Alternative Transfer of Development Rights (TDR) Transaction Mechanisms

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I. Introduction

Transfer of development rights (TDR) is an innovative land use tool that can help communities implement growth management plans and policies. As a voluntary, market-based mechanism, TDR goes beyond conventional zoning by transferring development rights from areas where conservation is favored into areas where growth can be accommodated. A more complete description of TDR and its benefits is detailed in the first issue paper in this series, entitled "Transfer of Development Rights (TDR) in Washington State: Overview, Benefits, and Challenges," also written and published by the Cascade Land Conservancy.

The purpose of this paper is twofold. First, it defines, evaluates, and illustrates transaction mechanisms as a central component of any TDR program. At present there is a wide range of methods by which TDR programs accomplish the most basic elements of development rights transfers: the exchange of rights and money. The range of transaction mechanisms can vary from the simple to the complex, from private to public, and from fees to investment corporations.

Secondly, this paper is intended to support the work of the Washington State Department of Community, Trade, and Economic Development (CTED) and its Policy Advisory Committee. This committee is charged with recommending an effective structure for a regional TDR program in Washington to the state legislature. This paper, along with other research and contributions to the committee, serves to inform policy about the merits of different TDR transaction mechanisms and provides an analytic framework in which to evaluate them.

Alternatives reviewed include:

1. Private market transactions between individual buyers and sellers;
2. Private market transactions with transaction support from a public agency;
3. TDR brokerage system for matching up compatible buyers and sellers and facilitating their transactions;
4. TDR bank: a public or private, non-profit entity authorized to buy and sell development rights;
5. Private investment corporation; and
6. Density fee in lieu of TDR.

It is important to note that the realm of TDR programs encompasses more specific examples than can be realistically included in this paper. For a comprehensive inventory and discussion of TDR programs around the United States, the reader should refer to

Beyond Givings and Takings by Rick Pruetz, Arje Press, 2003. The alternatives presented here represent a selection of transaction mechanisms that have historical evidence of success, relevance to the jurisdictions for which they are being considered, and represent the diversity of forms available. For purposes of analysis, these alternatives are assessed separately, but as a practical matter they can be applied in various combinations.

II. Problem Statement

The importance of the transaction mechanism in a TDR program is manifold. First, the process by which development rights are transferred must meet the needs of both buyers and sellers. Without this element of basic function a marketplace for transactions won't exist, rendering TDR programs ineffective. Some programs have not completed any transactions on account of this issue, notably Thurston County in Washington State. Secondly, the mechanism must be affordable for the sponsoring jurisdiction and practical to administer. If the costs outweigh the public benefit of the conservation achieved, the program will not be sustainable. Likewise, if the program is too complex it will create barriers to participation which will diminish its effectiveness. Third, it is essential that the choice of transaction mechanism reflects local context and priorities. One community might place a high priority on simplicity, while the conservation of large, contiguous parcels is paramount in another. The choice of the appropriate transaction mechanism is an essential element of designing a TDR program that will function effectively, be sustainable, and match the context and priorities of the area in which it operates.

In many cases TDR transactions are similar to standard (fee simple) real estate transactions. First a buyer and seller come together to transfer property ownership at an agreed upon price. Second, payment is made, typically through an escrow process. Third, a public agency documents the transfer of the property and maintains records of the transaction. Typically, the instrument for a transfer of development rights is a conservation easement on the sending property. In legal and financial terms, TDR transactions can be just as consequential for buyers and sellers as a standard real estate transaction. Landowners incorporate the process into their estate plans, retirement investments, or use it as a way to keep their land in the family. Developers can invest in development rights to increase their returns through increased densities. Some general similarities exist between TDR and other real estate transactions, but the deeper complexities of TDR transactions can also highlight some contrasts.

There are a multitude of differences between TDR and real estate transactions. In a TDR transaction only a portion of the ownership rights for a property changes hands. Specifically, the right to develop the land is severed from a property, with ownership of the land unchanged. The landowner can continue to use the land for agriculture, forestry, or other resource uses following the transaction. A transfer of development rights can be more complex than fee simple transactions due to variations in development rights values between sending and receiving areas (See previous CLC issue paper *TDR in Washington State: Overview, Benefits and Challenges* for further discussion about TDR exchange rates). Additionally, an individual property owner may have more or fewer development rights to sell than an individual developer needs to complete a project requiring TDR on a particular receiving site. Furthermore, transaction timing can introduce complications. Frequently the availability in the market of a buyer for development rights is not synchronous with the timing considerations for the seller, and vice versa.

Development rights transactions also face problems different from those affecting real estate transactions. Supporting infrastructure for a TDR market often doesn't exist. Private sector infrastructure is well-established for standard real estate transactions. Professional support comes from real estate agents and brokers, bankers and other lending institutions, escrow agents, and title companies. Such infrastructure is generally not in place at the start of a TDR program, but could develop over time as the program becomes active and establishes a robust marketplace.

While the range of TDR transaction mechanisms in use varies widely, there are certain fundamental elements that are common to all of these alternatives. Regardless of the level of public involvement in a transaction mechanism, the government must provide a basic group of functions that is essential to the operation of the program. These include:

- Establishing which market players are eligible to participate in the program.
- Issuing TDR certificates and verifying conservation easements.
- Tracking trades of development rights transparently.
- Enforcing easements and monitoring compliance.

III. Marketplace Players

There must be at least three separate participating entities in order to complete a TDR transaction. These include a seller of development rights (landowner), a buyer of development rights (builder or developer), and a sponsoring public agency that sets the rules of the program and ensures fair play.

Sellers are frequently private individual landowners, although they can also be commercial landowners like timber companies. Issues that affect sellers include:

- Development right prices must be high enough to justify a sale.
- Information about the program must be available. Do buyers know the program exists? Are they eligible?

- Obstacles to participation must be addressed, including the complexity of the selling process and the uncertainty of demand from buyers.

Buyers are frequently builders and developers, although in many instances government or private agencies can buy development rights. A potential buyer could also be a private investment firm that trades in development rights. Issues that affect buyers include:

- Development right prices must be low enough to justify purchase.
- Rights must be available on the market to purchase.
- Additional density or height purchased with a TDR must be profitable.

Sponsoring agencies can be some branch of the government at the municipal, county, or state level. These can vary widely depending on the character, size, and conservation objectives of the program. Issues affecting sponsoring agencies include:

- Program operating costs must be affordable.
- The mechanism must be able to accommodate transactions that achieve community land use planning goals, such as conservation of natural resource lands
- Other market players must participate. Without sellers' supply and buyers' demand, the public agency's role will be reduced

IV. Presentation of Evaluation Criteria

An effective TDR transaction mechanism needs to work for buyers, sellers, and the sponsoring agency, and it needs public support. In order to compare the relative performance and merits of the different mechanisms, four evaluation criteria are proposed as the basis for assessing the alternatives. The selection of these criteria was based on several considerations. First, they present a diversity of perspectives in assessing how the various mechanisms work, from both a practical and policy standpoint. Secondly, the criteria were chosen in accordance with guidelines established by Eugene Bardach in his book *A Practical Guide for Policy Analysis*, Chatham House Publishers, 2000, a definitive text on the subject. Third, the applicability of the criteria to the decisions facing the Policy Advisory Committee was considered. What kind of analysis does the Committee need in order to understand transaction mechanisms on a broad level and complement the specialized regional market investigation commissioned by CTED?

It is important to note that the purpose of applying these criteria to the transaction mechanisms is to present a conceptual framework that can be consistently utilized throughout the analysis. Even though the analysis includes discussion of policy apparatus and political feasibility, it is in no way intended to propose policy recommendations or advance political goals. This paper is purely designed to present a broad overview of the subject with a simple analysis, and to draw upon examples of existing programs for illustration of the alternative mechanisms. The four criteria are:

1. **Ease of participation.**

How well does the mechanism meet the needs of buyers and sellers? Is it practical for buyers and sellers to find each other and execute TDR transactions? Is the process accessible and simple to use? This is distinct from the notion of the incentive being sufficient for market players to participate, which is determined by other elements of the program's design and is not inherent to the transaction mechanism.

2. **Cost effectiveness and ease of administration.**

How expensive is the program to administer? Who bears the costs? Do public benefits outweigh the costs? How complex is the administrative component of the mechanism?

3. **Effectiveness in policy implementation.**

Can the mechanism accommodate transactions that achieve conservation on a scale appropriate to the desired land use patterns?

4. **Political feasibility.**

How likely is the alternative to generate political support? Can it sustain broad-based support from a diversity of stakeholders? Who will oppose the mechanism?

V. Private Market Transactions Overview

Private market transactions occur when a landowner sells development rights or credits directly to a buyer. The two parties negotiate the sale terms and price, which can vary depending on market conditions. The seller places a conservation easement onto the property from which the development rights have been severed, and the buyer can apply the development rights towards construction bonuses on the receiving site. Examples of these include increased density or height, and reductions in parking or impervious surface requirements. A public agency typically records the transaction and certifies the easement.

Even in a smoothly functioning marketplace for private market transactions, the sponsoring public agency needs to ensure that TDR transactions are recorded, tracked and coordinated with the development permit process. To address this need, some jurisdictions have set up a formal system for issuing, tracking and monitoring the use of development rights. Some agencies, like Montgomery County, assign serial numbers to the development rights to track when they were issued, to whom, and when they were applied at receiving sites. Serializing the rights also protects against multiple uses of the same rights. Public agencies are also responsible for the enforcement of conservation easements, and can sue landowners who contravene the terms of the easement.

Private market transactions, like other TDR mechanisms, can take a variety of forms. The three primary variations discussed in the following sections include simple buyer-seller transactions, publicly supported transactions, and brokered transactions. For each alternative, the mechanism is defined and its workings are discussed, followed by an evaluation using the four criteria and a presentation of advantages and disadvantages. Each section concludes with a summary of real world applications of the specific mechanism.

A. Simple Buyer-Seller Transactions

Private transactions must be profitable for both buyer and seller. Compensating for perceived and actual risk, buyers are generally willing to pay less per development right than the actual value of each right for development purposes (Horner et. al, 2003). Issues of timing, financial and market risks, and marginal cost increase for larger developments all influence a buyer's willingness to engage in TDR transactions. Sellers bring their own individual considerations to each transaction. Some are motivated by the idea of being able to conserve land in perpetuity, seeing TDR as fulfilling a philosophical mission. Others recognize TDR as a means of earning top dollar for the development rights while continuing to own and use their land.

While there is no instance of TDR programs functioning entirely in the private sector, this mechanism features one of the lowest levels of public involvement. Under a simple buyer-seller mechanism, the minimum participation of the government agency must be to issue the development rights, record the transaction, and certify the easement.

Evaluation by Criteria

1. Ease of participation for buyers and sellers

The ease of participation in the most basic of private market transactions can be highly variable. In programs with minimal public involvement, landowners might not be aware that they are eligible to participate, or that a TDR program even exists. Developers may be deterred from participation if the process of locating a seller and negotiating a transaction is too onerous. The level of public involvement influences the availability of information, which affects the ease of participation.

2. Cost effectiveness and ease of administration

In programs using simple private market transactions, the public cost of administration is the lowest of any alternative. Sponsoring agencies are responsible for the clerical and recordkeeping steps of the process, which can take a fraction of one employee's time in the case of some programs.

3. Effectiveness in policy implementation

Simple private market transactions are highly variable in accomplishing public conservation policy objectives. They are effective at achieving certain goals, and ill-suited to achieving others. The mechanism works well for protecting individual parcels within a legally defined conservation district, but is impractical for protecting large, contiguous areas of land or providing incentives to protect environmental areas of particular importance.

4. Political Feasibility

In areas where public opinion opposes government involvement in property rights issues, this alternative has the greatest feasibility owing to the minimal role that government plays in the transaction process. Conversely, in areas where public opinion places a high priority on large scale conservation, this alternative may be perceived as not achieving sufficient levels or types of conservation.

Advantages

- This mechanism relies heavily on the private market. Conceptually this is the most distilled form of TDR.
- A deal can take any form agreed to by buyer and seller. There is no limit to creative deal-making. As one example, some buyers and sellers have entered into joint ventures or partnerships as an alternative to a cash transaction. In this arrangement, the seller negotiates a stake in the proceeds from a TDR development project, assuming some share of the development risk as well as a share in the profits.
- Public costs are the lowest of any alternative presented.
- Reliance on the private sector may enhance its political feasibility in some communities.

Disadvantages

- The limited availability of information is often a major obstacle, especially at the outset when the marketplace is not well established. It can be challenging for potential buyers and sellers to learn about the program, and to find each other in the marketplace in the absence of institutional support.
- Timing can be a significant problem. Buyer and seller interest may not be synchronous. Developers may need to act quickly in a rapidly growing real estate market, while sellers might want to time their sale to maximize their financial advantage.

- When a TDR program is new and untested, there may be reluctance to participate. Both sellers and developers may view the program as risky and uncertain.
- TDR purchases under this alternative do not necessarily reflect the conservation objectives of the program. As rational actors, developers will seek to purchase development rights at the lowest price. The resulting development right sales may not correspond to a jurisdiction's highest priorities for conservation. This is especially evident when a community seeks to protect resource lands that are close to urban centers and thus subject to increased development pressure and higher prices for development rights.
- The private market on its own may not be effective in protecting large contiguous areas, since individual developers may need to purchase only a portion of the development rights from a large sending site.
- Large projects may require the negotiation of several development rights transactions, which create added burdens for participation.

Experience to date

San Luis Obispo County, California, has structured their transfer of development credit program with some unique elements. Instead of designating sending and receiving sites using geographical boundaries, the program uses a list of property attributes to define what lands qualify to participate. In contrast with the nearby Cambria program, this San Luis Obispo County program has had limited success in conserving lands.

Participation barriers are less tangible than in other areas. While the bureaucratic process to apply is simple, there are social pressures to prevent participation. Kami Griffin, program administrator, perceives that there is an element of community deterrence that dissuades some landowners from applying to the program. A feeling of resentment among neighbors who don't want increased development density has negative repercussions for landowners applying to be receiving sites (Griffin, 2008).

Griffin considers the program to be highly cost effective. Administration requires two hours per month of one person's time. Effectiveness in achieving conservation goals is variable, however. Many of the sending sites applying to the program are of the type targeted for conservation: large cattle ranches. The success the program has had in drawing those sites to participate has been limited.

Problems of political feasibility have also influenced the success of the program. In addition to the "not in my backyard" (NIMBY) issues described earlier, a rule allowing rural to rural transfers has created the perception that development potential is being shifted around within the agricultural areas. Consequently, the county is considering adding a geographical component to the definition of sending sites (Griffin, 2008).

Thurston County, Washington, started a TDR program in 1996 to protect agricultural land. Over the past 11 years, the program has not had any developers apply credits in receiving areas, even though a few developers have made purchases from sending sites. The county has performed limited outreach in the past to potential participants, but has not made education and marketing a priority of the program. County planners attribute the lack of transactions to three factors: general skepticism about dealing with county government, the fact that any applicant in sending sites must hire a contractor to complete a survey of their property before being issued development rights, and the lack of development pressure owing to existing building capacity within the urban areas. Planners observe that the program could be improved by expanding eligibility of sending sites and involving cities to a greater extent to help create demand for development rights (Adair, 2008).

In **Pitkin County, Colorado,** Community Planning Director Cindy Houben describes the jurisdiction's program as "a totally free-market-driven approach, which this community has embraced" (Houben, 2008). Pitkin County offers only a spreadsheet with certificate numbers, with no contact information or pricing. The county is satisfied with the number of acres protected (more than 5,000). Pitkin County's unique situation likely makes its TDR program difficult to replicate on a broad scale: The county includes affluent Aspen, where there is consensus on protecting back-country acreage in exchange for building large vacation or ranch homes in receiving areas.

B. Private Market Transactions with Public Agency Support

Private TDR transactions can be encouraged through varying levels of public agency support for the process beyond the clerical involvement already discussed. There are numerous ways in which the sponsoring agency can participate in the process to facilitate interaction between buyers and sellers. Most of these approaches relate to improving information availability and promoting transparency of the process.

Government agencies can maintain public registries of landowners who wish to sell their development rights and developers who are seeking to purchase them. When either party wants to pursue a transaction, the registry becomes a resource that buyers and sellers can use to contact each other. These can be kept as a list by the agency, accessible upon request (Montgomery County) or can be published on the Internet for prospective parties to consult (Collier County). The terms of the transaction can still be freely negotiated between buyer and seller.

Government agencies, land trusts, or private agencies can publish historical data about the program: how many transactions have occurred and when, how much land has been conserved, and at what prices development rights have sold. Instructions detailing the participation process are another valuable piece of information frequently published online. Both of these examples of involvement serve to educate prospective participants.

Another way the public agency can encourage interaction is by informing eligible participants of their status under the program. Many potential participants may not even be aware of the existence of a TDR program, let alone their eligibility to take advantage of it. In one example of this, the City of Redmond, Washington, mailed informational flyers to eligible landowners describing the program and how to sell their development rights. This resulted in an increased level of participation.

Offering grants to communities to conduct economic analysis of TDR feasibility is another way government can support transactions. The state of New Jersey provides up to $40,000 to individual communities to perform market analysis before deciding to implement a TDR program.

Government agencies can support private transactions by influencing the marketplace (sending price signals). One example of this is a minimum price of development credits set by Collier County, Florida. By fixing a price floor, the county is encouraging participation among sellers of development credits since they have higher certainty about how much money they will earn in a transaction.

Evaluation by Criteria

1. Ease of participation for buyers and sellers

Public agency support for private transactions can make participation easier for both buyers and sellers of development rights. The most important change this mechanism introduces is increasing the availability of information to participants in the marketplace. By providing more detailed information about the program and making it widely available, public agencies can both improve participants' understanding of the process and facilitate buyers and sellers locating each other.

2. Cost effectiveness and ease of administration

The cost to the public of program support is proportional to its level of involvement. Compared to other mechanisms, however, a modest cost increase to improve information availability can result in a high return in increased participation. In many cases, this approach has a documented history of increasing program participation to an extent that justifies the expense.

3. Effectiveness in policy implementation

While this alternative addresses many of the limitations of the simple buyer-seller mechanism, it has the same limitations of the market's conservation choices not reflecting the government's priorities. In one possible outcome, the disconnect between these two sets of preferences may be exacerbated by the improved availability of information. Developers will have better tools to find less expensive rights to purchase, which may not result in conservation of land exposed to higher development pressures. Conversely, public agencies can attempt to influence conservation by targeting outreach to potential sellers in areas with high conservation value.

4. Political Feasibility

Increased levels of government support for private market transactions should not meet substantially higher political resistance than a simple buyer-seller structure, because in most cases the government's involvement is limited to promotional purposes. The transactions themselves still fall within the private domain. Market interventions, such as in Collier County, can create mixed opinions, as a price floor creates an advantage for sellers at the expense of buyers.

Advantages

- This mechanism helps interested buyers and sellers to find each other, increasing marketplace efficiency.
- Public agency support reduces uncertainty and streamlines decision-making for the participants.

- Public agency support addresses the market timing issues in simple buyer-seller transactions.
- Elements of this mechanism facilitate interactions between buyers and sellers.

Disadvantages

- Land protected via this mechanism may not reflect the sponsoring agency's conservation priorities.

Experience to date

The city of **Redmond, Washington,** operates a TDR program with the goal of conserving agricultural land in the Sammamish Valley with the additional option for preserving historical buildings. The city maintains a website providing information about the TDR program, and provides additional support by organizing and promoting a transparent marketplace. The website also provides updated records of recent transactions, including market participants, credits purchased, prices paid and total acres protected.

Participation in this program is easy, as the focus is narrow, eligible sending sites are clearly defined, and the legal framework exists to support the program. Information about the program is easily accessed through the city's website, as are all necessary forms to apply. The main obstacles to participation are knowledge of the program's existence and the lack of a buyer's list making sales more difficult. In 2007, the program mailed information to all remaining eligible sending sites to spur additional participation.

The Redmond program is highly cost effective to operate. The administrative cost to the city is a fraction of one employee. According to Associate Planner Jeff Churchill, Redmond's TDR program is notable for the extent to which it has accomplished its conservation policy objectives. To date it has conserved 417 acres of agricultural land, which is most of what the program initially set out to protect. The program is in the process of expanding the scope of its conservation objectives to include more sending sites in riparian corridors and valuable hillsides. Demand for development rights has remained high in receiving areas. (Churchill, 2008)

The political feasibility of Redmond's program has been high. The city council supports the program, and agreed to updates to refine it. Landowners of eligible sending sites support the program and have been willing to participate, and while developers in receiving areas have been less supportive, they have continued to participate.

Collier County, Florida, has operated a TDR program since 2004, which includes a central registry to provide public support for private TDR transactions. This registry consists of lists of buyers and sellers of development rights, and the webpage also provides all the forms needed to apply for the program. The program also maintains information on lands protected, participation bonuses and recent sale prices. The board of county commissioners sets the minimum price of a development credit, currently $23,000.

Participation is highest among developers, due largely to a state mandate requiring a purchase of transferable development rights. Developers also took the creative approach of buying sending sites and selling the development credits to themselves. Joe Thompson, Senior Planner and administrator of the program, sees a surplus of development rights for sale on the market at present. One policy objective that is not being met is the desired level of individual landowner participation. Joe Thompson believes that incorporating a bank would improve the TDR program by encouraging greater participation from individual landowners. (Thompson, 2008)

The cost effectiveness of the program is quite high, as there is no capital outlay to fund it and the entire program can be managed by one staff person. The political feasibility of the program is contentious. The state ordered implementation of the program, which created a controversial atmosphere as many of the stakeholders affected by the mandate were not involved in the policymaking process.

The **New Jersey Pinelands** development credit program serves to protect a portion of the one-million acre Pinelands region in the south-eastern part of the state. This program is one of the most complex in the country, as it encompasses a sizeable geographical area and a large number of communities. The program administers over 200,000 acres distributed among several sending areas, of which 55,000 have already been preserved. As of March, 2007, more than 10,700 development rights have been formally allocated and development projects using 4,482 rights have been approved (NJ Pinelands Commission, 2007). The program provides public support for private transactions through establishing receiving area densities, intervening in the market to add receiving capacity, and determining the allocation of development rights to sending areas.

The practical ease of participation for landowners and developers is simple; the program is structured in such a way as to make it accessible to all eligible participants. Changes in the market for development rights has had a pronounced effect on participation. When the price per right was $10,000, motivation to sell was not very high. As prices peaked at $35,000 per right, landowner willingness to sell increased, and the current price of about $29,000 per credit has maintained seller interest (Liggett, 2008).

The Pinelands program has demonstrated a high level of success in achieving conservation policy objectives. Over time, regulations concerning TDR participation by developers have tightened, and densities in receiving areas have been reassigned. One reason the program has accomplished conservation is because requirements have become not only more stringent but more systematic. A strong legal framework exists to support the conservation policy objectives. In the Pinelands jurisdiction, over seventy cities are mandated to require TDR to build beyond a certain density.

The Pinelands program has faced some political resistance. Larry Liggett, Planning and Research Manager of the New Jersey Pinelands Commission, suggests that the public costs involved create a deterrent to participation in some communities. In New Jersey, local governments rely on property tax as a revenue source for schools and public services. Municipalities often frown upon programs that serve to promote development, since the marginal public cost of providing services frequently exceeds the additional tax revenue generated by growth (Liggett, 2008).

C. Brokered Transactions

Definition

This alternative relies on private transactions as the core of the program, but incorporates brokers to facilitate TDR transactions. The concept of a TDR brokerage is the same as that for traditional real estate. A TDR broker acts as agent of the seller or buyer of development rights. For a fee, the broker markets available development rights to potential buyers, helps negotiate sales agreements, and arranges escrow process to facilitate transaction. The brokerage function could be performed by a public agency or, more likely, by the private sector.

Evaluation by Criteria

1. Ease of participation for buyers and sellers

A privately brokered transaction mechanism makes participation easy and straightforward for both buyers and sellers of development rights. Buyers and sellers do not have to interact directly, as the agent functions as the intermediary. As with real estate transactions, there will be a cost to the parties involved, and this increased cost of participation may deter potential buyers or sellers. Like real estate transactions, this depends on the structure of the pricing scheme. Charging a commission to the buyer of development rights might increase the incentive for sellers to participate. Any brokerage system gives participants access to exclusive advantages and services at a cost. If buyers and sellers of development rights perceive the value of these advantages and services to be worth the premium, there will be demand for a TDR brokerage system.

2. Cost effectiveness and ease of administration

From a public standpoint, this alternative presents an inexpensive option. Savings to the government are achieved by shifting the transaction costs to the individual parties. Brokers will charge commissions for their services, and they will do work to facilitate transactions that the government might not be willing to pay for or perform. The public agency would continue to perform the clerical functions of certifying transactions and keeping records.

3. Effectiveness in policy implementation

A brokerage system might encourage a higher level of participation in a TDR program, as it would be in the interests of the brokerage firms as well as the government to maximize participation. A brokerage firm would have a different motivation to contact sellers of development rights and orchestrate more complex transactions than would a government agency. Shifting the costs to the private sector saves the public money, but also creates an opportunity for profit within the private sector. There is the potential for the growth of a TDR market that mirrors that of the real estate market. The motivations of a private firm to maximize profit might not reflect the conservation objectives of the public agency. Different conservation outcomes might arise depending on whether the buyer or seller of development rights was paying the brokerage commission.

4. Political Feasibility

Elements of this transaction mechanism that might fall into political disfavor include the conservation effectiveness and costs of the brokerage. Environmental interest groups might conceivably decry a program that failed to conserve high priority lands. This would probably present the greatest political hurdle. Landowners and developers could be displeased by the additional cost burden given to them, although this would depend on the volume of transactions, the cost of the commissions, and the allocation of payment responsibility. In time the mechanism may become as well accepted as private real estate brokerages.

Advantages

- Brokers links compatible buyers and sellers to enable transactions.
- Brokers can provide professional support and expertise to buyers and sellers to help them navigate the transaction process.
- If embraced by the private sector, a TDR brokerage could represent a strong business opportunity and could help build support for the concept of TDR. Transactions could be facilitated with limited government involvement.
- The mechanism is funded by the transactions themselves.

Disadvantages

- Increased cost of participation may deter potential buyers or sellers.
- Land protected through private brokers may not reflect the conservation priorities of public agencies.

Experience to date

Montgomery County, Maryland, is one of the most successful TDR programs in the country. Established in 1981, it is also one of the oldest. Montgomery county has constrained the role of the government in the transaction process, limiting it to approving easements, reviewing paperwork, assigning serial numbers, and maintaining lists of willing buyers and sellers. The county has placed 68,000 acres of prime farm and forestland into conservation easement through thousands of transactions. (Wall and McConnell, 2007)

The success of this program is linked to several historical factors. First, the county defined clear, simple policy objectives for the program and created the legal and institutional frameworks necessary to achieve them. In 1980, the county delineated an agricultural reserve, within which land was targeted for conservation and identified as eligible sending sites. The county subsequently downzoned all land in the agricultural reserve from 1 dwelling unit per 5 acres to 1 unit per 25 acres. Second, the TDR program was designed to compensate landowners for the downzone by allocating development rights based on the pre-existing zoning (a 100-acre parcel would thereby be granted 20 development rights based on the 1:5 zoning instead of 4 development rights based on the 1:25 zoning). Third, the government has taken an active role in influencing market conditions. One of the challenges the program has faced is disequilibrium between supply of and demand for development rights. For many years there was an excess of development rights on the market after many landowners sold theirs out of fear of depreciation, and the county responded by adding receiving capacity in urban areas (Walls and McConnell, 2007). Fourth, Montgomery County frequently pairs Purchase of Development Rights (PDR) with TDR. On its own, TDR extinguishes density in the agricultural reserve, but the PDR process augments conservation by purchasing higher levels of conservation and stewardship.

Montgomery County has also helped overcome the information problem by actively engaging the real-estate agent community. Inquiries from developers and private parties seeking development credits are forwarded to several independent agents who specialize in the sale of development rights and act as brokers between potential sellers and buyers. This brings the program more solidly into the free market and facilitates transactions in the same way real estate agents operate in the housing market. Incorporating the pool of agents also ensures that a body of knowledge and experience will likely be involved in every transaction, reducing actual and perceived risk. The inclusion of agents increases transaction costs.

John Zawitowski of the Economic Development Department, Agricultural Services, described the evolution of the obstacles facing the program. Having nearly accomplished its original policy objective of conserving 70,000 acres of land within the agricultural reserve, Montgomery County is facing new problems associated with the maturation of the program. The value of the limited remaining development rights has increased substantially. Those parcels in the agricultural reserve not yet protected by easements are highly attractive for development, since they are surrounded by land in perpetual conservation. The next generation of programs that Montgomery County is considering, including the Building Lot Termination Program, will address the issues of the holdout development rights (Zawitowski, 2008).

VI. TDR Banks

Definition

A TDR bank is an entity designed to buy, sell, and hold development rights. It can be managed by a government agency or by a private firm. The government may provide an initial amount of funding (seed money) to finance development right purchases. The bank purchases development rights from individual landowners or corporations and in turn sells them to private developers. Proceeds from development rights sales are reinvested in the bank to finance future purchases, creating a revolving fund. Banks are typically directed by a TDR board, which sets conservation priorities and makes decisions concerning which rights to buy, and how to manage assets.

Dedicated TDR banks can be classified into two general categories: publicly and privately managed. Each type has distinct characteristics and advantages. Publicly managed banks are usually operated by the same government agency that oversees the entire TDR program (the King County bank in Washington is one example). They are subject to the same degree of regulatory oversight as other government agencies. This type of bank will often be funded by a public capital outlay to finance purchases of development rights.

Privately managed banks are usually operated by a non-profit organization under an agreement with the sponsoring government TDR agency. One example of a privately managed bank is the Land Conservancy of San Luis Obispo, California. The private organization works under a legal mandate that defines the scope of conservation and program objectives. Administrative costs can be recaptured through transaction fees or commissions. Private banks can be funded by an initial public capital outlay to finance development rights purchases, or can generate funding for purchases through private donations.

The process of creating a TDR bank is the same regardless of whether it operates in the public or private domain:

1. Adopt an implementing ordinance to establish the bank, articulate the purpose of the bank and specify how it will serve the goals of the TDR program.
2. Identify the administrator of the bank, including which department, agency, or firm will be responsible and staff the bank.
3. Determine how the bank will be funded (if public funds are used, the city or county must comply with legal regulations on the public use of funds).
4. Create guidelines for the purchase and sale of rights, including escrow, conservation easements, payments, and other elements of transactions.
5. Establish a methodology for valuing development rights that will be purchased or sold through the bank.

Like other transaction mechanisms, both classifications of banks can take a variety of forms. Variations in bank function can be customized to best suit the conditions of the market in which the bank operates. The following variations are a selection of options available to structure a bank.

Banks can take different levels of initiative in market participation depending on their mandate. Active participants in the marketplace seek out buyers and sellers of rights, and are engaged in promoting transactions. Alternatively, banks can take a lower profile role as the buyer or seller of last resort when the market for private transactions cannot absorb the supply of or meet the demand for development rights.

Banks can function on different spatial scales. Individual cities, like Issaquah, Washington, can operate their own banks that are limited in scope to areas in close proximity. Numerous examples exist of banks that function at the county level. A regional bank, created at the state level, could transfer development rights on a broader scale, such as between cities and counties, or between counties.

Another variation banks can take is by combining transfer of development rights transactions with purchase of development rights (PDR) transactions. By augmenting TDR with PDR, banks can achieve higher levels of protection for especially critical resource areas through the stewardship elements included in many PDR programs. Furthermore, development rights purchased through the PDR program can be sold (instead of retired) to fund additional conservation.

Evaluation by Criteria

1. Ease of participation for buyers and sellers

One of the defining characteristics of TDR banks in general is that they are designed to maximize ease of participation. Banks make information widely accessible, and because they are participants in the market, they provide a high level of transactional support. Buyers and sellers interact directly with the bank and do not have to find each other, do not have to negotiate, and can make transactions that exceed the capacity of the private market. Banks help solve timing issues. Using a bank, buyers of development rights can effectively "purchase" development rights from a seller who sold their rights to the bank in a prior transaction. Banks also reduce uncertainty for participants.

2. Cost effectiveness and ease of administration

Banks are the most costly of any transaction mechanism evaluated here. The largest cost component is the initial capital outlay, often referred to as "seed money," to fund the purchase of development rights. Public banks, like King County's, employ dedicated staff and budget $100,000 annually for administration costs, while private banks also incur higher costs. The private bank in Cambria, California, broke even after five years of operation (Stark, 2008). Complexity is also greater with banks than with other alternatives. The institutional structure necessary to coordinate large transactions between individual landowners, corporate landowners, and a variety of public jurisdictions can be accordingly intricate.

3. Effectiveness in policy implementation

One demonstrated characteristic of banks is their ability to conduct transactions involving large sums of money and conserving large, contiguous areas of land (as in King County, Washington). Banks, as buyers of development rights, can also focus purchasing efforts on areas that are high conservation priorities. As sellers of development rights, banks can set prices and change them to influence the market. Whether actively engaged in buying and selling rights or providing additional transaction capacity when the private market reaches its limits, banks can moderate market fluctuations.

4. Political Feasibility

Banks can have variable political feasibility. Publicly managed banks create a direct interaction between landowners, businesses, and government, and this has the potential to reduce support for the program in areas where public opinion is opposed to government involvement in land ownership matters. This effect can be mitigated by the delegation of bank management to the private sector, as demonstrated in the Cambria, California program. In areas where public opinion supports conservation on a landscape scale, the ability of a bank to accomplish this improves feasibility.

Advantages

- Banks can focus on parcels with a high priority for conservation that might not be addressed by the private market.
- A bank simplifies transactions for buyers and sellers by eliminating the need to find and negotiate individual deals.
- Banks can intervene in the marketplace to steer activity. They can stabilize the marketplace by standardizing price structures, absorbing excess development right supply, and accommodating fluctuations in demand.
- Banks can make sales occur in a timely fashion for buyers and sellers, who may not be ready to act at the same moment.
- Banks can be integrated with an existing PDR program, expanding the resources available for conservation.
- Banks can facilitate larger TDR projects by selling large numbers of development rights to a developer who would otherwise have to undertake multiple negotiations and transactions to support an individual project.

Disadvantages

- Administrative costs can be high. Costs may be prohibitive for smaller communities with limited staff and budget constraints.
- Banks might face skepticism or suspicion in communities that are leery of government involvement in private property issues.
- Banks require up-front capitalization and assume an element of risk that would otherwise be shouldered by the private market.

Experience to date

The **Cambria, California** TDC program is one of the comparatively older examples in the country. Formed through a county ordinance and written into the general plan in 1984, its purpose is to retire antiquated lots in a pine forest area. The county assigns credits based on property size. These credits can be purchased by landowners for the purpose of adding floor space to existing homes. The Land Conservancy of San Luis Obispo County, a non-profit private agency, is the administrator of the program and operates a bank to buy and sell credits. The Land Conservancy purchases credits from landowners, resells them at a 100% markup, and retains a 10% commission. Proceeds are reinvested in a revolving fund to buy additional credits.

Participation in the program is not only easy, but mandatory. The only way homeowners can increase the structural areas of their houses is through purchasing development credits. The Land Conservancy actively pursues purchases of development credits.

Administrative costs are high, as it took five years for the program to break even. However, the number of lots retired, 330, reflects a brisk business for the bank. The bank is achieving conservation goals. Executive Director Brian Stark believes that the bank is conserving the right kind of land, and that by prioritizing its purchases it has protected targeted pine habitat. He perceives a welcoming political climate for the program. Cambria is a small, tightly knit community, and its response to the program has been favorable. (Stark, 2008)

The **King County, Washington,** TDR program combines publicly supported private market transactions with a public bank. The two components operate separately, but serve complementary functions. The private market element encompasses almost all of the program's transaction volume. Since inception, private market transactions have conserved over 2,000 acres. The county has facilitated the purchase and sale of 475 development rights through more than 300 transactions on the private market valued at $6.75 million. By comparison, the bank has completed five transactions in its history- three purchases and two sales (Greve, 2008). While the transaction volume of the bank has been much lower than the private market, the magnitude of these transactions far exceeds those made privately.

King County's TDR bank was established with $1.5 million of Conservation Futures tax revenues. The bank has purchased development rights on more than 90,000 acres of working forest land and has completed two high profile transactions since 2006. A sale of 31 rural development rights, valued at $930,000, took place in November 2006. The development rights were used for bonus development of the Olive 8 residential complex in downtown Seattle. At 1823 Terry Avenue in Seattle, a transaction resulted in the sale of 18 credits from the TDR bank in January 2008, generating $396,000 in revenues for the bank.

According to program director Darren Greve, one of the defining successes of the King County program is the diversity of participants engaging in transactions. On the sending side, small landowners in the rural zones are selling development rights from properties that range in size from twenty to over 100 acres. Large industrial resource landowners (timber companies) have sold development rights from tens of thousands of acres to the bank. On the receiving side, a similar diversity of participation is evident. Developers are purchasing rights to apply towards construction of large scale, moderate density residential communities. Smaller, short plat developers are buying rights to increase urban development densities in increments from three to six units. The high value, high profile, high density urban high rise developments are also purchasing development rights (Greve, 2008).

While the bank represents less than 2% of all TDR transactions in King County, it accounts for almost 98% of the acreage conserved. This low frequency, large scale transaction pattern complements the high frequency, small scale transaction pattern of the private market component. The purpose of the bank is to make strategic purchases of rights from high priority land, increase the appeal of TDR to cities, and open the door to inter-jurisdictional transactions (Greve, 2008).

VII. Private Investment Corporations

Definition

A private TDR investment corporation functions similarly to a bank, but is privately owned and operated. At its most basic level, this is a way to conduct private market transactions with a high level of private transaction support. A corporation would buy and sell development rights for investment purposes. Development rights would be purchased and held until a time when they could be sold for a profit. Investors in the corporation could make cash investments or could donate development rights from their land in sending areas.

It is important to note that a private investment firm does not by itself constitute a transaction mechanism. Rather, it can be considered a player in the TDR marketplace and could conceivably operate within the framework of existing mechanisms. If the market functions well, it will attract speculation, similar to stock or commodities markets. The emergence of a private investment firm will likely happen under profitable market conditions and will signal robustness and maturity of the marketplace. The implementation of a transaction mechanism will not lead to the de facto creation of an investment firm. If it happens at all, private investment firms will probably arise organically from a perceived need in the marketplace.

One appropriate structure for a private investment corporation would be a limited liability corporation. The LLC arrangement is a "flow-through" entity, not subject to federal tax. Individual investors pay tax on their income from the LLC. A LLC can be structured with an independent manager hired by landowners to market and sell their development rights to developers. Landowners receive a percentage interest equal to the value of the development rights they contributed. Alternatively, the LLC could be operated by a consortium of private investors. Invested funds would be used to purchase development rights which would subsequently be packaged and sold to developers. The main difference in this option is that landowners are not members of the corporation, unless they contribute capital like any other investor.

Given the illiquidity of the TDR market, the creation of a hedge fund approach to investing would be impractical. A more viable option might be a Real Estate Investment Trust (REIT) or an investment management firm specializing in resource and real estate fields.

Under this structure, investing in a TDR marketplace would be a reasonable extension of the business (Gropnik, 2008).

Evaluation by Criteria

1. Ease of participation for buyers and sellers

The investment corporation mechanism would presumably have a very low threshold of participation for both buyers and sellers of development rights. A for-profit private corporation would organize its operations in such a way as to maximize returns for investors. Having ready access to eligible participants would be essential to profitability in terms of finding buyers and sellers, so making transactions easy to engage in would attract participation.

2. Cost effectiveness and ease of administration

As this mechanism would function almost entirely within the private sector, the public cost would be minimal. The extent of government involvement would be limited to the issuing of development rights, tracking sales, recording easements, and monitoring compliance. As an investment opportunity, this approach is predicated on the increase in value of development rights over time.

3. Effectiveness in policy implementation

Since this mechanism is essentially a more complex variation of other private market transaction alternatives already discussed, it can be assumed to function to a similar degree of effectiveness in achieving policy implementation. This would include the potential for profit motivations to influence conservation priorities, leaving land with high development pressure more vulnerable to conversion.

4. Political Feasibility

This mechanism, like other private market transaction alternatives, would likely avoid opposition from groups concerned about government involvement in property issues. Those who stood to make money through the process would certainly be in favor of it, but there is the potential for resistance from two key stakeholder groups: developers and landowners. If private investment corporations are selling development rights, the costs to developers could be higher than under other transaction mechanisms. Prices at which landowners could sell their rights might be lowered in this scenario, since the investment corporation will want to buy them for as little as they can. Additionally, citizen activist groups may protest the delegation of conservation to the private sector, arguing that it is public good that should be provided by the government. Under a different corporate organization, if developers were shareholders in the investment corporation, they could reap benefits from having influence on the purchase and sale of development rights.

Advantages

- Private investment eliminates the need for public funding.
- The LLC structure works well for small groups of investors because there are usually no annual general meeting requirements and few administrative or recordkeeping requirements compared to other corporate structures. There are also tax benefits for members.
- Profit-motivated ownership would seek to maximize efficiency using market forces.

Disadvantages

- This alternative is an untested concept in the realm of land use planning, but has been applied in the arena of carbon trading.
- Attracting investors may be difficult due to the lack of experience with this mechanism.
- TDR programs alone generally don't produce the kind of predictable revenue stream that would be attractive to investors. Year-to-year results are variable, so the corporation would likely have to also trade in other related assets to stabilize returns.
- Shareholder interests may not match conservation priorities.
- If the market for development rights does not generate sustainable profit for shareholders, the corporation may dissolve, removing a player from the marketplace. A public program, by contrast, is not constrained by the same profitability considerations affecting a private enterprise, and can conceivably operate at a loss if the overall goal of conservation is achieved.

Experience to date

There is no documented evidence of a private corporation operating a TDR program in the United States.

VIII. Density Fee (in lieu of TDR)

Definition

A density fee may be used to achieve land conservation as an alternative to other incentive mechanisms like TDR. Developers pay a fee to the sponsoring public agency to build to higher density than baseline zoning allows, or take advantage of other incentives set forth by the program, like building to greater heights than otherwise allowed. Funds collected are used by the jurisdiction to fund PDR in high priority conservation areas. Density fees are often set to a specific dollar amount per additional unit of development.

Jurisdictions might use different approaches to determining the amount of fee. One option is to use the comparable cost of a development right (plus acquisition and maintenance fees). Another is to base the fee on the difference between the appraised values of an allowable structure under current zoning and the proposed structure with bonus density. The fee would be set as a percentage of the difference. Requiring appraisal of every property prior to assessing the fee under this variation would increase the time and cost of the process, but ultimately it would result in a fee structure that is proportional to the value of the additional development.

Evaluation by Criteria

1. Ease of participation for buyers and sellers

A conservation fee greatly simplifies the transaction process. The removal of the development rights seller from the equation reduces the number of parties involved. The requirement of a fixed or formula-based fee eliminates uncertainty for the developer and expedites the transaction by eliminating price negotiations.

2. Cost effectiveness and ease of administration

This mechanism would require a high degree of public involvement, as the government would be instrumental in every step of the transaction. Administrative costs would be higher than private market transaction mechanisms, since the government's responsibilities would be more diverse and complex under this scenario. Not only would the government have to perform all the clerical functions, it would have to manage a sizeable financial operation.

3. Effectiveness in policy implementation

One of the most unique aspects of conservation fees is that this mechanism gives the government the greatest discretion in targeting specific parcels for conservation. With no private market to influence the spatial distribution of participation, the government has the flexibility to spend conservation funds on land that it deems highest priority for protection. The government can use the funding to organize its conservation efforts however it wants: protecting specific sensitive areas, waterways, or large contiguous areas. The main catch with this approach is that the landowner whose development rights the government wants to purchase must be willing to sell for the price offered.

4. Political Feasibility

This mechanism has not been sufficiently tested empirically to provide enough evidence of its feasibility, but it should not encounter more political obstacles than any other alternative mechanism. From the point of view of the developer, the certainty of the fee structure has advantages, even if the amount of the fee may be higher than the cost of privately traded development rights. Developers may resist another government-imposed regulatory fee. Alternatively, developers are accustomed to paying a variety of fees for construction projects, and this may come to be seen as another cost of doing business. From the point of view of the landowner, individuals may be reluctant to do business with the government, but if the payments offered for development rights are sufficiently high then the process should generate transactions.

Advantages

- This alternative is simple to administer.
- A fee maximizes certainty for developers.
- This mechanism gives the sponsoring agency control of where development rights are purchased. Purchases can be targeted to high priority areas for conservation.
- A fee can be coordinated with a PDR program, leveraging public resources for additional purchases of development rights.

Disadvantages

- This approach could be viewed by developers as another tax or fee, adding to the cost of development. For this reason, political feasibility is questionable, especially in areas where distrust of government runs high.
- If a program allows both private market transactions and a conservation fee option, coordination could be difficult. The fee would need to be carefully calibrated and routinely updated to match values established in the private market, otherwise the private market could be undermined.

Experience to date

As of March 2008, the **Livermore, California** TDC program is in its early stages of implementation. It has adopted an in-lieu fee ($21,591.61 per development credit) and has collected about $1.5 million in fees. Livermore has not, however, started purchasing easements in the North Livermore area, so empirical evidence of the program's performance is incomplete. Since the collection of in-lieu fees is tied to housing development, the revenue generated from fees has been affected by the housing market downturn. Livermore will be implementing the program when additional fees have been collected, or have developers conveying easements they have purchased to the city. Livermore also anticipates using the in-lieu fees in coordination with other mitigation and conservation programs as those opportunities arise. (Frost, 2008)

Berthoud, Colorado, uses a density transfer fee instead of a traditional TDR program because it is easily administered. This fee is $3,000 per dwelling unit in single-family and $1,500 per unit in multi-family projects. These funds are used to purchase development rights on parcels that protect water resources, agricultural lands and community buffers. Berthoud does not consider this an impact fee because the charge is assessed only upon the developer requesting higher density within the town. The current total of Berthoud's density transfer fee fund is $229,014. The town allocates 6% of the fee to cover administrative costs of the program. (Fulton et. al, 2004)

X. Conclusions

A review of alternative transaction mechanisms and the experiences of existing programs across the country reveals a wide array of approaches currently applied to transferring development rights. This diversity of functional forms reflects a diversity of conservation priorities, political environments, and specific local conditions which shaped the evolution of these TDR programs. Each general functional form (such as private market transactions) can have numerous distinct variations to accomplish conservation goals. This diversity also suggests that no single transaction mechanism is superior to the others across all evaluation criteria. Each alternative has unique strengths and limitations according to the criteria.

This examination also suggests that certain elements are common to programs with successful mechanisms regardless of which alternative the jurisdiction applies. These include:

- Government involvement in the transaction process.
    - Even the mechanisms designed to minimize government participation must rely on the government for recording transactions, record keeping, and tracking the allocation and use of development rights. No TDR program can function completely within the private sector.
- Demand for development rights in receiving areas.
    - This is a widely acknowledged key to success in any TDR program, but the transaction mechanism can influence demand for development rights through its ability to manipulate market forces. Banks and publicly supported transactions are more instrumental in addressing market imbalances than are other mechanisms.
- Clearly defined conservation objectives and land use goals.
    - Programs delineating geographic target areas for sending and receiving sites and those articulating specific conservation priorities are better able to focus conservation efforts and measure their success. Certain transaction mechanisms are superior to others in achieving different scopes of conservation, so clearly defined policy objectives will identify a mechanism choice most appropriate to those goals. For example, if the purpose of a program is to preserve a large-scale resource that crosses multiple jurisdictional boundaries, a regional TDR bank may be called for; whereas it might be more cost effective for a smaller program within a single city to rely on private TDR transactions with the support of a public registry.
- Enabling legal framework within which the program functions.

    - This characteristic does not have direct bearing on transaction mechanisms except in the greater sense that the form of the mechanism is largely irrelevant if the legal structure does not support the function and objectives of the TDR program. Likewise, the TDR transaction mechanism must comply with the laws of the jurisdiction in which it applies.
- Flexibility in program design.
    - Programs that have incorporated ways to refine and update their transfer mechanisms are better prepared to adapt to changing market conditions and growth over time.

This final point, flexibility in program design, is one of the most useful tools that policymakers and program designers have at their disposal to achieve conservation objectives. Transaction mechanisms are not limited to the choices presented here. Agencies desiring to implement TDR programs can incorporate elements from numerous transaction mechanisms, employ multiple alternatives in concert to capitalize on the strengths of different mechanisms, or create an altogether different type of mechanism if it addresses local needs better than existing ones. For example, a jurisdiction wanting to simultaneously promote private market transactions and conserve large, contiguous areas of forestland could implement a transaction support mechanism supplemented by a bank.

Another consideration for future TDR programs is the role of technology. The application of geographical information systems (GIS) is already widespread, and provides a powerful analytical tool for defining sending and receiving sites, targeting high priority conservation areas, implementing special district overlays, and evaluating the spatial distribution of participants. Furthermore, increasing use of the Internet has improved access to information. In the future, TDR transaction mechanisms will likely be augmented by more powerful technological tools to provide information to participants, track transactions, assess supplies of and demand for development rights, and model pricing.

Comparison of Transaction Alternatives

This table summarizes the evaluations of the transaction mechanisms presented in this paper. Each alternative is scored qualitatively on a scale of low to high across the four criteria. “Low” denotes a poor performance, indicating obstacles to participation, expensive costs to the public, ineffective conservation, and an unfavorable political response, respectively. “High” denotes a good performance, indicating greater ease of participation, increased cost effectiveness, improved achievement of conservation goals, and broad political acceptance relative to other mechanisms.

	Ease of participation for buyers and sellers	**Cost effectiveness for public and ease of administration**	**Effectiveness in implementation of conservation priorities**	**Political feasibility**
Private market transactions	**Low** Limited availability of information	**High** Minimal government involvement and expense	**Low** Conservation priorities may not match market demand	**High** Minimal government involvement and expense
Private transactions with public support	**Medium** Improved availability of information	**Medium** Increased government involvement and expense	**Low** Conservation priorities may not match market demand	**High** Moderate government involvement and expense
TDR brokerage	**Medium** Marketplace infrastructure improves information	**Medium** Public sector increases bureaucratic complexity	**Low** (if private) **High** (if public) Conservation priorities may differ	**Medium** Variable level of government involvement
TDR bank	**High** Market timing issues resolved, strong public support	**Medium** Higher administrative and capital costs	**Medium-high** Bank can target priority areas for conservation	**Medium** Increased government involvement and expense
Private investment corporation	**High** Corp. will seek out participants	**High** Minimal government involvement and expense	**Low** Profit goals may not match conservation goals	**Medium** Min. govt. involvement, but prices could be higher
Density fee	**High** Participation requirements predictable and defined.	**Medium** Increased administrative costs	**High** Complete public control over choice of land conservation	**Low** High level of bureaucracy and govt. involvement

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