

April 10, 2007

## **Demonstration TDR Feasibility Study Madison Village & Township, Ohio**

### **EXECUTIVE SUMMARY**

Madison Township and Village currently enjoy a combination of developed communities and undeveloped countryside. Madison could retain this diversity by offering interested landowners the option of selling their land's development potential in return for voluntarily preserving some of their property as conservation areas, farmland, scenic vistas and open space. A land use tool known as transfer of development rights, or TDR, provides a mechanism for reaching this goal without reliance on taxes. This study demonstrates one way in which TDR can use future development to protect some of Madison's remaining environmentally-sensitive land, agricultural areas and rural character.

The Demonstration TDR Feasibility Study below fully explains the TDR concept and illustrates one way of preparing a TDR program. In contrast, this Executive Summary simply describes the TDR program resulting from that study.

### **Sending Areas**

In TDR jargon, the sending areas are the places the community wants to save. This study assumes that sending areas would include land containing farmland, habitat, natural resources and open space. To be all-inclusive, property could qualify to be a sending site simply by being in the Village A-1 zone or within the Township A-1, A-R or S-1 zones. These zones contain over 13,000 acres of land or almost one third the land area of the Township and Village combined.

Property owners in this sending area do not have to use TDR. They can decline to use the TDR option and use their property in compliance with the underlying zoning. But those landowners who are interested in participating would voluntarily record an acceptable easement on their land that reduces future development. For those portions of a sending site that are not within wetlands, floodplains, stream buffers or other constrained areas, the easement would restrict maximum density to one residential unit per 25 acres. However, the easement would prohibit any residential development on so-called constrained portions of the sending site, meaning wetlands, floodplains and stream buffers.

Upon recording the easement, the Township or Village would issue transferable development rights or TDRs to the participating landowner. These TDRs would be granted at the rate of one TDR per 2 acres of unconstrained land and one TDR per 10 acres of constrained land. The sale of these TDRs would provide the compensation that motivates these property owners to choose the TDR option.

## **Receiving Areas**

Receiving areas are those areas where TDRs can be transferred because additional development is appropriate and approved by the Township or Village. In this demonstration study, receiving areas would be any land up-zoned after adoption of a TDR ordinance. The term “up-zone” simply means changing the zoning of a property to allow additional residential density. The maximum density allowed prior to the up-zoning would be established as “base density.”

Developers can choose whether or not to use the TDR option. Developers who decline to use TDR could build at or below base density with no TDR requirement. However, when developers voluntarily choose to exceed baseline density, they would be required to buy one TDR for each residential unit in excess of baseline density and be allowed to build up to the maximum density permitted under the new zoning. Developers would be motivated to buy TDRs by the additional profit resulting from the bonus density available under the TDR option.

As mentioned above, this study assumes that one TDR would be required for each bonus residential unit, meaning each residential unit in excess of baseline density. To demonstrate how this might work, assume that developers request up-zonings in three TDR-project categories as described below.

- Planned Development Density: Assume 300 acres of land develop at an average density of 4 units per acre. Of these 4 units per acre, 2 units per acre are within the assumed baseline density where no TDR requirement would apply. The remaining 2 units per acre are bonus units and would require one TDR each.
- Traditional Neighborhood Development (TND) Density: Assume 150 acres of land develop at a density of 6 units per acre of which 4 units per acre are bonus units and would require one TDR each.
- Village Density: Assume 50 acres of land develop at a density of 8 units per acre of which six units per acre are bonus units and would require one TDR each.

## **Potential Outcome**

This study assumes a growth rate of 100 additional residential units per year or an increment of roughly 5,000 new units in the Township and Village by the year 2057. For illustration, this study assumes that half of this increment, or 2,500 units, will be built by developers who choose not to exceed the maximum density allowed by current zoning. Based on the receiving area assumptions described above, another 1,000 dwelling units would be within baseline density and therefore not subject to TDR requirements. (The scenarios above assume 500 acres of receiving site projects with a baseline density of two units per acre resulting in 1,000 units within baseline density.) The remaining 1,500 dwelling units are assumed to be within TDR receiving site projects and above baseline.

Consequently, these 1,500 units are bonus units and would require one TDR each.

These 1,500 TDRs could preserve 5,000 acres of farmland, habitat, natural areas and open space. This estimate assumes that 1,250 TDRs represent the preservation of 2,500 acres of unconstrained land (1,250 TDRs X 2 acres/TDR) and 250 TDRs represent the preservation of 2,500 acres of constrained land (250 TDRs X 10 acres/TDR). These 5,000 acres of preserved land would constitute roughly 16 percent of the combined land area of the Township and Village, estimated at 30,000 acres. Other preservation techniques could supplement TDR including agricultural easement purchase programs and parkland acquisitions. If these other techniques protected another 1,000 acres, the area preserved by the combined techniques would represent 20 percent of the land area of the Township and Village, a percentage often used as a target for open space preservation. When development potential is severed from land and retired, the overall effect would be a reduction in tax base since only the land's non-development value would remain. But remember that TDR, unlike purchase of development rights, does not retire development potential. TDR transfers development potential to receiving sites, thereby keeping it on the tax rolls. Also, this demonstration TDR program assumes that development potential on sending sites will not be eliminated but rather reduced to a maximum density of one dwelling unit per 25 acres. This means that meaningful taxable development potential would remain after landowners voluntarily recorded TDR easements on their properties.

### **Conclusion and Feasibility**

TDR could be used to preserve a meaningful amount of farmland, natural areas and open space in Madison. Many developers will continue to build within the maximum densities allowed under current zoning. However, some developers will want to exceed current zoning densities to address land assembly constraints, use infrastructure efficiently or simply to create the pedestrian-oriented developments that consumers increasingly demand. However, the preservation of 5,000 acres assumes that a requirement of one TDR applies to each dwelling unit above the maximum density allowed under current zoning.

As stated above, this Executive Summary presented only a hypothetical TDR program that resulted from the demonstration TDR feasibility study described in the remainder of this report. This hypothetical TDR program is just one of many possible approaches to TDR in Madison. In an actual TDR feasibility study, stakeholders would voice their preferences on several alternative approaches. The result would be a TDR program that might look very different from the one presented here. And of course, that TDR program would be more appropriate for Madison since it would be based on actual input from the affected stakeholders.

This report mainly addresses the components that can be readily adjusted to create the most favorable conditions possible for a successful program, such as

sending area selection, TDR market formation and, most importantly, the assumption that a TDR requirement would apply to all dwelling units in excess of the density allowed by current zoning. This report briefly notes that Madison has both advantages and disadvantages in other TDR success factors.

- The zoning in almost half of the assumed sending area is so high that landowners are likely to choose the TDR option only if they have a strong tendency to preserve their land regardless of the availability of the TDR option. However, in the other half of the assumed sending area, the one-unit-per-five-acre zoning should give landowners extra incentive to choose the TDR option. In addition, one portion of the sending area is somewhat isolated from the rest of Madison, potentially creating additional motivation for these property owners to sell TDRs in the near term future rather than wait to see how their long-term development potential evolves.
- Madison probably experiences less growth pressure than the communities where TDR programs tend to be found. However, the key to success in a TDR program is whether or not developers want to exceed baseline density. This desire to exceed baseline density is often associated with growth pressure but is nevertheless a separate force. This demonstration TDR program assumes that a TDR requirement would apply to all dwelling units in excess of the maximum density allowed under current zoning and that the areas most likely to be up-zoned currently have a maximum density of two units per acre. This paper recognizes that considerable development will continue in the future at or below the densities allowed by current zoning. However, this paper also takes the position that perhaps one third of future growth could occur within projects where developers want to exceed current maximum densities in order to create planned developments, traditional neighborhood developments and village-scale developments. This assumption is based on growing consumer demand for walk-able, smart-growth communities and the opportunities for future projects that take advantage of Madison's lakes, streams and woodlands as well as superior regional transportation facilities.
- Many TDR programs fail because the community offers developers alternative means of gaining bonus density. For example, some communities offer bonus density when developers preserve on-site open space or add project features such as extra architectural details, recreational amenities and site design. When faced with a choice, developers are often inclined to achieve the bonus density through on-site features rather than TDR since on-site features add directly to project value. At an extreme, some communities simply start exempting projects from TDR projects. Even if the exemptions are well-intentioned, the effect can be disastrous to a TDR program since subsequent developers will be able to cite precedents when they request their exemptions. It is difficult to predict how well a community will perform on this success factor. The elected officials who adopt the TDR program may not be in office five or ten years later when the requests for exemptions occur. How well these future officials resist the urge to relax the TDR regulations will partly depend on their personal beliefs and current circumstances, such as

the extent of open space losses at that time. In addition, commitment to maintain the TDR program will depend on constituent demands. If the sending area property owners want to preserve their land, they may fight to keep the TDR program intact. Likewise, the general public can be a strong force for TDR program maintenance. Public support can be maintained by keeping this public informed about the TDR program and aware of its benefits.

In summary, a TDR program in Madison Township and/or the Village of Madison would be feasible and successful if a TDR requirement consistently applied to all units in excess of the maximum density allowed under current zoning. Madison elected officials have the ability to establish a successful TDR program. Whether or not it will be successful largely depends on whether the development community, landowners and the general public have the commitment to consistently apply the TDR requirement over the decades needed to accumulate a meaningful amount of preservation.

# Demonstration TDR Feasibility Study Madison Village & Township, Ohio

## I INTRODUCTION

Madison Township and Village currently enjoy a combination of developed communities and undeveloped countryside. Madison could retain this diversity by offering interested landowners the option of selling their land's development potential in return for voluntarily preserving some of their property as conservation areas, farmland, scenic vistas and open space. A land use tool known as transfer of development rights, or TDR, provides a mechanism for reaching this goal without reliance on taxes. This study demonstrates one way in which TDR can use future development to protect some of Madison's remaining rural character.

## A BACKGROUND

Cleveland State University hired TDR Consultant Rick Pruetz to prepare this Demonstration TDR Feasibility Study to introduce the TDR concept, provide an example of how a TDR program is developed and also to describe the hypothetical TDR program generated by this study. This study will be part of a presentation given by Rick Pruetz at a TDR forum on Friday, April 13, 2007 entitled "Transfer of Development Rights: A Demonstration Study." This program will be presented by the Levin College Forum in partnership with the Center for Planning Research and Practice's Countryside Program with support from the Small Grants Program of the Ohio Lake Erie Commission.

## B SETTING

The Village of Madison and Madison Township lie 40 miles east of downtown Cleveland, Ohio. The Grand River flows through the southern portion of the Township and Lake Erie forms its northern boundary. The Village is located just north of an exit on Interstate 90. Throughout this paper, the term "Madison" means Madison Township and the Village of Madison. Madison is projected to grow by roughly 100 additional residential dwelling units per year.

## TABLE OF CONTENTS

I	Introduction	6
	A Background	6
	B Setting	6
II	TDR Basics	7
III	Sending Areas	8
	A Qualifications for Sending Areas	8
	B Sending Site Preservation Requirement	11
	C Minimum Sending Site Size	11
IV	Receiving Areas	12

	A	Creation of TDR Receiving Areas	12
	B	Hypothetical TDR Receiving Area	13
V		Market Factors	16
	A	Growth Projections	17
	B	TDR Value to Developers	17
	C	Sending Area Allocation	21
VI		Potential Outcome and Feasibility	25
VII		Inter-Jurisdictional Transfers	28
VIII		Program Facilitation	28
	A	TDR Banks	28
	B	Land Trusts As TDR Banks	29
	C	Density Transfer Charge	30
Appendix		TDR Background	30
Exhibit A:		Madison Township Zoning Map	34
Exhibit B:		Madison Village Zoning Map	35

## II TDR BASICS

Transfer of development rights, or TDR, is a market-based technique that encourages the voluntary transfer of growth from places where a community would like to see little or no development, called sending areas, to places where increased development is considered appropriate, called receiving areas.

The owners of land in sending areas are not required to use TDR. They can decline to use TDR and continue to use their property in compliance with the underlying zoning. But when sending area property owners decide to use TDR, they record conservation easements on their properties. These easements document the way in which the deed-restricted property can be used in the future. In some cases, the easements might prohibit any dwelling units. In other cases, the easements might limit development to a specified maximum density.

When these easements are recorded, transferable development rights, or TDRs, are created as specified by a TDR ordinance. Sending site owners are motivated to record these easements by the ability to sell TDRs to the developers of receiving sites.

Receiving areas are places that a community finds appropriate for development. Receiving area development should be consistent with land use and infrastructure plans. These developments should also be compatible with adjacent development.

A TDR program motivates receiving site developers to voluntarily buy TDRs through a dual-zoning system. Developers who choose not to use the TDR option can build to a lower density called baseline density. But developers who elect to use the with-TDR option can buy TDRs and exceed baseline density as long as they buy the number of TDRs specified in the community's TDR ordinance. Even using TDR, a development is always limited by the maximum

density allowed by zoning. In a well-designed TDR program, the extra density is an attractive incentive because the developer is able to make additional profits despite the additional cost of the TDRs.

When a TDR program works, sending area property owners are able to receive development-related income while continuing to own their land and receive non-development-related income from it as well. Similarly, receiving area developers who choose to build at the TDR density levels, enjoy higher profits despite the added costs of buying the TDRs. And finally, when TDR works, the community is able to implement its land use goals using market forces rather than tax dollars.

Please refer to Attachment A: TDR Background for a discussion of Comparison with PDR and Clustering and selected TDR Case Studies.

### **III SENDING AREAS**

This section explores what land should qualify to become sending sites, what limitations should be imposed on a sending site when a landowner voluntarily chooses to participate and how big a parcel should be to qualify as a sending site.

#### **A Qualifications for Sending Area**

In many TDR feasibility studies, optional TDR sending areas would be developed and presented for public input before proceeding with a preferred option. Without the benefit of a public involvement phase, this demonstration TDR feasibility study develops a sending area based primarily on existing maps and other documents. This section develops a comprehensive list of potential sending areas, examines the extent to which this comprehensive list satisfies the assumed program goals and considers whether the comprehensive list should be limited.

#### **Comprehensive List of Potential Sending Areas**

A TDR program in Madison would ideally encourage the preservation of a wide range of resources including active farmland, prime soils, open space, streams, ponds and wetlands. In some communities, these resources might be concentrated in a single area that could then serve as the potential sending area. However, in Madison, the locations of these multiple resources don't always neatly overlap. Consequently, the Village and Township's agricultural zoning districts and the Township's Green Area designation were used to create a comprehensive list of potential sending areas. (Sometimes it is possible to use the future land use maps found in a community's comprehensive plan for this purpose. But the zoning codes for both of these community's appear to be a more accurate reflection of current land use goals.)

- Township Agricultural Zone (A-1) incorporates roughly one sixth of the combined Township-Village planning area, or approximately 5,500 acres based on the total area for the Township and Village of 30,000 acres reported

in the Township's 1996 Comprehensive Plan. As shown on Exhibit A, Madison Township Zoning Map, the A-1 district lies primarily north of the Grand River to the east and west of the Village. In addition to agriculture and forestry, the A-1 zone permits private households with a minimum lot size of 20,000 square feet or a maximum density of roughly two units per acre.

- Township Agricultural-Residential Zone (A-R) incorporates roughly another sixth of the planning area, or approximately 5,500 acres, including almost all land south of the Grand River and a roughly two-square mile area in the northeast corner of the Township. In addition to agriculture and forestry, the A-R zone permits private households with a minimum lot size of 217,800 square feet per family or a maximum density of one unit per five acres.
- Township Green Area Districts (S-1) are intended to provide for the conservation of environmental resources including scenic areas, wildlife preserves, scenic waterways, wooded areas and parks as well as agriculture. The zoning code distinguishes between a Recreational S-1 zone and a Grand River S-1 zone that extends for 1,000 feet on each side of the centerline of the Grand River for its entire length in the Township, incorporating roughly 2,400 acres. In both categories, the S-1 district permits single family homes with a minimum lot size of 217,800 square feet or a maximum density of one unit per five acres.
- Village Agricultural District (A-1) consists of roughly 250 acres in the northwestern corner of the Village. As shown in Exhibit B, Madison Village Zoning, land zoned A-1 consists of two components, one north and one south of Middle Ridge Road. The code permits single-family residential dwellings as an accessory use by the operators of the agricultural use. The minimum lot size is one acre.

### **Preservation Goals Met By Comprehensive List of Potential Sending Areas**

As shown in the following paragraphs, the comprehensive list of potential sending areas would achieve the goal of conserving a wide range of resources including active farmland, prime soils, open space, streams, ponds and wetlands.

- The General Land Use Map shows that existing agricultural uses in the Township and Village are predominantly located in the four zoning districts in question although some agricultural uses also occur in other zones.
- The Soil Designation Map indicates that the areas in the four subject zoning districts consist primarily of prime soils or soils favorable for specialized nursery crops. However, in several areas, the prime soil designation only applies when the land is drained and/or protected from flooding. It should be noted that a two-mile swath of land roughly parallel to I-90 freeway and the Grand River carries no prime-soil designation although a large portion of this area is in the Township's A-1 and A-R zoning districts.
- The map of protected properties indicates that park land and easements have been established in the four subject zoning districts to a somewhat greater extent than other parts of the Township and Village. To a large extent this reflects the protection of parkland and other critical resources adjacent to the Grand River including Hogback Ridge Park and Resources Center Park.

- The Hydrology Map indicates the presence of streams, ponds and wetlands through the Township and Village but with higher concentrations in the two-mile wide band that parallels I-90 and the Grand River. The majority of this band is within the Township's A-1, A-R and S-1 zones. This band is roughly the same as the area described above as having a lower concentration of prime soils.

### **Limiting Comprehensive List of Potential Sending Areas**

The combined area of the four zoning districts in the comprehensive list is estimated at 13,650 acres. This is more than twice the size of the 5,000 acres of preservation that this study estimates might realistically occur. In an actual TDR study, stakeholders would be asked to address this issue. For example, the stakeholders might consider the option of limiting the sending area to the Township A-R and S-1 zones which would reduce the total sending area to 7,900 acres. This option would have the following advantages and disadvantages.

#### Advantages

- A smaller sending area would normally result in a tighter concentration of preservation. This would be considered particularly helpful if this program was primarily designed to keep commercial agricultural districts free of residential development. That's because residential development near commercial agriculture creates land use conflicts and can reduce the viability of agriculture.
- This option would limit sending areas to those that are subject to relatively low-density (one unit per five acre) zoning. If that five-acre zoning is an indication of resource value or sensitivity, confining the sending area to these two zones would target TDR preservation of Madison's best resources.
- This reduction in theoretical TDR supply would help balance supply and demand. Balanced supply and demand creates a more equal playing field when developers and landowners negotiate the price of TDRs.

#### Disadvantages

- Some concentration of preservation is likely to occur in the A-R and S-1 zones even if all four zones remain as potential sending areas. That's because the A-R and S-1 zones restrict land to low-density development (one unit per five acres). This should reduce development potential and make owners of land zoned A-R and S-1 more receptive to the alternative of selling their TDRs rather than developing on site.
- If the owners of land in the A-R and S-1 zones become the most likely sellers of TDRs, the number of TDRs available in sending areas might not significantly outnumber the TDRs demanded in the receiving areas even if the sending area includes all 13,650 acres within the four zones. In addition, large portions of the sending areas are already developed, preserved or under public ownership, further reducing the theoretical supply of TDRs. In other words, the potential supply of TDRs might be limited by the size of the most likely sending area rather than the size of the entire sending area, referred to here as the comprehensive list of sending areas. This might make it

unnecessary to reduce the comprehensive list of sending areas simply to promote a balance of supply and demand.

- Eliminating land in the two A-1 zones could reduce support for adoption of the TDR program if some landowners in these A-1 zones want to be able to use the TDR option.

Ideally, this kind of evaluation would occur on several alternatives. In some communities, there might be consensus that the program should specifically target a particular agricultural reserve area or a unique environmental area. But other communities might prefer to have a large sending area with the recognition that the TDR option will likely be used by the landowners with the greatest motivation to participate. Without the benefit of stakeholder feedback for guidance, this demonstration study retains the comprehensive list with all four zones as the sending area. This decision assumes that TDR program adoption may be facilitated if the TDR option is available to a large number of landowners. It also assumes that most preservation would occur in the A-R and S-1 zones because of the greater motivation created by the lower density limits of those two zones. Consequently, some concentration of preservation in those two zones and better balance of supply and demand might be expected despite the fact that land in all four zones can qualify to become a sending site.

## **B     SENDING SITE PRESERVATION REQUIREMENT**

When sending area landowners choose to use the TDR option, they voluntarily record an easement that thereafter limits future development of the parcel controlled by the easement. For example, in the Montgomery County, Maryland TDR program, an easement imposes a permanent maximum density of one dwelling unit per 25 acres based on the estimate that it takes at least 25 acres to support a farm family making its entire income from agriculture. In an actual study, stakeholders would be asked for their opinions of what would represent adequate preservation of a sending site. But this hypothetical study simply uses the Montgomery County model of an easement that limits density to a maximum of one unit per 25 acres of sending site land.

## **C     MINIMUM SENDING SITE SIZE**

Some TDR programs allow parcels to become sending sites even if they are not large enough to meet the maximum density limitation. For example, Madison could allow a 10-acre lot legally existing on the date of TDR code adoption to qualify as a sending site even though the easement might impose a maximum density of one unit per 25 acres. In an actual TDR feasibility study, stakeholders would be asked what minimum parcel size would be needed for program success. This hypothetical study assumes that the stakeholders ultimately decide that sending sites should be at least 25 acres in size.

## **IV RECEIVING AREAS**

This section discusses how Madison might create TDR receiving areas and proposes three hypothetical receiving area prototypes as a way of illustrating the process and estimating potential TDR demand.

### **A CREATION OF TDR RECEIVING AREAS**

In an actual TDR feasibility study, TDR receiving area approaches would be discussed as part of the public involvement process. This demonstration TDR feasibility study assumes that the stakeholders decide on a three-step process.

- Comprehensive Plan Policy - In the first step, the Village and Township add a TDR policy to their comprehensive plans. This TDR policy states that all land up-zoned in the future will be subject to a TDR requirement.
- TDR Ordinance – In the second step, the Village and Township add a TDR mechanism to the zoning code. In one of several ways of doing this, the TDR mechanism could impose a TDR overlay on any land up-zoned after adoption of the TDR ordinance. This overlay would clarify that the maximum density allowed under the parcel's former zoning is baseline density and that baseline density can be achieved with no TDR requirement. However, when developers voluntarily decide to exceed baseline density, a TDR requirement applies to each bonus dwelling unit, meaning each dwelling unit in excess of baseline density. This amendment might allow the Village and Township to waive or reduce the TDR requirement for developments with extraordinary public benefit, such as affordable housing projects.
- Up-Zonings Sponsored By Township or Village - In the third step, the Township and/or Village would facilitate the use of TDR by working together with developers, landowners and the general public to plan and rezone the best potential receiving areas, possibly one receiving area at a time. This step features heavy involvement by all stakeholders and the general public early in the process and is designed to increase support as well as ensure the quality of the receiving areas. Of course even a community-sponsored up-zoning could be brought to referendum and rejected by the voters. If that occurs, the community would have start the process over and address the problems that caused the voters to reject the up-zoning. However, since up-zonings sponsored by local jurisdictions would incorporate extensive public participation, they might be less likely to be subject to any referendum process and/or be more likely to be approved by the voters if brought to referendum. Once zoning amendments for TDR receiving zones have survived the referendum process, they should be attractive for development

since developers who comply with that zoning, including the TDR requirements, would be able to build to the higher densities allowed in those zones without the threat of referendum.

### **Using Comprehensive Plan to Identify Receiving Areas**

In Ohio, zoning is not required to be consistent with a community's comprehensive plan. Ohio comprehensive plans are used as a guide rather than a binding document as in many other states. However, despite their informal status, comprehensive plans still indicate the community's future vision at the moment that plan was prepared. Consequently, comprehensive plans can help planners identify potential TDR receiving areas. .

Also, the presence of a well-thought out, well-documented comprehensive plan that reflects meaningful public discussion offers a stronger foundation for zoning, should it ever be challenged in court.

For example, an area about 200 acres in size is located between North Ridge and Middle Ridge roads and west of line connecting the north terminus of Bates Road with the South terminus of Bennett Road. The Comprehensive Plan seems to indicate this area for R-5 Multifamily Residential and its current zoning is A-1 Agriculture. If this area is still considered appropriate for multiple-family residential, it could be up-zoned to a TDR receiving area in which two units per acre is baseline density. As explained above, TDR requirements do not apply to baseline dwelling units. However, the TDR requirement could apply to all bonus units in this rezoned area, meaning all residential dwelling units in excess of baseline density.

By comparing existing zoning to the comprehensive plan, it is sometimes possible not only to identify potential receiving areas but also calculate the number of TDRs that might be generated in each of these potential receiving areas. However, this method does not appear to be appropriate in Madison. Consequently, this demonstration TDR feasibility study assumes three hypothetical development types as a means of illustrating how TDR receiving sites might be created and how they might function.

## **B HYPOTHETICAL TDR RECEIVING AREAS**

This demonstration TDR feasibility study offers three hypothetical TDR receiving area prototypes as a way of illustrating what TDR receiving areas might look like and how many TDRs they might generate. In this study, the sizes of these hypothetical receiving areas have been limited based on growth projections for the Township and Village. As explained later, this study assumes an overall increment of 5,000 dwelling units by 2057 with 1,500 of these units being bonus units and therefore subject to a requirement of one TDR per bonus unit. To stay within this assumed cap of 1,500 bonus units, the size of the following three prototype receiving areas had to be limited to the acreages discussed below.

## 1 Planned Development Density

Residential development in this hypothetical prototype might take advantage of an on-site or adjacent recreational opportunity, central design feature or open space amenity. The average density would be four units per acre (10,890 square-foot average lot size.) This demonstration study assumes that 300 acres are changed to this zoning designation from land currently zoned for a maximum density of two units per acre. Consequently, this designation would establish two units per acre as baseline density and would allow two bonus units per acre when developers buy one TDR for each bonus unit. Given the assumption of 300 acres, this designation could generate demand for 600 TDRs (300 acres X two bonus units per acre.)



## **2 Traditional Neighborhood Development (TND) Density**

This category assumes a maximum average density of six units per acre (7,260 square foot average lot size). This is a density that might be found in a traditional neighborhood development or TND, which combines various residential styles sometimes incorporating a neighborhood focal point such as a park or school. This demonstration study assumes that 150 acres are changed to this zoning designation from land currently zoned for a maximum density of two units per acre. Consequently, this designation would establish two units per acre as baseline density and would allow four bonus units per acre when developers buy one TDR for each bonus unit. Given the assumption of 150 acres, this designation could generate demand for another 600 TDRs (150 acres X 4 bonus units per acre.)



### 3 Village Density

This category assumes a maximum average density of eight units per acre, a density commonly found in compact developments where people can walk to various destinations. This demonstration study assumes that 50 acres are changed to this zoning designation from land currently zoned for a maximum density of two units per acre. Consequently, this designation would establish two units per acre as baseline density and would allow six bonus units per acre when developers buy one TDR for each bonus unit. Given the assumption of 50 acres, this designation could generate demand for another 300 TDRs (50 acres X 6 bonus units per acre.)



## V MARKET FACTORS

In the majority of TDR programs, developers are motivated to buy TDRs in order to achieve bonus residential density. This is the incentive assumed in this demonstration TDR feasibility study. In an actual TDR feasibility study, stakeholders would consider other possible incentives, including the following.

- In some programs, receiving areas have a baseline floor area or floor area ratio (meaning the floor area of all floors in a structure divided by lot area.)

Each TDR purchased by a developer allows the amount of bonus floor area specified in the code.

- In other programs, the receiving areas have a baseline lot coverage (meaning the percent of a lot that can be covered by buildings and other impervious surfaces.) For each TDR, the community's code specifies a bonus amount of lot coverage.
- In some communities, the number of structures issued building permits is limited. In a few of these communities, developers can buy TDRs to get priority for a building permit or become exempt from the permit quota process entirely.

This demonstration study assumes that none of these alternative incentives would be appropriate in Madison and confines the following discussion to an examination of the factors needed to create a viable TDR market in Madison assuming that developers would be motivated to buy TDRs in order to exceed baseline density under the three prototype scenarios outlined in Section IV above..

## **A GROWTH PROJECTIONS**

The Lake County Planning Commission (LCPC) projects that housing will be created at the rate of 69 new units per year in the Township and 24 new units per year in the Village, for a total of roughly 100 new units per year on average to the year 2030. Jurisdiction-wide TDR programs are implemented over a longer time period. Montgomery County, Maryland had preserved roughly half of its 90,000-acre sending area after 25 years. Consequently, this demonstration TDR study multiplies the annual new-unit projection by 50 to create the working assumption that 5,000 additional housing units could be built in these two jurisdictions by the year 2057. This housing growth could easily be accommodated by the dwelling units allowed by current zoning if developers are content to build at the current zoning densities. However, this study assumes that 500 acres will be developed in the three prototype development categories outlined above.

## **B TDR VALUE TO DEVELOPERS**

Some TDR programs will vary the number of dwelling units allowed per TDR based on the location or density of the receiving site development. For example, Montgomery County, Maryland and other programs allow two multiple-family residential dwelling units per TDR versus one single-family residential unit. The need for this kind of refinement would be part of the analysis done in an actual TDR feasibility study. However, the prototype developments assumed in this study would not warrant this distinction. Consequently, this study keeps it simple and assumes that one TDR entitles just one bonus dwelling unit at any receiving site location and density.

An important task of any TDR feasibility study is developing an estimate of the amount that developers should be willing and able to pay in order to achieve bonus units in receiving areas. Note that assumptions made about the monetary value of TDRs do not appear in the TDR ordinance and are not meant to dictate

the amount at which TDRs will sell. The sales prices of TDRs are negotiated between buyers and sellers. The monetary value of TDRs is discussed in a TDR feasibility study solely to improve the chances that a TDR will be equally attractive to developers and sending area landowners alike as demonstrated below. Estimates of TDR value can be developed using any of the following techniques or a combination of them.

- Economic Analysis – Some communities are able to afford having an estimate prepared by economic analyst. The analyst might employ an appraiser to evaluate the cost of sending area easements and a construction expert to develop one building cost estimate assuming a development at or below baseline density and another estimate assuming bonus density. These costs are compared with the projected revenues from developments under these two scenarios. The change in profitability is compared with industry standards for profit to test the reasonableness of assumptions about how much developers might pay to achieve the bonus density. Most communities do not use this level of analysis.
- Appraiser Evaluation – Since the economic analysis mentioned above can be costly and time consuming, TDR feasibility studies in some other communities use a local appraiser to isolate the effect of increased allowed density on the value of land. The appraiser could identify pairs of properties that are comparable except for the maximum density allowed by the zoning code. For example, assume one parcel is worth \$10,000 per acre at a maximum zoned density of one unit per acre and a comparable parcel with a zoned maximum density of two units per acre is valued at \$20,000 per acre. The effect of being able to achieve the extra dwelling unit is \$10,000. If a TDR has the ability to change maximum density on the first parcel from one unit per acre to two units per acre, it would theoretically be worth \$10,000. Of course, the ability to achieve an extra dwelling unit will not necessarily double the land value because home buyers in some markets will pay more for larger lots. For example, in some markets, a developer might be able to sell a house on a 15,000 square foot lot for \$5,000 more than an identical house on a 10,000 square foot lot. However, when there are sufficient comparables at alternative zoned densities, appraisers will be able to adjust for this effect and produce a useable estimate of the value impact of allowed density.
- Developer Interviews – Developers are in the best position to evaluate the value of bonus density. In fact, in fast-growing communities, the land value may be commonly expressed in terms of the number of units that can be entitled. Developers are often able to use their expertise to quickly determine what they would be able and willing to pay for bonus density. Three developers in the Madison area responded to a series of questions in March and April 2007. One of these developers stated that developers could pay \$10,000 per TDR but that the TDR option would be more attractive if TDRs cost less, thereby creating greater profit motivation.

Another developer stated that he would be able and willing to pay \$10,000 for each bonus single-family residential lot at a density of one unit per acre. As

density increased, this developer reported a willingness to pay less per TDR as the density increased. The TDR price that he is able and willing to pay in the density range of the three prototype receiving site categories is as follows.

- \$7,000 per TDR allowing one bonus unit at four units per acre
- \$6,000 per TDR allowing one bonus unit at eight units per acre

If the value of the sending area easements was uniform and predictable, some programs might attempt to create a detailed TDR allowance schedule mirroring these estimates. For example, if most sending area easements were expected to require compensation of \$5,000 per acre, resulting in a TDR cost of \$10,000, the community might increase the number of bonus dwelling units allowed per TDR proportionate with density increases, as follows.

- At a density of four units per acre, allow 1.4 bonus units per TDR (\$10,000 assumed TDR cost divided by \$7,000, the amount developers are assumed to pay.)
- At a density of six units per acre, allow 1.5 bonus units per TDR (\$10,000 assumed TDR cost divided by \$6,500, the amount developers are assumed to pay.)
- At a density of four units per acre, allow 1.7 bonus units per TDR (\$10,000 assumed TDR cost divided by \$6,000, the amount developers are assumed to pay.)

As another alternative, the community might reduce complexity and collapse the entire density range into three categories as follows.

- One bonus unit per TDR at a density of two units per acre or less
- 1.5 bonus units per TDR at a density greater than two units per acre but less than eight units per acre
- Two bonus units per TDR at a density equal to or greater than eight units per acre

The multiple allowance rates illustrated above should ideally be supported by more than one developer's response to a questionnaire. In an actual TDR feasibility study, additional respondents would be sought and compared with other types of information before proposing a graduated allowance formula that suggests that the market is reasonably predictable. Without additional information, this demonstration TDR feasibility study uses a standard allowance of one bonus dwelling unit per TDR. This simplicity can help in creating public understanding of a concept that is inherently complicated. The single allowance rate also has the benefit of keeping this demonstration TDR feasibility study simple and, hopefully, comprehensible. a

In some communities, it might be advisable for a TDR program to use a lower assumption of TDR value with the idea of encouraging more developers to use the TDR option. However, this demonstration TDR study uses the high end of the range that the two responding developers reported being willing and able to pay for a TDR: \$10,000. This is done for the following reasons.

- The growth projections for Madison limit the number of future dwelling units likely to be built regardless of whether they are above or below

baseline density. Consequently, this demonstration TDR study assumes that developers who choose to exceed baseline will be motivated to do so by their desire to create the prototype developments sketched above and that they will be willing and able to pay \$10,000 per TDR to achieve those densities.

- The assumption that developers will pay \$10,000 per TDR is used solely for the purpose of determining the number of acres that a sending area landowner must place under easement to be granted one TDR. As explained in the section below, this study uses an allocation rate of one TDR per two sending area acres of unconstrained land placed under easement based on an assumption that landowners will demand \$5,000 per acre placed under easement. However, actual easement costs might be lower than \$5,000 per acre, particularly since these easements do not prohibit future subdivision of sending sites but, rather, limit future subdivision to a maximum density of one unit per 25 acres. As discussed in greater detail below, if some sending area landowners are willing to place land under easement for only \$3,750 per acre, a developer buying one TDR from two of these acres would only have to spend \$7,500 per TDR.
- Percent of Retail Price – In this calculation, an assumed TDR target value is divided by the retail price of a receiving site dwelling unit, meaning what the home buyer pays for the finished house and lot. This calculation can be used as a check on other estimation methods. In some communities, this percentage of retail price might be quite high. In these communities, the developers may have purchased the receiving area land at a favorable price and can afford to pay more for TDRs. Similarly, in some communities, the effect of bonus density in a TDR receiving area may so profitable that developers are able and willing to pay a higher percentage of retail value for a TDR. However, a TDR cost of five percent of retail price appears to be a more reasonable benchmark in communities where development pressure is low or where developers do not seem particularly eager to exceed the maximum densities allowed by current zoning. New single family residential units within selected developments in Lake County, Ohio (St. Johns Bluff, Holden Ridge, Eagles Club at Quail Hollow, The Woodlands) are listed for \$300,000 and up. An assumption that a developer would be willing to pay \$10,000 to build a bonus unit worth \$300,000 would meet the goal of a TDR costing five percent or less of retail price. In an actual TDR study, the price of new higher-density residential units would also be identified or assumed to see whether assumed TDR costs would exceed five percent of retail value. If so, the study might consider the possibility of allowing more than one bonus multiple-family residential unit per TDR as discussed above. However, in the interest of simplicity, this demonstration study uses the single allowance rate of one bonus unit per TDR.

This demonstration TDR feasibility study uses a target value of \$10,000 per TDR. As explained above, this figure would not appear in a TDR ordinance and would not be used to dictate TDR costs. This target value is only used in a TDR feasibility study to decide how many TDRs should be allowed to sending area landowners when they participate in a TDR program as explained in the following section.

This target value of \$10,000 per TDR is an average. Some developments might not be able to afford to pay \$10,000 per TDR due to overall project costs and projected revenue. These developers would attempt to find sending area landowners willing to sell TDRs for less than \$10,000. Because the sending area easements would allow sending sites to be subdivided to a maximum density of one unit per 25 acres, these developers may be able to find numerous sending area property owners willing to sell TDRs at a price they can afford, thereby creating little or no effect on overall program feasibility. However, assuming that all sending area landowners demand \$10,000 per TDR, developers with financial constraints may not be able to build projects that require TDRs. Nevertheless, because the \$10,000 target value represents the average development, there will be “above-average” developments that will be able to afford the TDR option when sending area landowners demand \$10,000 and perhaps even more per TDR.

Of course, if the percentage of developments capable of affording TDRs declines, the number of TDRs transferred will be reduced and the amount of land protected by the TDR program will not reach the acreage projected in this demonstration TDR study. If the TDR program fails to keep pace with a minimal preservation target, Madison may consider program adjustments. For example, if easement costs turn out to be \$5,000 per acre and average developers can only pay \$5,000 per TDR, the allocation formula may have to be changed to one TDR per acre. However, these adjustments should not be made unless and until the financial analysis of developments needing TDRs demonstrates that changes are needed. Given that the developers interviewed for this demonstration project thought that \$10,000 per TDR was workable, there is no reason to believe at this point that any adjustments would be needed, particularly when it is possible that sending area landowners may demand less than \$5,000 per acre for easements.

## **C      SENDING AREA ALLOCATION**

This section discusses a uniform TDR allocation and considers the appropriateness of multiple allocation rates capable of reflecting variable development value within sub-areas of the sending area.

### **1      Uniform Allocation**

An actual TDR feasibility study would approach landowners to generally find out their opinions on a potential program but also to specifically estimate how much compensation will be needed for them to place their land under a conservation

easement. For the reasons discussed below, this demonstration TDR program assumes that sending area property owners will be motivated to participate if they receive roughly \$5,000 per acre of unconstrained land placed under easement and \$1,000 of constrained land placed under easement. Constrained lands are areas where zoning and/or environmental regulations prohibit development or create mitigation requirements that make on-site development prohibitively expensive. What constitutes constrained land differs from one community to another based on local codes. This demonstration study uses wetlands, floodplains and stream buffers as possible examples of constrained lands with the understanding that the Village of Madison and/or Madison Township would create their own definitions of constrained lands if they proceeded with a TDR ordinance.

Remember that the TDR program will not dictate that developers pay \$10,000 for a TDR.. It is simply used in TDR feasibility studies to verify that both sending area landowners and receiving area developers will be sufficiently motivated to transfer TDRs. Because developers are assumed to be able and willing to buy TDRs for \$10,000 each, the allocation rates proposed in this demonstration study are as follows.

- Unconstrained Land: One TDR per two acres placed under easement.
- Constrained Land: One TDR per ten acres placed under easement.

These allocation rates are intended to create a viable TDR market. Sending area landowners would receive \$5,000 per unconstrained acre and \$1,000 per constrained acre, which is assumed to be adequate compensation. Likewise, receiving area developers should be able to buy TDRs for \$10,000, which is assumed to be a price that they are able and willing to pay.

The assumptions of easement value stated above are based on consideration of existing easements, discussions with Lake County officials and other factors as explained below.

- Officials from the Lake County Soil and Water Conservation District suggested \$5,000 per acre as a good rule of thumb in Madison. This demonstration TDR study relies on this benchmark for unconstrained land with the understanding that Madison would likely have easement evaluations performed on one or more representative sending area properties before adopting a TDR ordinance. Even though \$5,000 is used as the working assumption for this demonstration TDR study, there are reasons to believe that many landowners would accept less than this amount as discussed below.
- Many communities have existing easements to use as guidance in estimating TDR easement value. The time frame for this study did not allow a through investigation of the appraised value of all the existing easements in Madison and other parts of Lake County. The wide difference in value between two known easements only highlights the need to investigate this question further. (One easement in North Perry Village was appraised at \$11,289 per acre and

one in Leroy Township appraised at \$3,890 per acre.) The Clean Ohio agricultural preservation program has purchased easements on 10,000 acres of land with 50 farms around the state but has not as yet purchased an easement within Lake County. The experience of that program suggests that easements in Madison might be worth far less than \$5,000 per acre. For example the Clean Ohio program has purchased seven easements to date in Ohio counties that appear similar from the standpoint of proximity to metropolitan areas: Ashland, Geauga, Portage and Wayne. The average appraised value of these easements was \$2,378 per acre. However, without appraised Clean Ohio easements in Lake County, it is difficult to rely on information from this program.

- The Clean Ohio agricultural preservation program easements allow one housing lot on a farm 200 acres or less in size and two housing lots on a farm larger than 200 acres. In addition, under the Clean Ohio program, housing lots cannot be split off from the farm. In contrast, this demonstration TDR program assumes landowners would qualify to sell TDRs by voluntarily recording an easement limiting future subdivisions to a maximum density of one unit per 25 acres with no restriction on the sale of the lots resulting from these permitted subdivisions. Since the presumed TDR easement is far less restrictive than the Clean Ohio easement, TDR program easements should have an appraised value that is lower than the appraised value of Clean Ohio easements which averaged \$2,378 per acre in the four Ohio counties mentioned above.
- Finally, the Clean Ohio agricultural land preservation program pays less than half of the appraised value of the easement. The Ohio Department of Agriculture estimates the Program recently paid roughly \$1,100 per acre for easements worth almost \$2,500 per acre. In many cases, a local land trust or some other sponsor may make up some or all of the difference between the amount paid by Clean Ohio and the appraised easement value. However, based on easement purchase programs around the country, landowners are often willing to accept significantly less than appraised value for their easements. In fact, the owners of the easement in North Perry Village donated \$170,000 in easement value or slightly more than 15 percent of total appraised value. In other words, TDR easements may appraise for less than Clean Ohio easements (due to the liberal easement provisions of this assumed TDR program) and some landowners may be willing to sell the TDRs resulting from these easements at less than appraised value.
- This demonstration study assumes different TDR allocations for constrained and unconstrained land. This is done to avoid the unintended outcome of encouraging developers to buy TDRs from constrained land in order to reduce the cost of TDR compliance. This could happen because the owners of land with little development potential will generally be willing to sell easements on that constrained land at a fraction of the cost of an easement on land with few or no development constraints. Unless different per-acre rates are used for constrained and unconstrained land, developers would buy land on constrained land at a significantly reduced price. Without dual

allocation factors, the owners of unconstrained land would be at a competitive disadvantage in trying to sell TDRs to developers.

Some stakeholders might question why sending site landowners should be allowed to sell any TDRs on constrained land. This study takes the position that the TDR program should encourage landowners to place easements on constrained land. That's because the "constraint" often takes the form of a government regulation and government regulations can be altered or even eliminated over time. Furthermore, this study assumes that the permanent protection of these constrained properties is at least as high a priority as the protection of farmland. The TDR program in San Luis Obispo County, California solves the value issue by performing an appraisal of easement value on each proposed sending site. This demonstration TDR study assumes that the Madison would prefer the simplicity of a fixed per-acre TDR allocation formula. However, the assumption that one TDR per ten acres is adequate to motivate landowners should be verified if Madison decides to give further consideration to the adoption of a TDR program.

## **2 Multiple TDR Allocation Rates**

In many communities, the value of TDR easements is not uniform due to location, zoning, physical features and other attributes of different locations within the sending area. Some communities try to reflect those differences by creating different allocation rates for different parts of the sending area. Following are three examples.

- Blaine County, Idaho has different allocation rates for the two zoning districts in the sending area.
- The New Jersey Pinelands program has numerous allocation rates reflecting the value of the sending area resource as well as the development potential of the property.
- San Luis Obispo County, California, as mentioned above, offers an accurate representation of value by allocating one TDR for each \$20,000 of appraised easement value.

The value of land is likely to vary in the Madison sending area for the following reasons.

- The Village A-1 zone allows a maximum density of one unit per acre and the Township A-1 allows two units per acre. Although no economic study has been conducted, it seems likely that the value of conservation easements in these two zones would be higher than in the Township's A-R and S-1 zones, which allow a maximum density of one unit per five acres.
- The area south of the Grand River is physically separated from the interstate highway and other infrastructure supporting growth. Although no studies have been done of this either, the value of conservation easements in this area might be less than the rest of the study area.

Despite the potential for different easement values based on zoning and location, this demonstration TDR study proposes to retain a uniform allocation rate for the following reasons.

- A uniform allocation rate is simple and simplicity often generates support.
- If preservation from the TDR program tends to concentrate within the A-R and S-1 zones as well as south of the Grand River, this focus may be a satisfactory outcome. Land in these zones may be a higher priority for preservation. And the isolation of the area south of the Grand River may indicate that agriculture has a better chance of long term viability there. However, as stated in the section on the identification of sending areas, landowners throughout the sending area would still be able to take advantage of the TDR option.

## **VI POTENTIAL OUTCOME AND FEASIBILITY**

This study assumes a growth rate of 100 additional residential units per year or an increment of roughly 5,000 new units by the year 2057. For illustration, this study assumes that half of this increment, or 2,500 units, will be built by developers who choose not to exceed the maximum density allowed by current zoning. Based on the receiving area discussion above, under the receiving area assumptions described above, another 1,000 dwelling units would be within baseline density and therefore not subject to TDR requirements. (The scenarios above assume 500 acres of receiving site projects with a baseline density of two units per acre resulting in 1,000 units within baseline density.) The remaining 1,500 dwelling units are assumed to be within TDR receiving site projects and above baseline. Consequently, these 1,500 units are bonus units and would require one TDR each.

These 1,500 TDRs could preserve 5,000 acres of farmland, habitat, natural areas and open space. This estimate assumes that 1,250 TDRs represent the preservation of 2,500 acres of unconstrained land (1,250 TDRs X 2 acres/TDR) and 250 TDRs represent the preservation of 2,500 acres of constrained land (250 TDRs X 10 acres/TDR). These 5,000 acres of preserved land would constitute roughly 16 percent of the combined land area of the Township and Village, estimated at 30,000 acres. Other preservation techniques could supplement TDR including agricultural easement purchase programs and parkland acquisitions. If these other techniques protected another 1,000 acres, the area preserved by the combined techniques would represent 20 percent of the land area of the Township and Village, a percentage often used as a target for open space preservation.

So far, this report has mainly addressed the components that can be readily adjusted to create the most favorable conditions possible for a successful program. As shown above, a TDR market can be created. The numbers need further study and refinement. But developers would be able and willing to buy TDRs to achieve bonus density if TDR was the only way bonus density could be

achieved. Furthermore, the amount that developers report being able and willing to pay would be sufficient to adequately compensate landowners who volunteer to place easements on their properties. However, there are additional success factors that deserve further discussion.

Sending Area Motivation – TDR programs work better if sending areas are inherently more appropriate for preservation than on site-development in the following four ways.

- Physical Development Constraints – Sending area landowners will be more likely to choose the TDR option if their properties are less suitable for development, at least near-term development, due to land characteristics and location. In Madison, owners of property within wetlands, floodplains and stream buffers should be motivated by the compensation offered through the demonstration TDR program outlined in this report. In addition, owners of property south of the Grand River may be more interested in the TDR option given the separation of this area from the rest of Madison.
- Zoning Restrictions – This demonstration study assumes a sending area consisting of the land in four zones. The Township A-1 (two units per acre) and the Village A-1 zone (one acre minimum lot size) provide little motivation for property owners to choose the TDR option, which is why this study assumes that only landowners in these zones with a strong inclination to preserve their land would be likely to participate. On the other hand, the Township A-R and S-1 zones have a maximum density of one unit per five acres, which would give property owners additional incentive to use the TDR option.
- Development/Environmental Regulations – In addition to zoning, sending area landowners can be more inclined to use the TDR option by regulations governing development including wetland regulations, slope limitations and floodplain requirements. In an actual TDR feasibility study, this issue would be examined.
- Infrastructure Requirements – In some communities, development of sending areas may be unintentionally encouraged because developers are not required to build the infrastructure necessitated by their building projects or provide the funding needed for the public to build these improvements. Even when adequate requirements exist on average, uniform application of these requirements can essentially subsidize and therefore encourage the development of remote locations where the extension of roads, sewers, water lines and other infrastructure is most expensive. In an actual TDR feasibility study, this issue would be examined.

Receiving Area Potential – Rather than identify potential receiving areas, this demonstration study proposed a method for creating TDR receiving areas whenever land is up-zoned and assumed three different prototypes of development that could prompt up-zonings. Madison is well situated to attract these types of developments due to its natural amenities (lakes, streams,

woodland), superior transportation access (highways and passenger rail potential) and capacity for infrastructure expansion.

Developer Motivation to Exceed Baseline Density – High growth rates are often assumed as a critical ingredient for a successful TDR program. This assumption is understandable since most successful TDR programs are in high growth states. But this occurs primarily because most TDR programs, successful or not, are located in high growth states. That's because communities in these states are experiencing the loss of their most important places and they recognize that traditional responses are inadequate. The success of a TDR program is largely determined by the extent to which developers want a form of development that can only be achieved through TDR. This demonstration TDR program hinges on developers wanting to exceed baseline density and it proposes that baseline density be set at the maximum density allowed by current zoning. Essentially, this demonstration TDR program is based on the belief that developers will want to exceed this current zoning density and will apply for up-zonings or respond to government-initiated up-zonings frequently enough to create a successful TDR program. As mentioned above, Madison has the amenities, location, transportation access and infrastructure potential to attract developments that will need up-zonings. Most dwelling units may continue to be built at current zoning densities. But meaningful preservation could be achieved if just one third of the units built in the next 50 years occurred above the maximum densities allowed by current zoning. As discussed throughout this report, a demand for only modest density increases to four units per acre, six units per acre or eight units per acre would be sufficient to drive this program.

Consistent Application of TDRs for All Bonus Density – Many TDR programs fail because the community offers developers alternative means of gaining bonus density. For example, some communities offer bonus density when developers preserve on-site open space or add project features such as extra architectural details, recreational amenities and site design. When faced with a choice, developers are often inclined to achieve the bonus density through on-site features rather than TDR since on-site features add directly to project value. At an extreme, some communities simply start exempting projects from TDR projects. These exemptions might be because the developers claim exceptional project costs, extraordinary community benefits or simply hardship if they are forced to comply. Even if the exemptions are well-intentioned, the effect can be disastrous to a TDR program since subsequent developers will be able to cite precedents when they request their exemptions. It is difficult to predict how well a community will perform on this success factor. The elected officials who adopt the TDR program may not be in office five or ten years later when the requests for exemptions occur. How well these future officials resist the urge to relax the TDR regulations will partly depend on their personal beliefs and current circumstances, such as the extent of open space losses at that time. In addition, commitment to maintain the TDR program will depend on constituent demands. If the sending area property owners want to preserve their land, they may fight to

keep the TDR program intact. Likewise, the general public can be a strong force for TDR program maintenance. Public support can be maintained by keeping the public informed about the TDR program and aware of its benefits, as shown by the extensive public outreach of the New Jersey Pinelands Program.

In summary, a TDR program in Madison Township and/or the Village of Madison would be feasible and successful if a TDR requirement consistently applied to all units in excess of the maximum density allowed under current zoning. Madison elected officials have the ability to establish a successful TDR program. Whether or not it will be successful largely depends on whether the development community, landowners and the general public have the commitment to consistently apply the TDR requirement over the decades needed to accumulate a meaningful amount of preservation.

## **VII INTER-JURISDICTIONAL TRANSFERS**

This demonstration TDR feasibility study assumed that receiving areas located in the Village or the Township would accept TDRs from sending sites in either the Village or the Township. When inter-jurisdictional transfers occur freely, a TDR market functions more effectively because TDR buyers have more TDR sellers to choose from and TDR sellers have more buyers to choose from. In some communities, residents understand the importance of preserving farmland, environmental areas and open space in adjacent communities and do not oppose inter-jurisdictional transfers. In other cases, residents are willing to accept TDRs from another jurisdiction as long as those TDRs represent the preservation of a sending area that more directly benefits their community. For example, Boulder County, Colorado has entered into inter-governmental agreements with six of its incorporated cities. In each of these agreements, the city agrees to accept TDRs from unincorporated land as long as the sending areas preserve land that the city wants to save as farmland, greenbelts or community separators. In an actual TDR feasibility study, stakeholders would discuss whether or not TDRs should transfer inter-jurisdictionally, meaning from sending areas under Township jurisdiction into receiving areas under Village jurisdiction and vice-versa.

## **VIII PROGRAM FACILITATION**

This section discusses how TDR programs can facilitate the transfers through TDR banks, authorization of a land trust to serve as a TDR bank and density transfer charges.

### **A TDR BANKS**

Developers are sometimes concerned about their ability to find and buy TDRs at a reasonable price in order to receive final approval for their projects. This concern is particularly valid when a TDR program requires preservation of the sending site to occur concurrently with approval of the receiving site project

needing the TDRs. However, most TDR programs allow sending area landowners to record an easement whenever they like in return for receiving TDRs. In many programs, these landowners can sell their TDRs directly to developers or to anyone else as long as they follow the communities transfer procedures. TDRs are sometimes purchased and held by Individuals and organizations with a conservation mission, investors or by an agency of the local government often referred to as a TDR bank. TDR bank purchases can be funded by bonds, special tax revenues or a government's general fund. By purchasing TDRs with public funds, a community facilitates TDR transactions and also buys TDRs in advance of escalating prices.

- King County, Washington used general fund money and the proceeds from a dedicated portion of county property taxes to buy the TDRs on over 92,000 acres of forested land and open space. King County's TDR bank now sells these TDRs to developers of receiving areas in King County and, in some cases, within incorporated cities like Seattle and Issaquah. The revenues from the sale of these TDRs can be used to purchase additional TDRs, making what would otherwise be a one-time use of revenue into a perpetual revolving fund for preservation.
- Palm Beach County, Florida also converted what would otherwise have been a traditional open space bond into the seed money for its TDR bank. The County used the \$100-million bond to buy 43,000 acres of environmentally sensitive land. It severed the development rights from this land and stocked its bank with 9,000 TDRs, which it now sells for \$25,000 each.
- The innovative use of TDRs is not confined to large jurisdictions. Warwick Township, Lancaster County, Pennsylvania primed its TDR bank with general fund money. The Township now goes into partnership with the County's purchase of development rights program when it preserves an individual farm. The County allows the Township to keep all of the resulting TDRs from these preserved farms as long as the proceeds from TDR sales are reinvested in future farmland preservation.

## **B LAND TRUSTS AS TDR BANKS**

In the TDR program for Cambria in San Luis Obispo County, California, the County authorized a local land trust, the Land Conservancy of San Luis Obispo County, to administer the sending area portion of the County's Cambria TDR program. The Conservancy obtained a \$275,000 loan and used it to start a revolving fund to buy land, harvest the TDRs from that land, sell those TDRs and reinvest the proceeds in more land purchases. The Conservancy bases its land acquisitions on site specific appraisals and cannot pay more than the appraised value. The County relies on the Conservancy to verify that a receiving site property owner has purchased the necessary number of TDRs before granting a building permit.

- This approach minimizes the duties and responsibilities of the local government.
- The Conservancy holds a supply of TDRs, which gives the receiving site developers comfort that they will be able to buy TDRs when they need them.

## **C DENSITY TRANSFER CHARGE**

The availability of TDR banks gives developers some assurance of being able to find TDRs when they need them. However, that assurance relies on the TDR bank having enough TDRs on hand to meet demand when developers need them. Some TDR programs offer even more assurance by allowing developers the choice of meeting their TDR requirements either by securing actual TDRs or by making cash-in-lieu-of-TDR payments, also known as density transfer charges. The community uses revenues from in-lieu payments exclusively for the acquisition of sending area easements. In addition to giving developers peace of mind, the in-lieu payment option allows the community to target these revenues for the acquisition of high-priority easements.

- In Livermore, California, developers can pay \$24,000 in lieu of each TDR that would otherwise be required.
- In Berthoud, Colorado, developers are allowed their choice of deed-restricting one acre of sending area land per bonus single-family residential or paying a predetermined density transfer fee.
- Unlike other communities, Hatfield, Massachusetts does not give developers the option of buying TDRs themselves. Instead, developers must meet their TDR requirements through a cash contribution in lieu of TDRs to the Town's Land Preservation Fund.

## **Appendix TDR Background**

This appendix discusses 1) TDR Comparison With PDR and Clustering and 2) TDR Case Studies. Bear in mind that this only summarizes a more extensive discussion that can be found in the book *Beyond Takings and Givings: Saving Natural Areas, Farmland and Historic Landmarks with Transfer of Development Rights and Density Transfer Charges* by Rick Pruetz and at the web site [www.BeyondTakingsAndGivings.com](http://www.BeyondTakingsAndGivings.com) maintained by Rick Pruetz, the author of this demonstration TDR study.

### **1: TDR Comparison with PDR and Clustering**

TDR is somewhat similar to PDR or purchase of development rights. Like TDR, PDR provides compensation to landowners for voluntarily recording a deed restriction on their properties. But while TDR severs and transfers the development right, PDR retires the development right. As a result, once an easement is purchased, a PDR program must find additional funding before it can make another easement purchase. In some places, the voters approve new taxes to fund PDR acquisitions. But, even when dedicated PDR funding exists, it is rarely sufficient to preserve all the land that landowners would like to save. And

in many places, the voters reject tax proposals and bond measures for open space.

Unlike PDR, TDR can leverage limited preservation funding by creation of a revolving fund. For example, in the Cambria TDR Program in San Luis Obispo County, California, a land trust used a \$275,000 loan to buy sensitive land. The TDRs were severed and sold and the proceeds used to buy more land. This program has used the initial seed money over and over to preserve over 250 critical parcels to date. Similar revolving funds exist in TDR programs throughout the country, including those in King County, WA, Palm Beach County, FL, Tahoe Regional Planning Agency and Warwick Township, Lancaster County, PA as discussed in the TDR Bank section of this report.

Traditional zoning can be changed. But, when a TDR program works, owners voluntarily record easements on their properties that remain in effect in perpetuity. Of course, permanent protections can also be achieved by the variation of zoning called clustering or conservation subdivisions. With clustering, property owners are simply allowed to concentrate development on a smaller portion of their property in return for recording a conservation easement on the larger portion. Clustering is often more appealing to landowners than TDR because the owner/developer does not have to deal with other landowners to use clustering provisions. However, communities should carefully consider the land use pattern likely to result from clustering. When communities allow clustering only in limited situations, development on one or more parcels can be concentrated in desirable and appropriately-sited villages. On the other hand, clustering can scatter pockets of residential development across the landscape. If the agriculture is less-intensive truck farming or organic agriculture, these two uses may be compatible. However, land use conflicts are inevitable when clustered development is built next to intensive agriculture with its heavy farming equipment, fertilizers and pesticides. Furthermore, the pockets of development encouraged by clustering disperses residences throughout rural areas, forcing residents to use cars to access schools, shopping, jobs and other daily needs.

Instead of encouraging clustering within a single parcel, TDR encourages the concentration of development in areas where that development is most appropriate and promotes the preservation of those areas that should ideally be free of residential development with its inevitable land use conflicts.

## **2: TDR Case Studies**

Study team members are aware of over 181 TDR programs throughout the country with a combined preservation of over 300,000 acres. Not all of these TDR programs are successful. But when they work, TDR programs can be very effective at protecting important community resources at relatively little public expense. Thumbnail sketches of some of these programs appear below.

Montgomery County, Maryland – Montgomery County abuts Washington DC and has experienced substantial growth pressure for decades. In 1980, the County rezoned a 91,000-acre agricultural reserve from a previous density of one dwelling unit per five acres to one dwelling unit per 25 acres. However, sending site owners could opt to deed-restrict their farms and sell the resulting TDRs at the rate of one TDR per five acres. Montgomery County amends its program periodically to add new receiving areas. The receiving areas operate at single-family residential as well as multiple family densities. For example, in one receiving zone, density can increase from five units per acre to seven units per acre when developers buy one TDR for each additional unit above the TDR threshold. This combination of sending area and receiving site incentives created a successful TDR market as demonstrated by the fact that 47,000 acres of farmland have been deed-restricted so far.

New Jersey Pinelands, New Jersey – This program is designed to preserve natural and environmental resources within a one-million-acre area in southeastern New Jersey. In this state-legislated program, TDRs can be transferred between 60 different jurisdictions. A density bonus is awarded as a matter of right to eliminate any uncertainty that a developer might have about the ability to use TDRs. A state agency monitors local planning approvals to ensure that extra density is only awarded to projects that use TDR. A TDR bank is used to market the program, administer transfers and provide funding for the infrastructure needed to support higher density levels as well as buy and sell TDRs. As a result, this program has also preserved 47,000 acres so far.

Calvert County, Maryland – Calvert County is located 25 miles southeast of Washington, D.C. As in Montgomery County, land owners in Calvert County Agricultural Preservation Districts can build on site at a density of one unit per 25 acres or transfer TDRs at the rate of one TDR per five acres. In the receiving areas, developers who buy TDRs are able to build at the relatively low density of one unit per two acres. Despite the relatively low density at which this program operates, Calvert County has permanently preserved 13,000 acres of farmland to date.

Boulder County, Colorado – Boulder County began preserving agricultural land and rural character in 1989 with a TDR program that encourages transfers between parcels under County jurisdiction. Beginning in 1995, it added provisions allowing transfers from county sending areas to receiving areas within incorporated cities in accordance with inter jurisdictional agreements (IGAs). The cities view this cooperation as a way of implementing their goals for community separators and greenbelts. The County now has IGAs with seven incorporated cities and the inter-jurisdictional TDR program alone has preserved between 4,400 and 5,900 acres of land so far.

San Luis Obispo County, California – The County's original program has acquired 250 lots so far in an effort to reduce development on steep, highly-

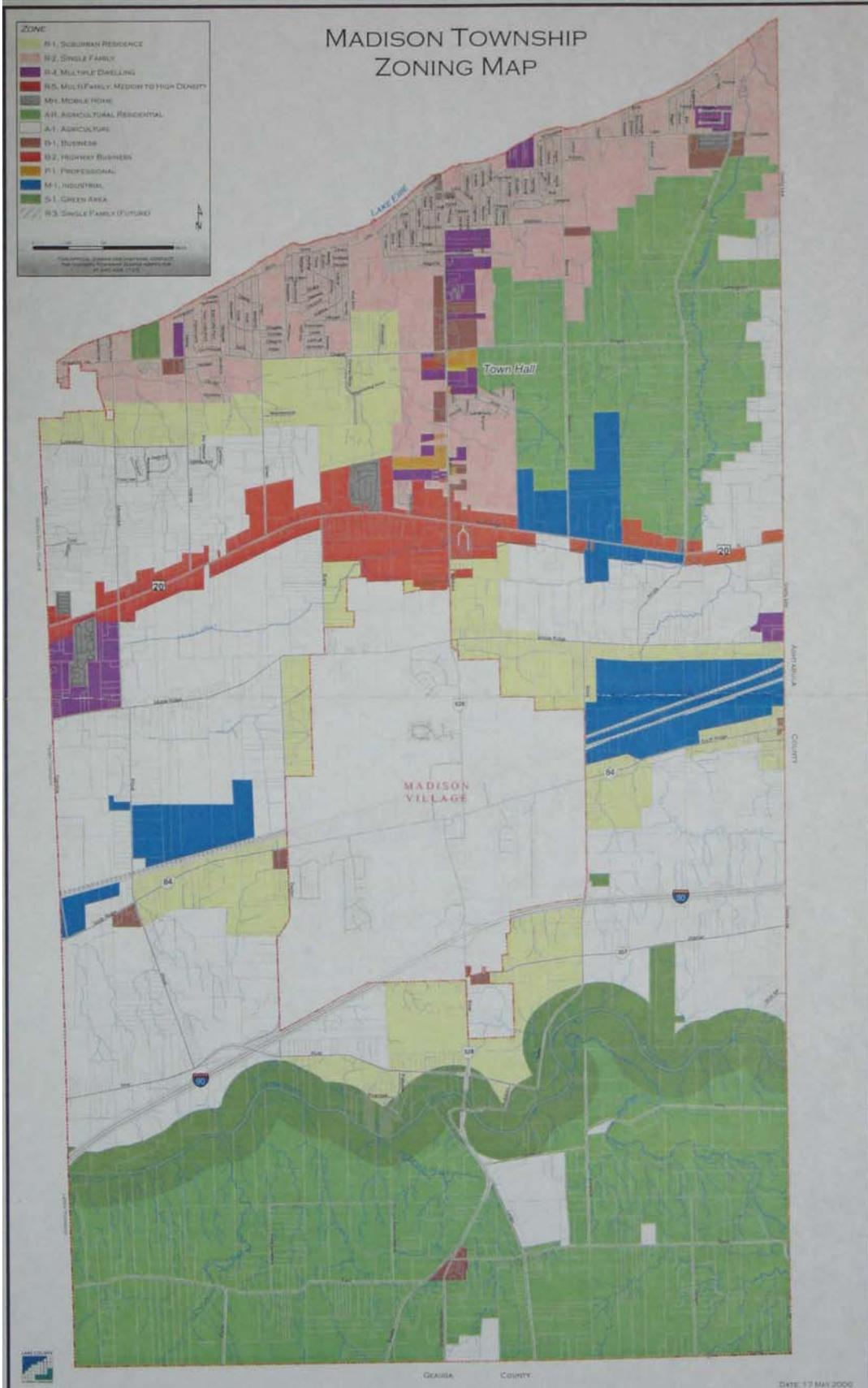
erodible slopes that serve as habitat for the Cambria Pine. A development formula limits homes to a maximum of 400 square feet of floor area when located on lots with slopes of more than 25 percent. Property owners can elect to sell their lots voluntarily to a land trust established for this program. In turn, the land trust can sell the right to build more floor area, up to set limits, to property owners who wish to build homes despite the floor area constraints. A second, Countywide program, adopted in 1996, allocates the number of development rights to a sending site following an appraisal.

Chesterfield Township, Burlington County, New Jersey – Chesterfield lies 30 miles northeast of downtown Philadelphia. It has a population of 5,955 (2000) and added only 13 dwelling units per year on average throughout the 1990s. The Township is recognized as a leader in agricultural preservation, with almost 5,000 acres, or roughly one third of its total land area, preserved under various state, county and local programs, including TDR. In 1997, the Township adopted a TDR program designed to transfer the development potential of all undeveloped rural land into a 560-acre receiving area called Old York Village. This plan for Old York Village, created through an all-inclusive planning process, calls for over 1,200 dwelling units in a Traditional Neighborhood Development using principles that guided the evolution of the nearby historic village of Crosswicks. In addition to various attached and detached units, Old York will have a school, a park system, a mixed-use center with retail, office and other locally-oriented commercial uses. Approximately 90 percent of the receiving site is under contract or owned by developers and a sizeable portion of the units are built and occupied. In 2004, the American Planning Association gave its Outstanding Planning Award to the Chesterfield TDR Program and Village Plan.

## **Exhibits**

**Exhibit A: Madison Township Zoning Map (page 34)**

**Exhibit B: Madison Village Zoning Map (page 35)**



# MADISON VILLAGE ZONING

B-1	GENERAL BUSINESS	R-1	RESIDENTIAL SUBDIVISION	S-1	SPECIAL	M-1	LIMITED INDUSTRY
B-2	HIGHWAY BUSINESS	R-2	RESIDENTIAL	SC-1	SENIOR CITIZEN RESIDENTIAL	M-2	GENERAL INDUSTRY
B-3	PLANNED COMMERCIAL	R-3	MULTIPLE RESIDENCE	B-5	FREEWAY BUSINESS / INDUSTRIAL	A-1	AGRICULTURAL
B-4	FREEWAY BUSINESS						

