been identified, and in some cases include sensitive areas impacted by wetlands or slopes. The City is specifically targeting land with erosion hazards and near sensitive water bodies, and has identified as many as 1,000 potentially transferable rights, with 411 of these located in the top two sending areas. The study valued transfer rights based on a variety of different zoning categories. As a general concept the study assumes the rights acquired are usable (and therefore valuable), thereby preserving the amount of land required for their generation under current zoning. All of the sending areas have residential zoning with densities ranging from R-1 (1du/acre) up to R-8 (8dus/acre).

Regarding receiving areas, using the October 2007 Town Center plan as a guide, approximately 120,000 square feet of land is being set aside for office construction. Office is the commercial component most likely to require upper level (high density) development. As an initial policy direction, transferred residential rights would be converted to commercial use. The study area was essentially confined to the City of Sammamish, although the City is contemplating allowing for the transfer of development rights outside the immediate city boundaries. The study analysis concentrated on residential values within the city limits.

The study concluded that commercial demand for high density may not be in place for a number of years. Consequently the benefits of a TDR program linked to upper-story commercial development may only result from TDR demand in later stages of the Town Center Development. However, higher-density mixed-uses that incorporate residential units are perhaps a better candidate for TDR demand. Further study is needed to address potential competition with policy goals associated with affordable housing.

Development of infrastructure for the Town Center represents a significant financial burden, the funding sources for which remain to be identified with precision. If infrastructure is funded through development of land, it will impact both the pricing of land in Town Center, project feasibility, and therefore revenues available for TDR acquisitions.

Appendix E: Receiving-Area Capacity Data from Community Attributes

CTED: Supply and Demand Analysis

Receiving Areas Capacity Analysis

Receiving Area	Number of Parcels	Total Acres	Total Floor Area	Median FAR	Median Parcel Size
Bremerton DC	97	18.97	827,422 Sq. Ft.	0.99	6,182 Sq. Ft.
Tacoma DR	812	143.31	3,537,907 Sq. Ft.	0.96	4,207 Sq. Ft.
Tacoma MLK NCX	87	17.93	401,249 Sq. Ft.	0.64	6,496 Sq. Ft.
Everett CBD B-3	844	312.46	5,473,481 Sq. Ft.	0.84	8,553 Sq. Ft.
Redmond OBAT	79	574.29	14,945,802 Sq. Ft.	0.50	221,330 Sq. Ft.
Only Office	51	455.86	14,687,542 Sq. Ft.	0.54	310,372 Sq. Ft.
Carnation CBD	36	9.40	104,768 Sq. Ft.	0.37	7,680 Sq. Ft.
Tukwila *	16	43.92	431,232 Sq. Ft.	0.33	110,736 Sq. Ft.

Receiving Area	Number of Parcels	Total Acres	Total Units
South Hill MSF **	494	943.00	434
Arlington	244	645.29	206 ***

*Analysis area includes parcels centroids within 600 ft. of Tukwila Station and the Andover Park W and Baker Blvd bus stop.

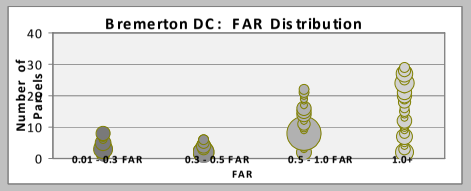
**Parcels that have greater than one acre, less than ten acres, and zero to one units.

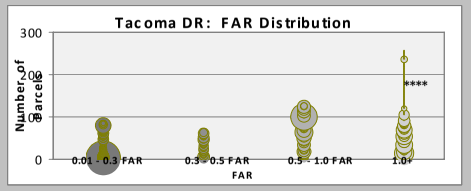
***Calculated by counting number of dwelling improvement records in sending area.

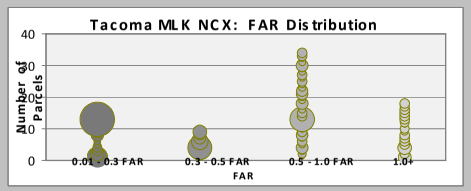
Sending Areas Supply Analysis

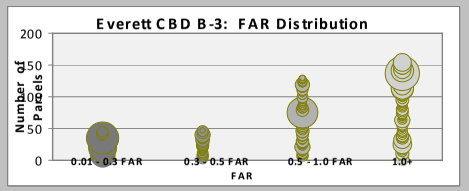
Sending Area	Zone	Number of Parcels	Total Acres	Total Units	
King - Carnation	A-35	525	12,979	188	
	RA-5	2,112	13,039	1,216	
	RA-5 SO	78	1,071	29	
	RA - 10	1,073	9,722	507	
King - Redmond	RA- 5	9,160	18,704	7,638	
	RA-5 P	889	2,470	665	
King - Tukwila	RA-5	9,486	28,203	6,867	
	RA-5 SO	1,663	8,575	1,161	
Kitsap	RP	7,389	28,383	5,311	***
	RR	34,360	77,486	25,944	***
	RW	1,414	49,059	283	***
Pierce	ARL	1,585	24,682	757	
	FL	892	273,142	25	
	R-10	1,115	7,474	403	
Snohomish	A-10	4,241	53,990	1,703	***

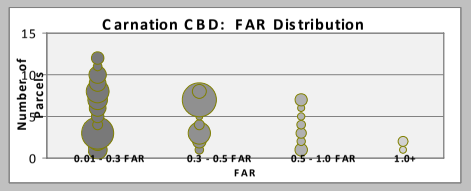
***Calculated by counting number of dwelling improvement records in sending area.

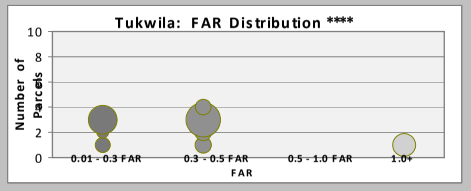


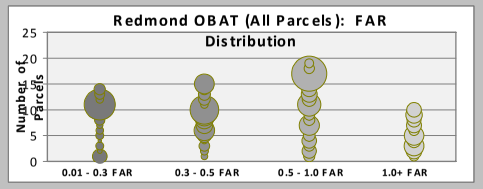












Bubble Sizes Represent Relative Parcel Land Area

Larger Parcels.

Smaller Parcels

**** Irregularity due to condo records with skewed floor areas.

June 12th, 2008

community attributes

Appendix F: Tables of Recent Sales in Sending Areas from Re-Solve

Assessed Value as Percentage of Sale Price										
Sending Area	**Sale Date**	**Sale Price**	**Zoning**	**Acreage**	**Max Units**	**$/unit**	**$/ac**	**Assd. Value**	**Assd % mkt**	**2007/8**
Carnation										
	Aug-07	$490,000	RA5SO	20.00	4	$122,500	$24,500	$238,000	48.57%	**77.46%**
	Aug-07	$465,000	RA5SO	20.00	4	$116,250	$23,250	$238,000	51.18%	**69.83%**
	Jul-07	$327,500	RA10	21.00	2	$163,750	$15,595	$226,000	69.01%	
	Mar-07	$200,000	RA5	20.28	4	$50,000	$9,862	$178,000	89.00%	
	Jun-07	$275,000	RA5SO	20.79	4	$68,750	$13,228	$227,000	82.55%	
	Apr-07	$400,000	RA5	28.00	5	$80,000	$14,286	$433,000	108.25%	
	Aug-07	$560,000	RA5SO	40.00	8	$70,000	$14,000	$252,000	45.00%	
	Nov-07	$250,000	RA5	20.00	4	$62,500	$12,500	$177,000	70.80%	
	Aug-07	$490,000	RA5SO	20.00	4	$122,500	$24,500	$238,000	48.57%	
	Aug-07	$397,000	RA5	20.00	4	$99,250	$19,850	$169,000	42.57%	
	Mar-07	$249,000	A35	18.31	1	$249,000	$13,599	$489,500	196.59%	
	Oct-06	$350,000	RA10	21.94	2	$175,000	$15,953	$240,000	68.57%	
	Jul-06	$242,346	RA5	20.00	4	$60,587	$12,117	$232,000	95.73%	
	May-06	$150,000	RA5	19.92	4	$37,500	$7,530	$122,000	81.33%	
	Sep-06	$279,000	RA5	26.10	5	$55,800	$10,690	$228,000	81.72%	
	Oct-06	$280,000	RA5SO	20.05	4	$70,000	$13,965	$230,000	82.14%	
	Apr-06	$235,000	RA5	20.00	4	$58,750	$11,750	$232,000	98.72%	
	Jul-06	$575,000	RA5	16.50	3	$191,667	$34,848	$478,000	83.13%	
	Nov-06	$479,000	RA5SO	20.13	4	$119,750	$23,795	$356,000	74.32%	
	Apr-06	$669,000	A35	85.96	2	$334,500	$7,783	$433,000	64.72%	
		$7,362,846				$115,403	$16,180	$5,416,500	**79.12%**	
	Average	**$368,142**				**$115,403**	**$16,180**	**$270,825**	**73.57%**	
Redmond										
	Feb-08	$900,000	RA5	9.00	1	$900,000	$100,000	$499,000	55.44%	**80.92%**
	Mar-07	$225,000	A35	76.00	3	$75,000	$2,961	$204,000	90.67%	**74.39%**
	May-07	$570,000	RA5	11.36	2	$285,000	$50,176	$385,000	67.54%	
	Dec-07	$640,000	A35	179.03	5	$128,000	$3,575	$417,000	65.16%	
	Nov-07	$330,000	RA5	5.14	1	$330,000	$64,202	$328,000	99.39%	
	Jan-07	$375,000	RA5	5.53	1	$375,000	$67,812	$316,000	84.27%	
	Dec-07	$379,950	RA5P	23.15	4	$94,988	$16,413	$395,000	103.96%	
	Apr-06	$275,000	RA5	12.23	2	$137,500	$22,486	$464,000	168.73%	
		$13,663,938				$290,686	$40,953	$10,424,325	**91.90%**	
	Average	**$910,929**				**$290,686**	**$40,953**	**$694,955**	**76.29%**	
Tukwila										
	Jan-07	$100,000	RA5	32.20	6	$16,667	$3,106	$20,000	20.00%	**74.80%**
	Sep-07	$1,200,000	RA5	58.08	10	$120,000	$20,661	$1,211,000	100.92%	**81.70%**
	Jun-07	$575,000	RA5	22.50	4	$143,750	$25,556	$411,000	71.48%	
	Mar-07	$300,000	RA5SO	9.82	2	$150,000	$30,550	$190,000	63.33%	
	Jan-07	$175,000	RA5	5.60	1	$175,000	$31,250	$143,000	81.71%	
	Apr-07	$280,000	RA5	5.13	1	$280,000	$54,581	$130,000	46.43%	
	Jul-07	$226,000	RA5	4.40	1	$226,000	$51,364	$210,000	92.92%	
	Dec-07	$200,000	RA5	4.34	1	$200,000	$46,083	$177,000	88.50%	
	Jun-07	$375,000	RA5	7.00	1	$375,000	$53,571	$207,000	55.20%	
	Jan-07	$185,000	RA5	4.92	1	$185,000	$37,602	$182,000	98.38%	
	Jul-07	$329,000	F	20.00	1	$329,000	$16,450	$342,000	103.95%	
	Jan-06	$415,000	RA5	17.16	3	$138,333	$24,184	$206,310	49.71%	
	Dec-06	$35,000	RA5	11.75	2	$17,500	$2,979	$110,000	314.29%	
	May-06	$250,000	RA5	19.93	4	$62,500	$12,544	$248,000	99.20%	
	Sep-06	$750,000	RA5	26.89	5	$150,000	$27,891	$301,000	40.13%	
	Nov-06	$400,000	RA5	38.03	7	$57,143	$10,518	$308,000	77.00%	
	Jun-06	$317,500	RA5	14.85	3	$105,833	$21,380	$121,000	38.11%	
	Oct-06	$400,000	RA5	20.01	4	$100,000	$19,990	$292,000	73.00%	
		$6,512,500				$157,318	$27,237	$4,809,310	**84.13%**	
	Average	**$361,806**				**$157,318**	**$27,237**	**$267,184**	**73.85%**	

Pierce County

	Feb-08	$255,000	Arl	10.00	1	$255,000	$25,500	$208,800	81.88%	**67.43%**
	Jun-07	$410,000	R10	12.85	1	$410,000	$31,907	$261,200	63.71%	**70.00%**
	Jul-07	$844,500	R10	26.22	2	$422,250	$32,208	$710,800	84.17%	
	Dec-07	$435,000	F1	35.00	1	$435,000	$12,429	$222,000	51.03%	
	Aug-07	$305,000	Arl	10.00	1	$305,000	$30,500	$171,900	56.36%	
	Feb-06	$85,000	Fl	4.68	1	$85,000	$18,162	$39,100	46.00%	
	Mar-06	$50,000	Fl	3.68	1	$50,000	$13,587	$45,600	91.20%	
	May-06	$1,395,650	Fl	346.03	4	$348,913	$4,033	$848,900	60.82%	
	Sep-06	$195,000	Arl	6.70	1	$195,000	$29,104	$123,700	63.44%	
	Apr-06	$100,000	Arl	5.40	1	$100,000	$18,519	$76,900	76.90%	
	Jan-06	$70,000	Arl	5.42	1	$70,000	$12,915	$63,900	91.29%	
	May-06	$167,000	Arl	5.02	1	$167,000	$33,267	$94,300	56.47%	
	Mar-06	$170,000	Arl	5.12	1	$170,000	$33,203	$95,000	55.88%	
		$4,482,150				$231,782	$22,718	$2,962,100	**67.63%**	
	Average	**$344,781**				**$231,782**	**$22,718**	**$227,854**	**66.09%**	

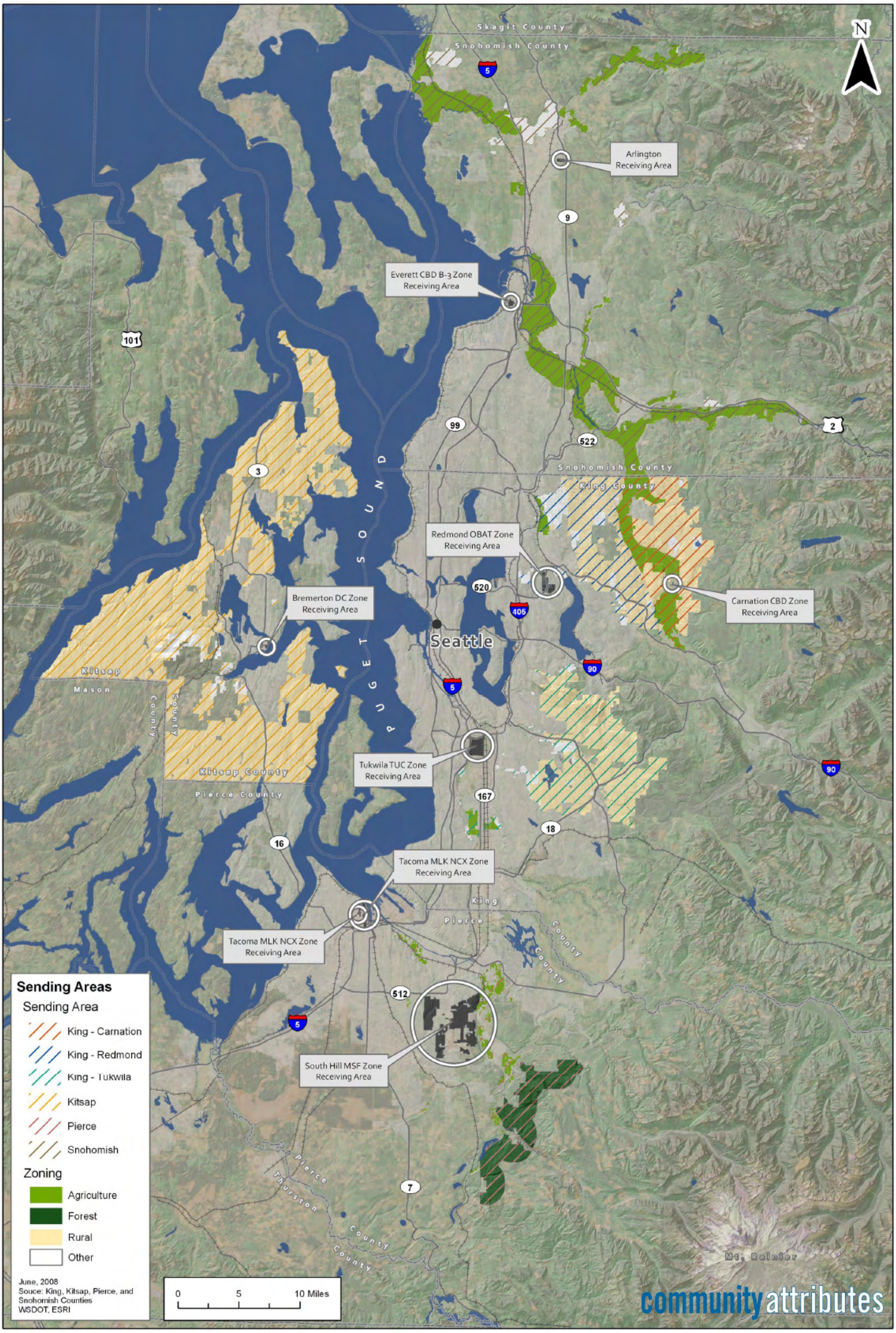
Snohomish

	Feb-08	$115,000	A10	36.72	3	$38,333	$3,132	$114,000	99.13%	**49.64%**
	Jan-08	$220,000	A10	59.73	5	$44,000	$3,683	$179,200	81.45%	**37.48%**
	Feb-08	$1,640,000	A10	141.90	14	$117,143	$11,557	$421,800	25.72%	
	Dec-07	$490,000	A10	167.40	16	$30,625	$2,927	$492,200	100.45%	
	Dec-07	$350,000	A10	20.70	2	$175,000	$16,908	$203,400	58.11%	
	May-07	$595,000	A10	89.05	8	$74,375	$6,682	$241,900	40.66%	
	Jul-07	$68,800	A10	10.29	1	$68,800	$6,686	$30,900	44.91%	
	Jul-07	$774,250	A10	10.00	1	$774,250	$77,425	$30,000	3.87%	
	Jan-07	$240,000	A10	23.30	2	$120,000	$10,300	$56,900	23.71%	
	Aug-07	$300,000	A10	12.00	1	$300,000	$25,000	$40,000	13.33%	
	Dec-07	$646,800	A10	22.82	2	$323,400	$28,344	$68,500	10.59%	
	Sep-07	$269,950	A10	10.00	1	$269,950	$26,995	$113,800	42.16%	
	Apr-07	$737,500	A10	19.58	2	$368,750	$37,666	$367,400	49.82%	
	Jan-07	$48,500	A10	17.60	1	$48,500	$2,756	$51,800	106.80%	
	Feb-07	$360,000	A10	29.93	2	$180,000	$12,028	$157,900	43.86%	
	Aug-06	$375,500	A10	11.00	1	$375,500	$34,136	$129,200	34.41%	
	Feb-06	$450,000	A10	38.58	3	$150,000	$11,664	$154,000	34.22%	
	Mar-06	$135,000	A10	8.79	1	$135,000	$15,358	$94,300	69.85%	
	Dec-06	$200,000	A10	10.00	1	$200,000	$20,000	$79,000	39.50%	
	Sep-06	$180,000	A10	9.75	1	$180,000	$18,462	$45,200	25.11%	
	Nov-06	$375,000	A10	67.45	6	$62,500	$5,560	$159,400	42.51%	
	Aug-06	$145,000	A10	13.12	2	$72,500	$11,052	$77,400	53.38%	
	May-06	$265,000	A10	88.17	8	$33,125	$3,006	$217,400	82.04%	
	Apr-06	$562,950	A10	31.05	3	$187,650	$18,130	$305,300	54.23%	
	May-06	$27,100	A10	26.62	2	$13,550	$1,018	$51,600	190.41%	
	Nov-06	$255,000	A10	50.80	5	$51,000	$5,020	$162,100	63.57%	
	Jun-06	$219,500	A10	13.95	1	$219,500	$15,735	$87,100	39.68%	
	Oct-06	$75,000	A10	12.08	1	$75,000	$6,209	$24,100	32.13%	
	Jun-06	$120,000	A10	33.81	3	$40,000	$3,549	$76,800	64.00%	
??	Mar-06	$550,000	A10	20.00	2	$275,000	$27,500	$198,000	36.00%	
	Jul-06	$115,200	A10	33.30	3	$38,400	$3,459	$127,600	110.76%	
	Jul-06	$265,000	A10	16.94	1	$265,000	$15,643	$164,800	62.19%	
	Oct-06	$125,000	A10	9.70	1	$125,000	$12,887	$158,200	126.56%	
	May-06	$132,500	A10	20.72	2	$66,250	$6,395	$123,400	93.13%	
		$11,428,550				$161,709	$14,908	$5,004,600	**58.77%**	
	Average	**$336,134**				**$161,709**	**$14,908**	**$147,194**	**43.79%**	

Kitsap county

	Jan-08	$109,000	RW	20.00	1	$109,000	$5,450	$36,700	33.67%	**59.96%**
	Feb-08	$900,000	RR	46.02	9	$100,000	$19,557	$555,290	61.70%	**53.51%**
	Feb-08	$230,850	RR	29.69	5	$46,170	$7,775	$255,330	110.60%	
	Nov-07	$525,000	RR	20.73	4	$131,250	$25,326	$206,910	39.41%	
	Mar-07	$235,000	RR	15.23	3	$78,333	$15,430	$114,950	48.91%	
	Sep-07	$175,000	RR	10.00	2	$87,500	$17,500	$105,390	60.22%	
	Mar-07	$480,000	RP	30.50	6	$80,000	$15,738	$215,650	44.93%	
	Jun-07	$249,950	RR	17.56	3	$83,317	$14,234	$144,200	57.69%	
	Jan-07	$650,000	RR	15.00	3	$216,667	$43,333	$251,750	38.73%	
	Jun-07	$365,000	RP	17.84	3	$121,667	$20,460	$284,880	78.05%	
	Jan-07	$130,000	RR	17.00	4	$32,500	$7,647	$80,810	62.16%	
	Jan-07	$130,000	RR	23.00	3	$43,333	$5,652	$106,170	81.67%	
	Oct-07	$89,000	RP	10.24	1	$89,000	$8,691	$85,750	96.35%	
	Mar-07	$539,000	RR	10.25	2	$269,500	$52,585	$218,910	40.61%	
	Feb-07	$380,000	RR	31.80	6	$63,333	$11,950	$285,210	75.06%	
	May-07	$86,000	RP	20.00	4	$21,500	$4,300	$132,130	153.64%	
	Aug-07	$339,900	`RP	21.92	4	$84,975	$15,506	$208,720	61.41%	
	Apr-07	$190,000	RP	10.17	2	$95,000	$18,682	$191,450	100.76%	
	Dec-07	$976,000	RW	705.10	35	$27,886	$1,384	$101,750	10.43%	
	Jan-07	$390,000	RR	7.47	1	$390,000	$52,209	$293,520	75.26%	
	Jan-07	$385,000	RR	9.12	1	$385,000	$42,215	$192,420	49.98%	
	Jan-07	$325,000	RR	5.00	1	$325,000	$65,000	$208,030	64.01%	
	Jan-07	$176,000	RR	5.10	1	$176,000	$34,510	$76,320	43.36%	
	Jan-07	$250,000	RR	5.61	1	$250,000	$44,563	$134,300	53.72%	
	Nov-07	$219,000	RP	5.04	1	$219,000	$43,452	$103,020	47.04%	
	Jul-07	$130,000	RR	5.00	1	$130,000	$26,000	$64,770	49.82%	
	Feb-07	$105,000	RR	5.01	1	$105,000	$20,958	$75,010	71.44%	
	Jun-07	$190,000	RR	5.13	1	$190,000	$37,037	$76,840	40.44%	
	Oct-07	$209,950	RP	6.46	1	$209,950	$32,500	$115,510	55.02%	
	Sep-07	$280,000	RP	9.76	1	$280,000	$28,689	$123,730	44.19%	
	Oct-07	$270,000	RR	5.00	1	$270,000	$54,000	$131,100	48.56%	
	Jun-07	$230,000	RR	5.12	1	$230,000	$44,922	$140,210	60.96%	
	Sep-07	$210,000	RR	5.01	1	$210,000	$41,916	$131,270	62.51%	
	Nov-07	$500,000	RP	6.86	1	$500,000	$72,886	$255,210	51.04%	
	Nov-07	$205,000	RR	5.00	1	$205,000	$41,000	$110,500	53.90%	
	May-07	$284,000	RR	5.05	1	$284,000	$56,238	$116,350	40.97%	
	Jun-07	$325,000	RR	5.00	1	$325,000	$65,000	$203,580	62.64%	
	Apr-07	$215,000	RR	5.00	1	$215,000	$43,000	$115,600	53.77%	
	Nov-07	$205,000	RR	5.00	1	$205,000	$41,000	$110,170	53.74%	
	Total	$11,883,650				$176,535	$30,726	$6,359,410	**59.96%**	
	Average	**$304,709**				**$176,535**	**$30,726**	**$163,062**	**53.51%**	

Appendix G: Regional Map

Sending and Receiving Areas

CTED Regional TDR Analysis