Using a Voluntary, Market-Based Mechanism To Manage Growth in Gallatin County, Montana – an evaluation of Transferable Development Rights to implement Gallatin County's 2003 Growth Policy

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Preface

This report follows in the wake of a nearly four-year process through which Gallatin County has attempted to identify the best ways to implement a Transferable Development Rights (TDR) program. In 2004, the Gallatin County Commission created a TDR Committee to study the plausibility of a County-wide TDR program. Then, in 2006 a private consultant was contracted to provide additional recommendations. This resulted in the County synthesizing the consultant's suggestions into a Draft TDR zoning regulation for the Gallatin County/Bozeman Area Zoning District and a "2006 Gallatin County TDR Guidebook."

The County Commission, however, was concerned about the potential outcomes of adopting a TDR policy without having a clear understanding of the underlying economics. This sparked concern over how the adoption of TDR policy may impact the County.

This report seeks to answer the Commission's questions and concerns and shed some light on the potential outcomes that TDR may have – both as proposed and under some alternative scenarios.

Executive Summary

As Gallatin County continues to grow, there is much debate as to where these homes should be built. Much of the County's previous growth has occurred in rural areas with little existing infrastructure to support such development. The lack of density restrictions and the discretionary nature of subdivision approvals have, over time, resulted in the ad hoc land development patterns seen in the Gallatin Valley today.

To address this problem the County is looking to adopt its 2006 Growth Policy Implementation Program, a comprehensive and multi-faceted program designed to implement the County's 2003 Growth Policy. Integral to the Implementation Program is a Transferable Development Rights (TDR) program that seeks to redirect development potential from the rural areas into designated growth areas using financial incentives. As a precursor to the TDR program, the County is looking to limit density in rural areas to 160-acre lot sizes through its subdivision regulations.

In a standard TDR program, the right to develop land is severed from the land itself and treated as a separate right. Landowners in "sending areas" (areas designated for preservation) are permitted to sell their development rights to landowners or developers in designated "receiving" areas, who are permitted to build at higher densities if they purchase development rights. Once the development rights are sold from the property, the land is typically protected from future development in perpetuity with a conservation easement.

The County's proposed TDR program would allocate TDRs to rural landowners contingent upon a deed restriction of their property that limits development potential beyond the 160-acre minimum lot size/density. The number of TDRs allocated to each parcel would be determined either by an acreage-based or a value-based method. It is important to note that the TDR program is simply a proposal at this point and the County Commission has not adopted either the program or necessarily underlying provisions. The Commission has not, for example, adopted a policy position as to whether the 160-acre requirement will be based on density or a minimum lot size.

The first step when approaching TDR in any locale should be a thorough evaluation of the demand side of the development rights market. A developer's willingness to purchase increments of density is the "engine" that drives the market - and without strong demand, a TDR program will struggle. Furthermore, knowing with a degree of certainty, how much developers are likely to spend for TDRs will give rural landowners an idea about the compensation they are likely to receive.

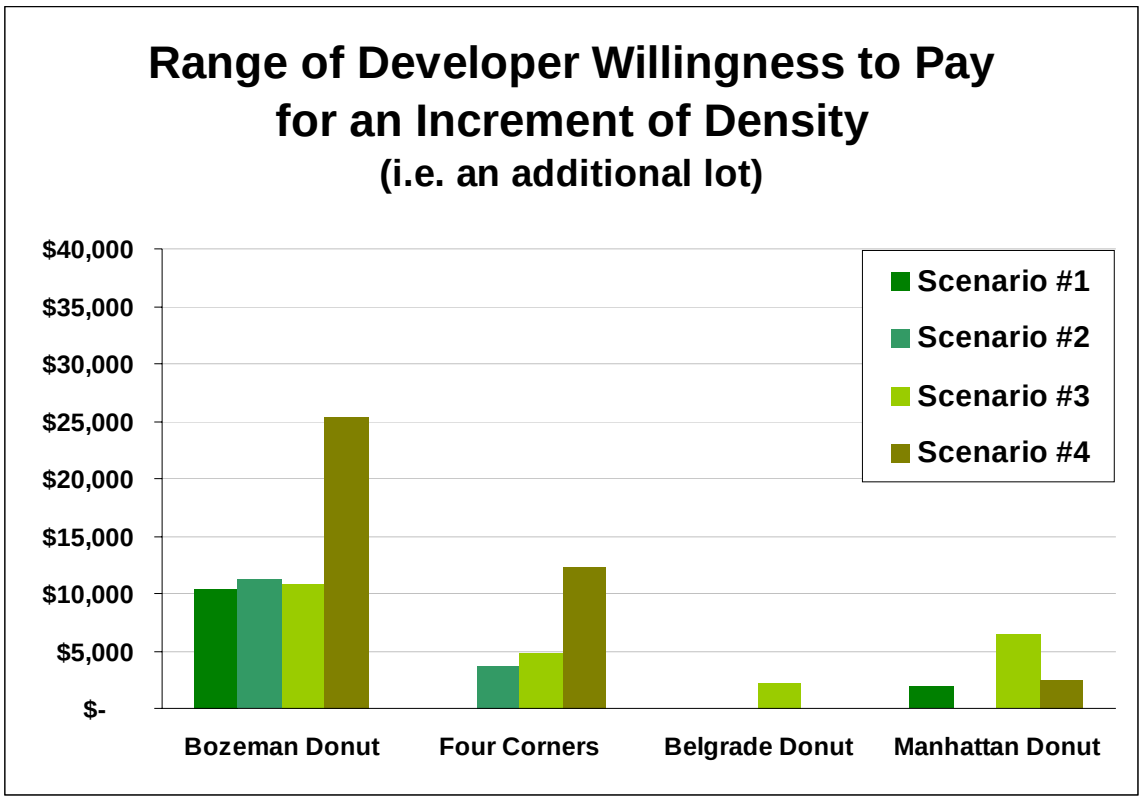
Our analysis finds that there is sufficient demand to drive a TDR market in Gallatin County. We find that developers' "willingness to pay" (WTP) is between $1,900 to $25,000 for additional density above the 1 unit per 5 acre base density - depending on location and development scenario.[1] Since development throughout all four proposed receiving areas (Bozeman Donut, Four

[1] In general, this willingness to pay ranges between 5% and 17% of the current selling price of improved lots.

Corners Planning Area, Belgrade Donut, and the Manhattan Donut) would not be the same, we model a set of most-likely development scenarios depending on subdivision density, lot size, and availability of infrastructure. For example, at present a developer in the Bozeman donut receiving area can build 1 lot on 5 acres, but he/she would pay up to $10,000 for the right to build additional lots at 3 units per acre. The average WTP is $7,229 across all receiving areas.[2] Chart ES.1 below shows the range of WTP results.

These figures represent static "snapshots" in time of what developers would pay now – they are subject to change with changing market conditions. If the real estate market strengthens in the future, the WTP is likely to go up; if the market cools considerably it will drop.

Chart ES.1



A threshold determinant of developer willingness to pay is the relationship between raw land costs, lot selling prices, and the cost/availability of infrastructure in the various receiving areas. The costs of tying into existing sewer/water or incurring the cost of an independent sewer/water system affect how much money developers have available to buy density. When these three cost variables are significant developers have little money left over to purchase TDRs.

It should also be noted that the results expressed above represent theoretical maximums that developers would pay in the market place. It is assumed that willing TDR buyers will seek to find

[2] This is a weighted average based on the percentage of additional lots that could be built in each area.

prices well below their maximum willingness to pay. The actual or market price they pay will depend to a large extent upon the supply of available TDRs.

Under the current proposal, a total of 48,009 TDRs could be allocated to sending area landowners assuming 100% participation; since it is proposed that 1 TDR would equal 4 additional lots, this equates to 192,000 additional lots as the total supply that developers could purchase. On the demand side of the equation, we predict that with the County's 34,076 acres identified as potential receiving areas, there could be at total of 99,184 additional lots created at full buildout through TDR purchases.

Thus, in total terms, there is twice as much supply as there is demand. This ratio is desirable to ensure that enough supply exists to account for a certain number of sending site landowners who will not participate in the market. Any greater ratio would have too little demand chasing too much supply, and the currency (i.e. TDRs) would not retain its value.

The number of additional lots is, of course, a theoretical total. Actual TDR demand is based only on the number of additional lots developers looking to buy for their projects at a particular time. Likewise, the actual supply of TDRs available for purchase will depend on rural landowners' preferences and the extent of compensation they could receive through TDR sales (i.e. the TDR market price).

In terms of actual demand, on average, 1,000 lots are approved in the County each year (most of them in the City of Bozeman); this annual demand for additional lots represents 1% of the total we determined to be full buildout of the receiving areas. Furthermore, there is an existing supply of 3,074 lots that have received preliminary or plat approval – which is a three- year supply without the need for any TDR purchases. This rather large inventory of lots will initially diminish developer demand for TDRs and create a sluggish market during the program's first couple of years.

In terms of actual supply, TDR markets are traditionally "thin," meaning that at any given point in time there are only a few sending site landowners who are willing to participate in the market through a deed restriction of their property to sell TDRs. Gallatin County landowners can only be expected to participate if developers can meet or exceed a price that reflects the loss in property value as a result of the deed restriction. We found that, rural landowners may be willing to sell TDRs, on a lot basis, for between $5,000 and $8,750 (i.e. $20,000 to $33,000 per TDR).

Developer willingness to pay varied by receiving area, but developers in the Bozeman donut and a couple situations in Four Corners (development scenario 4) and Belgrade (development scenario 3) are willing to pay above $5,000 for additional units. Other development scenarios, in other areas cannot match the price at which landowners may be willing to sell TDRs. For example, developers in much of the Four Corners area will not be able to afford to pay for additional lots at $5,000 apiece. This is a problem since much of the County's growth is expected to occur in the Four Corners area.

Yet, in general, landowner willingness to sell aligns with developer willingness to pay. This means that TDR allocations using the proposed value-based "divisor", coupled with the fact that each TDR translates into 4 additional units - in theory - would act to effectively bring potential buyers and sellers together.

However, even though the economic rationality expressed through the willingness to sell and pay are in relative accord, it does not mean all landowners who can capture $5,000 (i.e. $20,000 per TDR) will participate. Some landowners have expressed concern that they will not recapture their perceived lost value through this system.

Few landowners are likely to permanently restrict the development potential of their property to be less than 1 unit per 160 acres, even though they might be able to recoup the loss in value through TDR sales. Among other things, landowners may believe that the County may increase their development potential in the future, even if the TDR program is put in place now. From a landowner's perspective the price of "forever" is not equivalent to the rational economics of today. For this reason development right markets are "thin" – often with few willing sellers, since most do not want to lose the opportunity to develop in the future.

For these reasons, we assume that the "actual" supply or amount of TDRs that landowners sell to developers in the market would be much less than the total supply. How much less is difficult to determine, since landowner preferences are hard to gauge over an area as large as Gallatin County.

We believe a reasonable assumption may be that 2,000 TDRs may be available to receiving-area developers each year – twice the annual number of lots built each year, and a ratio similar to what we found to be the total theoretical supply to demand.

Thus, in the market there are likely to be developers needing half as many TDRs as there are available to buy. This will result in a TDR price that is less than the developer "willingness to pay". More specifically, developers who are willing to pay $10,000 for an additional unit in their subdivisions will witness a surplus when they only have to pay $5,000.

Yet, despite this economic theory, we believe there is still some reason for concern. In addition to setting up the TDR program, the County's pending proposal also creates 160-acre minimum lot size/density in rural areas. The combination of the lot-size restriction and the further deed restrictions through the use of TDRs may be difficult to accomplish through the program as proposed.

In an environment such as Gallatin County, with no preexisting comprehensive county-wide density limits, many rural landowners have the perception - whether rightly or wrongly - that they are entitled subdivisions with lots smaller than 160 acres –perhaps 5 acres, perhaps 10 or 20 acres. Some have expressed fear that they will lose value if the County imposes a restriction to 160-acre lots and will do so again if they cannot recoup their perceived development value through the TDR program.

Thus, some landowners may not perceive the TDR program as an incentive and may oppose it. If landowners choose not to use the program, it will be more difficult for the County to accommodate expected growth in the geographical configuration desired in the growth Policy. Even in the designated growth areas, the County may experience predominantly 5-acre lot development.[3] Either way, the land supply will not be available to developers, and therefore developers may cross the line to Broadwater County, as some already have, where development is easier and less costly.

For these reasons, we find it necessary that the County "decouple" landowner willingness to sell TDRs from a permanent deed restriction of his/her property that would further limit development potential beyond the initially imposed 160-acre minimum lot size/density.

As a first option, the County could consider a "term" TDR. In this case the landowner would deed restrict his/her property beyond the minimum 160-acre lot size/density, but only for a period of time, in exchange for TDRs. For example, in other areas of the Country 40 year deed restrictions are used.

The term-TDR would remove much of the risk that landowners associate with permanent deed restrictions since they are only forfeiting future development potential for a period of time. A deed restriction that sunsets will bring many more landowners into the market and lower the price at which they are willing to sell their TDRs. Furthermore, this approach will not create a significant barrier to development or hinder future growth. However, the County will have to revisit the question of developing these properties again in the future.

A second option would be to craft a variation on the value-based method of assigning TDRs. Under this concept, the County would eliminate the acreage-based method of assigning TDRs and instead use only the value-based method. To make this idea viable in the marketplace, the County should also eliminate the deed restriction requirement in the sending areas – permitting landowners to build 1 residence per 160 acres and selling the excess TDRs into the receiving areas. Because this system provides sending-area landowners with a commodity to sell, rather than a right to build, we would suggest calling this commodity a transferable development *credit,* or TDC, rather than a transferable development *righ*t.

Furthermore, to avoid flooding the market in the receiving area with credits, the transfer ratio in receiving areas should be changed from 4:1 to 2:1. That is, a credit sold by a sending-area landowner to a receiving-area developer would permit construction of 2 additional units in the receiving area.

The creation of this credit commodity should remove any landowner concern over permanent (or temporary) loss of development potential beyond the 160-acre minimum lot size/density restriction. This will reduce landowner risk, resulting in many more sending site landowners willing to participate in the market - making TDRs easier to come by for receiving area developers.

[3] This is because the base density in the growth area is 1 unit per 5 acres.

Importantly too, credits would be sold at a lower price since landowners do not have to recoup the loss in value created from a deed restriction. The lower price will make development in the receiving areas easier – especially those areas where the lack of infrastructure severely limits the amount developers are willing to pay for increased density.

Besides adjusting the program to decouple TDR/TDC allocations from a deed restriction, several other important components are needed to create a successful program in Gallatin County. These are: (1) address the need for infrastructure in the receiving areas, (2) maintain the TDR/TDC value through strict policy enforcement, (3) work with the cities in inter-jurisdictional transfers, and (4) establish a TDR/TDC bank to facilitate the market.

In sum, there is the potential for a viable market in tradable development rights – the economic incentives do exist. But, it is simply asking too much of TDR as a policy tool to simultaneously: accomplish 160-acre density limits in the rural areas, account for all of the County's future development in its growth areas, *and* achieve further limit development potential beyond the 160-acre minimum lot size/density regulation. If the County can let go of the latter and focus on just the first two goals, it can put in place a successful program.

1. Introduction

Transferable Development Rights or "TDR," is a policy tool that attempts to redirect development potential into areas where a community wishes to accommodate growth, while also protecting the private property rights of all landowners. It does so using financial incentives generated through a "created" market in development rights. In order to implement a sound TDR policy, a jurisdiction must have a firm understanding of the underlying economic forces at work, and the likely outcomes.

Gallatin County is considering a TDR program in the context of its 2006 Growth Policy Implementation Program. Will such a TDR program help or hinder the County's ability to grow in the future? Will a program actually incentivize landowners and developers to redirect development into growth areas, or will it create a perverse incentive to build at lower densities just to avoid regulatory hurdles?

This report seeks to answer these questions through rigorous assessment of the on-the-ground economic realities in a development rights market. Often, TDR markets are poorly structured and operate inefficiently with weak participation by landowners in both those areas the community seeks to protect. The Gallatin County Planning Board, in seeking to avoid this pitfall, commissioned this report to vet the financial feasibility of its proposed county-wide TDR program.

In so doing, we evaluate the demand side of the TDR market by quantifying developer demand for increments of density in so-called "receiving" areas and predicting how rural landowners on the supply side, in the so-called "sending" areas, are likely to react. Knowing with a high degree of certainty, what developers are "willing to pay" for TDRs (i.e. additional density) will give rural landowners an idea about the compensation they are likely to receive in the market. Without such information, landowners are likely to remain leery of any TDR proposal in Gallatin County.

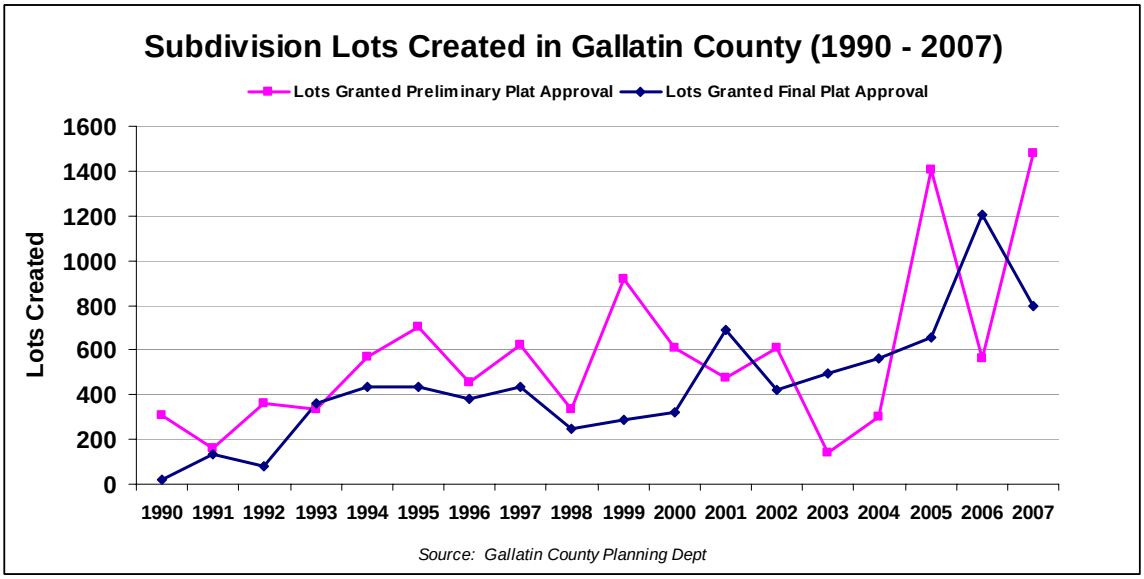
The report is structured to provide the reader some initial background about how the proposed program fits into the 2006 Growth Policy Implementation Program. Following this, in Section 2, we provide an in-depth description of how the transferable development rights mechanism works; readers who already have a grasp of TDR may wish to skip this part of the report. Section 3 describes the details of the County's proposed TDR program and Section 4 walks the reader through the demand and developer "willingness to pay" analyses. We evaluate the supply in Section 5 – that is, the ways by which TDRs are allocated in the market. In Section 6 we assess demand relative to supply to make some predictions about the potential success of the program, and conclude with some policy recommendations in Section 7.

1.1 Background

The Gallatin Valley is experiencing never-before-seen levels of growth. Between 2000 and 2006, Gallatin County's population increased from about 67,000 to about 80,000. This increase of 19.3% was the greatest in all of Montana.[1] While this may be slowing temporarily as the real estate market cools - Gallatin County will continue to add population quickly. The 2003 Gallatin County Growth Policy predicted that the County's population will increase to 115,000 by 2030, an increase of more than 40%.

Such growth has created the usual side effects of increased housing and land prices; has placed unprecedented pressure on existing infrastructure; and has begun to threaten the Valley's agro-economy. Chart 1.1 below speaks to the growth experienced in the Valley and the increase in the number of subdivisions the County has approved. Chapter 2 of the County's own Growth Policy indicates that as of 2006 there were approximately 30,000 dwelling units; by 2030 this number is predicted to rise to 45,000.[2] The Growth Policy predicted that, at present densities and rural development trends, this growth will require 8,320 acres of land to be converted to residential development.[3]

Chart 1.1



But the debate, correctly, is not around the rate at which the county is growing. Rather, the debate is about where these homes should go when they are built. Many subdivisions

[1] Census and Economic Information Center, Montana Department of Commerce; Population Division, U.S. Census Bureau. Gallatin County recognized an estimated 13,090 new residents from 2000 to 2006.
[2] The County's population is expected to grow from around 80,000 now to 115,000 by 2030 according to the 2003 Growth Policy. Gallatin County Growth Policy; Chapter 2: Projected Trends, 2.1 Population and Housing, pg. 8 (2003)
[3] The County's growth has occurred predominantly on lots that are 4.9 acres in size. Gallatin County Growth Policy; Chapter 2: Projected Trends, 2.2 Land Use, pg.14 (2003).

currently in the county's pipeline are located in rural areas with no existing infrastructure. Figure 1.1 on page 15 shows the spatial distribution of approved subdivisions in the County. The cost the County incurs to provide services to these rural developments has escalated to a critical point.

One reason for this ad hoc spatial distribution of subdivisions is the fact that the majority of the County is unzoned and therefore land is not subject to minimum and maximum densities under a zoning ordinance.[4] However, the County Commission has permitted subdivisions with a variety of densities.[5] The unpredictable and discretionary nature of subdivision approvals by the County over time has resulted in the haphazard land development patterns seen in the Gallatin Valley today. These patterns of development have catalyzed the County to look at ways it could limit small lot ex-urban development and encourage development in areas targeted for growth.

County staff and its elected officials realized current land use policies are ill-equipped to accommodate the development pressures of the past and future *and* simultaneously maintain the County's rural and natural resource appeal. To address this, the County Commission, in May of 2006, put forward a Growth Policy Implementation Program -[6]- of which a Transferable Development Rights program (TDR) is an integral component.

The Growth Policy Implementation Program, adopted by the County Commission pursuant to Resolution 2006-60, is the culmination of several years of policy work addressing comprehensive implementation of the 2003 Gallatin County Growth Policy.

Other efforts even prior to the adoption of the 2003 Growth Policy have been successful at conserving open space and agricultural land in Gallatin County. In 2000, a $10 million open space bond measure passed with a slim majority; its purpose – to buy conservation easements. Later, in 2005 another $10 million bond passed – this time with an overwhelming majority. During 2005 the County Commission launched an effort to gauge the public's opinion on growth. This initiative involved a "Citizen Satisfaction Survey." The results empirically indicate that 63% of respondents felt the County was not effectively managing growth and 84% felt there was no definitive plan to do so. As a result, "the County Commission listed Growth management as their number one priority in 2006." [7]

The result was the 2006 Growth Policy Implementation Program. This recent initiative seeks to proactively put policies in place *now* so that the County is "ready" to deal with growth in the future rather than react without adequate policy tools in place. The Program strives to "steer growth to areas of the County with appropriate infrastructure and services

[4] The only exceptions in the County are the 21 citizen-initiated "special zoning districts."
[5] Under Montana code, any subdivision of land resulting in parcels of less than 160 acres is subject to the state subdivision law. Hence, many land use discussions in Montana tend to assume a 160-acre minimum lot size – the smallest parcel that is not subject to subdivision review.
[6] The Gallatin County Growth Policy is the guiding document for land use policy in the County.
[7] Gallatin County Growth Policy Draft, Chapter 10: Growth Policy Implementation Program, pg. 3 (2006).

to support growth."[8] The County Commission does not seek to slow or stop growth with its Implementation Program – just redirect it.

Of the numerous components of the Growth Policy Implementation Program, TDR has been at the forefront of public interest. In 2004, the Gallatin County Commission created a TDR Committee to study how TDRs could be used throughout Gallatin County. The Committee "found that even with its varied membership and differing perspectives on land use, conservation, development, and valuation, it supports TDR programs as methods by which land can be both preserved and developed responsibly. The overriding sense of the Committee was that any mechanisms that can keep Gallatin Valley such a lovely place to live has the Committee's support."

The Implementation Program involves a five-pronged approach that attempts to simultaneously[9]:

- Encourage and facilitate neighborhood planning efforts throughout the County;

- Establish County-wide density limits for residential development. Because of Montana state statute, the County seeks to set a density limit/minimum lot size through subdivision regulations – not through comprehensive zoning. Currently, the minimum lot size being considered for areas outside designated growth areas is one residence per 160 acres, which conforms with the standard contained in state subdivision law;

- Establish an option for increased density above the 1 units per 160 acres for certain rural parcels that meet a set of threshold requirements through the implementation of a Rural Lands Center and a Rural Cluster Development regulation;

- Continue to provide opportunities for landowners to participate in the Open Lands Program; and

- Establish a market-based Transferable Development Rights (TDR) program as an incentive and compensation mechanism for rural landowners to redirect development into identified growth areas.

The County determined that it could not regulate density in rural areas without regulating uses and other traditional zoning matters (e.g. setbacks, uses etc.). Rather than regulate for all uses through zoning, the County decided to manage only density/minimum lot size and do so through its subdivision regulation/review. In essence then, landowners outside of designated growth areas would only be regulated for minimum lot size, not uses, and only if they choose to subdivide their property.

[8] Gallatin County Growth Policy Draft, Chapter 10: Growth Policy Implementation Program, pg. 3 (2006).
[9] The Growth Policy Implementation Program also allows for citizen-initiated zoning districts that are near existing infrastructure and services

Addressing the TDR component of the Implementation Program is the thrust of this paper. In particular, the ensuing pages discuss whether and how a TDR program could work in Gallatin County in the context of the goals of the Growth Policy Implementation Program and the land use regulatory regime currently in place.

It should be pointed out that the concept of TDR is not new to Gallatin County. In fact five of its citizen initiated zoning districts have TDR programs in place. These are: Bear Canyon, Bridger Canyon, Middle Cottonwood, South Gallatin, and Springhill. What is new is that program would be applied comprehensively and County-wide.

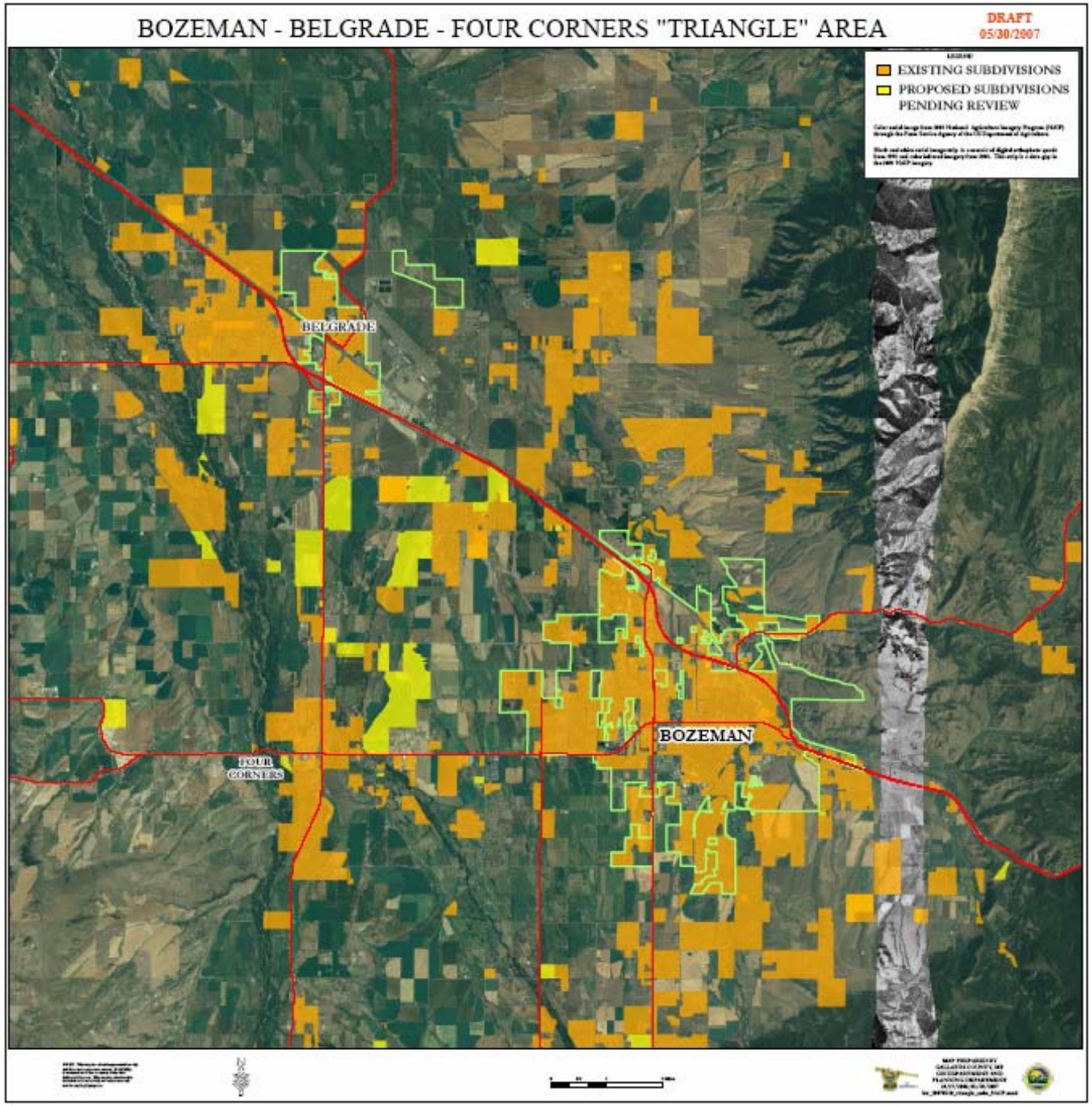
1.2 Key Assumptions

Any study seeking to understand how a policy is likely to operate in the context of a market must necessarily make assumptions about what the policy is likely to be and how certain market factors will be affected by that policy. In this report, we have made two assumptions that are important to bear in mind.

First, we have assumed that the components of the TDR program as proposed for the Bozeman donut would be applied to all receiving areas. More specifically, we are assuming that the base density will be 1 unit per 5 acres in the receiving area, and that a developer purchasing 1 TDR from a sending area will be able to convert that TDR into 4 additional units. This aspect of the TDR program is not set in stone for all receiving areas. It is currently merely a proposal for the Bozeman donut. However, our judgment was that this was the most reasonable assumption to make for the purposes of this analysis.

Second, we have also assumed that when TDRs are sold by a sending-area landowner, the appraised value of the underlying property will decrease. This assumption is based on our experience nationwide. Obviously, the effect of TDR sales on appraised value will be measured on a case-by-case basis and may vary from our assumption.

Figure 1.1 Spatial Distribution of Development in Gallatin County



2. Transferable Development Rights: What They Are and How They Work

This paper suggests a program different from most traditional TDR programs. We believe this is the only way to create a successful incentive-based program that would fulfill the fundamental goals and objectives of the 2006 Growth Policy Implementation Program.

In order to see how our proposal is *not* a traditional TDR mechanism - and to offer insight into the reasons why this is so - we walk the reader step-wise through the basic components of a traditional TDR mechanism and what creates a successful development rights market.

2.1 TDR as a Market-Based Mechanism

One of the more difficult challenges facing decision-makers in land-use planning is reconciling the inevitable differences between policy goals contained in land use plans and pre-existing patterns of land ownership and property rights. Landowners assert the right to build on or to sell legal parcels of land, whereas public policy may strive to designate that land for open space, agriculture, or a very low-density development.

Nowhere is this more evident than in Gallatin County. The Commission's current Growth Policy Implementation Program calls for adopting county-wide density limits in the rural areas in a regulatory environment where no such designation currently exists.

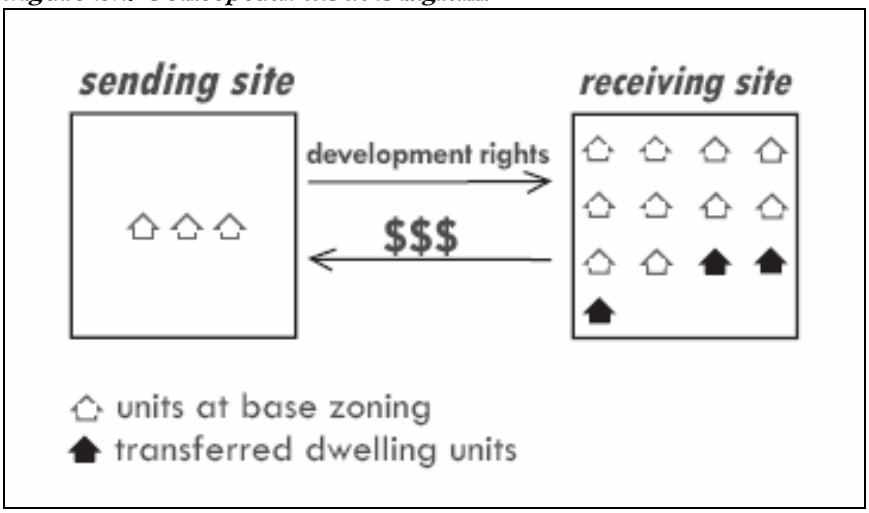
Over time, many so-called "market-based" mechanisms have evolved to try to reconcile conflicting land use interests. These include creating "markets" for specific regulated commodities that the regulated parties may buy and sell, rather than requiring the regulated parties to act according to the explicit directives of command and control methods. Market-based models for land preservation directly address the conflict between developing land for revenue purposes, which might be a private landowner's priority, and preserving land, often a public policy objective.

In a standard TDR program, the right to develop land is severed from the land itself and treated as a separate right. Landowners in "sending areas" (areas designated for preservation) are permitted to sell their development rights to landowners or developers in designated "receiving" areas, who are permitted to build at higher densities if they purchase development rights. Once the development rights are sold from the property, the land is protected from future development in perpetuity with a conservation easement.

In the case of a TDR, Figure 2.1 illustrates a typical situation. A sending-site landowner is entitled to three development rights and obtains compensation for those rights by selling them to a receiving-site developer. The receiving-site developer is then permitted to build three more units above the baseline zoning in the receiving area. The voluntary nature of TDR programs allows

private landowners to make decisions that are in their best interest, which can lead to economic efficiency advantages.

Figure 2.1 Conceptual TDR Diagram



TDR programs are best used to relocate development away from areas considered valuable by the community, such as farmland or important ecological land, toward areas with infrastructure and services to handle additional development. A TDR program is not well suited to reduce the total amount of development in an area. At the very least, it will permit the same amount of development but in a different configuration.

In some instances the policy may actually increase the overall number of dwelling units allowed if conditions warrant. For example, Figure 2.1 above illustrates a situation with little value disparity between sending and receiving areas. But this is often not the case, and in order to incentivize participation from the sending area landowner (i.e. create a mechanism that provides adequate compensation) additional transferable rights will need to be granted for each residential entitlement (see transfer ratio discussion below in Section 2.5.3).

2.2 Who Benefits and Who Bears the Cost?

With any public policy, some individuals bear the costs of the policy and others capture the benefits. Effective TDR policy seeks to minimize the inequities between these two parties. The following discussion reflects TDR experience nationwide, not the specific proposal for Gallatin County.

Receiving-area landowners benefit from the increased density, which is capitalized into the value of their land. The increase in land value must be greater than the cost of the TDR required for additional development; otherwise the receiving-area landowners would have no motivation to acquire development rights. Sending-area landowners might experience a decrease in the value of their land due to subsequent loss of development potential, but are able to retrieve this loss by

selling development rights. If the decrease in the value of the land is greater than the revenue received through the sale of the development right, sending-area landowners will have no motivation to sell.

Community residents benefit when they experience preserved open space with minimal expenditures of public money. That is, the community can achieve greater amounts of land preservation without the need to pass $10 million in open space bonds.

Receiving-area residents may experience a disproportionate share of the impact from increased density, including increased traffic and congestion. This can quickly result in residential "not in my backyard" (NIMBY) attitudes towards increased density. These local attitudes can be very powerful and can serve to derail a TDR program in its initial stages of development. Ultimately, the public benefit realized from the preservation of the sending parcels must outweigh the impacts incurred with developing the receiving area at higher density.

2.3 Key Components of Successful TDR Programs

TDR programs vary in the geography of their transfers and their regulatory framework, and therefore are implemented by a broad range of jurisdictions and through varying degrees of regulatory requirements. For example, some programs oversee small geographic areas with clearly identified receiving areas which require developers to purchase TDRs to build at any density level in the receiving area(s). On the other end of the spectrum, programs can be loosely structured with parcels in areas allowed to act either as sending or receiving sites.

The most effective programs balance the degree of regulatory requirements with the ability to create incentives for a healthy TDR market. If a program is too costly to administer or too costly for a developer to use, the program will certainly fail. From a government regulation perspective, a succinct and straightforward regulatory framework guided by a singular goal will reduce administration costs and has the greatest chance for success.

A TDR program should only be considered in a region possessing a strong demand for density with an active real estate market – that is, where land costs make it economically advantageous for a developer to "buy" increments of density rather than incur the costs of expensive land. In real estate markets where this is not the case, developers may be unwilling to buy development rights and the TDR program will struggle.

Furthermore, communities interested in implementing a TDR program must be willing to face the trade-offs of greater density in the receiving areas in exchange for greater preservation in the sending areas.

Research indicates the five components of utmost importance to a TDR program's success are:

1. Clear TDR Program Goals
2. Suitable receiving and sending sites
3. Adequate Incentives For Sending- and Receiving-Area Landowners
4. Inter-Jurisdictional Cooperation and TDR Service Area Size
5. Use of Banks and Other "Market-Making" Mechanisms

2.5.1 Clear TDR Program Goals

A TDR program is not a policy in and of itself. Rather, it is an implementation tool used to implement a planning policy goal, usually community preservation of agricultural or open space land. This discussion on TDR goals – particularly in the context of the 2006 County Growth Policy Implementation Program - becomes especially important because it serves as the basis of our policy recommendations.

A TDR policy is flexible; it can be written with multiple goals in mind or possess a single focus. But, research shows that a more simple and focused TDR program is more likely to succeed. For example, traditional TDR programs that are most successful are structured around the preservation of definitive, and often small, geographic areas of properties that are valued by the community for their agricultural, ecological, or historical importance. Whatever the goals may be, it is important that they be clearly and succinctly defined.

2.5.2 Suitable Receiving and Sending Areas

It is not usually difficult to identify sending areas; indeed, a TDR program often emerges from a strong political consensus to preserve a certain set of properties by removing development potential from them. Not all undeveloped lands represent suitable sending areas. Nor is it realistic to assume that all land can be preserved by transferring development rights elsewhere. The best sending areas are areas where the value of the development right closely matches the value received by the developer in the receiving areas from the increased zoning density**.**

On the other hand, it can be extremely difficult to identify politically-acceptable receiving areas because local resistance to increased density is so common. As we have said, a TDR program does not decrease the overall amount of development but, rather, represents a political consensus on a tradeoff. The ultimate question a community must ask itself when identifying the receiving and sending areas is: where does it wish to <u>discourage</u> development and where does it wish to <u>accommodate</u> development?

Obviously, the receiving-area land should be suitable for development and not unduly restricted by severe topography, wetlands and other sensitive features, or infrastructure service constraints. The receiving areas should be in areas of high market demand for development and include parcels

near existing transportation, sewer, and water infrastructure. Proximity to infrastructure minimizes site development costs, making development more attractive to developers who wish to build with the use of TDR.

TDR programs tend to work better economically, and gain more political acceptance, when the sending and receiving areas are close to one another. As stated above, when development density is increased in an area at a great distance from the area being preserved, the residents near the receiving site bear an unequal share of the burden without any of the benefits. Research indicates TDR programs work most equitably when the external benefits are relatively local – that is, when sending and receiving sites are close to one another.[1] In these situations, the receiving-area residents recognize that they are sharing in the benefit of the land preservation in the sending areas.

2.5.3 Adequate Incentives for Sending and Receiving-Area Landowners

Similar to the discussion regarding goals above, a description of incentives in a traditional TDR program versus the approach we are proposing in Gallatin County provide the reader the context for why we are proposing an alternative TDR idea.

Both sending and receiving-area landowners, in traditional TDR programs are given a voluntary alternative to the conventional development approval process. Therefore, both sets of landowners must view the TDR route as a more attractive alternative. For sending-area landowners, selling development rights must be equally profitable and more feasible than pursuing development of their property. For receiving-area landowners, building at higher densities must be more profitable and feasible than building at regular densities – and obtaining permission to build at higher densities by buying TDRs must be more attractive than seeking such permission by any other means. If both developers and landowners are not simultaneously motivated to participate in a TDR market, the program is unlikely to succeed.

Creating a successful TDR market requires three things:

1. Evaluating sending area supply and receiving area demand for TDRs.
2. Balancing TDR supply and demand by creating a viable "transfer ratio" between sending and receiving areas.
3. Maintaining strict control of the "currency" – that is, extra density in the receiving areas and surrounding vicinity.

Supply and Demand in Receiving Areas

A TDR program creates a development right, or "TDR," as a marketable commodity that provides the owner of the TDR with a right to some increment of development in specified receiving areas

[1] Thorsnes et al, pg 262-263

(usually one housing unit). For a TDR program to work effectively, it must adequately address both the supply of development rights and the demand for TDRs in receiving areas.

One common mistake of TDR programs is to designate too little land as a receiving area, thus damaging the chances for a balanced market. If too many TDRs are chasing too few receiving sites, the price of TDRs will go down to the point where sending-area landowners have no motivation to sell. Receiving areas must contain more than enough parcels to accommodate the additional density that would be shifted into the area as the result of a successful TDR market.

To understand how to create a balanced market, it is important to conduct a market analysis that assesses the developers' demand for increased density in the receiving areas. The market analysis should ultimately quantify the value to the developer of purchasing an increased increment of development – that is, a TDR. This value we call the "Willingness to Pay" or WTP for increased density. This analysis should inform the size of the receiving area, subsequent appropriate density bonus, and how TDRs are allocated in sending areas.

Transfer Ratios

A transfer ratio seeks to balance supply of development rights with demand for development rights. Transfer ratios are often used to equalize differing land values between sending and receiving sites; and also provide both sending-area landowners and receiving-area-developers sufficient incentive to participate in the program.

The ratio is simply the number of units a sending area landowner can build under current zoning entitlements relative to the number of TDRs allocated to the sending area landowner to sell. For example, if a sending-area landowner is able to build one house but is also given the option to sell one "TDR," this would be a 1:1 transfer ratio. Alternatively, a sending-area landowner may have the right to build one house, but be granted *two* TDRs to sell, this would be a 2:1 transfer ratio.

The transfer ratio should ultimately be determined by evaluating the market economics of sending area residents' development right values and receiving area developers' willingness to pay. An effective ratio should give the rural landowner enough TDRs to sell to capture the value of lost development potential at prices that would incentivize developers to buy the TDRs.

Thus, 1:1 transfer ratios work well where the values of sending and receiving areas are nearly equal. In some situations with large value disparities between the sending and receiving areas, transfer ratios can be as high as 30 to 1. This means that 30 units built in the receiving area for 1 development right retired in the sending area.

The current TDR proposal in Gallatin County is for 8 TDRs to be allocated for every 160 acres; and each TDR enables a receiving site developer to build 4 additional houses above the baseline. This equates to a 32:1 transfer ratio.

Currency Control

Even the most sophisticated calibration of sending and receiving areas cannot make a TDR market work if the "currency" created by the TDR program does not retain its value. Receiving-area landowners will not participate in the market – that is, they will not buy development rights from sending-area landowners – unless a TDR purchase represents the most profitable and feasible way for them to obtain a density bonus.

This means the receiving-area jurisdiction must limit the supply of additional density that landowners can obtain by other means. Many jurisdictions undermine their own TDR programs by routinely permitting "up-zoning" through the normal regulatory process – in effect, giving the commodity away for free even though they are asking developers to pay for it in the TDR market. In other cases, the jurisdiction may provide density bonuses for other purposes – affordable housing, for example – which may send a signal to landowners that this competing goal is more important than the TDR program.

Either course of action can "devalue the currency" by providing receiving-area landowners with alternative ways to obtain a density bonus. These actions will greatly harm the chances of the TDR program's success.

2.5.4 Inter-jurisdictional Cooperation and TDR Service Area Size

Inter-jurisdictional transfer agreements are the exception, not the norm, in other TDR programs, yet their presence is critical to regional growth management initiatives.

Nationwide, only a few programs include inter-jurisdictional agreements.[2] Different jurisdictions may have different goals, and the receiving jurisdiction may fear that it will bear a disproportionate "cost" or burden of the transferred development. Interlocal TDR agreements can work, but only when both jurisdictions can mutually benefit.

Transfers located within a single jurisdiction, and preferably within the same real estate market area, may face less opposition and may be politically and administratively easier to establish and maintain.

2.5.5 Using Banks and Other "Market-Making" Mechanisms

TDR markets do not work seamlessly in all situations. When a policy attempts to use market forces to regulate, it is important for the individuals and firms engaged in the market to have adequate information. If market players are misinformed or unaware, they will not participate in the market in an effective manner. In addition, land markets frequently do not function in the same way as

[2] TDR programs with inter-jurisdictional agreements include King County, Washington; Boulder County, Colorado; and The Pinelands development credit program in New Jersey.

other markets. Often there are only a few market players, especially in undeveloped areas, and frequently those market players do not respond to normal economic signals. They purchase land for reasons unrelated to economic return; or they are longtime landowners with little debt and low taxes who are realizing a steady revenue stream and are not motivated by the prospect of a large economic return. In other words, even if a TDR market is well designed, it may not function well because the "right" buyers and sellers may not be in the marketplace at the "right" time.

A TDR bank seeks to facilitate transfers with purchases and sales of development rights. Assuming it is well capitalized – that is, staked with a significant amount of money - a TDR bank can buy, hold, sell, and even retire development rights in order to stimulate a slow market or bring balance to an uneven market.

The bank can also provide administrative assistance related to the transfer of development rights. While TDR banks are not required, their presence can serve as an important psychological support for landowners, developers, and government officials.

This is especially true for TDR programs just starting, where confidence in the program's long-term viability needs time to develop, and desirability of development rights in the receiving areas remains unproven. In this case a TDR bank can make 'up-front purchases' of development rights and help to ensure program success during initial stages.

TDR banks can exist at any level of government; state, county, municipal, or through non-profit organizations. A TDR bank's responsibilities can range from passive administrative roles to more active participation through careful timing of development right purchases and sales. For example, TDR banks can act to stimulate the market when market activity is low, and provide stability when the market is volatile. TDR banks can be funded through public bond referenda, dedicated taxes for open space purposes, or state and federal grants. Another potential role of TDR banks is funding through grants and low-interest loans, and the construction of receiving area infrastructure. This acts to reduce developer costs and stimulate greater demand to build in the receiving area.

Alternatively, the planning agency may use regularly scheduled auctions for development rights as a forum to bring willing buyers and willing sellers together.[3] This serves several beneficial purposes. Auctions can directly establish the market price for TDRs and quickly inform market players as to probable supply and demand. Auctions can expedite sales and increase overall market activity. If these auctions are held on a yearly or bi-yearly interval, market players will be well informed and the overseeing agency will have updated information to assess the TDR program's effectiveness. Auctions also serve as a forum to educate the public about the local TDR program. These auctions have been known to not only stimulate and educate local landowners about the use of TDR but also attract developers from a larger geographical area.

[3] Chesterfield Township in New Jersey, one of the more active and successful TDR programs in the Country, holds annual development right auctions.

3. TDR in Gallatin County

This section will discuss the current Gallatin County proposal and the concerns of stakeholders. This is followed by a thorough evaluation of potential TDR market demand (Section 4) and TDR market supply (Section 5). Only after these critical market variables are assessed relative to one another (Section 6) do we make a determination on the potential success of TDR in Gallatin County and how it may be better structured to ensure an effective market is created (Section 7).

3.1 Gallatin County's Current TDR Proposal

The County, in its 2006 TDR Guidebook, proposes a traditional approach to TDR – a program with a framework similar to what is described in Section 2 above. As a precursor to the program, properties outside growth areas are to have density restrictions to limit the minimum lot size to 160 acres. Recall from Section 1 that the 2006 Growth Policy Implementation Program seeks to put in place density limits - established through the subdivision regulations - that would limit lot sizes to 1 dwelling unit per 160 acres independent of the TDR program.

The goal of the TDR program is to set up a mechanism that will provide these rural property owners to capture value that could be lost if the landowner agrees to a *voluntary* deed restriction to limit development potential beyond the 160-acre minimum lot size/density requirement. Simultaneously, the program's intent is to provide incentives for smaller more compact lots in identified growth areas (i.e. receiving sites).

The current proposal suggests that sending area properties, shown in Figure 3.1, be allocated TDRs to sell using one of two methods. It is up to the landowner to choose which method to employ such that he/she can capture the greatest number of TDRs. The two methods are:

1. **Acreage-based method** – a landowner can opt to be allocated 1 TDR to sell for every 20 acres;
2. **Value-based method** – a landowner can opt to be allocated TDRs based on the value of his/her land whereby a "before and after" appraisal[1] is conducted to determine value; the loss in value divided by a $20,000 "divisor" determines the number of TDRs allocated to the property.

Figure 5.1 depicts the spatial distribution of approximate land values in Gallatin County. This map is meant for planning and reference purposes only. It is not meant

[1] A before and after appraisal determines the difference in property value before development rights are severed and then after development rights are severed. Current appraisals assume value using 160 acre lot sizes to determine development potential.

to assign official values to these parcels. The values are based on a density assumption of 1 house per 160 acres.

The option of these two approaches recognizes the disparate values of land from one rural area to the next, and strives to provide an equitable allocation of TDRs to rural landowners. For example, in some cases the "divisor" method may actually yield more TDRs than the 1:20 method. Also shown in Figure 3.1 are the potential sending site properties that meet the basic threshold requirements for Rural Cluster Development as allowed in the 2006 Growth Implementation Program. These property owners have the option to exercise the rural cluster or deed-restrict their properties for TDRs.

It is important to note, however, that the TDR proposal begins by restricting lot size to 160 acres. The proposal allocates TDRs to rural properties based solely upon permanent deed restrictions that limit development potential *beyond* a minimum lot size of 1 unit per 160 acres.

For example, a rural 640-acre property is initially limited to 4 units (i.e. 1 unit /160 acre); the owner can then voluntarily apply for TDRs to sell. If the owner is willing to permanently deed restrict 320 acres of the property then 16 TDRs are issued via the acreage-based allocation method (i.e. 320 divided by 20 equals 16).

Since permanent deed restrictions are contentious and often difficult, "term" deed restrictions have also been considered. We discuss these in further detail in Section 7.

In the current proposal for the Gallatin County/Bozeman Area Zoning District receiving area, and for the other three potential receiving areas- also preceded by a density limit of 1 unit per 5 acres - developers would be allowed to purchase TDRs from rural landowners to increase density above this established baseline. In so doing, they can buy 1 TDR and be allowed 4 additional units above the base density.

The County has preliminarily identified parcels in four potential receiving areas on the Future Land Use Map; these areas are: Bozeman Donut, Four Corners Planning Area, Belgrade Donut, and the Manhattan Donut. The specific parcels in the receiving areas for the Bozeman Donut, Belgrade Donut, and Four Corners Planning Area are shown on the map in Figure 3.2 below.

Recollecting the transfer ratio discussion in Section 2, the proposed structure creates a 32:1 transfer ratio. That is, in the rural areas with the 160-acre minimum lot size/density requirement, for every 1 residential development right that is deed restricted, 32 units can be built in the receiving area (i.e. 1 TDR is allocated per 20 acres and 1 TDR = 4 additional units). It is assumed that the purpose of such a high transfer ratio is to make the TDRs affordable to receiving area developers yet give enough of them to rural properties to compensate them for their loss.

Figure 3.1 Gallatin County Sending Area Map

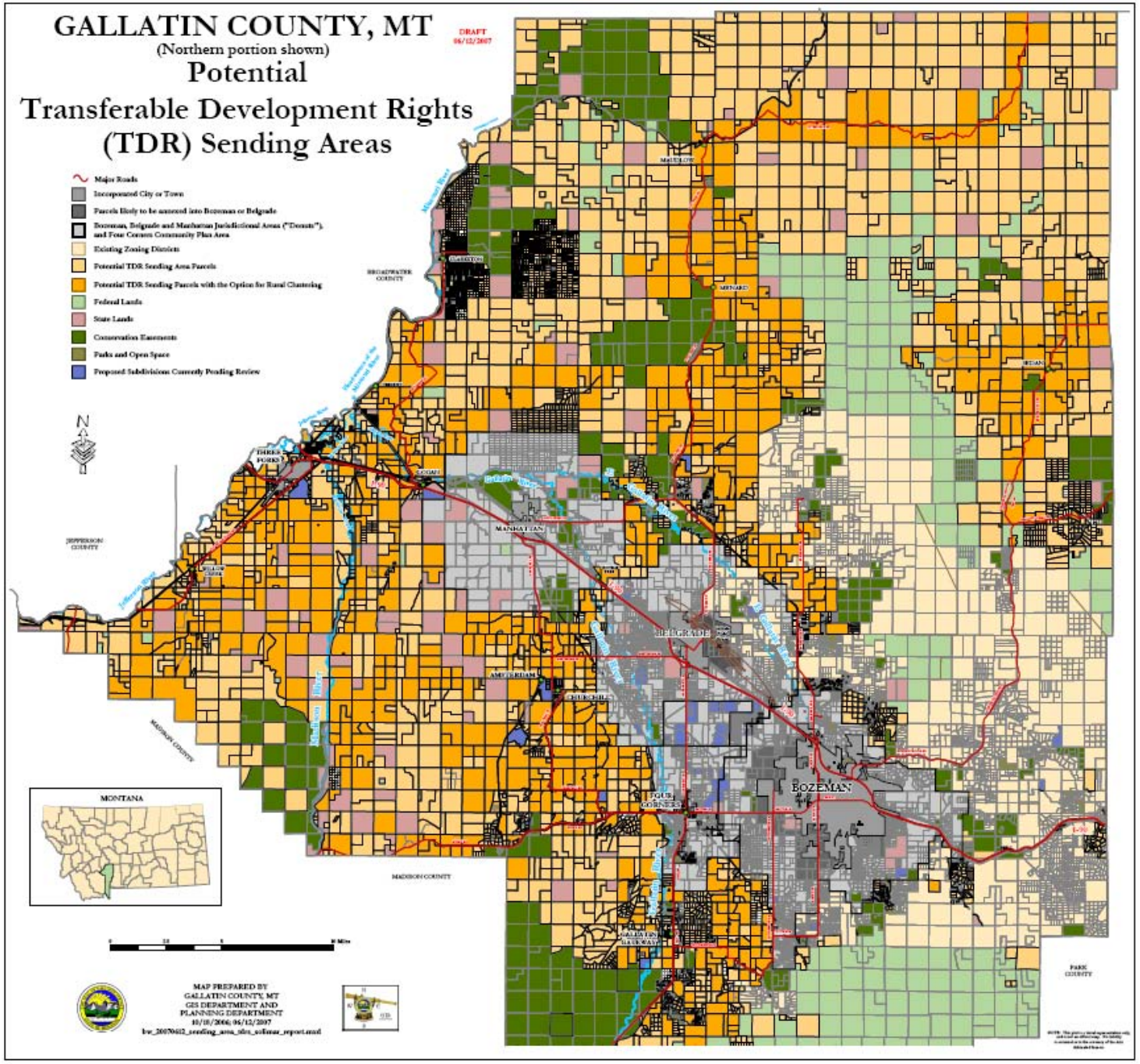
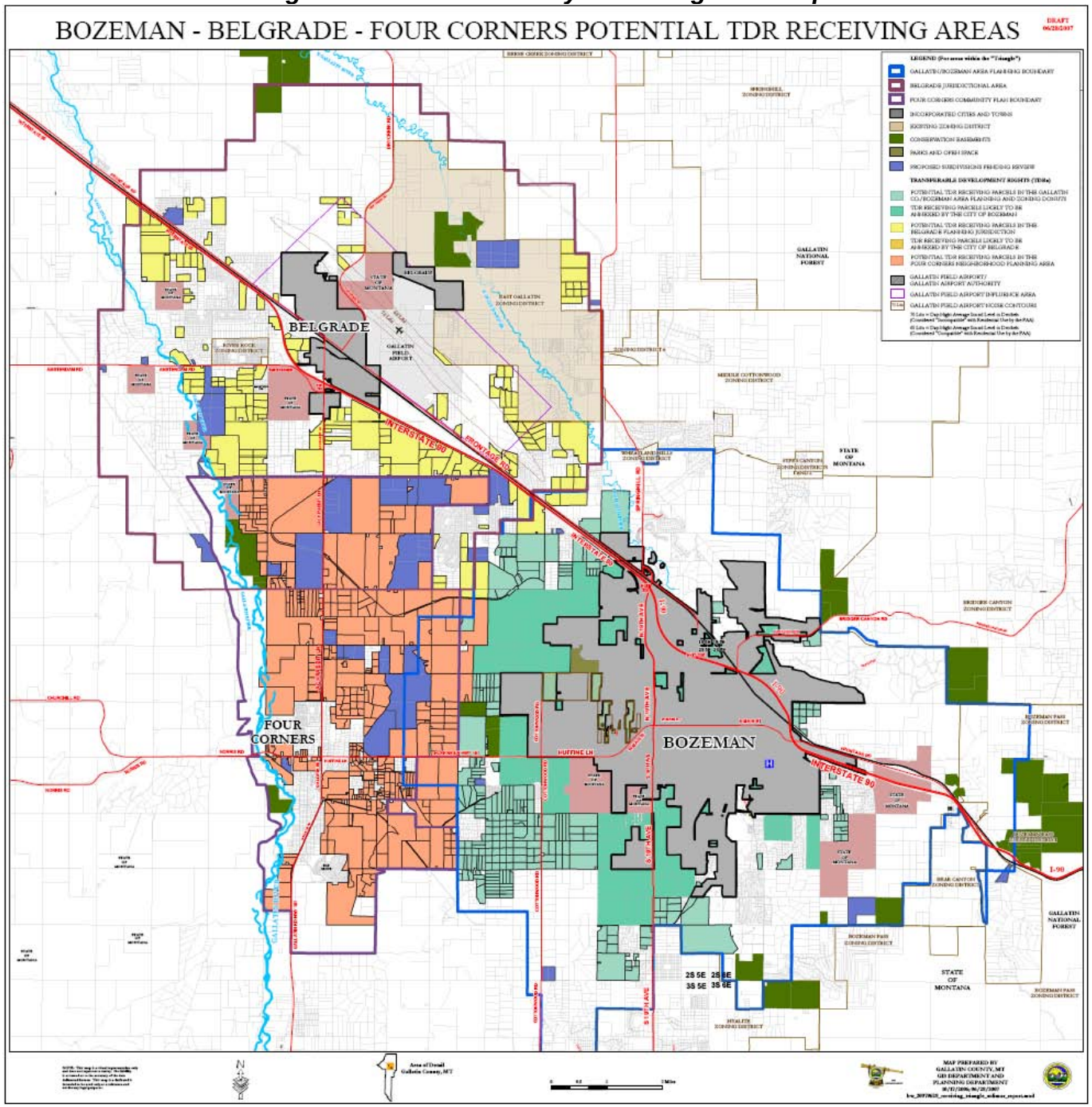


Figure 3.2 Gallatin County Receiving Area Map



3.2 Stakeholder Concerns

In any land use decision, multiple stakeholders surround the issue, each with their own set of concerns. TDR in Gallatin County is no exception. Elucidating the concerns of these stakeholders is worthwhile and will shed light on areas of the program that if not addressed will render the program ineffective.

The most notable stakeholders surrounding Gallatin's TDR issue are: developers, rural landowners, receiving area residents, and participating cities, if any.

Developers

In our interviews with receiving-area developers, we found many to be cautious about the idea of TDR. In most communities, receiving-area developers are usually early TDR advocates as it offers them a route to higher density that is otherwise unobtainable. However, in Gallatin County, with no density zoning in place, developers are asking why they should support a TDR program that requires them to buy TDRs when, currently, they can obtain them with County Commission approval. From the developers perspective TDR simply represents another fee they would have to pay in an already-difficult building environment. In short, TDR is not perceived as an incentive, but rather as a costly additional requirement for conducting business in the Valley.

However, for many of the receiving areas, development will prove costly because of a lack of sewer and water infrastructure, and another cost may tip projects into the red.
On the other hand, if infrastructure is in place, developers have generally expressed support for the concept.

Moreover, developers are concerned that there may be too few TDRs to acquire from rural landowners if the County does indeed move forward with the program. More simply, there may be many developers chasing only a few available TDRs. Developers need to be assured there will be enough TDRs floating around in the market to build their projects at the planned density.

Finally, there is a perception that the proposed program fixes the TDR price at $20,000 (which would equate to $5,000 per additional unit since 1 TDR = 4 extra units). This, however, is not the case. The program only proposes to allocate TDRs to rural landowners using the $20,000 value-based allocation method. It is up to the parties involved in the transaction to determine the purchase price (see Section 4 for full discussion of TDR allocations).

Rural Landowners

Some sending-site landowners – that is, property owners outside the Four Corners Planning area, and the Bozeman, Belgrade, and Manhattan donuts - are also skeptical of TDR. They have two major concerns. Most notably, some have concerns that they will lose property value through the permanent deed restriction and then will not recoup all of that loss through TDR sales.

For this reason, there is interest in a "term" TDR – that is, a deed restriction on development for a fixed period of time. In this way landowners are simply paid not to develop their properties for a given amount of time; this is much more acceptable to landowners since they would retain the right to develop their property in the future, if so desired.

In addition to the compensation uncertainty, some landowners have difficulty supporting density limits to 1 unit per 160 acres that would go hand-in-hand with a TDR program as indicated in the Growth Implementation Program. At present some landowners feel that a restriction to 160-acre lots is removing development potential from their property because their observation suggests that the County Commission would provide them with more density through the subdivision process. In essence the regulation to minimum 160-acre lot size is perceived as a "downzoning."

Some landowners indicated they will have difficulty supporting a TDR program that they believe would, in effect, require them to deed- restrict their property beyond 160-acre lots in order to recoup some of this perceived loss in value.[2]

Receiving-Area Residents

Residents nearby the areas that receive density in TDR programs are often the most vocal opponents to TDR. However, in Gallatin's proposed program many of the receiving areas are in areas that are currently undeveloped. This seems to have limited the "not in my backyard" opposition so typically found. Furthermore, the community at large is generally supportive of directing growth into the donuts surrounding the cities where the receiving sites are located. The fact that the community is supportive of the proposed receiving areas is a significant asset for Gallatin County as it pursues TDR and should not be taken lightly.

Participating Cities

The City of Bozeman has shown considerable interest to participate with the County in its TDR efforts. (The Town of Manhattan has also expressed some interest.) This is especially important since much of the identified receiving area in the Bozeman donut is adjacent to the City's current boundary and, if developed, likely to be annexed to the City within the next five years. If the City does not participate in the TDR program, the overall TDR market will suffer.

[2] In many ways this is a perceived value loss because it is very uncertain as to what the "actual" value loss is since it is anybody's guess as to the extent of development potential the County would allow on certain sending site properties.

Such inter-jurisdictional cooperation is a considerable asset that many TDR programs are not so fortunate to experience. But some concerns remain – especially the question of whether Bozeman residential developers could afford both to purchase TDRs and to conform to the City's new workforce housing requirement. TDRs may be in competition with affordable or workforce housing, and every dollar that a developer is required to invest in affordable housing is a dollar unavailable for investment in a TDR. This is a common issue in TDR programs.

4. Demand in the TDR Market

The first step when approaching TDR in any locale should be a thorough evaluation of the demand side of the development rights market. A developer's willingness to purchase increments of density is the "engine" that drives the market - and without strong demand, a TDR program will struggle.

Such an evaluation involves a rigorous examination of the on-the-ground economic realities faced by receiving site developers – an often overlooked critical step when jurisdictions seek to set up TDR programs. Once demand is adequately quantified, the amount of preservation a TDR program can affect can realistically be assessed, and a more efficient market created. That is to say, only once demand is confidently understood, should supply-side policies be batted around.

Furthermore, knowing with a degree of certainty how much developers are likely to spend for TDRs will give rural landowners an idea about the compensation they are likely to receive.

To quantify this developer's "willingness to pay" for TDRs, we conducted residual land value analyses on a series of most-likely development scenarios in the four potential receiving areas. The land residual methodology calculates the land value based on its income potential relative to the cost of development and expected industry profits, to yield what a developer would pay for the land with enhanced entitlements above the baseline. The difference between the residual land costs and the "actual" land costs represents the amount of developer funds available for TDR purchases.

But before these residual land values can be determined, the real estate market in Gallatin County, and in particular, the specific receiving area locales must first be analyzed. In doing so, the Gallatin Association of Realtors proved instrumental in providing the necessary data.

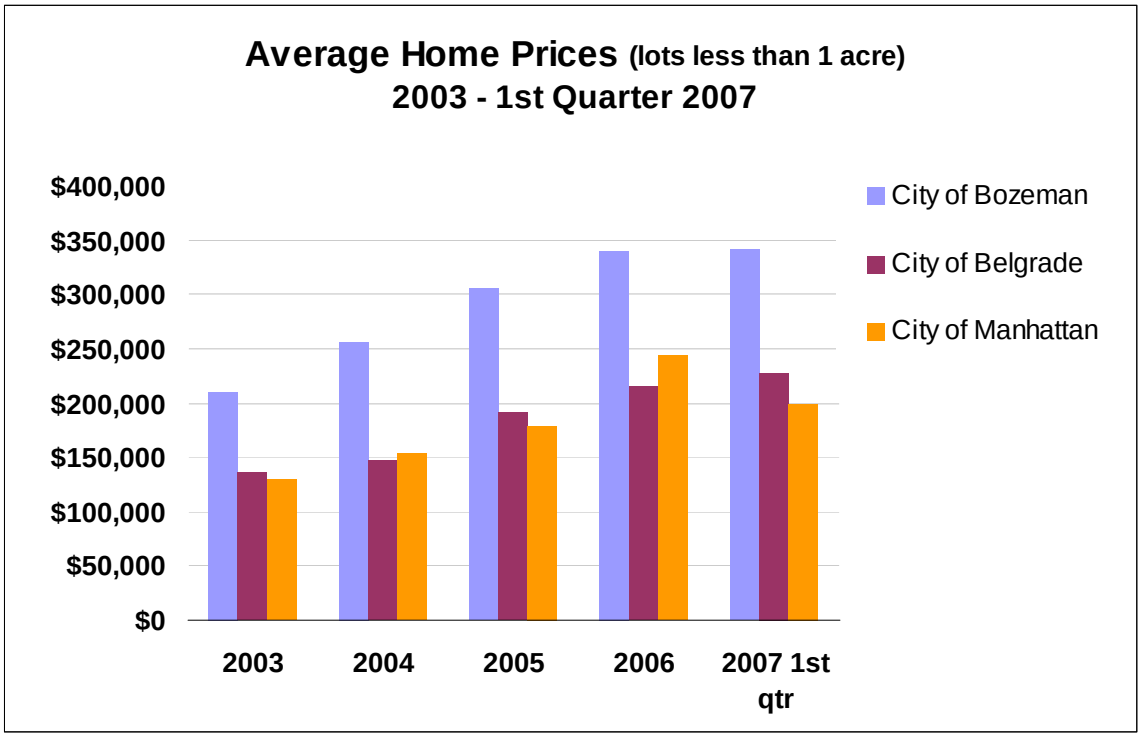
4.1 Gallatin Valley Real Estate Market

Real estate in the Gallatin Valley, like many other areas in the country, experienced a rapid rise in values between 2003 and 2006. Demand was, and in many ways still is, very strong for homes in the Gallatin Valley, and in particular the City of Bozeman.

Home prices vary significantly by geography and proximity to amenity. Rather than identify all the various submarkets, we use the price trends in the cities of Bozeman, Belgrade, and Manhattan to "tell the story" about the general real estate market in Gallatin Valley.

At of the end of the 1st quarter in 2007, single family home prices on lots less than 1 acre averaged: $341,000 in Bozeman, $228,000 in Belgrade, and $200,000 in Manhattan. Appreciation rates ranged between 7 and 36 percent between 2003 and 2006 depending on the city and the year. Each city's average annual appreciation rate over this time period was: Bozeman (13.2%), Belgrade (14.1%), and Manhattan (13.4%). Figure 4.1 below illustrates this price growth.

Figure 4.1 City Home Prices 2003 - 2007



Source: Gallatin Association of Realtors Corporation / Southwest Montana MLS is compiled from miscellaneous sources and neither the association, nor the listing broker, nor its agents or subagents are responsible for the accuracy of the information.

Most homes in the Valley are built on subdivided property purchased from developers who are in the business of providing improved lots. There are very few large subdivisions where a single developer has prepared lots *and* built the homes to sell.

Thus, it is the lot developer who would be the one to purchase additional density in a TDR market – not the individual home builder. Therefore, our demand analysis needs to assess the improved lot developer's economic situation, and importantly, the market prices of improved lots – understanding that this is driven to a large extent by trends in home and raw land prices.

Table 4.2 below shows the historical price trends between 2003 and 2006 of improved subdivision lots (i.e. with the existing sewer, water, and road infrastructure provided) in the Gallatin Valley. Since development in the receiving areas would be on lots with sizes 5 acres or less, we only show sales data for these lot sizes.

Table 4.2 Improved Lot Sales 2003 - 2007

Improved Lot Sales (subdivisions) for Valley North of Canyon

Year	Lot Size	# Sold	Avg Price	Med Price
2003	<1 acre	545	$49,776	$44,900
2004	<1 acre	587	$52,443	$47,900
2005	<1 acre	378	$98,735	$83,500
2006	<1 acre	549	$84,881	$77,900
2003	1-5 acres	64	$121,103	$139,400
2004	1-5 acres	103	$110,610	$87,000
2005	1-5 acres	92	$139,439	$84,950
2006	1-5 acres	105	$129,676	$66,033

Source: Gallatin Association of Realtors Corporation / Southwest Montana MLS is compiled from miscellaneous sources and neither the association, nor the listing broker, nor its agents or subagents are responsible for the accuracy of the information.

Similar to home prices, improved lot prices in the Valley experienced a dramatic increase between 2003 and 2006 – in fact they nearly doubled. Yet, while home prices remain strong in 2007, our conversations with brokers suggest that lot prices have dropped over the last year – by up to 20% in some instances.

Through 2005 there was little supply of improved lots to meet demand in the housing market. Subsequently, lot prices rapidly increased which created a rush to develop improved lots. In the latter half of 2006, however, many large subdivisions with many lots hit the market at the same time creating a glut of supply for entry-level homes, thus driving down prices of both lots and homes.

As indication of this current over-supply, we inventoried the number of improved lots that have received either final or preliminary plat approval in the last three years. Table 4.3 indicates that more than 3,000 undeveloped lots were either recently granted final plat approval or are currently moving through the subdivision process in the Valley (inclusive of all three cities). Thus, the available inventory represents roughly a three-year supply of buildable lots.

Table 4.3 Preliminary and Final lot approvals in Gallatin Valley

Jurisdiction	# Lots
Gallatin County – *Belgrade Planning Jurisdiction*	1,015
Gallatin County – *Bozeman Planning Jurisdiction*	133
Gallatin County – *Manhattan Planning Jurisdiction*	3
Gallatin County – *outside Bel, Boz, and Manhattan Planning Jurisdictions*	734
City of Belgrade	298
City of Bozeman	891
City of Manhattan	0
TOTAL	3,074

Source: Gallatin County GIS / Planning Department

The rush to develop many of these lots filled a presumed need that ebbs and flows with the housing market. Developers who are now holding lots are reacting to this over-supply by dropping prices so as not to be left holding lots through an uncertain real estate market. For example, our interviews with brokers suggest that a typical 7,000-square-foot lot in Bozeman which sold for $100,000 in 2004 and 2005 is now selling for $60,000 - $70,000.

Larger lots with acreage (i.e. 1 acre to 5 acres in size), however, continue to experience strong demand and still capture high prices – especially in areas south of Bozeman where property with acreage is in high demand. Landowners in these areas can make significant amounts of money subdividing 160-acre lots into 1- or 2-acre properties.

This study's evaluation of demand focuses squarely on four potential receiving areas that are outside the cities – namely portions of the Bozeman donut, portions of the Belgrade donut, portions of the Four Corners Planning area, and portions of the Manhattan donut (see Figure 3.2). We further tailor the market research specific to each of these areas in order to capture the real estate and economic variability developers face when building lots near Belgrade versus Bozeman. The results of this are reflected in the lot selling prices we use in Section 4.3.

4.2 Development Scenarios

In this section, we identify a set of "most likely" development scenarios in order to quantify the developer's willingness to pay for increments of density in the four receiving areas.

It would be erroneous to assume a single type of subdivision would be built throughout all four receiving areas. Land prices, home selling prices, and infrastructure availability (sewer, water, and roads) vary significantly by area. These variances will dictate to a large degree the type of development that would command TDR purchases. Moreover, these variables will determine a project's economic returns and to what extent developer's may be willing to buy extra density.

For example, our conversations with brokers suggest that there is great demand in parts of the Bozeman donut for houses on larger ½- to 1-acre lots that would not be serviced by an existing sewer and water provider; these developments would have to incur the costs to provide their own sewer/water systems. In contrast, lots that are close to City limits where raw land cost are the highest in the Valley (i.e. close to $90,000 per acre) with easy access to existing municipal sewer and water would likely be built at minimum densities of 6 units per acre. These two examples will have distinctly different economic incentives to purchase density.

For these reasons, we establish a set of prototypical development scenarios likely to be built in the various receiving areas (see receiving site map Figure 3.2), and estimate plausible densities based on land use and market realities. We use characteristics of approved subdivisions– that is, gross acreage, net acreage (less roads and open space), density (i.e. number of units per acre), lot sizes, etc. – to establish the scenarios modeled. This assumes that approved subdivisions reflect what the market can bear in terms of densities and lot sizes.[1]

The following discussion and Table 4.4 summarize the development scenarios we model. Each represents a likely development that would command TDRs to exceed the baseline density of 1 unit per 5 acres.

- **Scenario #1** is indicative of a high-density subdivision (6 units/acre) very close to existing city limits; development in these areas is likely to be annexed within the next 5 years. Consequently scenario #1 is close to a sewer and water provider and would incur the costs of development that is associated with the City's development regulations. These include higher densities, urban as opposed to rural road costs,[2] city impact fees, etc. It also includes parcels in the donut that are likely to annex to Bozeman.

[1] It is plausible that subdivisions could be built to greater densities than we model; but as mentioned, we feel it is more realistic to reflect the conditions the market is currently generating.
[2] Urban roads are more costly since they require sidewalk, curb, and gutter.

- **Scenario #2** represents a medium density subdivision (2-3 units/acre) that is within or very close to an existing unincorporated urban area. A scenario #2 subdivision is close enough to tie into an existing sewer / water provider such as Utility Solutions or RAE sewer and water.[3]

- **Scenario #3** is indicative of a medium density subdivision, similar to #2, but is too distant to tie into an existing sewer / water provider. For this reason, a scenario #3 subdivision would be built with a central "package" sewer and community well water supply system.

- **Scenario #4** is a low density subdivision (1 unit/acre) that is distant from existing sewer and water providers. Because of the low density, the subdivision is built with community well and individual septic.

Table 4.4 Development Scenarios Statistics

	Development Scenarios			
	Scenario #1	**Scenario #2**	**Scenario #3**	**Scenario #4**
Gross Subdivision Acreage	100 ac	300 ac	300 ac	100
% Open Space	10%	25%	25%	15%
% Roads	10%	10%	10%	10%
Net Acreage	80	195 ac	195 ac	75
Density	6 lots/ac	2 -3 lots/ac	2 -3 lots/ac	1 lot/ac
# lots	600	600	450	100
Av Lot Sizes	6,000 sf	10 - 12,000 sf	10 - 12,000 sf	33,000 sf
Av House Size	1,800 sf	2,200 sf	2,200 sf	3,000
miles of road in subdivision	3.5	6	6	2
distance to existing sewer/water provider	< .5 mile	< 2 mile	> 5 mile	> 5 mile

[3] Utility Solutions has a large amount of overall water and sewer system capacity while RAE does not.

4.3 Developer Willingness to Pay Analysis

A critical determinant in the success of a TDR market is to know, with a high degree of certainty, how much developers may be willing to pay for increments of density in their subdivisions. Throughout this section, we define an "increment of density" as being the creation of a buildable lot, not the creation of a newly constructed house.[4]

To evaluate this potential demand in Gallatin County, we estimate the probable value to a developer of increasing his/her density in the four receiving areas from 1 unit per every 5 acres (i.e. the base density) to the densities described in the scenarios above. In doing so, we utilize a land residual methodology. This method calculates the land value to the developer based on its income potential relative to the cost of development and expected profits. The result yields what a developer would pay for the land with enhanced entitlements or the "residual land cost."

From a theoretical standpoint, the willingness to pay is the difference between the land as it would be valued with underlying entitlements of 1 unit per 5 acres and the land as it might be valued with enhanced entitlements (e.g. 3 units per acre as in scenarios 2 and 3). This amount is difficult to arrive at directly, but can be backed into by assessing developers' costs, revenues and expected profits for the different development scenarios.

This approach, essentially, involves running development scenario pro-formas in each of the four receiving areas. Detailed descriptions of the various costs and assumptions are described in the "notes" section for each pro-forma in Appendix A. But in summary, the analysis captures the following variables by geography.

- 2006 Market price of improved lots (varies by lots size and location)
- Raw land costs
- Predevelopment costs
    - Land holding costs
    - Legal fees
    - Professional fees
- Site development / Infrastructure costs
    - Sewer / Water (scenarios will have one of the following)
        - Tying into existing sewer/water system
        - Central sewer and community well
        - Individual septic and community well
        - Individual well and septic
    - Roads (scenarios will have one of the following)
        - Urban roads for sites annexing into cities

[4] However, the term "unit" is used when referencing the relevant county zoning regulation involving residential density. It can be assumed that one buildable lot is equivalent to one transferable development credit (i.e. a potential unit).

        - Rural county roads
- Building construction costs (this is left out since we are modeling only improved lots)
- Indirect costs
    - Impact fees
    - Financing
    - Insurance
    - Marketing/advertising/commission & closing
- Project profit

Generally speaking, the development industry considers a project to pencil if the total revenue from sales can provide a net margin (i.e. profit) that is 10 - 15% of total project costs. Therefore, the output in our model is a residual land cost or simply the added land cost a developer is willing to incur for additional density while still acquiring a profit that is 12% of total project costs.

We compare the residual land cost to the "actual" land costs – that is, what the land is currently selling for on the open market. The difference between these represents the total maximum amount of developer funds available for TDR purchases.

As a final step, we divide the available TDR funds by the total number of units in each development scenario. This provides a per unit "willingness to pay" (WTP) for TDRs.

Summary of receiving area willingness to pay

Obviously this WTP will be different by development scenario and by receiving area as improved lot selling prices, land costs, and the availability of infrastructure vary significantly throughout the Gallatin Valley. Chart 4.2 on the following page shows all the WTP results. These range from a low of $1,900 per additional lot for annexing, scenario 1 development in the Manhattan donut, to a high of $25,000 for larger, 1 acre lot developments (scenario 4) in the Bozeman donut.

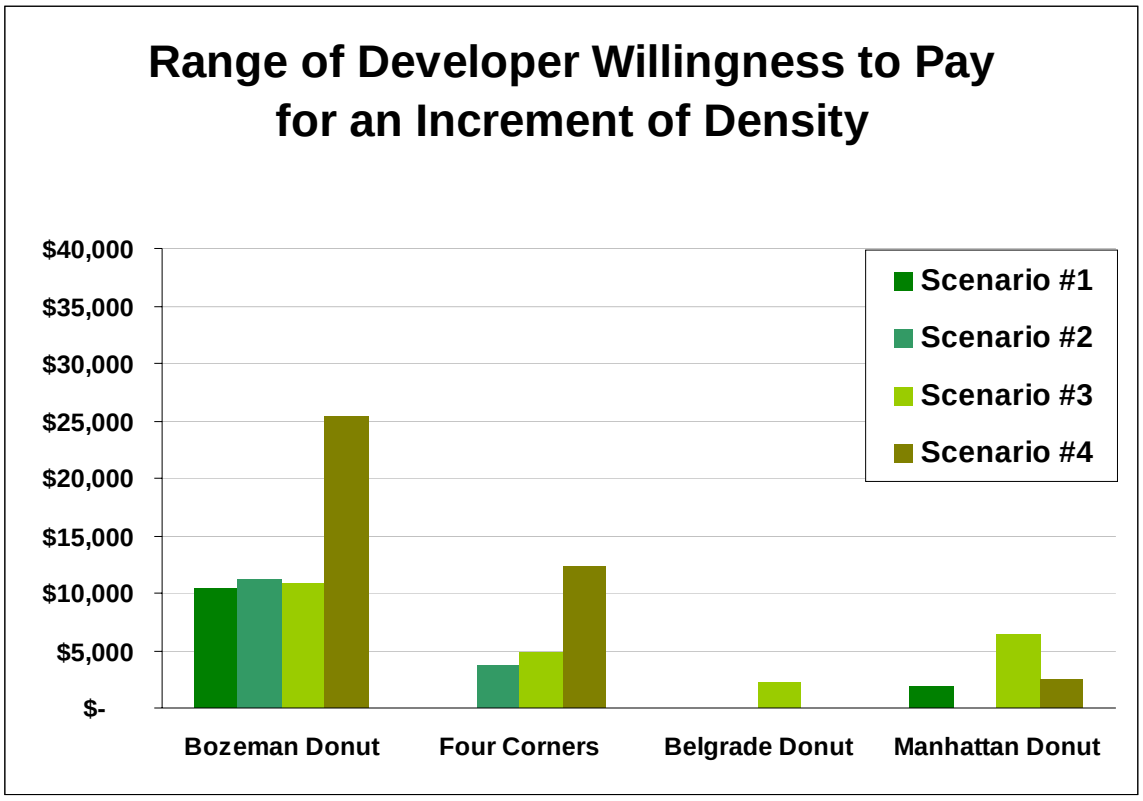
Upon weighting the area-specific WTP results based on the amount of additional lot potentially demanded, the average WTP is $7,229 across the whole market.

In general, we find that developers are willing to pay between 5% and 17% of the current selling price of improved lots for the right to build an additional lot beyond the 1 lot per 5 acre baseline density. It must be stressed that these figures represent static "snapshots" in time of what developers would pay now – they are subject to change with changing market conditions. That is, the WTP could go up if the real estate market strengthens in the future, or it could go down if the housing market cools considerably.

Table 4.5 shows a summary of the price, and cost assumptions for each receiving area and all the outputs from the analysis that produced the findings just described. The reader is

encouraged to peruse Appendix A for the complete analysis results as well as the receiving site map in Section 3.

Chart 4.2 Range of Developer Willingness to Pay



- **Bozeman Donut:** In the Bozeman donut raw land costs range from $40,000 to $90,000 per acre depending on the location. Lot prices range from $65,000 to $150,000 depending on the location and lot size.
    - **Scenario 1** – where development is likely to annex into the City of Bozeman, the WTP is $10,359 for an additional lot above 1 unit per 5 acres. This represents 15% of a typical lot's selling price. These areas are directly adjacent to the City with the highest land costs in the Valley ($60,000 - $90,000 per acre). Furthermore, annexing developments incur higher site development costs to meet the City's development regulations. These added costs relative to the lot prices act to keep the WTP around $10,000.
    - **Scenarios 2 and 3** resulted in WTP's of $11,170 and $10 860 respectively or 17% of lot selling price.
    - **Scenario 4** – larger 1 acre lots located in the south and southeastern portions of the Bozeman donut fetch a premium in the market and result

in the highest WTP numbers. We expect developers to be willing to pay up to $25,369 for additional 1 acre lots.

- **Four Corners Planning Area**: In the Four Corners area land costs are typically in the $30,000 per acre range depending on location. Lot prices range from $60,000 to $100,000 depending on location and lot size.
    - **Scenario 1** – in Four Corners there are no properties that would be annexed.
    - **Scenario 2**, where development would incur the costs to tie into Utility Solutions for sewer and water, we found developer WTP to be $3,706 (6% of lot selling price). Density in areas serviced by Utility Solutions is limited to only 2.3 units per acre; not because of overall system capacity, but because of the limited capacity of the local pipes. If the density were higher, the WTP would be greater.
    - **Scenario 3** – in the limited situations where it does not make sense to use Utility Solutions, we found the costs of developing with a "package" sewer and water treatment commensurate to scenario 2; the WTP in this case was $4,749 (8% of lot selling price).
    - **Scenario 4** – large lots in the southern outskirts of the Four Corners area command the second highest developer WTP; $12,364 per additional lot.

- **Belgrade Donut** : Land costs in the Belgrade donut are $20,000 - $25,000 per acre and lot selling prices $45,000.
    - **Scenario 1** – Because the City of Belgrade is facing significant infrastructure capacity constraints we assume the City is not planning to annex any development in the near term.
    - **Scenario 2** – All areas of the Belgrade donut that are likely to use Utility Solutions for their sewer and water needs are captured in the Four Corners receiving area. There are no other sewer/water providers in the Belgrade donut; thus we assume no scenario 2 development in the Belgrade donut.
    - **Scenario 3** – subdivisions with package sewer and water are the only development that we assume are likely to be built in the Belgrade receiving area. The WTP is likely to be $2,204. The high land and infrastructure costs relative to lower lot selling prices result in the lower WTP.

- **Manhattan Donut:** Land costs in the Manhattan donut are $20,000 - $25,000 per acre and lot selling prices are typically $45,000.

    - **Scenario 1** – lower lot selling prices relative to the higher development costs of annexing into the City, make the WTP for scenario 1 in Manhattan $1,937.
    - **Scenario 2** - There are no other sewer and water providers other than the City. We therefore assume all development in the Manhattan donut not annexing into the City would be on package sewer and water systems.

- **Scenario 3** – With package sewer and water systems and 3 unit-per-acre densities developers may be willing to pay up to $6,466 per additional lot or 13% of the lot selling price.
- **Scenario 4** – Large lot developments outside Manhattan will only stimulate developers to pay up to $2,420 or 3% of lot selling price. The large lots are not able to catch enough of a premium to warrant higher developer WTP.

From the discussion above, one can infer that a threshold determinant of developer willingness to pay is the relationship between raw land costs, lot selling prices, and the cost/availability of infrastructure in the various receiving areas. The costs of tying into existing sewer/water or incurring the cost of a package system affect how much money developers have available to buy density. When these three cost variables are significant developers have little money left over to purchase TDRs.

It must be stressed that our analysis is based on 2006 sales data. The WTP values are thus snapshots in time; if the Gallatin Valley real estate market again heats up, like it did in 2003 – 2005, the WTP numbers will be greater. Likewise, if the real estate market cools, the WTP values will drop significantly.

It should also be noted that the results expressed above represent theoretical maximums that developers would pay in the market place. It is assumed that willing TDR buyers will seek to find prices well below their maximum willingness to pay. The actual or market price they pay will depend to a large extent upon the supply of available TDRs.

Table 4.5 Summary of WTP Results

	Bozeman Donut Receiving Area				Four Corners Receiving Area				Belgrade Donut Receiving Area				Manhattan Donut Receiving Area			
	Scenario 1	**Scenario 2**	**Scenario 3**	**Scenario 4**	**Scenario 1**	**Scenario 2**	**Scenario 3**	**Scenario 4**	**Scenario 1**	**Scenario 2**	**Scenario 3**	**Scenario 4**	**Scenario 1**	**Scenario 2**	**Scenario 3**	**Scenario 4**
1. Gross Subdivision Acres	100	300	300	100	none	300	300	100	none	none	300	none	100		300	100
2. Density (lots/acre)	6	3	3	1		2.3	2.3	1			3		6		3	1
3. Total Lots (including baseline)	600	900	900	100		690	690	100			900		600		900	100
4. # Lots with TDRs	580	840	840	80		630	630	80			840		580		840	80
5. Site Development Costs	$ (14,596,267)	$ (17,983,285)	$ (18,236,245)	$ (5,004,702)		$ (17,497,177)	$ (16,608,145)	$ (4,754,702)			(17,636,245)		(12,955,988)		(17,636,245)	(4,754,702)
6. Direct Unit Construction Costs	$ -	$ -	$ -	$ -		$ -	$ -	$ -			0		0		0	0
7. Indirect Costs	$ (9,395,639)	$ (11,366,434)	$ (11,373,899)	$ (2,358,673)		$ (8,132,050)	$ (8,364,610)	$ (1,684,718)			(9,172,797)		(7,527,745)		(9,610,501)	(1,587,450)
8. Average Price / Lot	$ 70,000	$ 65,000	$ 65,000	$ 150,000		$ 60,000	$ 60,000	$ 100,000			45,000		45,000		50,000	90,000
9. Total Revenue	$ 42,000,000	$ 58,500,000	$ 58,500,000	$ 15,000,000		$ 41,400,000	$ 41,400,000	$ 10,000,000			40,500,000		27,000,000		45,000,000	9,000,000
10. Residual Land Costs																
per acre	$ (135,081)	$ (76,275)	$ (75,407)	$ (60,295)		$ (37,784)	$ (39,972)	$ (24,892)			(31,172)		(36,234)		(43,106)	(16,936)
total	$ (13,508,069)	$ (22,882,462)	$ (22,622,038)	$ (6,029,482)		$ (11,335,066)	$ (11,991,562)	$ (2,489,156)			(9,351,642)		(3,623,421)		(12,931,826)	(1,693,564)
11. Actual Land Costs																
per acre	$ (75,000)	$ (45,000)	$ (45,000)	$ (40,000)		$ (30,000)	$ (30,000)	$ (15,000)	30,000	25,000	(25,000)	20,000	(25,000)	20,000	(25,000)	(15,000)
total	$ (7,500,000)	$ (13,500,000)	$ (13,500,000)	$ (4,000,000)		$ (9,000,000)	$ (9,000,000)	$ (1,500,000)			(7,500,000)		(2,500,000)		(7,500,000)	(1,500,000)
12. Developer "Willingness to Pay" (WTP)																
WTP per acre	$ 60,081	$ 31,275	$ 30,407	$ 20,295		$ 7,784	$ 9,972	$ 9,892			6,172		11,234		18,106	1,936
WTP Total	$ 6,008,069	$ 9,382,462	$ 9,122,038	$ 2,029,482		$ 2,335,066	$ 2,991,562	$ 989,156			1,851,642		1,123,421		5,431,826	193,564
WTP per additional lot	$ 10,359	$ 11,170	$ 10,860	$ 25,369		$ 3,706	$ 4,749	$ 12,364			2,204		1,937		6,466	2,420
WTP as % of Lot Selling Price	15%	17%	17%	17%		6%	8%	12%			5%		4%		13%	3%
13. Project Profit (12% of all costs)	$ 4,500,025	$ 6,267,819	$ 6,267,819	$ 1,607,143		$ 4,435,708	$ 4,435,684	$ 1,071,424			4,339,316		2,892,846		4,821,428	964,283

4.4 Total Number of Additional Lots through TDR

Following determination of developer willingness to pay, we estimate the maximum number of additional lots that could be demanded – both an overall total and for each scenario, in each receiving area. The amount of receiving area acreage the County has identified in each growth area is a big determinant of this (see the receiving area map Figure 3.2).

The number of additional lots is, of course, a theoretical total amount which assumes current WTP and full build out in the receiving areas. This aggregate amount does *not* represent the market demand at any given point in time. Actual TDR demand is based only on the number of developers looking to buy density for their projects at that time. It would take many years before the total demand for TDRs is exhausted. This duration depends upon how fast the County grows and the future trends in the real estate market.

Table 4.6 below shows the aggregate number of lots that could potentially be created through TDR in each receiving area. In total, we predict that with the County's 34,076 acres identified as potential receiving areas, there could be 99,184 additional lots created at full build out through TDR purchases. These are additional lots above the 1 unit per 5 acre baseline density restriction (as described in the development scenarios). Given that, on average, there are 1,000 lots approved built in the County each year this represents a 99 year supply - assuming full buildout of the receiving areas.[5]

However, while the total number of lots that could potentially be created is 99,184, the actual demand in any given year is only 1% of this total. Furthermore, as earlier mentioned, there is an existing supply of 3,074 lots presently available which represents a 3-year supply, without the need for any TDR purchases. This rather large inventory of lots will initially diminish developer demand for TDRs and create a sluggish market during the program's first couple of years.

The receiving site acreage by area is: Bozeman donut (12,115 ac), Four Corners (11,137 ac), Belgrade donut (5,703 ac), and the Manhattan donut (5,121 ac). The distribution of the demand for additional lots is shown in Figure 4.3 below. The majority of the demand is found in the Bozeman donut (48%); however, a significant portion of this – 31,000 of the 47,000 additional lots - would be annexed into the City under a scenario 1 situation.[6] Therefore, it is vitally important for the City to participate with the County in its TDR efforts, and not freely allow up-zoning on these annexing receiving areas.

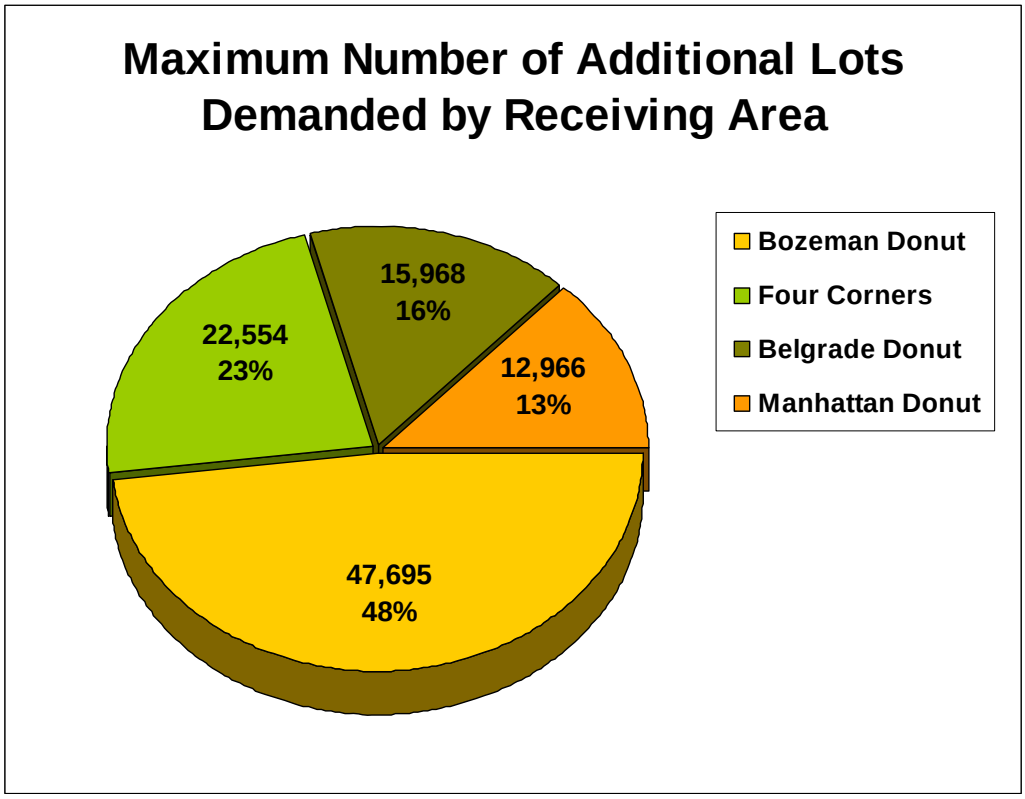
The Four Corners area could only command up to ¼ of the total demand; mostly because of the density constraints due to Utility Solutions infrastructure. That is to say, the area serviced by Utility Solutions can only allow a maximum density of 2.3 units per acre because of the diameter

[5] It is important to note that most of this demand for lots, and houses, occurs in the City of Bozeman or in Bozeman donut areas likely to be annexed, meaning the City's participation in the TDR program is very important.
[6] This number was derived through GIS analysis at Solimar based on conservations with the City of Bozeman as to which geographical areas are in the five-year annexation scheme.

of the sewer and water pipes in the ground. The receiving areas in the Belgrade and Manhattan donuts could each capture 16% and 13% of demand respectively.

Finally, relating the distribution in the number of additional lots demanded to the developer "willingness to pay" in each receiving area, we arrive at an estimate of the average market demand. This "weighted average" results in a $7,229 willingness to pay for additional lots across the whole market.[7]

Figure 4.3 Distribution of Potential Additional Lots through TDR



[7] The number of lots potentially demanded for a particular scenario in a particular area determine the contribution to the average WTP; it is not a simple average.

Table 4.6 Maximum Potential Demand by Receiving Area

Bozeman Donut Receiving Area					
	Scenario 1	**Scenario 2**	**Scenario 3**	**Scenario 4**	*total*
1. Total Acres	5,408	228	5,255	1,224	*12,115*
2. Lots at Base Density (1 unit / 5 acres)	1,082	46	1,051	245	*2,423*
3. Max # of Lots with TDR	32,445	684	15,765	1,224	*50,118*
4. Max # of Additional Lots Demanded	31,364	638	14,714	979	*47,695*
5. WTP per Additional Lot	10,359	11,170	10,860	25,369	*14,439*
Four Corners Receiving Area					
	Scenario 1	**Scenario 2**	**Scenario 3**	**Scenario 4**	*total*
1. Total Acres	none	9,596	900	641	*11,137*
2. Lots at Base Density (1 unit / 5 acres)		1,919	180	128	*2,227*
3. Max # of Lots with TDR		22,071	2,070	641	*24,782*
4. Max # of Additional Lots Demanded		20,152	1,890	513	*22,554*
5. WTP per Additional Lot	-	3,706	4,749	12,364	*6,940*
Belgrade Donut Receiving Area					
	Scenario 1	**Scenario 2**	**Scenario 3**	**Scenario 4**	*total*
1. Total Acres	none	none	5,703	none	*5,703*
2. Lots at Base Density (1 unit / 5 acres)			1,141		*1,141*
3. Max # of Lots with TDR			17,109		*17,109*
4. Max # of Additional Lots Demanded			15,968		*15,968*
5. WTP per Additional Lot	-	-	2,204		*2,204*
Manhattan Donut Receiving Area					
	Scenario 1	**Scenario 2**	**Scenario 3**	**Scenario 4**	*total*
1. Total Acres	209	none	3,912	1,000	*5,121*
2. Lots at Base Density (1 unit / 5 acres)	42		782	200	*1,024*
3. Max # of Lots with TDR	1,254		11,736	1,000	*13,990*
4. Max # of Additional Lots Demanded	1,212		10,954	800	*12,966*
5. WTP per Additional Lot	1,937		6,466	2,420	*3,608*
Grand Totals					
1. Total Acres	34,076				
2. Lots at Base Density (1 unit / 5 acres)	6,815				
3. Max # of Lots with TDR	105,999				
4. Max # of Additional Lots Demanded	99,184				
5. Weighted Average WTP per Additional Lot	7,229				

5. Supply in the TDR Market

The County has identified, in its 2006 TDR Guideline Report, two methods to allocate TDRs to the rural sending areas – the acreage-based and value-based methods. A landowner can decide to use whichever method provides him/her the greatest number of TDRs. The County's purpose in providing these options is to try and ensure equity to landowners since all rural parcels do not hold the same value – that is, land closer to various amenities holds greater value than land that is more distant.

Figure 5.1 on the following page illustrates the range in per-acre land values throughout the Gallatin Valley. [1] As stated previously, Figure 5-1, prepared by appraiser Clark Wheeler, 1 is simply meant to show relative values for reference and planning purposes – it in no way assigns official values to parcels. This map is evidence to the fact that land values are not uniform, but rather vary significantly by their geography. This is especially true of smaller parcels—those less than 50 acres--located within the areas surrounding urban boundaries and existing development. It is hoped that by providing the acreage and value-based options to allocate TDRs, owners of more valuable property can be granted a greater number of TDRs to sell in the market.

Gallatin County has a total of 59,219 parcels. The number of "rural" parcels (i.e. outside the growth areas) that could be eligible sending sites in the TDR program is 11,347. (This does not include Federal and State parcels, protected private parcels, all parcels inside existing zoning districts, and all parcels inside the Bozeman, Belgrade, Manhattan and Four Corners Growth areas.) All together, the 11,347 potential sending parcels equal 531,378 acres to which TDRs can be allocated.

Acreage Based Method

Using the acreage-based method, a landowner can opt to be allocated 1 TDR to sell for every 20 acres he/she decides to deed restrict (i.e. 8 TDRs/160 acres). Making the assumption that all the eligible sending site parcels opt for the acreage-based method, a theoretical total of 31,445 TDRs could be allocated to rural landowners to sell in the market.[2] This number further makes the gross assumption that all eligible sending site landowners decide to deed restrict *all* of their undeveloped acreage thereby removing all remaining development potential from their land – an unlikely scenario.

[1] Values for smaller lots—those less than 160 acres—found along the urban fringe areas of the County generally mimic the trends of larger parcels depicted in the map, but consistency may vary somewhat.
[2] This accounts for any preexisting structures that lower the number of TDRs allocated to a particular parcel; each existing structure reduces the amount of acreage for TDR allocation by 20 acres.

Value-Based Method

Using the value-based method, a landowner can opt to be allocated TDRs based on the difference in appraised land value before the land is deed restricted and after the land is deed restricted. The difference, or loss in land value, is divided by a predetermined $20,000 "divisor" to determine the number of TDRs allocated to the property.[3]

We use the Value Zone Map in Figure 5.1, and the resulting acreages by value-category in Table 5.1, to determine a theoretical maximum number of TDRs that could be supplied through the value-based method. However, doing so requires some simplifying assumptions. It should be emphasized that Figure 5.1 is simply meant to show relative values for reference and planning purposes – it in no way assigns official values to parcels.

We start by totaling the sending site gross acreages [4] in each of the eight value categories, and assume that values of all the acreage in a particular category would be the median of the value range. For example, in our calculation we assume all sending site parcels with values ranging between $5,000 and $10,000 per acre have a $7,500 per acre value. Like we did in the acreage-based approach, it is assumed that *all* of the land is deed restricted from future development - again an unlikely scenario, but worth the exercise to see what a theoretical total supply would be.

Since the agricultural value of land would reflect its value after a deed restriction, we compute the value difference between land as indicated in Figure 5.1 and its raw agricultural value (i.e. $1,500 per acre, as determined by appraiser Clark Wheeler). To arrive at a theoretical total number of TDRs, the difference is divided by the previously determined $20,000 "divisor".

It is safe to assume that all sending sites with land valued at or below agricultural values will opt for the acreage-base allocation method rather than the value-based method. Doing so would offer these landowners a greater number of TDRs.

The results of this simplified calculation, shown in Table 5.1, indicate there to be a theoretical maximum supply of 48,009 TDRs that could be allocated to sending site parcels via the value-based method.

There are a significant number of parcels in value categories $10,000 to $30,000 per acre that are less than 160 acres in size –in fact there are 2,823 such parcels.[5] Determining what density would be appropriate on these parcels is difficult due to the inconsistencies of county approval of smaller parcels located primarily on the urban fringe. Values within the higher-value areas are determined from smaller properties (usually >50 acres) as the typical sizes in those areas are smaller. But lot

[3] The $20,000 divisor was suggested by the consultant who drafted the proposed TDR program, based upon a voluntary transaction for the sale of TDRs in the Middle Cottonwood Zoning District several years ago. Economic conditions may have changed since then..

[4] We remove from the calculation all parcels that are less than 160 acres with an existing dwelling unit for purposes of the value-based calculation; it is assumed that the minimum lot size for appraisal purposes in rural areas in 160 acres.

[5] These parcels total 32,000 acres.

values vary dramatically in this area. These lot values generally mimic the trends. Viable appraisals would reflect the higher density and development potential of these properties and give an accurate indication of the potential TDRs. These properties are higher in value and should be given more TDRs than their lower-valued counterparts. Moreover, many of these high-valued properties are adjacent to, or very nearby, the edges of the County's growth areas – the areas where preservation would be most valued from a public benefit perspective.

Table 5.1 TDR Allocations

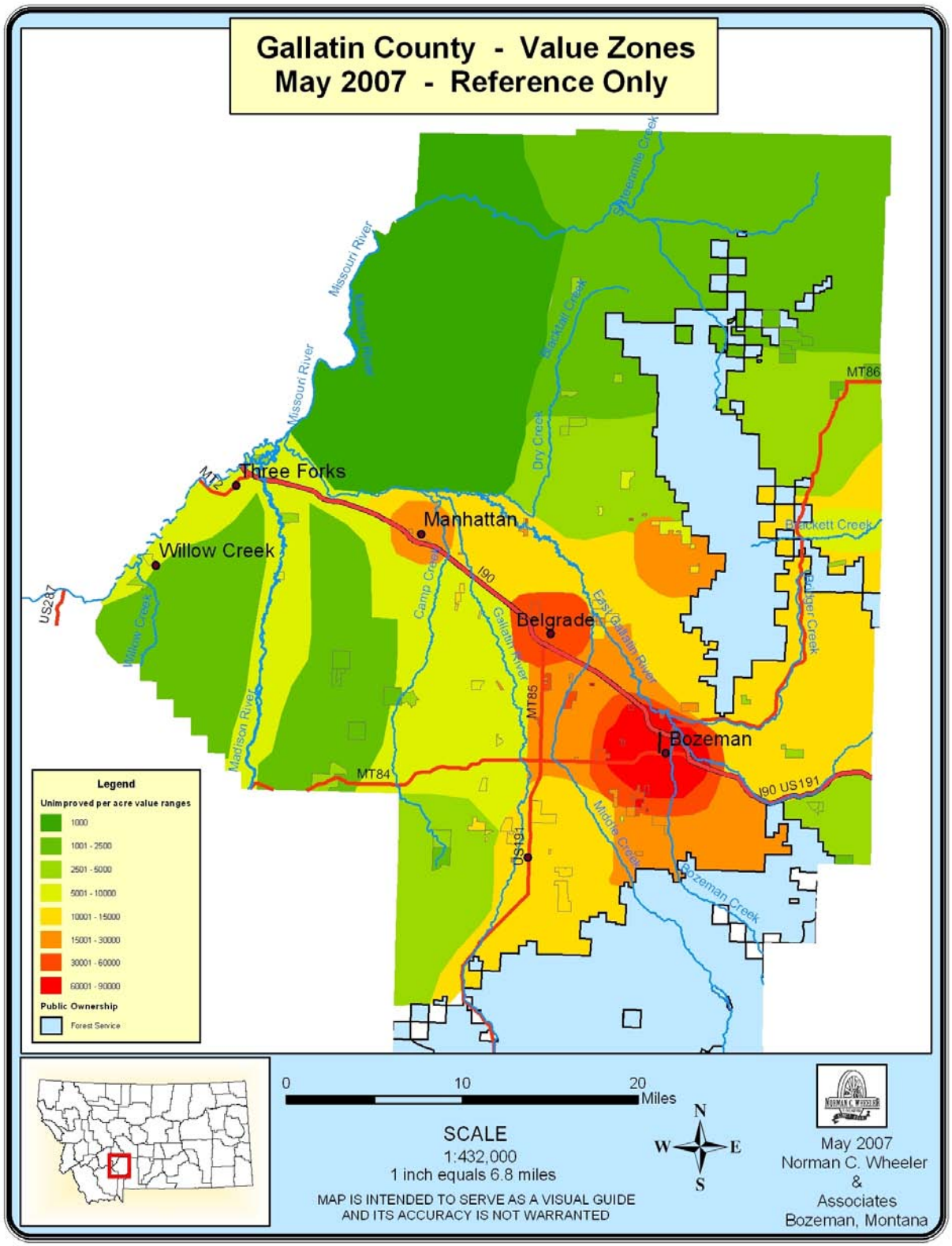
Land Value Zone ($/acre)	Total Number of Acres	Acreage-Based Number of allocated TDRs	Value-Based Number of allocated TDRs	Acres Eligible for Rural Cluster (# TDRs)
$1,000	93,210	5,761	5,761	21,800 (1,108)
$1,001 - $2,500	216,464	11,262	11,262	71,467 (3,657)
$2,501-$5,000	68,144	3,535	5,819	35,826 (1,806)
$5,001-$10,000	91,808	7,300	12,159	46,586 (2,343)
$10,001-$15,000	56,948	3,202	12,404	21,911 (1,111)
$15,001-$30,000	4,804	385	605	976 (385)
$30,001-$60,000	0	0	0	0
$60,001-$90,000	0	0	0	0
TOTAL	531,378	31445	48,009	198,566 (10,077)

Note: the first two land value categories of the value-based allocation have the same numbers as the acreage-based; land with these values will capture a greater number of TDRs when allocated on acreage rather than value.

Accounting for the Rural Cluster Option

Also shown in Tale 5.1 are the acreages and number of TDRs from potential sending-site properties that meet the basic threshold requirements for the rural cluster provision as allowed in the 2006 Growth Implementation Program. These property owners have the option to exercise the rural cluster provision rather than deed-restrict their properties for TDRs. If property owners are able to make more money via the rural cluster then the total supply then the total supply of TDRs would be subsequently reduced.

Figure 5.1 Gallatin County Value Zones



6. Actual Market Demand, Supply and TDR Price

In Sections 4 and 5 we explored theoretical total demand for, and supply of TDRs – that is, the maximum number of additional units above base density in the receiving areas and the maximum number of TDRs that could be allocated to sending areas. While important from an overall perspective when structuring the program, these totals are not indicative of the "actual" or "market" supply and demand, which when taken together, will determine TDR price.

We indicate that total demand could be as high as 99,184 additional units at full build out, and developers, on average, would be willing to pay up to $7,229 for the right to build these additional units. Comparing these numbers against the total supply, the market appears to be relatively balanced. That is, the maximum supply of 48,009 TDRs that could be allocated translate into 192,032 additional units considering that 1 TDR = 4 additional units under the proposed program.

Thus, in total terms, there is twice as much supply as there is demand. This ratio is desirable to ensure that enough supply exists to account for a certain number of sending site landowners who will not participate in the market. Any greater ratio would have too little demand chasing too much supply, and the currency (i.e. TDRs) would not retain its value.

However, these totals of supply and demand do not tell the full story as to how the market will function. As the previous section indicated, in any given year, we can expect that developers would only demand a maximum of approximately 1,000 additional lots, or about 1% of the total potential number.

Just as it is erroneous to assume that all the potential for additional lots would be demanded at once, it is also erroneous to assume that all the TDRs would be available at the same time. TDR markets are traditionally "thin," meaning that at any given point in time there are only a few sending site landowners who are willing to participate in the market through a deed restriction of their property to sell TDRs.

The actual number of TDRs available for purchase by developers will depend on rural landowners' preferences and the extent of compensation they could receive through TDR sales (i.e. the TDR market price). Let's take a look at landowner's potential willingness to sell TDRs to explore what the actual supply is likely to be in the market. In doing so, it is critical to assess the options these landowners have for revenue.

Table 6.1 below shows the gross revenue potential from a 640-acre parcel whereby three 160-acre lots are subdivided and sold. This would be the baseline condition under the proposed program. Relative to this baseline is the number of TDRs allocated and what they would have to sell for to yield the same revenue return. Based on various allocations depending on land value, this example shows that if landowners can sell their TDRs between $20,000 and $33,000 apiece (or between $5,000 and $8,750 per equivalent additional unit assuming 1 TDR = 4 units) they would capture

the same revenue as subdividing and selling 160-acre lots. (Note: There are no properties in the two highest value categories; this is why the table below says "none").

Table 6.1 Landowner Willingness to Sell TDRs

Raw Land Value Zone ($/acre)	Revenue from three 160 acre Lots*	# TDRs allocated**	Landowner Willingness to Sell ($/TDR)	Equivalent Willingness to Sell per unit***
$1,000	$ 480,000	24	$ 20,000	$ 5,000
$1,001 - $2,500	$ 840,000	24	$ 35,000	$ 8,750
$2,501-$5,000	$ 1,800,000	54	$ 33,333	$ 8,333
$5,001-$10,000	$ 3,600,000	144	$ 25,000	$ 6,250
$10,001-$15,000	$ 6,000,000	264	$ 22,727	$ 5,682
$15,001-$30,000	$ 10,800,000	504	$ 21,429	$ 5,357
$30,001-$60,000	none	none	none	none
$60,001-$90,000	none	none	none	none

* based on the median per acre land value

** based on the acreage and value-based allocation methods

*** assumes each TDR is equivalent to 4 additional units

Note: if the divisor in the value-based allocation was 40,000 versus 20,000 the # of TDRs allocated would be half and subsequently the willingness to sell would be double.

It is useful then to compare landowner willingness to sell to developer willingness to pay. In doing so we are able to make some definitive findings about the "actual" TDR supply.

Landowners will only participate in the market with developers who are able to meet or exceed their price – that is, their willingness to sell. In Table 6.1, the lowest landowner willingness to sell is $5,000. Recall from chart 4.2 that developer willingness to pay varied by receiving area; important to our discussion here, however, is that developers in the Bozeman donut and two situations in Four Corners (development scenario 4) and Belgrade (development scenario 3) are willing to pay above $5,000 for an additional unit. Other development scenarios, in other areas cannot match the price at which landowners may be willing to sell TDRs. For example, developers in much of the Four Corners area will not be able to afford TDRs. This is a problem since much of the County's growth is expected to occur in the Four Corners area.

Yet, because landowner willingness to sell (across much of the land value categories) aligns with demand to a great extent, many landowners could be willing participants in the TDR market. This means that TDR allocations, coupled with the fact that each TDR translates into 4 additional units - in theory - would act to effectively bring potential buyers and sellers together.

Therefore, we find that the program's proposed value-based "divisor" as a means of allocating TDRs and the ratio of 1 TDR equaling 4 additional units in the receiving areas, when taken together, do a good job at bringing market supply and demand into equilibrium.

Since developers will look for the lowest-priced TDRs, most transactions are likely to come from owners of the lowest-valued land – that is, the areas most distant from the receiving areas (the dark green areas on the map in Figure 3.2). Ironically then, the likely market participants are landowners with TDRs from low-value areas and developers of high-value homes in the Bozeman donut. Properties under the greatest development pressure, just outside the growth areas, will likely not participate in the TDR market because they will be unable to capture from TDR sales the full compensation they expect from a deed restriction. Instead, willing TDR sellers are likely to be owners of properties that are very distant from growth areas that would likely not develop for a long time.

However, even though the economic rationality expressed through the willingness to sell and pay are in relative accord, it does not mean all landowners who can capture $20,000 per TDR sold will participate. We have not yet taken into consideration landowners' aversions to permanent deed restrictions which are necessary to be allocated TDRs under the proposed program nor have we considered landowners' dissatisfaction over imposed 160-acre minimum lot sizes/density.

Few landowners are likely to permanently restrict the development potential of their property to be less than 1 unit per 160 acres, even though they might be able to recoup the loss in value through TDR sales. Among other things, the landowners may believe that the County may increase their development potential in the future, even if the TDR program is put in place now. From a landowner's perspective the price of "forever" is not equivalent to the rational economics of today. For this reason development right markets are "thin" – often with few willing sellers, since most do not want to lose the opportunity to develop in the future.

Furthermore, many landowners perceive that there is a prisk in the market that they may not be able to fully recoup the value loss via sales of TDRs. Other routes to achieve economic returns, for example seeking County Commission approval of higher densities, could keep landowners from participating in the market.

For these reasons, we assume that the "actual" supply or amount of TDRs that landowners sell to developers in the market would be much less than the total supply. How much less is difficult to determine since landowner preferences are hard to gauge over an area as large as Gallatin County.

In our judgment, a reasonable assumption may be that 2,000 TDRs may be available to receiving-area developers each year ~ twice the annual number of lots built each year, and a ratio similar to what we found to be the total theoretical supply to demand ratio. Inclusive to this assumption is that landowners who contribute TDRs to the market would not deed restrict *all* of their property, but rather only some fraction, thereby retaining the right to develop some of their property in the future.

Given that demand is for approximately 1,000 improved lots, then 2,000 additional lots could be purchased from willing sending area landowners through TDRs. Since 1 TDR = 4 additional lots, this equates to 500 TDRs demanded by the market. This means that just under 1% of the total theoretical supply would be readily available for purchase by developers (i.e. 500 available TDRs is less than 1% of 48,009 TDRs that could theoretically be allocated via the value-based method).

This means that there is likely to be a buyer's market. This will result in a TDR price that is less than the developer "willingness to pay" as we reported in Section 3. More specifically, developers who are willing to pay $10,000 for an additional unit in their subdivisions will witness a surplus when they only have to pay $5,000.

7. Policy Recommendations

In Gallatin County, both landowners and developers alike need financial incentives to participate in a program that redirects their development potential into the County's growth areas. Our research finds that there is sufficient demand to drive a TDR market; average developer willingness to pay for an additional lot across all receiving areas is $7,229, meaning the willingness to purchase a TDR (with the 4:1 bonus) would be $28,916. The mechanics of the market as proposed seem to do an effective job at balancing demand with supply – in theory.

However, despite this economic theory, we believe there is some reason for concern. In addition to setting up the TDR program, the County's pending proposal also creates 160-acre minimum lot sizes in rural areas. The combination of the lot-size restriction and the further deed restrictions through the use of TDRs may be difficult to accomplish through the program as proposed.

In an environment such as Gallatin County, with no preexisting comprehensive county-wide density limits except those created by state subdivision law, many rural landowners have the perception - whether rightly or wrongly - that they are entitled subdivisions with lots smaller than 160-acres –perhaps 5 acres, perhaps 10 or 20 acres. Some believe that they will not receive adequate compensation for their expectations, given that the County would initially impose a restriction to 160-acre lots and then offer them the ability to further restrict development potential for TDRs as the only way to recoup some of this perceived loss in property value.

Thus, landowners may not perceive the TDR program as an incentive and may oppose it. If landowners choose not to use the program, the County will not grow, since it is hinging most of its future growth on TDR sales. Or it will grow via 5-acre lot development in its supposed "growth areas."[1] Either way, the land supply will not be available to developers, and therefore developers may cross the line to Broadwater County, as some already have, where development is easier and less costly.

For these reasons, we find it necessary that the County "decouple" landowner willingness to sell TDRs from a permanent deed restriction of his/her property that would further limit development potential beyond the initially imposed 160-acre minimum lot size/density.

It is important to accept that it will be difficult to create a program where everybody wins. Complete equity is unrealistic. Therefore, it is important to identify and address as much as possible who will and will not benefit from a County-wide TDR program.

Those who stand to lose the most are landowners of properties just outside the growth areas who have the perception – whether rightly or wrongly – that they can get 10- or 20-acre lots, but under this proposal would only able to get 160-acre lots. For these landowners, the TDR market will

[1] This is because the base density in the growth area is 1 unit per 5 acres.

probably not be able to compensate them for their speculation on increased land value – that is, the difference in value between eight 20-acre lots and a single 160-acre lot.

Those who will benefit the most are owners of low-valued land who have no plans to develop in the future. These property owners will be able to generate a revenue stream from their land that did not exist before.

Finding ways to minimize the impact upon those most negatively affected and spreading the benefits among as many participants as possible should be an important policy strategy.

7.1 Alternatives: Term TDRs & Value-Based Credits (TDCs)

Limiting minimum lot sizes to 160 acres in the rural areas is perceived as a defacto down-zoning. When perceived in this way, it is very difficult to make a successful TDR program work. If the County's fundamental goal is to put in place this density regulation, then we suggest the guiding principle of its TDR program should be simply: "to provide financial compensation to rural landowners for the 160 acre lot size/density requirement by redirecting development potential into growth areas, while in no way limit the County's ability for future growth."

A program driven by such a goal will only work if: (1) it is simple and easy to use, and (2) it adequately compensates rural land owners. The following discussion describes how this might be the case.

Two options should be considered to accomplish the goal of density regulation in the rural areas.

As a first option, the County could consider a "term" TDR. In this case the landowner would deed restrict his/her property beyond the minimum 160-acre lot size/density requirement, but only for a period of time, in exchange for TDRs. For example, Mesa County in Colorado has a program that places 40-year deed restrictions on properties that are allocated TDRs.

The term-TDR removes much of the risk that landowners associate with permanent deed restrictions since they are only forfeiting future development potential for a period of time. A deed restriction that sunsets after a given period of time does create a situation where land is being preserved only for a set period of time, rather than permanently. Thus, the County may have to deal with the issue of preserving or developing these lands again some decades into the future.

However, the likelihood that the program will succeed in the short run will be greatly enhanced. A term approach will bring many more landowners into the market and lower the price at which they are willing to sell. Specifically, it will encourage landowners who are just outside the growth areas to participate, rather than only those from the lower-valued rural areas that are unlikely to develop in the first place. This approach will not create a significant barrier to development in the

County nor will it hinder future growth, and importantly, it will enable the restrictions to the 160-acre lot size/density requirement.

A second option would be to craft a variation on the value-based method of assigning TDRs. Under this concept, the County would eliminate the acreage-based method of assigning TDRs and instead use only the value-based method. To make this idea viable in the marketplace, the County should also eliminate the deed restriction requirement in the sending areas – permitting landowners to build 1 residence per 160 acres and selling the excess TDRs into the receiving areas. Because this system provides sending-area landowners with a commodity to sell, rather than a right to build, we would suggest calling this commodity a transferable density *credit,* or TDC, rather than a transferable development *right*.

Furthermore, to avoid flooding the market in the receiving area with credits, the transfer ratio in receiving areas should be changed from 4:1 to 2:1. That is, a credit sold by a sending-area landowner to a receiving-area developer would permit construction of 2 additional units in the receiving area.

The creation of this value-based credit commodity should remove any landowner concern over permanent (or temporary) loss of development potential beyond the 160-acre lot size/density restriction. Importantly too, TDCs would be sold at a lower price since landowners do not have to recoup the loss in value created from a deed restriction. The lower price will make development in the receiving areas easier – especially those areas where the lack of infrastructure severely limits the amount developers are willing to pay for TDRs.

Using this value-based allocation, owners of more valuable land are given more TDCs to sell. This would offer more equity in the program and create incentives for owners of properties closer to the growth areas to participate in the program

The transfer ratio should be changed in order to help calibrate sending-area supply and receiving-area demand. We previously estimated buildout in the receiving areas to be 99,184 additional lots. As it is proposed, the value-based method, with its $20,000 "divisor" and 1 TDR equaling 4 additional lots, would yield 192,000 extra lots (see Table 5.1). If this number is cut in half it would be very close to the 99,184 that represents buildout. An easy way to accomplish this is to make each TDC equal to 2 additional lots rather than the 4 currently proposed.

However, it is important to ensure the TDCs created retain their value in the market. Therefore, all the TDCs the County creates should not be available at the same time when only 1,000 are likely to be demanded from developers in any given year. If so many more TDCs are available than demanded, it will lower the price to a detrimental point. The County could remedy this by regulating the number of TDCs that it allows to come on the market per year – this could be 1,000, 2,000 or 5,000 TDCs, and done by lottery to determine which properties are able to sell their TDCs in the market.

7.2 Critical Components

Besides adjusting the program to decouple TDR/TDC allocations from a deed restriction, several other important components are needed to create a successful program in Gallatin County. These are: (1) address the need for infrastructure in the receiving areas, (2) maintain the TDR/TDC value through strict policy enforcement, (3) work with the cities in inter-jurisdictional transfers, and (4) establish a TDR/TDC bank to facilitate the market.

Successful TDR programs designate receiving sites in areas with existing sewer, water and road infrastructure. Many receiving areas in Gallatin County do not have such infrastructure and developers would have to incur the costs of providing their own sewer and water systems. This acts to significantly reduce the amount of funds they would have available for TDR/TDC purchases. If the County is serious about a program, it needs to make development in its receiving areas more attractive than elsewhere, and should invest in infrastructure enhancements in these areas – doing so will catalyze the TDR/TDC market and increase market activity.

But infrastructure cannot be the only "carrot" to receiving area developers. The County must ensure TDR/TDC purchases are the only route to higher density in its receiving areas. This will ensure the currency retains its value. Allowing alternative ways developers can build at higher density will render the market ineffective and result in inadequate compensation, and ultimately an unused program.

A third critical component for the County is to work with the cities of Bozeman, Belgrade, Manhattan, and Three Forks in its TDR efforts. Interlocal agreements will not work unless the cities see that their best interest to, in essence, "charge" developers for density inside their jurisdiction rather than providing it through a more typical upzoning process.

A fourth and final point the County should consider as it develops its TDR/TDC program is to establish a bank. Whether the program involves the transactions of "term" TDRs or transferable "density credits," having a central market place where buyers and sellers can easily find each other is critical to a well-functioning program. This is especially important when the County is looking to rely on the program as the *only* means to grow at higher density in much of the growth areas.

It is important to think of the bank as a market-making mechanism. This can involve something as easy as a clearinghouse to bring willing sellers and buyers together, to providing administrative assistance in transactions, to holding annual auctions where landowners and developers come together and bid on TDR/TDC prices.

In a more sophisticated role, the bank could be capitalized with money up-front to buy TDRs/TDCs, hold them through time, and sell them opportunistically to stimulate the market in times of little market activity. This would help to ensure the program's success during its initial stages when confidence has not yet fully developed.

Alternatively, the bank could sell acquired commodities opportunistically based on some amount of time-accrued appreciation. The up-front capitalization could come from public bond sources or private capital. The rate of return (ROI) for borrowed money would be dependant upon a particular investor's willingness to accept risk and his/her return expectations. But by and large, the bank would probably only provide bond-like returns of 4% - 6% on lent money, and thereby only be able to attract more philanthropically motivated investors.

The bank can exist either as a County-run entity or as an NGO, separate from local government, but made to follow the rules as set forth by the County. However the Bank is operated, the presence of a Gallatin County TDR/TDC bank will serve as an important psychological support for all stakeholders involved - landowners, developers, and government officials alike.

Appendix A: Development Scenario Pro Formas

Gallatin County TDR
Receiving Area: Bozeman Donut
Development Scenario 1

SUBDIVISION CHARACTERISTICS			
Subdivision Gross Acreage			100
Open Space (1)		10%	10
Dedicated to roads		10%	10
Net Acreage			80
Base Density (1 unit / 5ac)			0.2
TDR density (units/acre) (2)			6
DEVELOPMENT PROGRAM			
Residential			*units*
# units with existing base density			20
# of Total residential units with TDRs			600
# of TDRs demanded			580
Average Lot size			5,808
	av. size (sf)	mix	
# Singlefamily detached homes	1,800	100%	600
# Affordable units (3)	2,000	0%	0
# Multifamily units		0%	0
Commercial Retail			0
Total # of Units			600
PROJECT REVENUE			
Residential			*$ revenue totals*
Improved Lot Selling Price (4)	$70,000		
price per sf	$12		42,000,000
Affordable Units			
Area Median Income (4-person HH)	0		
Income Category (% of AMI)	50%		
Mandatory Sales Price (5)	0		0
TOTAL PROJECT REVENUE			42,000,000
PROJECT COSTS			
			$ cost totals
Pre Development Costs			
land carry (% of raw land cost) (6)	4%		(600,000)
land entitlement / legal fees (% raw land) (6)	2%		(150,000)
professional fees (% of dev costs) (7)	2%		(271,495)
RESIDUAL LAND COSTS $/ac (8)	$135,081		(13,508,069)
Development Costs			
Direct Construction Costs			
Site Development Cost Scenarios			
	fixed costs	yes = 1, no = 0	
#1 Tieing into Existing Sewer/Water System (9)			
Sewer treatment/disposal & Water supply/storage	$8,000	1	(4,800,000)
#2 Central Sewer and Communtiy Well (10)			
Central Sewer Treatment	$5,000	0	0
Engineering/Permitting	$500,000	0	0
Community Well / Storage	$600,000	0	0
#3 Communtiy Well Individual Septic (11)			
Individual Septic	$15,000	0	0
Community Well / Storage	$600,000	0	0
#4 Individual Well and Septic (12)	$35,000	0	0
		av distance (mile)	
Sewer & Water Main Extensions ($/ft) (13)	$70	0.5	(184,800)
Sewer & Water in subdivision collection/distribution ($/sf) (14)	$70	4.0	(1,478,400)
Subdivision Roads ($/mile) (15)	urban $1,648,443	4.0	(6,593,772)
	rural $875,532	-	0
Sewer / Water hook up ($/unit)	$500	1	(300,000)
Fire Protection ($/unit; scenario 4 only)	rural $5,000	0	0
Landscaping ($/sf of OS)	$0.50		(217,800)
Residential Unit Construction Costs ($/sf) (16)	$0		0
Indirect Costs			
Impact Fees ($/unit) (17)	$7,160		(4,296,000)
insurance (% of direct costs)	1.0%		(135,748)
property tax (18)			(557,288)
Developer Fee (19)	1%		(185,638)
Contingency (20)	0%		0
Marketing / Advertising Costs	1.0%		(135,748)
SUBTOTAL DEVELOPMENT & LAND COSTS			(33,414,757)
Financing Costs			
Equity (equity interest paid w/ profit sharing (21)	25%	9,463,059	
Permanent Debt (22)	75%	28,252,177	
loan horizon (yrs)	2		
loan fees	2%		(565,044)
average draw	50%		
interest rate	8.00%		
debt service			(2,260,174)
Commission & Closing Costs	3.0%		(1,260,000)
TOTAL PROJECT COSTS			(37,499,975)
PROJECT PROFIT			
Project Profit			4,500,025
Project Profit (% of total costs) (23)			12.0%

	PER ACRE	TOTAL
RESIDUAL LAND COSTS	$135,081	$ 13,508,069
CURRENT LAND SELLING PRICE (24)	$75,000	$ 7,500,000
Willingness to Pay (25)	$60,081	$ 6,008,069
WTP per unit		$ 10,359

NOTES:
(1) County subdivision requirements call for minimum 11% open space; but average in subdivisions is 25%
(2) The number of units the developer can build above the base zoning with TDR purchases
(3) the number of requiref below-market-rate affordable units required
(4) based on data from the Multiple Listing Service (MLS) for the various geographic area as provided by the Gallatin Association of Realtors
(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)
(9) per unit sewer and water tie-in cost to the city of Bozeman, Belgrade, and Utility Solutions are: $8,000; $20,000; and $10,000 respectively
(10) Central sewer - assumes 2.5 persons/household x 100 gallon per capita x $20/gallon = $5000/unit (source: Great West Engineering)
(11) Community well assumed to be $200K and storage tank $400K; individual septic $15K (Great West Engineering)
(12) 15K for individual septic and 20K for individual well
(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 between $90 - $120 depending on price of the home
(17) County - no sewer fees; road impact fees $3973/unit (2007 Tischler Bise); fire $617/unit; Bozeman - $7,160/unit; Belgrade - $14,000/unit; Manhatten - $
(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 sales of vacant land in specified areas from 2006- 2007 MLS from the GAR
(25) the difference between the current land selling price and the residual land value

Gallatin County TDR
Receiving Area: Bozeman Donut
Development Scenario 2

SUBDIVISION CHARACTERISTICS				
Subdivision Gross Acreage				300
Open Space (1)			25%	75
Dedicated to roads			10%	30
Net Acreage				195
Base Density (1 unit / 5ac)				0.2
TDR density (units/acre) (2)				3
DEVELOPMENT PROGRAM				
Residential				*units*
# units with existing base density				60
# of Total residential units with TDRs				900
# of TDRs demanded				840
Average Lot size				9,438
		av. size (sf)	mix	
# Singlefamily detached homes		2,200	100%	900
# Affordable units (3)		2,000	0%	0
# Multifamily units			0%	0
Commercial Retail				0
Total # of Units				900
PROJECT REVENUE				
Residential				*$ revenue totals*
Improved Lot Selling Price (4)		$65,000		
price per sf		$7		58,500,000
Affordable Units				
Area Median Income (4-person HH)		0		
Income Category (% of AMI)		50%		
Mandatory Sales Price (5)		0		0
TOTAL PROJECT REVENUE				58,500,000
PROJECT COSTS				
				$ cost totals
Pre Development Costs				
land carry (% of raw land cost) (6)		4%		(1,080,000)
land entitlement / legal fees (% raw land) (6)		2%		(270,000)
professional fees (% of dev costs) (7)		2%		(326,143)
RESIDUAL LAND COSTS $/ac (8)		$76,275		(22,882,462)
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		$8,000	1	(7,200,000)
#2 Central Sewer and Communtiy Well (10)				
Central Sewer Treatment		$5,000	0	0
Engineering/Permitting		$500,000	0	0
Community Well / Storage		$600,000	0	0
#3 Communtiy Well Individual Septic (11)				
Individual Septic		$15,000	0	0
Community Well / Storage		$600,000	0	0
#4 Individual Well and Septic (12)		$35,000	0	0
			av distance (mile)	
Sewer & Water Main Extensions ($/ft) (13)		$70	1.0	(369,600)
Sewer & Water in subdivision collection/distribution ($/sf) (14)		$70	6.0	(2,217,600)
Subdivision Roads ($/mile) (15)	urban	$1,648,443	-	0
	rural	$875,532	6.0	(5,253,192)
Sewer / Water hook up ($/unit)		$500	1	(450,000)
Fire Protection ($/unit; scenario 4 only)	rural	$5,000	0	0
Landscaping ($/sf of OS)		$0.25		(816,750)
Residential Unit Construction Costs ($/sf) (16)		$0		0
Indirect Costs				
Impact Fees ($/unit) (17)		$4,590		(4,131,000)
insurance (% of direct costs)		1.0%		(163,071)
property tax (18)				(1,003,118)
Developer Fee (19)		1%		(216,043)
Contingency (20)		0%		0
Marketing / Advertising Costs		1.0%		(163,071)
SUBTOTAL DEVELOPMENT & LAND COSTS				(46,542,051)
Financing Costs				
Equity (equity interest paid w/ profit sharing (21)		25%	13,180,709	
Permanent Debt (22)		75%	39,351,304	
loan horizon (yrs)		2		
loan fees		2%		(787,026)
average draw		50%		
interest rate		8.00%		
debt service				(3,148,104)
Commission & Closing Costs		3.0%		(1,755,000)
TOTAL PROJECT COSTS				(52,232,181)
PROJECT PROFIT				
Project Profit				6,267,819
Project Profit (% of total costs) (23)				12.0%

	PER ACRE	TOTAL
RESIDUAL LAND COSTS	$76,275	$ 22,882,462
CURRENT LAND SELLING PRICE (24)	$45,000	$ 13,500,000
Willingness to Pay (25)	$31,275	$ 9,382,462
WTP per unit		$ 11,170

NOTES:
(1) County subdivision requirements call for minimum 11% open space; but average in subdivisions is 25%
(2) The number of units the developer can build above the base zoning with TDR purchases
(3) the number of requiref below-market-rate affordable units required
(4) based on data from the Multiple Listing Service (MLS) for the various geographic area as provided by the Gallatin Association of Realtors
(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)
(9) per unit sewer and water tie-in cost to the city of Bozeman, Belgrade, and Utility Solutions are: $8,000; $20,000; and $10,000 respectively
(10) Central sewer - assumes 2.5 persons/household x 100 gallon per capita x $20/gallon = $5000/unit (source: Great West Engineering)
(11) Community well assumed to be $200K and storage tank $400K; individual septic $15K (Great West Engineering)
(12) 15K for individual septic and 20K for individual well
(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 between $90 - $120 depending on price of the home
(17) County $4590/unit - no sewer fees; road impact fees $3973/unit (2007 Tischler Bise); fire $617/unit; Bozeman - $7,160/unit; Belgrade - $14,000/unit; Ma
(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 sales of vacant land in specified areas from 2006- 2007 MLS from the GAR
(25) the difference between the current land selling price and the residual land value

Gallatin County TDR
Receiving Area: Bozeman Donut
Development Scenario 3

SUBDIVISION CHARACTERISTICS				
Subdivision Gross Acreage				300
Open Space (1)			25%	75
Dedicated to roads			10%	30
Net Acreage				195
Base Density (1 unit / 5ac)				0.2
TDC density (units/acre) (2)				3
DEVELOPMENT PROGRAM				
Residential				*units*
# units with existing base density				60
# of Total residential units with TDRs				900
# of TDRs demanded				840
Average Lot size				9,438
		av. size (sf)	mix	
# Singlefamily detached homes		2,200	100%	900
# Affordable units (3)		2,000	0%	0
# Multifamily units			0%	0
Commercial Retail				0
Total # of Units				900
PROJECT REVENUE				
Residential				*$ revenue totals*
Improved Lot Selling Price (4)		$65,000		
	price per sf	$7		58,500,000
Affordable Units				
Area Median Income (4-person HH)		0		
Income Category (% of AMI)		50%		
Mandatory Sales Price (5)		0		0
TOTAL PROJECT REVENUE				58,500,000
PROJECT COSTS				
				$ cost totals
Pre Development Costs				
land carry (% of raw land cost) (6)		4%		(1,080,000)
land entitlement / legal fees (% raw land) (6)		2%		(270,000)
professional fees (% of dev costs) (7)		2%		(331,103)
RESIDUAL LAND COSTS $/ac (8)		$75,407		(22,622,038)
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		$8,000	0	0
#2 Central Sewer and Communtiy Well (10)				
Central Sewer Treatment		$5,000	1	(4,500,000)
Engineering/Permitting		$500,000	1	(500,000)
Community Well / Storage		$600,000	1	(600,000)
#3 Communtiy Well Individual Septic (11)				
Individual Septic		$15,000	0	0
Community Well / Storage		$600,000	0	0
#4 Individual Well and Septic (12)		$35,000	0	0
			av distance (mile)	
Sewer & Water Main Extensions ($/ft) (13)		$70	-	0
Sewer & Water in subdivision collection/distribution ($/sf) (14)		$140	6.0	(4,435,200)
Subdivision Roads ($/mile) (15)	urban	$1,648,443	-	0
	rural	$875,532	6.0	(5,253,192)
Sewer / Water hook up ($/unit)		$500	1	(450,000)
Fire Protection ($/unit; scenario 4 only)	rural	$5,000	0	0
Landscaping ($/sf of OS)		$0.25		(816,750)
Residential Unit Construction Costs ($/sf) (16)		$0		0
Indirect Costs				
Impact Fees ($/unit) (17)		$4,590		(4,131,000)
insurance (% of direct costs)		1.0%		(165,551)
property tax (18)				(1,003,118)
Developer Fee (19)		1%		(218,548)
Contingency (20)		0%		0
Marketing / Advertising Costs		1.0%		(165,551)
SUBTOTAL DEVELOPMENT & LAND COSTS				(46,542,051)
Financing Costs				
Equity (equity interest paid w/ profit sharing (21)		25%	13,180,709	
Permanent Debt (22)		75%	39,351,304	
loan horizon (yrs)		2		
loan fees		2%		(787,026)
average draw		50%		
interest rate		8.00%		
debt service				(3,148,104)
Commission & Closing Costs		3.0%		(1,755,000)
TOTAL PROJECT COSTS				(52,232,181)
PROJECT PROFIT				
Project Profit				6,267,819
Project Profit (% of total costs) (23)				12.0%

	PER ACRE	TOTAL
RESIDUAL LAND COSTS	$75,407	$ 22,622,038
CURRENT LAND SELLING PRICE (24)	$45,000	$ 13,500,000
Willingness to Pay (25)	$30,407	$ 9,122,038
WTP per unit		$ 10,860

NOTES:
(1) County subdivision requirements call for minimum 11% open space; but average in subdivisions is 25%
(2) The number of units the developer can build above the base zoning with TDR purchases
(3) the number of requiref below-market-rate affordable units required
(4) based on data from the Multiple Listing Service (MLS) for the various geographic area as provided by the Gallatin Association of Realtors
(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)
(9) per unit sewer and water tie-in cost to the city of Bozeman, Belgrade, and Utility Solutions are: $8,000; $20,000; and $10,000 respectively
(10) Central sewer - assumes 2.5 persons/household x 100 gallon per capita x $20/gallon = $5000/unit (source: Great West Engineering)
(11) Community well assumed to be $200K and storage tank $400K; individual septic $15K (Great West Engineering)
(12) 15K for individual septic and 20K for individual well
(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 between $90 - $120 depending on price of the home
(17) County $4590/unit - no sewer fees; road impact fees $3973/unit (2007 Tischler Bise); fire $617/unit; Bozeman - $7,160/unit; Belgrade - $14,000/unit; Ma
(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 sales of vacant land in specified areas from 2006- 2007 MLS from the GAR
(25) the difference between the current land selling price and the residual land value

Gallatin County TDR
Receiving Area: Bozeman Donut
Development Scenario 4

SUBDIVISION CHARACTERISTICS				
Subdivision Gross Acreage				100
Open Space (1)			15%	15
Dedicated to roads			10%	10
Net Acreage				75
Base Density (1 unit / 5ac)				0.2
TDC density (units/acre) (2)				1
DEVELOPMENT PROGRAM				
Residential				*units*
# units with existing base density				20
# of Total residential units with TDRs				100
# of TDRs demanded				80
Average Lot size				32,670
		av. size (sf)	mix	
# Singlefamily detached homes		3,000	100%	100
# Affordable units (3)		2,000	0%	0
# Multifamily units			0%	0
Commercial Retail				0
Total # of Units				100
PROJECT REVENUE				
Residential				*$ revenue totals*
Improved Lot Selling Price (4)		$150,000		
price per sf		$5		15,000,000
Affordable Units				
Area Median Income (4-person HH)		0		
Income Category (% of AMI)		50%		
Mandatory Sales Price (5)		0		0
TOTAL PROJECT REVENUE				15,000,000
PROJECT COSTS				
				$ cost totals
Pre Development Costs				
land carry (% of raw land cost) (6)		4%		(320,000)
land entitlement / legal fees (% raw land) (6)		2%		(80,000)
professional fees (% of dev costs) (7)		2%		(90,288)
RESIDUAL LAND COSTS $/ac (8)		$60,295		(6,029,482)
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		$8,000	0	0
#2 Central Sewer and Communtiy Well (10)				
Central Sewer Treatment		$5,000	0	0
Engineering/Permitting		$500,000	0	0
Community Well / Storage		$600,000	0	0
#3 Communtiy Well Individual Septic (11)				
Individual Septic		$15,000	1	(1,500,000)
Community Well / Storage		$600,000	1	(600,000)
#4 Individual Well and Septic (12)		$35,000	0	0
			av distance (mile)	
Sewer & Water Main Extensions ($/ft) (13)		$70	-	0
Sewer & Water in subdivision collection/distribution ($/sf) (14)		$140		0
Subdivision Roads ($/mile) (15)	urban	$1,648,443	-	0
	rural	$875,532	2.0	(1,751,064)
Sewer / Water hook up ($/unit)		$500	-	0
Fire Protection ($/unit; scenario 4 only)	rural	$5,000	1	(500,000)
Landscaping ($/sf of OS)		$0.25		(163,350)
Residential Unit Construction Costs ($/sf) (16)		$0		0
Indirect Costs				
Impact Fees ($/unit) (17)		$4,590		(459,000)
insurance (% of direct costs)		1.0%		(45,144)
property tax (18)				(297,220)
Developer Fee (19)		1%		(53,158)
Contingency (20)		0%		0
Marketing / Advertising Costs		1.0%		(45,144)
SUBTOTAL DEVELOPMENT & LAND COSTS				(11,933,850)
Financing Costs				
Equity (equity interest paid w/ profit sharing (21)		25%	3,379,666	
Permanent Debt (22)		75%	10,090,071	
loan horizon (yrs)		2		
loan fees		2%		(201,801)
average draw		50%		
interest rate		8.00%		
debt service				(807,206)
Commission & Closing Costs		3.0%		(450,000)
TOTAL PROJECT COSTS				(13,392,857)
PROJECT PROFIT				
Project Profit				1,607,143
Project Profit (% of total costs) (23)				12.0%

	PER ACRE	TOTAL
RESIDUAL LAND COSTS	$60,295	$ 6,029,482
CURRENT LAND SELLING PRICE (24)	$40,000	$ 4,000,000
Willingness to Pay (25)	$20,295	$ 2,029,482
WTP per unit		$ 25,369

NOTES:
(1) County subdivision requirements call for minimum 11% open space; but average in subdivisions is 25%
(2) The number of units the developer can build above the base zoning with TDR purchases
(3) the number of requiref below-market-rate affordable units required
(4) based on data from the Multiple Listing Service (MLS) for the various geographic area as provided by the Gallatin Association of Realtors
(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)
(9) per unit sewer and water tie-in cost to the city of Bozeman, Belgrade, and Utility Solutions are: $8,000; $20,000; and $10,000 respectively
(10) Central sewer - assumes 2.5 persons/household x 100 gallon per capita x $20/gallon = $5000/unit (source: Great West Engineering)
(11) Community well assumed to be $200K and storage tank $400K; individual septic $15K (Great West Engineering)
(12) 15K for individual septic and 20K for individual well
(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 between $90 - $120 depending on price of the home
(17) County $4590/unit - no sewer fees; road impact fees $3973/unit (2007 Tischler Bise); fire $617/unit; Bozeman - $7,160/unit; Belgrade - $14,000/unit; Ma
(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 sales of vacant land in specified areas from 2006- 2007 MLS from the GAR
(25) the difference between the current land selling price and the residual land value

Gallatin County TDR
Receiving Area: Four Corners
Development Scenario 2

SUBDIVISION CHARACTERISTICS				
Subdivision Gross Acreage				300
Open Space (1)			25%	75
Dedicated to roads			10%	30
Net Acreage				195
Base Density (1 unit / 5ac)				0.2
TDC density (units/acre) (2)				2.3
DEVELOPMENT PROGRAM				
Residential				*units*
# units with existing base density				60
# of Total residential units with TDRs				690
# of TDRs demanded				630
Average Lot size				12,310
		av. size (sf)	mix	
# Singlefamily detached homes		2,200	100%	690
# Affordable units (3)		2,000	0%	0
# Multifamily units			0%	0
Commercial Retail				0
Total # of Units				690
PROJECT REVENUE				
Residential				*$ revenue totals*
Improved Lot Selling Price (4)		$60,000		
	price per sf	$5		41,400,000
Affordable Units				
Area Median Income (4-person HH)		0		
Income Category (% of AMI)		50%		
Mandatory Sales Price (5)		0		0
TOTAL PROJECT REVENUE				41,400,000
PROJECT COSTS				
				$ cost totals
Pre Development Costs				
land carry (% of raw land cost) (6)		4%		(720,000)
land entitlement / legal fees (% raw land) (6)		2%		(180,000)
professional fees (% of dev costs) (7)		2%		(325,435)
RESIDUAL LAND COSTS $/ac (8)		$37,784		(11,335,066)
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	(6,900,000)
#2 Central Sewer and Communtiy Well (10)				
Central Sewer Treatment		$5,000	0	0
Engineering/Permitting		$500,000	0	0
Community Well / Storage		$600,000	0	0
#3 Communtiy Well Individual Septic (11)				
Individual Septic		$15,000	0	0
Community Well / Storage		$600,000	0	0
#4 Individual Well and Septic (12)		$35,000	0	0
			av distance (mile)	
Sewer & Water Main Extensions ($/ft) (13)		$70	2.0	(739,200)
Sewer & Water in subdivision collection/distribution ($/sf) (14)		$70	6.0	(2,217,600)
Subdivision Roads ($/mile) (15)	urban	$1,648,443	-	0
	rural	$875,532	6.0	(5,253,192)
Sewer / Water hook up ($/unit)		$500	1	(345,000)
Fire Protection ($/unit; scenario 4 only)	rural	$5,000	0	0
Landscaping ($/sf of OS)		$0.25		(816,750)
Residential Unit Construction Costs ($/sf) (16)		$0		0
Indirect Costs				
Impact Fees ($/unit) (17)		$4,590		(3,167,100)
insurance (% of direct costs)		1%		(162,717)
property tax (18)				(668,745)
Developer Fee (19)		1%		(202,703)
Contingency (20)		0%		0
Marketing / Advertising Costs		1.0%		(162,717)
SUBTOTAL DEVELOPMENT & LAND COSTS				(33,196,225)
Financing Costs				
Equity (equity interest paid w/ profit sharing (21)		25%	9,401,171	
Permanent Debt (22)		75%	28,067,408	
loan horizon (yrs)		2		
loan fees		2%		(280,674)
average draw		50%		
interest rate		8.00%		
debt service				(2,245,393)
Commission & Closing Costs		3.0%		(1,242,000)
TOTAL PROJECT COSTS				(36,964,292)
PROJECT PROFIT				
Project Profit				4,435,708
Project Profit (% of total costs) (23)				12.0%

	PER ACRE	TOTAL
RESIDUAL LAND COSTS	$37,784	$ 11,335,066
CURRENT LAND SELLING PRICE (24)	$30,000	$ 9,000,000
Willingness to Pay (25)	$7,784	$ 2,335,066
WTP per unit		$ 3,706

NOTES:
(1) County subdivision requirements call for minimum 11% open space; but average in subdivisions is 25%
(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 the Multiple Listing Service (MLS) for the various geographic area as provided by the Gallatin Association of Realtors
(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)
(9) per unit sewer and water tie-in cost to the city of Bozeman, Belgrade, and Utility Solutions are: $8,000; $20,000; and $10,000 respectively
(10) Central sewer - assumes 2.5 persons/household x 100 gallon per capita x $20/gallon = $5000/unit (source: Great West Engineering)
(11) Community well assumed to be $200K and storage tank $400K; individual septic $15K (Great West Engineering)
(12) 15K for individual septic and 20K for individual well
(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 between $90 - $120 depending on price of the home
(17) County $4590/unit - no sewer fees; road impact fees $3973/unit (2007 Tischler Bise); fire $617/unit; Bozeman - $7,160/unit; Belgrade - $14,000/unit; Ma
(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 sales of vacant land in specified areas from 2006- 2007 MLS from the GAR
(25) the difference between the current land selling price and the residual land value

Gallatin County TDR
Receiving Area: Four Corners
Development Scenario 3

SUBDIVISION CHARACTERISTICS			
Subdivision Gross Acreage			300
Open Space (1)		25%	75
Dedicated to roads		10%	30
Net Acreage			195
Base Density (1 unit / 5ac)			0.2
TDC density (units/acre) (2)			2.3
DEVELOPMENT PROGRAM			
Residential			*units*
# units with existing base density			60
# of Total residential units with TDRs			690
# of TDRs demanded			630
Average Lot size			12,310
	av. size (sf)	mix	
# Singlefamily detached homes	2,200	100%	690
# Affordable units (3)	2,000	0%	0
# Multifamily units		0%	0
Commercial Retail			0
Total # of Units			690
PROJECT REVENUE			
Residential			*$ revenue totals*
Improved Lot Selling Price (4)	$60,000		
price per sf	$5		41,400,000
Affordable Units			
Area Median Income (4-person HH)	0		
Income Category (% of AMI)	50%		
Mandatory Sales Price (5)	0		0
TOTAL PROJECT REVENUE			41,400,000
PROJECT COSTS			
			$ cost totals
Pre Development Costs			
land carry (% of raw land cost) (6)	4%		(720,000)
land entitlement / legal fees (% raw land) (6)	2%		(180,000)
professional fees (% of dev costs) (7)	2%		(308,003)
RESIDUAL LAND COSTS $/ac (8)	$39,972		(11,991,562)
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	$8,000	0	0
#2 Central Sewer and Communtiy Well (10)			
Central Sewer Treatment	$5,000	1	(3,450,000)
Engineering/Permitting	$500,000	1	(500,000)
Community Well / Storage	$600,000	1	(600,000)
#3 Communtiy Well Individual Septic (11)			
Individual Septic	$15,000	0	0
Community Well / Storage	$600,000	0	0
#4 Individual Well and Septic (12)	$35,000	0	0
		av distance (mile)	
Sewer & Water Main Extensions ($/ft) (13)	$70	-	0
Sewer & Water in subdivision collection/distribution ($/sf) (14)	$140	6.0	(4,435,200)
Subdivision Roads ($/mile) (15)	urban $1,648,443	-	0
	rural $875,532	6.0	(5,253,192)
Sewer / Water hook up ($/unit)	$500	1	(345,000)
Fire Protection ($/unit; scenario 4 only)	rural $5,000	0	0
Landscaping ($/sf of OS)	$0.25		(816,750)
Residential Unit Construction Costs ($/sf) (16)	$0		0
Indirect Costs			
Impact Fees ($/unit) (17)	$4,590		(3,167,100)
insurance (% of direct costs)	1.0%		(154,001)
property tax (18)			(668,745)
Developer Fee (19)	1%		(193,900)
Contingency (20)	0%		0
Marketing / Advertising Costs	1.0%		(154,001)
SUBTOTAL DEVELOPMENT & LAND COSTS			(32,937,454)
Financing Costs			
Equity (equity interest paid w/ profit sharing (21)	25%	9,327,887	
Permanent Debt (22)	75%	27,848,618	
loan horizon (yrs)	2		
loan fees	2%		(556,972)
average draw	50%		
interest rate	8.00%		
debt service			(2,227,889)
Commission & Closing Costs	3.0%		(1,242,000)
TOTAL PROJECT COSTS			(36,964,316)
PROJECT PROFIT			
Project Profit			4,435,684
Project Profit (% of total costs) (23)			12.0%

	PER ACRE	TOTAL
RESIDUAL LAND COSTS	$39,972	$ 11,991,562
CURRENT LAND SELLING PRICE (24)	$30,000	$ 9,000,000
Willingness to Pay (25)	$9,972	$ 2,991,562
WTP per unit		$ 4,749

NOTES:
(1) County subdivision requirements call for minimum 11% open space; but average in subdivisions is 25%
(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 the Multiple Listing Service (MLS) for the various geographic area as provided by the Gallatin Association of Realtors
(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)
(9) per unit sewer and water tie-in cost to the city of Bozeman, Belgrade, and Utility Solutions are: $8,000; $20,000; and $10,000 respectively
(10) Central sewer - assumes 2.5 persons/household x 100 gallon per capita x $20/gallon = $5000/unit (source: Great West Engineering)
(11) Community well assumed to be $200K and storage tank $400K; individual septic $15K (Great West Engineering)
(12) 15K for individual septic and 20K for individual well
(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 between $90 - $120 depending on price of the home
(17) County $4590/unit - no sewer fees; road impact fees $3973/unit (2007 Tischler Bise); fire $617/unit; Bozeman - $7,160/unit; Belgrade - $14,000/unit; Manhatten - $
(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 sales of vacant land in specified areas from 2006- 2007 MLS from the GAR
(25) the difference between the current land selling price and the residual land value

Gallatin County TDR
Receiving Receiving Area: Four Corners
Development Scenario 4

SUBDIVISION CHARACTERISTICS				
Subdivision Gross Acreage				100
Open Space (1)			15%	15
Dedicated to roads			10%	10
Net Acreage				75
Base Density (1 unit / 5ac)				0.2
TDC density (units/acre) (2)				1
DEVELOPMENT PROGRAM				
Residential				*units*
# units with existing base density				20
# of Total residential units with TDRs				100
# of TDRs demanded				80
Average Lot size				32,670
		av. size (sf)	mix	
# Singlefamily detached homes		3,000	100%	100
# Affordable units (3)		2,000	0%	0
# Multifamily units			0%	0
Commercial Retail				0
Total # of Units				100
PROJECT REVENUE				
Residential				*$ revenue totals*
Improved Lot Selling Price (4)		$100,000		
price per sf		$3		10,000,000
Affordable Units				
Area Median Income (4-person HH)		0		
Income Category (% of AMI)		50%		
Mandatory Sales Price (5)		0		0
TOTAL PROJECT REVENUE				10,000,000
PROJECT COSTS				
				$ cost totals
Pre Development Costs				
land carry (% of raw land cost) (6)		4%		(120,000)
land entitlement / legal fees (% raw land) (6)		2%		(30,000)
professional fees (% of dev costs) (7)		2%		(90,288)
RESIDUAL LAND COSTS $/ac (8)		$24,892		(2,489,156)
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		$8,000	0	0
#2 Central Sewer and Communtiy Well (10)				
Central Sewer Treatment		$5,000	0	0
Engineering/Permitting		$500,000	0	0
Community Well / Storage		$600,000	0	0
#3 Communtiy Well Individual Septic (11)				
Individual Septic		$15,000	1	(1,500,000)
Community Well / Storage		$600,000	1	(600,000)
#4 Individual Well and Septic (12)		$35,000	0	0
			av distance (mile)	
Sewer & Water Main Extensions ($/ft) (13)		$70	-	0
Sewer & Water in subdivision collection/distribution ($/sf) (14)		$140		0
Subdivision Roads ($/mile) (15)	urban	$1,648,443	-	0
	rural	$875,532	2.0	(1,751,064)
Sewer / Water hook up ($/unit)		$500	-	0
Fire Protection ($/unit; scenario 4 only)	rural	$5,000	1	(500,000)
Landscaping ($/sf of OS)		$0.25		(163,350)
Residential Unit Construction Costs ($/sf) (16)		$0		0
Indirect Costs				
Impact Fees ($/unit) (17)		$4,590		(459,000)
insurance (% of direct costs)		1.0%		(45,144)
property tax (18)				(111,458)
Developer Fee (19)		1%		(51,300)
Contingency (20)		0%		0
Marketing / Advertising Costs		1.0%		(45,144)
SUBTOTAL DEVELOPMENT & LAND COSTS				(7,955,904)
Financing Costs				
Equity (equity interest paid w/ profit sharing (21)		25%	2,253,112	
Permanent Debt (22)		75%	6,726,717	
loan horizon (yrs)		2		
loan fees		2%		(134,534)
average draw		50%		
interest rate		8.00%		
debt service				(538,137)
Commission & Closing Costs		3.0%		(300,000)
TOTAL PROJECT COSTS				(8,928,576)
PROJECT PROFIT				
Project Profit				1,071,424
Project Profit (% of total costs) (23)				12.0%

	PER ACRE	TOTAL
RESIDUAL LAND COSTS	$24,892	$ 2,489,156
CURRENT LAND SELLING PRICE (24)	$15,000	$ 1,500,000
Willingness to Pay (25)	$9,892	$ 989,156
WTP per unit		$ 12,364

NOTES:
(1) County subdivision requirements call for minimum 11% open space; but average in subdivisions is 25%
(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 the Multiple Listing Service (MLS) for the various geographic area as provided by the Gallatin Association of Realtors
(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)
(9) per unit sewer and water tie-in cost to the city of Bozeman, Belgrade, and Utility Solutions are: $8,000; $20,000; and $10,000 respectively
(10) Central sewer - assumes 2.5 persons/household x 100 gallon per capita x $20/gallon = $5000/unit (source: Great West Engineering)
(11) Community well assumed to be $200K and storage tank $400K; individual septic $15K (Great West Engineering)
(12) 15K for individual septic and 20K for individual well
(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 between $90 - $120 depending on price of the home
(17) County $4590/unit - no sewer fees; road impact fees $3973/unit (2007 Tischler Bise); fire $617/unit; Bozeman - $7,160/unit; Belgrade - $14,000/unit; Manhatten - $
(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 sales of vacant land in specified areas from 2006- 2007 MLS from the GAR
(25) the difference between the current land selling price and the residual land value

Gallatin County TDR
Receiving Area: Belgrade Donut
Development Scenario 3

SUBDIVISION CHARACTERISTICS				
Subdivision Gross Acreage				300
Open Space (1)			25%	75
Dedicated to roads			10%	30
Net Acreage				195
Base Density (1 unit / 5ac)				0.2
TDC density (units/acre) (2)				3
DEVELOPMENT PROGRAM				
Residential				*units*
# units with existing base density				60
# of Total residential units with TDRs				900
# of TDRs demanded				840
Average Lot size				9,438
		av. size (sf)	mix	
# Singlefamily detached homes		2,200	100%	900
# Affordable units (3)		2,000	0%	0
# Multifamily units			0%	0
Commercial Retail				0
Total # of Units				900
PROJECT REVENUE				
Residential				*$ revenue totals*
Improved Lot Selling Price (4)		$45,000		
	price per sf	$5		40,500,000
Affordable Units				
Area Median Income (4-person HH)		0		
Income Category (% of AMI)		50%		
Mandatory Sales Price (5)		0		0
TOTAL PROJECT REVENUE				40,500,000
PROJECT COSTS				
				$ cost totals
Pre Development Costs				
land carry (% of raw land cost) (6)		4%		(600,000)
land entitlement / legal fees (% raw land) (6)		2%		(150,000)
professional fees (% of dev costs) (7)		2%		(331,103)
RESIDUAL LAND COSTS $/ac (8)		$31,172		(9,351,695)
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		$8,000	0	0
#2 Central Sewer and Communtiy Well (10)				
Central Sewer Treatment		$5,000	1	(4,500,000)
Engineering/Permitting		$500,000	1	(500,000)
Community Well / Storage		$600,000	1	(600,000)
#3 Communtiy Well Individual Septic (11)				
Individual Septic		$15,000	0	0
Community Well / Storage		$600,000	0	0
#4 Individual Well and Septic (12)		$35,000	0	0
			av distance (mile)	
Sewer & Water Main Extensions ($/ft) (13)		$70	-	0
Sewer & Water in subdivision collection/distribution ($/sf) (14)		$140	6.0	(4,435,200)
Subdivision Roads ($/mile) (15)	urban	$1,648,443	-	0
	rural	$875,532	6.0	(5,253,192)
Sewer / Water hook up ($/unit)		$500	1	(450,000)
Fire Protection ($/unit; scenario 4 only)	rural	$5,000	0	0
Landscaping ($/sf of OS)		$0.25		(816,750)
Residential Unit Construction Costs ($/sf) (16)		$0		0
Indirect Costs				
Impact Fees ($/unit) (17)		$4,590		(4,131,000)
insurance (% of direct costs)		1.0%		(165,551)
property tax (18)				(557,288)
Developer Fee (19)		1%		(214,090)
Contingency (20)		0%		0
Marketing / Advertising Costs		1.0%		(165,551)
SUBTOTAL DEVELOPMENT & LAND COSTS				(32,221,420)
Financing Costs				
Equity (equity interest paid w/ profit sharing (21)		25%	9,125,106	
Permanent Debt (22)		75%	27,243,210	
loan horizon (yrs)		2		
loan fees		2%		(544,864)
average draw		50%		
interest rate		8.00%		
debt service				(2,179,457)
Commission & Closing Costs		3.0%		(1,215,000)
TOTAL PROJECT COSTS				(36,160,741)
PROJECT PROFIT				
Project Profit				4,339,259
Project Profit (% of total costs) (23)				12.0%

	PER ACRE	TOTAL
RESIDUAL LAND COSTS	$31,172	$ 9,351,695
CURRENT LAND SELLING PRICE (24)	$25,000	$ 7,500,000
Willingness to Pay (25)	$6,172	$ 1,851,695
WTP per unit		$ 2,204

NOTES:
(1) County subdivision requirements call for minimum 11% open space; but average in subdivisions is 25%
(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 the Multiple Listing Service (MLS) for the various geographic area as provided by the Gallatin Association of Realtors
(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)
(9) per unit sewer and water tie-in cost to the city of Bozeman, Belgrade, and Utility Solutions are: $8,000; $20,000; and $10,000 respectively
(10) Central sewer - assumes 2.5 persons/household x 100 gallon per capita x $20/gallon = $5000/unit (source: Great West Engineering)
(11) Community well assumed to be $200K and storage tank $400K; individual septic $15K (Great West Engineering)
(12) 15K for individual septic and 20K for individual well
(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 between $90 - $120 depending on price of the home
(17) County $4590/unit - no sewer fees; road impact fees $3973/unit (2007 Tischler Bise); fire $617/unit; Bozeman - $7,160/unit; Belgrade - $14,000/unit; Ma
(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 sales of vacant land in specified areas from 2006- 2007 MLS from the GAR
(25) the difference between the current land selling price and the residual land value

Gallatin County TDR
Receiving Area: Manhattan Donut
Development Scenario 1

SUBDIVISION CHARACTERISTICS				
Subdivision Gross Acreage				100
Open Space (1)			10%	10
Dedicated to roads			10%	10
Net Acreage				80
Base Density (1 unit / 5ac)				0.2
TDC density (units/acre) (2)				6
DEVELOPMENT PROGRAM				
Residential				*units*
# units with existing base density				20
# of Total residential units with TDRs				600
# of TDRs demanded				580
Average Lot size				5,808
		av. size (sf)	mix	
# Singlefamily detached homes		1,800	100%	600
# Affordable units (3)		2,000	0%	0
# Multifamily units			0%	0
Commercial Retail				0
Total # of Units				600
PROJECT REVENUE				
Residential				*$ revenue totals*
Improved Lot Selling Price (4)		$45,000		
	price per sf	$8		27,000,000
Affordable Units				
Area Median Income (4-person HH)		0		
Income Category (% of AMI)		50%		
Mandatory Sales Price (5)		0		0
TOTAL PROJECT REVENUE				27,000,000
PROJECT COSTS				
				$ cost totals
Pre Development Costs				
land carry (% of raw land cost) (6)		4%		(200,000)
land entitlement / legal fees (% raw land) (6)		2%		(50,000)
professional fees (% of dev costs) (7)		2%		(249,137)
RESIDUAL LAND COSTS $/ac (8)		$36,234		(3,623,421)
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		$8,000	1	(4,800,000)
#2 Central Sewer and Communtiy Well (10)				
Central Sewer Treatment		$5,000	0	0
Engineering/Permitting		$500,000	0	0
Community Well / Storage		$600,000	0	0
#3 Communtiy Well Individual Septic (11)				
Individual Septic		$15,000	0	0
Community Well / Storage		$600,000	0	0
#4 Individual Well and Septic (12)		$35,000	0	0
			av distance (mile)	
Sewer & Water Main Extensions ($/ft) (13)		$70	0.5	(184,800)
Sewer & Water in subdivision collection/distribution ($/sf) (14)		$70	3.5	(1,293,600)
Subdivision Roads ($/mile) (15)	urban	$1,648,443	3.5	(5,769,551)
	rural	$875,532	-	0
Sewer / Water hook up ($/unit)		$500	1	(300,000)
Fire Protection ($/unit; scenario 4 only)	rural	$5,000	0	0
Landscaping ($/sf of OS)		$0.25		(108,900)
Residential Unit Construction Costs ($/sf) (16)		$0		0
Indirect Costs				
Impact Fees ($/unit) (17)		$7,160		(4,296,000)
insurance (% of direct costs)		1.0%		(124,569)
property tax (18)				(185,763)
Developer Fee (19)		1%		(170,632)
Contingency (20)		0%		0
Marketing / Advertising Costs		1.0%		(124,569)
SUBTOTAL DEVELOPMENT & LAND COSTS				(21,480,940)
Financing Costs				
Equity (equity interest paid w/ profit sharing (21)		25%	6,083,402	
Permanent Debt (22)		75%	18,162,135	
loan horizon (yrs)		2		
loan fees		2%		(363,243)
average draw		50%		
interest rate		8.00%		
debt service				(1,452,971)
Commission & Closing Costs		3.0%		(810,000)
TOTAL PROJECT COSTS				(24,107,154)
PROJECT PROFIT				
Project Profit				2,892,846
Project Profit (% of total costs) (23)				12.0%

	PER ACRE	TOTAL
RESIDUAL LAND COSTS	$36,234	$ 3,623,421
CURRENT LAND SELLING PRICE (24)	$25,000	$ 2,500,000
Willingness to Pay (25)	$11,234	$ 1,123,421
WTP per unit		$ 1,937

NOTES:
(1) County subdivision requirements call for minimum 11% open space; but average in subdivisions is 25%
(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 the Multiple Listing Service (MLS) for the various geographic area as provided by the Gallatin Association of Realtors
(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)
(9) per unit sewer and water tie-in cost to the city of Bozeman, Belgrade, and Utility Solutions are: $8,000; $20,000; and $10,000 respectively
(10) Central sewer - assumes 2.5 persons/household x 100 gallon per capita x $20/gallon = $5000/unit (source: Great West Engineering)
(11) Community well assumed to be $200K and storage tank $400K; individual septic $15K (Great West Engineering)
(12) 15K for individual septic and 20K for individual well
(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 between $90 - $120 depending on price of the home
(17) County - no sewer fees; road impact fees $3973/unit (2007 Tischler Bise); fire $617/unit; Bozeman - $7,160/unit; Belgrade - $14,000/unit; Manhatten - $
(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 sales of vacant land in specified areas from 2006- 2007 MLS from the GAR
(25) the difference between the current land selling price and the residual land value

Gallatin County TDR
Receiving Area: Manhattan Donut
Development Scenario 3

SUBDIVISION CHARACTERISTICS			
Subdivision Gross Acreage			300
Open Space (1)		25%	75
Dedicated to roads		10%	30
Net Acreage			195
Base Density (1 unit / 5ac)			0.2
TDC density (units/acre) (2)			3
DEVELOPMENT PROGRAM			
Residential			*units*
# units with existing base density			60
# of Total residential units with TDRs			900
# of TDRs demanded			840
Average Lot size			9,438
	av. size (sf)	mix	
# Singlefamily detached homes	2,200	100%	900
# Affordable units (3)	2,000	0%	0
# Multifamily units		0%	0
Commercial Retail			0
Total # of Units			900
PROJECT REVENUE			
Residential			*$ revenue totals*
Improved Lot Selling Price (4)	$50,000		
price per sf	$5		45,000,000
Affordable Units			
Area Median Income (4-person HH)	0		
Income Category (% of AMI)	50%		
Mandatory Sales Price (5)	0		0
TOTAL PROJECT REVENUE			45,000,000
PROJECT COSTS			
			$ cost totals
Pre Development Costs			
land carry (% of raw land cost) (6)	4%		(600,000)
land entitlement / legal fees (% raw land) (6)	2%		(150,000)
professional fees (% of dev costs) (7)	2%		(331,103)
RESIDUAL LAND COSTS $/ac (8)	$43,106		(12,931,826)
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	$8,000	0	0
#2 Central Sewer and Communtiy Well (10)			
Central Sewer Treatment	$5,000	1	(4,500,000)
Engineering/Permitting	$500,000	1	(500,000)
Community Well / Storage	$600,000	1	(600,000)
#3 Communtiy Well Individual Septic (11)			
Individual Septic	$15,000	0	0
Community Well / Storage	$600,000	0	0
#4 Individual Well and Septic (12)	$35,000	0	0
		av distance (mile)	
Sewer & Water Main Extensions ($/ft) (13)	$70	-	0
Sewer & Water in subdivision collection/distribution ($/sf) (14)	$140	6.0	(4,435,200)
Subdivision Roads ($/mile) (15)	urban $1,648,443	-	0
	rural $875,532	6.0	(5,253,192)
Sewer / Water hook up ($/unit)	$500	1	(450,000)
Fire Protection ($/unit; scenario 4 only)	rural $5,000	0	0
Landscaping ($/sf of OS)	$0.25		(816,750)
Residential Unit Construction Costs ($/sf) (16)	$0		0
Indirect Costs			
Impact Fees ($/unit) (17)	$4,590		(4,131,000)
insurance (% of direct costs)	1.0%		(165,551)
property tax (18)			(557,288)
Developer Fee (19)	1%		(214,090)
Contingency (20)	0%		0
Marketing / Advertising Costs	1.0%		(165,551)
SUBTOTAL DEVELOPMENT & LAND COSTS			(35,801,551)
Financing Costs			
Equity (equity interest paid w/ profit sharing (21)	25%	10,138,999	
Permanent Debt (22)	75%	30,270,211	
loan horizon (yrs)	2		
loan fees	2%		(605,404)
average draw	50%		
interest rate	8.00%		
debt service			(2,421,617)
Commission & Closing Costs	3.0%		(1,350,000)
TOTAL PROJECT COSTS			(40,178,572)
PROJECT PROFIT			
Project Profit			4,821,428
Project Profit (% of total costs) (23)			12.0%

	PER ACRE	TOTAL
RESIDUAL LAND COSTS	$43,106	$ 12,931,826
CURRENT LAND SELLING PRICE (24)	$25,000	$ 7,500,000
Willingness to Pay (25)	$18,106	$ 5,431,826
WTP per unit		$ 6,466

NOTES:
(1) County subdivision requirements call for minimum 11% open space; but average in subdivisions is 25%
(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 the Multiple Listing Service (MLS) for the various geographic area as provided by the Gallatin Association of Realtors
(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)
(9) per unit sewer and water tie-in cost to the city of Bozeman, Belgrade, and Utility Solutions are: $8,000; $20,000; and $10,000 respectively
(10) Central sewer - assumes 2.5 persons/household x 100 gallon per capita x $20/gallon = $5000/unit (source: Great West Engineering)
(11) Community well assumed to be $200K and storage tank $400K; individual septic $15K (Great West Engineering)
(12) 15K for individual septic and 20K for individual well
(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 between $90 - $120 depending on price of the home
(17) County $4590/unit - no sewer fees; road impact fees $3973/unit (2007 Tischler Bise); fire $617/unit; Bozeman - $7,160/unit; Belgrade - $14,000/unit; Ma
(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 sales of vacant land in specified areas from 2006- 2007 MLS from the GAR
(25) the difference between the current land selling price and the residual land value

Gallatin County TDR
Receiving Area: Manhattan Donut
Development Scenario 4

SUBDIVISION CHARACTERISTICS				
Subdivision Gross Acreage				100
Open Space (1)			15%	15
Dedicated to roads			10%	10
Net Acreage				75
Base Density (1 unit / 5ac)				0.2
TDC density (units/acre) (2)				1
DEVELOPMENT PROGRAM				
Residential				*units*
# units with existing base density				20
# of Total residential units with TDRs				100
# of TDRs demanded				80
Average Lot size				32,670
		av. size (sf)	mix	
# Singlefamily detached homes		3,000	100%	100
# Affordable units (3)		2,000	0%	0
# Multifamily units			0%	0
Commercial Retail				0
Total # of Units				100
PROJECT REVENUE				
Residential				*$ revenue totals*
Improved Lot Selling Price (4)		$90,000		
price per sf		$3		9,000,000
Affordable Units				
Area Median Income (4-person HH)		0		
Income Category (% of AMI)		50%		
Mandatory Sales Price (5)		0		0
TOTAL PROJECT REVENUE				9,000,000
PROJECT COSTS				
				$ cost totals
Pre Development Costs				
land carry (% of raw land cost) (6)		4%		(120,000)
land entitlement / legal fees (% raw land) (6)		2%		(30,000)
professional fees (% of dev costs) (7)		2%		(90,288)
RESIDUAL LAND COSTS $/ac (8)		$16,936		(1,693,564)
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		$8,000	0	0
#2 Central Sewer and Communtiy Well (10)				
Central Sewer Treatment		$5,000	0	0
Engineering/Permitting		$500,000	0	0
Community Well / Storage		$600,000	0	0
#3 Communtiy Well Individual Septic (11)				
Individual Septic		$15,000	1	(1,500,000)
Community Well / Storage		$600,000	1	(600,000)
#4 Individual Well and Septic (12)		$35,000	0	0
			av distance (mile)	
Sewer & Water Main Extensions ($/ft) (13)		$70	-	0
Sewer & Water in subdivision collection/distribution ($/sf) (14)		$140		0
Subdivision Roads ($/mile) (15)	urban	$1,648,443	-	0
	rural	$875,532	2.0	(1,751,064)
Sewer / Water hook up ($/unit)		$500	-	0
Fire Protection ($/unit; scenario 4 only)	rural	$5,000	1	(500,000)
Landscaping ($/sf of OS)		$0.25		(163,350)
Residential Unit Construction Costs ($/sf) (16)		$0		0
Indirect Costs				
Impact Fees ($/unit) (17)		$4,590		(459,000)
insurance (% of direct costs)		1.0%		(45,144)
property tax (18)				(111,458)
Developer Fee (19)		1%		(51,300)
Contingency (20)		0%		0
Marketing / Advertising Costs		1.0%		(45,144)
SUBTOTAL DEVELOPMENT & LAND COSTS				(7,160,312)
Financing Costs				
Equity (equity interest paid w/ profit sharing (21)		25%	2,027,800	
Permanent Debt (22)		75%	6,054,044	
loan horizon (yrs)		2		
loan fees		2%		(121,081)
average draw		50%		
interest rate		8.00%		
debt service				(484,324)
Commission & Closing Costs		3.0%		(270,000)
TOTAL PROJECT COSTS				(8,035,717)
PROJECT PROFIT				
Project Profit				964,283
Project Profit (% of total costs) (23)				12.0%

	PER ACRE	TOTAL
RESIDUAL LAND COSTS	$16,936	$ 1,693,564
CURRENT LAND SELLING PRICE (24)	$15,000	$ 1,500,000
Willingness to Pay (25)	$1,936	$ 193,564
WTP per unit		$ 2,420

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