

The Feasibility of Creating a Regional Transfer of Development Rights Program in Barnstable County, Massachusetts

A Thesis Submitted By

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Abstract

The purpose of this thesis is to analyze the feasibility of instituting a transfer of development rights program in Barnstable County Massachusetts or more commonly known as Cape Cod. The population of Cape Cod has dramatically increased over the past 50 years and as a result a sprawl pattern of development has occurred. The sprawl pattern of development has removed many of the natural features of Cape Cod that attracted residents in the first place. Further these types of development patterns have not allowed town centers to acquire the necessary infrastructure to handle more growth.

The development in Cape Cod could have been drastically different had a TDR program been instituted in the 1970's and Cape Cod would still benefit from installing a program today. This study concludes that there is still adequate demand for development and preservation in the region to make a TDR program feasible with great assistance from the Cape Cod Commission. However, due to the complexity of a regional program and the general lack of knowledge about TDR's a very long and expensive educational training program would need to take place. Recommendations have also been made as to the first steps that would need to be taken in order to begin the process of instituting a TDR program in the region.

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Introduction: Is a Regional TDR Program in Barnstable County Feasible?

The purpose of this thesis is to analyze the feasibility of instituting a regional transfer of development rights program in Barnstable County Massachusetts. This thesis analyzes the demand for additional preservation as well as the demand for additional development in the region, which are two key factors in successful TDR programs. The ability of the Cape Cod Commission to implement and monitor a regional program is evaluated. This study concludes that a regional TDR program is possible so long as the Cape Cod Commission is integrally involved in the process.

Chapter I: Cape Cod and Transfer of Development Rights

Introduction

This chapter introduces the concept of Transfer of Development Rights and its application within the fifteen towns of Cape Cod, Massachusetts.

Barnstable County and the Cape Cod Commission

Barnstable County, more commonly known as Cape Cod, is a peninsula that extends from Massachusetts into the Atlantic Ocean. “The Cape” contains beautiful beaches, wetlands, marshes, forests, fields, and farmland; as a result of these features it has become a wildly popular tourist destination. Tourists are attracted for many recreational activities including swimming, hiking, fishing, bird watching, bicycling, and

Figure 1.1

	Percentage Increase of Population from 1900-2010										
Towns	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010
Mashpee	-11%	-10%	49%	20%	1%	98%	49%	187%	113%	64%	8%
Eastham	3%	-17%	26%	7%	48%	40%	70%	70%	29%	22%	-9%
Truro	-15%	-15%	-7%	14%	13%	52%	23%	20%	6%	33%	-4%
Brewster	-24%	9%	12%	8%	19%	25%	45%	192%	62%	20%	-3%
Wellfleet	3%	-19%	0%	8%	26%	25%	24%	27%	13%	10%	0%
Orleans	-4%	-6%	17%	23%	21%	33%	30%	74%	10%	9%	-7%
Sandwich	17%	-14%	-1%	-5%	78%	-14%	152%	67%	77%	30%	3%
Bourne	49%	2%	14%	15%	42%	197%	-10%	10%	16%	17%	6%
Yarmouth	-16%	-13%	46%	27%	44%	67%	119%	53%	15%	17%	-4%
Chatham	-11%	11%	11%	11%	15%	33%	39%	33%	8%	1%	-8%
Dennis	-18%	-20%	19%	10%	24%	49%	73%	92%	12%	15%	-11%
Harwich	-9%	-13%	26%	9%	4%	41%	57%	52%	15%	21%	-1%
Falmouth	-10%	11%	38%	43%	26%	51%	22%	48%	18%	17%	-3%
Provincetown	3%	-3%	-10%	-4%	3%	-11%	-14%	21%	1%	-4%	-14%
Barnstable	7%	3%	50%	15%	26%	28%	47%	56%	33%	17%	-5%

relaxing on the beaches. With the construction of highways in the 1950s and 1960s Barnstable County became accessible to the greater Boston population. The 1970s and 1980s brought about an extraordinary growth in the region not only to summer residents, but also the year-round population.

In Figure 1.1 there is a dramatic increase in the population after the construction of Route 6, The Cape Highway. Within three decades of the construction of Route 6

twelve of the fifteen towns had a population increase of over 50%. Before 1950 an increase of 50% had only happened one time within Barnstable County.¹ Further five towns (Mashpee, Brewster, Sandwich, Bourne, and Yarmouth) had a decade in which they saw their population increase over 115%. The addition of Highway 6 brought an unprecedented amount of growth to the area.

The fifteen towns that compose Barnstable County were simply not ready for the wave of construction that took place.² The towns had been accustomed to moderate growth. Zoning laws required low-density development, large setbacks, and banned mixed uses. The zoning was intended to separate land uses and protect real estate values. Growth was beneficial for each town because of increased tax revenue, but residents were becoming increasingly less satisfied with their investment. As development increased, residents began to see negative impacts on traffic patterns, recreational activities, and a decline in the natural resources that made the Cape a desirable destination.³ This type of development, commonly referred to as sprawl, is a common development pattern in most suburban areas in the United States, including Cape Cod.

Suburban sprawl is a common problem in the United States and has been written about at great length. Sprawl is defined as “low-density development on the edges of cities and towns that is poorly planned, land-consumptive, automobile dependent [and] designed without regards to its surroundings.”⁴ Fewer housing units are built on more land so more land is required to try and satisfy the demand for development. Private

¹ Barnstable, Brewster, Bourne, Chatham, Dennis, Eastham, Falmouth, Hawrich, Mashpee, Orleans,

² Cape Cod Commission. Cape Cod Regional Policy Plan. Barnstable County Assembly of Delegates and Barnstable County Commissioners. Barnstable County, MA 2010

³ Cape Cod Commission. 2011 Traffic Counting Report for Cape Cod Massachusetts. Niedzwiecki Paul, Patty Daley, Glenn Cannon, Lev Malakhoff, Clay Schofield, Priscilla Leclerc, and Steven Tupper. Boston, MA 2012

⁴ Duaney, Andres. Elizabeth Plater-Zyberk and Jeff Speck. 2001. *Suburban Nation: The Rise of Sprawl and Decline of the American Dream*. New York. North Point Press

owners of agricultural land, open space, waterfront land, and other environmentally sensitive areas face added pressure to develop because of the property's natural beauty and location. At the same time, real estate taxes are based on the best use of the property, which is typically residential development. As a result landowners want to maximize their property values so they convert their properties to residential. As more and more properties are converted to residential development the character that made the Cape unique has increasingly been lost.⁵

Cape Cod Commission

In the late 1980s the fifteen towns of Barnstable County realized that unorganized and uncoordinated development was having a negative impact on the cultural and environmental values of the region. In an unprecedented decision, the towns voted to add another, regional, level of government to the county. The Massachusetts legislature established the Cape Cod Commission in 1990 as a regional planning authority.⁶ The role of the CCC is:

“to further: the conservation and preservation of natural undeveloped areas, wildlife, flora, and habitats for endangered species; the preservation of coastal resources including aquaculture; the protections of groundwater, surface water, and ocean water quality, as well as the other natural resources of Cape Cod; balanced economic growth; the provision of adequate capital facilities, including transportation, water supply, and solid, sanitary, and hazardous waste disposal facilities; the coordination of the provisions of adequate capital facilities with the achievement of other goals; the development of an adequate supply of affordable housing; and the preservation of historical, cultural, archaeological, architectural, and recreational values.”⁷

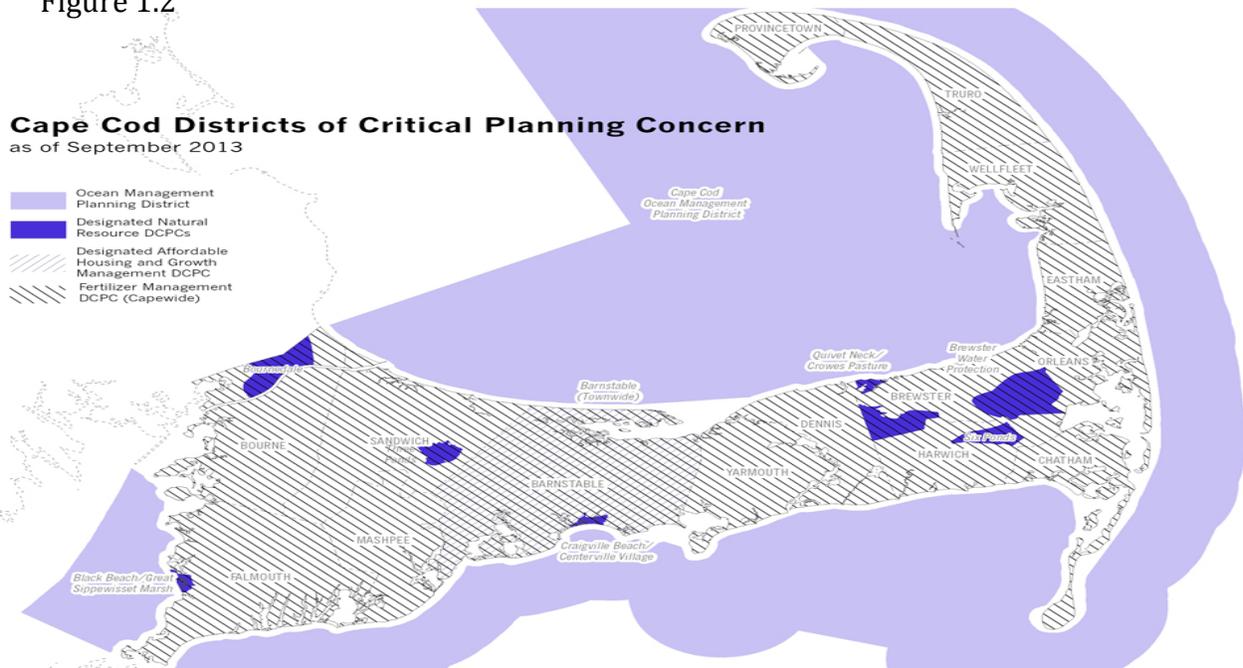
⁵ Cape Cod Commission, “Regional Plan,”

⁶ Cape Cod Commission, “Regional Plan,”

⁷ Cape Cod Commission, “Regional Plan,” i

The role of the CCC is not to limit development, but rather to create a sustainable growth model that benefits all of the communities, while protecting the cultural and natural elements that separate Barnstable County from the rest of Massachusetts. The CCC’s status as a regional planning authority overrides municipal standards and mandates individual towns to adhere to the comprehensive plan of the region. The CCC provides technical and financial assistance to towns that are trying to create local comprehensive plans. By encouraging towns to work with the CCC they are able to ensure that each local plan coincides with the regional plan. Further, the CCC must approve all developments of regional impact (DRI). The CCC has established thresholds that quantify projects as

Figure 1.2



development of regional impact.⁸ The CCC will also work with towns on smaller projects in a joint review process to ensure that the project corresponds with the regional plan. The CCC is able to monitor most development in the region, which allows it to protect the natural resources.

⁸ Cape Cod Regional Policy Plan, 3

The CCC recognizes that the region's economy is dependent upon protecting the natural and cultural resources through land use regulations. The commission uses four main principles to help guide their decisions on land use and the economic development of the area. Their first goal is to protect and exploit the competitive advantages of the Cape. These advantages are its natural environment, historic village character, working agricultural land, harbors, and cultural heritage. The second goal is to use the resources efficiently in order to maximize the benefit to the population. The third principle is to generate economic balance and diversity by having mixture of industries, businesses, and residential development. The final principle is to expand the economic opportunities and regional wealth of the area by increasing exports and creating local substitutes for imports⁹. In order to become a balanced economy the Cape should continue to promote and expand upon its uniqueness.

Through the use of regulatory and non-regulatory land use techniques the CCC works to protect districts of critical environmental concern and increase development in growth incentive zones. Working with each town and with an overview of the region using Geographic Information Systems (GIS) the CCC has identified these areas throughout the region. Areas can be designated as districts of critical environmental (Dark purple in Figure 1.2) concern for many reasons including the protection of: water resources, agricultural resources, habitats of plants and animals, historical areas or architecture, affordable housing districts, transportation management areas, etc. Figure 1.2 identifies the major districts on Cape Cod. Individual towns have worked with the CCC to identify the districts shown in Figure 1.2 as well as other smaller areas in each town.

⁹ Cape Cod Regional Policy Plan, 20

In the local and regional comprehensive plans, towns and the CCC have identified areas that are capable of handling increased development. These areas have been labeled as growth incentive zones or economic centers. Growth incentive zones have sufficient infrastructure to handle increased development and will not cause a substantial impact to the environment. The majority of these areas are in the village centers of each town. The theory of increasing development in village centers while maximizing open space is called “Smart Growth.”

The focus of the CCC’s regional plan is to reward communities that use “Smart Growth” techniques. Smart growth is a land use theory that encourages the development of mixed uses in concentrated areas. The goal is to create centers that are walk able, transit oriented, and avoid all of the problems associated with sprawl.¹⁰ Growth in town centers increases the effectiveness of municipal services and infrastructure. Public transportation becomes increasingly effective when population densities have a higher per acre value.¹¹ When mixed uses are located closer together individuals desire to use their automobile decreases. Thus decreasing traffic problems and many environmental issues that are directly related to sprawl and the automobile. Smart growth techniques establish areas with concentrated development while also restricting growth in other areas. Areas that have intrinsic value to the community or have an abundance of natural resources can be preserved¹². There are various regulatory tools that can be used to create smart growth.

¹⁰ “About Smart Growth,” Environmental Protection Agency, March 20, 2015
<http://www2.epa.gov/smartgrowth/about-smart-growth> (accessed August 10, 2015)

¹¹ Executive Office of Environmental Affairs and The Department of Housing and Community Development. Excerpts from A Study of the Feasibility of Establishing Transferable Development Rights Under the Rivers Protection Act. Boston, MA 1998. 1

¹² “About Smart Growth”.

What Are Transfer of Development Rights

One smart growth technique that has

been recommended by the CCC in its

most recent regional comprehensive

plan is the concept of transferable

development rights (TDR). TDRs

allow landowners to sell the

development rights of their land to

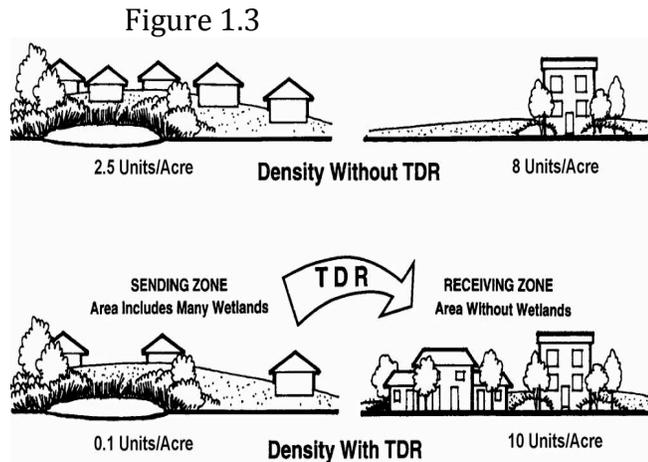
developers who are then able to build in excess of what is allowed under current zoning

laws. In exchange the seller of the development right is forced to place an easement on

their land that permanently restricts its development.¹³ In regions like Barnstable County,

where there is a demand for increased development and environmental areas that are in

need of protection, TDRs have been a successful tool in providing a means to an end.



Brief History of TDRs

TDRs, as with the use of zoning in general, grew out of the concept that some properties are not suitable for development given the resulting impacts. In 1916, New York City (NYC) instituted the first zoning ordinances in the United States.¹⁴ It did this for two main reasons. First, increasingly tall skyscrapers were blocking light from nearby residential neighborhoods. Secondly, factories and warehouses were being moved closer and closer to fashion retail stores on Fifth Avenue. To address these issues, the city passed zoning ordinances that placed height and setback requirements to protect the

¹³ Kopits, Elizabeth; Virginia McConnell; and Margaret Walls. 2003. "Making Markets for Development Rights Work," Discussion Paper 05-45, Resources for the Future, Washington, D.C.

¹⁴ Hanly-Forde, Jason. George Homsy, Katherine Lieberknecht, and Remington Stone. 2006. *Transfer of Development Rights Programs: Using the Market for Compensation and Preservation*. Restructuring Government Cornell University. 2006 Accessed September 30, 2011. <http://government.cce.cornell.edu/doc/html/Transfer%20of%20Development%20Rights%20Programs.asp>

neighborhoods. They also separated developments of incompatible uses to keep factories from retail areas. Further the city allowed property owners to transfer development rights to adjacent land.¹⁵ In 1968, the city Planning Commission allowed landowners to transfer air rights within a several-block area. As the illustration in figure 1 shows, the Penn Central Transportation Company (PCTC) planned to build a 53-story addition above Grand Central Station, a designated landmark; however, the City decided that the addition would ruin the landmark and allowed the PCTC to transfer the development rights to their other properties in NYC.¹⁶ The properties that received the development rights were allowed to exceed the zoning restrictions (illustrated in image four and five of figure 2).

Participants in TDR Programs

Smart Growth techniques have become a staple in local governments’ efforts to balance

Figure 1.4

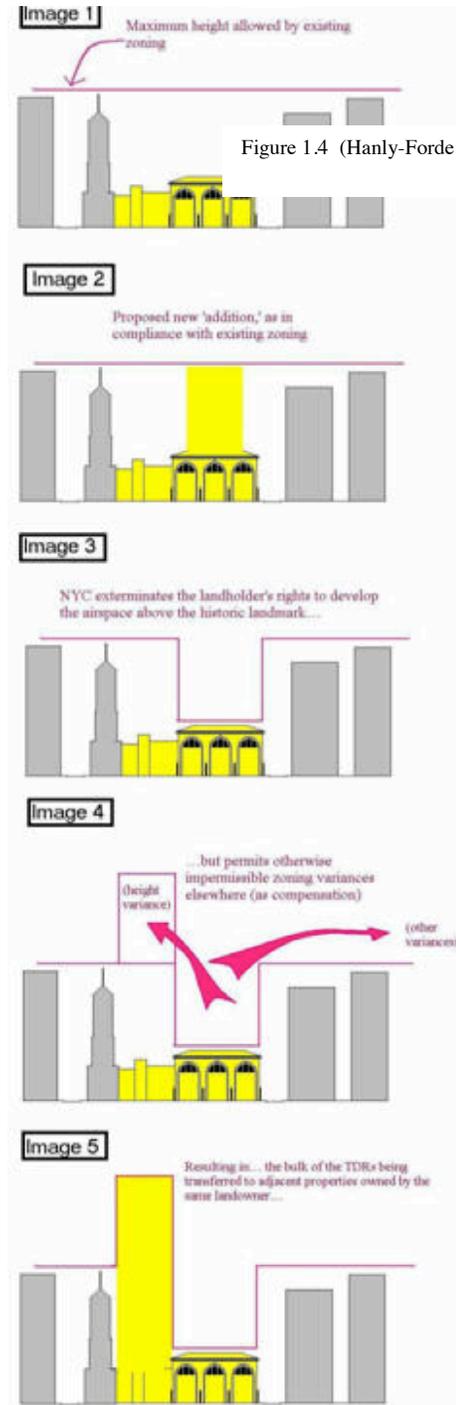


Figure 1.4 (Hanly-Forde et al. 2002)

¹⁵ Johnston, Robert A. and Mary E. Madison. 1997. “From landmarks to landscapes.” *Journal of the American Planning Association*. 63(3): 365-379

¹⁶ Hanley- Forde et al. “Transfer of Developments Rights Programs”

desires to preserve land and to foster growth.¹⁷ TDRs can be an effective Smart Growth method if implemented correctly, and can be a rewarding tool for government, developers, and private property owners.

To produce an effective TDR program both the property owners and developers must actively participate in the TDR market. In order for them to take part in the market they need to understand the “bundle of rights” that are associated with owning property.¹⁸ Property rights may consist of air, mineral, and access rights as well as the right to sell, subdivide, develop, and export resources (or only some of these elements). Property owners frequently lose or have limits placed on some of these rights due to zoning restrictions and, as a result, lose some of the value their land would have in a (theoretical) totally unregulated and unfettered market. TDRs allow landowners to separate the development rights from their property and sell those particular “sticks in the bundle” on the open market to developers. The developers can use these purchased rights to develop designated areas at a higher density than would be allowed under existing zoning laws.¹⁹ In an efficient TDR system, once the development rights have been sold, the landowner is considered to be fully compensated for permanently restricting the use of his land and thereby decreasing its value. In this system, landowners are no longer punished for owning land that is more heavily regulated.

Working with towns the CCC has created districts of critical concern for each town in its regional plan. In a TDR these areas are referred to as *sending areas*

¹⁷ “About Smart Growth”

¹⁸ Shaffer, Gail S. 2005. “Legal Memorandum: Transfer of Development Rights,” NYS Department of State. State Environmental Resource Center. “Transfer of Development Rights; Policy Issues Package.”

¹⁹ American Littoral Society. 2005. “The Ins and Out of TDR: The Transfer of Development Rights Act, Making Growth and Open Space Work Together,” The American Littoral Society, Sandy Hook, New Jersey.

(development rights are sent or “sold” from this location). Development credits cannot simply disappear because there is monetary value associated to them. In a TDR an agency must also delineate an area that can be more intensely developed. *Receiving areas* (these areas receive or “purchase” development rights) contain the infrastructure for development beyond the current zoning restrictions.²⁰ The CCC has also identified these areas as growth incentive zones. By utilizing TDR programs, development can take place in areas that are capable of fostering higher population densities, while at the same time protecting natural resources, environmentally sensitive areas, and locations that have other intrinsic value to the community.

Methodology

In order to determine whether a regional TDR program within Barnstable County is feasibility, research was collected through four principal sources: 1) a review of the literature on transfer of development rights; 2) review of materials prepared by and for the Cape Cod Commission, regarding: land use and the natural geographic regions of the area; 3) interviews with town planners, land use experts, developers, conservation trusts, planning agencies, and employees of the Cape Cod Commission and 4) case studies evaluating successful TDR Programs in the United States including the Montgomery County Transfer of Development Rights Program and the New Jersey Pinelands Development programs.

²⁰ Pruetz, Rick. and Noah Standridge. “What Makes Transfer of Development Rights Work?”: Success Factors From Research and Practice.” *Journal of the American Planning Association* 75: 78-87

CHAPTER II: Transfer Development Rights: The Planners Answer to Multiple Dilemmas

This Chapter will review the literature on all facets of a Transfer of Development Rights Program. The chapter will answer the questions of why a planner would be interested in creating a TDR program and what characteristics of a region are optimal for a successful program. Weaknesses of TDR's will also be examined as well as legal issues that could arise from a program.

Why Use a TDR Program?

Zoning can prevent property owners from realizing the full economic potential of their land because zoning is designed to provide the most benefit for the community.²¹ In an effort “to reduce inequity in planning systems currently dominated by zoning,” governments have instituted TDR programs to ensure increased distribution of the benefits of development. The benefits are not only associated with monetary gains from increased land acquisitions, but also the intrinsic value of land being permanently restricted for future generations.²² TDRs aim to present incentives for “smarter” development patterns that would not happen under current regulations. TDRs are not like zoning, as they can establish permanent restrictions on land through common land use techniques such as, conservation easements or agricultural/historical preservation restrictions depending on what the TDR plan aims to protect.²³ TDRs permanently restrict use the use of pre-determined areas while providing property owners a tool to

²¹ Karkkainen, Bradley C. 1994. “Zoning: A Reply to the Critics.” *Journal of Land Use and Environmental Law*. 10: 49-50

²² Clinch, Peter J. and Eoin O’Neill. 2010. “Assessing the Relative Merits of Development Charges and Transferable Development Rights in an Uncertain World.” *Urban Studies* 47:891-911. (Accessed October 30, 2010.)

²³ Ibid

retain the economic value of their land. Figure 2.1 shows the top ten TDR programs in the United States in terms of acreage preserved.²⁴

Figure 2.1	Acres Preserved	Year of Adoption	Average Acreage Preserved Per Year
King County, WA	91,500	1998	9,150
Pinelands, NJ	55,905	1981	2,071
Montgomery County, MD	51,830	1980	1,851
Palm Beach County, FL	35,000	1993	2,333
Collier County, FL	31,400	2002	5,233
Calvert County, MD	13,260	1978	442
Queen Anne's County, MD	11,176	1987	126
Sarasota County, FL	8,200	1982	911
Pitkin County, CO	6,452	1994	461
Boulder County, CO	5,900	1989	311

Private and Public Land Preservation

Beyond Takings and Givings, by Rick Pruetz, outlines many potential purposes of TDR programs.²⁵ Pruetz depicts over 30 TDR programs that are designed to protect various resources in their perspective regions, including: environmental resources, historic properties and settings, farmland, aquifer recharge areas, recreational opportunities, urban redevelopment, and conserve wetlands. In a TDR program a permanent preservation of a resource is a by-product of a market transaction, the buying and selling of a development right.

²⁴ Pruetz, Rick and Noah Standridge. 2009. "What Makes Transferable Development Rights Work?" *Journal of the American Planning Association*. 75. No. 1: 80

²⁵ Pruetz, Rick. 2003. *Beyond Takings and Givings: Saving Natural Areas, Farmland and Historic Landmarks with Transfer of Development Rights and Density Transfer Charges*, Arje Press, Marina Del Rey, CA.

In regions without TDR programs, land trusts and governments are burdened with the expense of trying to preserve land. In the current economic climate resources for governments are scarce and private funds are needed to stimulate the protection of environmentally sensitive areas, farmland, and historic centers.²⁶ Further, public officials have become increasingly skeptical of land use restrictions because they decrease property values and, in some cases, result in lawsuits alleging unconstitutional takings of private property.²⁷ Proponents of TDR argue that minimal involvement from the government is optimal as it allows transactions to take place more freely and excludes lengthy political battles over how to spend taxpayer dollars.²⁸

Development Made Easier

Simply, TDR programs make construction more likely. In established TDR programs such as Montgomery County and the New Jersey Pinelands developers prefer to use development credits for several reasons. Once the program is established there is a clear and predictable development process. Some programs, such as King County, Washington, even streamline the review process for developers using credits to further encourage their use. Instead of needing to negotiate variances with local zoning commissions or adjudicative boards, developers know exactly what can and cannot be done if they have purchased credits.²⁹ Allowing developers to work on consistent schedule is a very compelling byproduct for advocates of TDRs.³⁰

26 Pruetz, Rick. 1997. *Saved By Development: Preserving Environmental Areas, Farmland and Historic Landmarks With Transfer of Development Rights*. Marina Del Rey. Arje Press;168-9

27 Kopits et al. "Making Markets"16

28 Riggs, Elizabeth. 2007. "Transfer of Development Rights: Potential Impacts for Michigan Communities." The Huron River Watershed Council. Funded by People And Land, a program of the W. K. Kellogg Foundation and Michigan State University Land Policy Institute. Michigan

29 Pruetz, Rick. and Erica Pruetz. 2007. "Transfer of Development Rights Turns 40." *American Planning Association* 59(6):6

30 Ibid

The purchase of development credits encourages developers to build more units using less space. Often times zoning practices force commercial lots to take up more space than is needed for the actual building by implementing setback, frontage, minimum lot areas, and additional parking requirements.³¹ According to a study completed by Huron River Watershed Council in Michigan, the TDR program in their area has reduced the cost to developers by 34% and allowed more housing units to be built in a smaller area. Developers not only save in the actual cost of the units, but in the cost of infrastructure. Cost reduction comes from a 93% decrease in pavement and the installation of compact sewer systems (pipes typically cost \$100 a foot according to this study). Compact development patterns of TDR programs are enticing to developers because of the potential decrease in construction costs.

Zoning

Zoning frequently restricts the number of land uses on a parcel. Restricting the number of land uses decreases the value of that parcel of property, but often increases the value of the adjacent lots.³² As a result zoning ordinances, especially in New England, can become very difficult to change since the majority present at a town meeting needs to approve a change.³³ Landowners do not want increased density in the general area of their property out of the fear that it will disrupt their daily lives.³⁴ Many planners and economist argue that zoning does not accomplish optimal development patterns. New market based regulatory tools have become more popular to help achieve more desirable development patterns that better protect the regions natural resources.

³¹ Taintor, Rick. 2001. "Transfer of Development Rights" South Country Watersheds Technical Planning Assistance Project. Rhode Island. <http://www.dem.ri.gov/programs/bpoladm/suswshed/pdfs/tdrreprt.pdf>

³² Clinch and O'Neill 2010, "Merits of Development," 892

³³ Thomas Fudala (Former Mashpee Town Planner) interview with author, January 30, 2015

³⁴ Terry Whalen (Former Chatham Town Planner) interview with author, February 2, 2012

In a TDR program, policy makers, land use experts and the public decide which areas are suited for more development and those that are in need of preservation. In theory these experts are making decisions on what is best for the community as a whole, and not the individual landowners. TDR transactions encourage development in areas that are best suited for it and restrict growth in other areas that are not suited for it. The goal is to provide optimal development patterns for the region.

Components of Successful TDR Programs

There is no formula to create a successful TDR program. Each program is unique and designed to work within its community.³⁵ Richard Pruetz and Noah Standridge researched 20 publications that listed factors for successful programs as well as the ten most successful TDR programs in order to complete a top ten list of important elements.³⁶ They believe there to be two factors that are essential for success and several others to be important.³⁷ These elements are repeatedly cited throughout the literature on TDRs. Each factor in Table 2.2 has been highlighted by Pruetz and Standridge and is briefly described below.³⁸

Demand For Development

³⁵ Pruetz, *Beyond*, 85.

³⁶ Pruetz and Standridge "What Makes," 78

³⁷ Pruetz and Standridge "What Makes," 81-82.

³⁸ *Ibid*

As previously noted both buyers and sellers must want to partake in TDR transactions in order for programs to accomplish their goals. John Danner explains that four interdependent factors create value for TDR transactions: utility, scarcity, desire, and

Figure 2.2	Demand For Development	Clear and Valid Public Purpose	Location of Receiving Areas	Integration with Town Plan	Simplicity	TDR Bank
King County, WA	X	X	X	X	X	X
Pinelands, NJ	X	X	X	X		X
Montgomery County, MD	X	X	X	X	X	
Palm Beach County, FL	X	X	X	X	X	X
Collier County, FL	X	X	X	X		
Calvert County, MD	X	X	X	X	X	
Queen Anne's County, MD	X		X		X	
Sarasota County, FL	X	X	X	X		
Pitkin County, CO	X	X	X	X	X	
Boulder County, CO	X	X	X	X	X	
Pruetz and Standridge "What Makes," 81-82						

effective purchasing power. These factors determine the market value of development credits.³⁹ If a program is designed to use the four economic factors, respectively: use, limitations on availability, demand, and reasonable price, there will be a market for transactions. Use pertains to a developer's ability to exchange a credit in order to build additional units. Limitations on availability correlates with supply side of the market, meaning if there is an excess number of credits available for purchase the price will be too low, thus diminishing the sellers desire to limit the future use of their land. Lastly, the cost of credits must be reasonably priced to make the transaction worthwhile for both parties. Danner continues that TDR is a technique that is not suited for areas with slow or modest growth because there would be no demand by developers to build additional units.

³⁹ Danner, John, 1997. "TDRs—Great Idea but Questionable Value," 65 Appraisal Journal. 133, 136

Designers of TDR programs can help to create demand by assigning various values to development credits to help increase demand for the product.⁴⁰ For example, one development credit could allow two additional units to be built in the receiving area. Policy makers can also improve the developers' value by increasing the maximum densities allowed, granting exemptions from development impact fees, frontage, setbacks, and minimum floor area restrictions.⁴¹ The more flexible the development credits are, the more value the developers will attribute to them.⁴² Developers in Pitkin County, CO can use TDRs to get exemptions from building permit quotas. In Collier County, FL, eight development credits are needed to develop each acre in the receiving area. Each program values credits differently in order to maximize the program and to create a sustainable market. If a program has a lot of area needed for preservation, but limited area for development, the value of each development credit can be decreased in order to encourage developers to preserve more land in order to receive additional development credits as portrayed in Collier County example.⁴³

Location of Receiving Areas

Most simply, receiving areas must be located where people want to live. Deserted areas with no infrastructure will fail to produce market transactions. Adequate capacity of roads, water treatment facilities, public water supply, and sewer systems are several of the factors that need to be present.⁴⁴ Policy makers should plan to add increased infrastructure to receiving areas whether it be transportation, improved schools, parks,

⁴⁰ Selver, Paul D. and Michael T. Sillerman. 2009. "Transfer of Development Rights: what's new – and what is not." *New York Law Journal* 24 Aug. 2009 Academic OneFile. accessed 4 Nov. 2010.

⁴¹ Kopits et al "Making Markets," 7.

⁴² Pruetz and Pruetz "TDRs Turn 40," 7.

⁴³ Thorsnes, Paul. And Gerald P.W. Simons. 1999. "Letting the Market Preserve Land: The Case for a Market-Driven Transfer of Development Rights Program." *Contemporary Economic Policy*. 17(2): 257

⁴⁴ Riggs. "Potential Impacts."

even garbage pick up to help promote the program.⁴⁵ Collier County, FL, has been able to preserve 31,400 acres by allowing development rights to be transferred into new town receiving sites. The City of Portland, OR, has used development rights to increase the density in certain downtown areas.⁴⁶

Clear and Valid Public Purpose

Sending areas must be located in areas the public values and wants to remain undeveloped. Nine of the ten leading TDR programs possess sending zones where the community has used public funds to conserve parcels in the sending area.⁴⁷ The use of public funds to preserve land demonstrates that the community wants to protect the sending area. TDR programs are typically implemented over long periods of time. Public officials will be replaced and the demand for the sending area to be protected needs to remain consistent. The best way to mitigate this potential problem is to try and protect areas that are important to the public.⁴⁸

TDR programs must fit within the agenda of the local government. If preservation and increased development are not part of towns' goals then a TDR program is not going to work. Strict zoning laws must be enforced with few if any variances allotted to developers in areas outside of receiving zones.⁴⁹ Allowing additional development by variance or by zoning amendment without purchasing development rights undermines the system. Since development rights in a TDR program cost money,

⁴⁵ Pruetz *Beyond Takings and Givings*, 67.

⁴⁶ Ibid

⁴⁷ Pruetz, Rick. and Noah Standridge. "What Makes Transfer of Development Rights Work?: Success Factors From Research and Practice." *Journal of the American Planning Association* 75: 85

⁴⁸ Walls, Margaret and Virginia McConnell "Transfer of Development Rights in US Communities: Evaluating Program Design, Implementation, and Outcomes" Washington DC: Resources for the Future. 2007.

⁴⁹ Pruetz and Pruetz, "TDRs Turn 40," 5

developers are going to search for any possible loophole to avoid payment.⁵⁰ As a result local governments need to commit to the TDR program and allow the program the opportunity to succeed.

Horizontal and Vertical Integration

The delineation of sending and receiving zones must coincide with the plan of the region. When local zoning fits within the comprehensive plan, developers are confident in the ability to use development credits. The New Jersey Pinelands Program examines all of its municipalities, zoning and land use plans upon any review or change of zoning laws.⁵¹ This ensures that each town's plan is consistent with the states comprehensive plan. This is an example a vertically integrated system because the next lower level of government reinforces zoning codes.

Horizontal integration is when the government has programs that encourage citizens to accomplish public goals. Montgomery County, which has established one of the best-known TDR programs in the U.S., downsized the zoning of sending areas to one unit per 25 acres.⁵² Downzoning supports TDR programs because it makes development rights more valuable in places outside of the sending area thus encouraging property owners to sell their rights. Further eighteen of the twenty programs reviewed by Pruetz and Standridge have a minimum allotment one unit of housing per five acres in sending areas.⁵³ By limiting the value of a development right in one area (Sending) and increasing its value in another (Receiving) landowners have a greater incentive to sell

⁵⁰ Bruening, Ari, "The TDR Siren Song: Problems with TDR Programs and How to Fix Them," *Journal of Land Use*, 23:2 (2008): 428

⁵¹ Johnston and Madison "Landmarks to Landscapes," 368.

⁵² Fehr, Stephen C. 1997 "Montgomery's Line of Defense Against the Suburban Invasion." *The Washington Post*. March 25, 1997

<http://www.washingtonpost.com/wp-srv/local/longterm/library/growth/part4/post4.htm>

⁵³ Pruetz and Standridge "What Makes," 83

their development right. This is a great example horizontal integration in Montgomery County since downzoning is promoting the use of the TDR program.

Simplicity

Pruetz and Standridge found that seven of the top ten programs were relatively simple and straightforward.⁵⁴ To maximize public support, the program needs to be comprehensible and easily explained within a limited time frame. Landowners, developers, and city officials need to comprehend not only the TDR program, but also the repercussions of their decisions on other land use issues (e.g, allowing variances). The simplicity of the program and actively involved players in the market are directly correlated.⁵⁵ Policy makers that implement TDR programs need to help create a market for their product. Webpages, pamphlets, newsletters, etc. not only help to explain TDR's but also promote them. The first step in any successful program needs to be education. In Santa Fe, New Mexico the government organized several workshops to educate citizens prior to implementing any policies.⁵⁶ Another example would be the website for King County Washington. It is straightforward, easy to use, and provides instant information on how to buy and sell credits.⁵⁷ Contact information for the program manager is immediately available. The ability of programs to communicate and educate the public directly correlates to the success of the program.

TDR Bank

TDR Banks are entities that participate in the TDR market. They can be public or private, but they help to facilitate transactions between the buyers and sellers. Further

⁵⁴ Pruetz and Standridge "What Makes," 85

⁵⁵ Pruetz and Standridge "What Makes," 85-6

⁵⁶ Pruetz *Beyond Takings and Givings*, 330

⁵⁷ King County TDR Program. Last modified August 21, 2015

<http://www.kingcounty.gov/environment/stewardship/sustainable-building/transfer-development-rights.aspx>

they have the ability to buy and sell development credits in order to help stabilize the TDR market. While not all TDR literature calls for the use of TDR banks, three of the top four TDR programs (in terms of acreage preserved) function with banks.⁵⁸ A third party that is actively involved in buying and selling credits typically operates TDR banks. TDR programs do not achieve immediate results, but rather require patience thus allowing banks to further promote the program over time. Banks can ensure that a market will always be present for both buyers and sellers, stabilize prices, and help to facilitate transactions. Successful banks, such as in the New Jersey Pinelands, create income for the State and allow the State to purchase TDR credits to preserve land.⁵⁹ Having a third party continually monitoring the market will allow them to become experts and adjust prices appropriately to maintain an efficient market.

Obstacles to TDR Programs

In theory, TDR seems like a rational land use tool. As of 2007 there were 181 TDR programs in 33 states that have preserved over 300,000 acres of farmland, natural areas, and open space.⁶⁰ However, three programs; King County, New Jersey Pinelands and Montgomery County, Maryland have preserved over half of these acres. The majority of states in the country have added TDR bylaws despite the fact that on the whole TDRs have not been a successful means to completing the objective. Of the 181 programs many have had little success. As discussed earlier in chapter II there are several conditions that need to be met for TDR programs to be implemented.⁶¹ Communities that possess these successful components will encounter other issues and obstacles during implementation

⁵⁸ Pruetz and Standridge "What Makes," 85

⁵⁹ Macheimer, Patricia L. and Michael D. Kaplowitz. 2002. "A Framework for Evaluating Transferable Development Rights Programmes." *Journal of Environmental Planning and Management* 45(6): 789

⁶⁰ Pruetz and Pruetz "TDRs Turn 40," 3.

⁶¹ Demand for Development, Clear and Valid Public Purpose, Location of Receiving Areas, Integration with town plan, Simplicity, TDR Bank

of the program. Peter Pizor explains in “Making TDRs Work” that “the complexities of the TDR system suggest that communities considering it should pay at least as much attention to making TDR operate as they do adopting it.”⁶² Some of the obstacles are: designation of sending and receiving areas, valuation of development credits, education and developing trust, administration, and enabling legislation. The remaining portion of this chapter will discuss these issues with TDR programs.

Designating Sending and Receiving Areas

Since the 1970’s when TDR Programs were first introduced the programs with the strictest provisions against developing in the sending areas have had the most success.⁶³ Only two of the programs examined by Pruetz and Standridge allowed development densities greater than one dwelling per five acres. These two programs are closer to the bottom of the list. The programs near the top have a much stricter density limit in sending zones. For example Montgomery County allows one dwelling per 25 acres.⁶⁴ As discussed earlier in the chapter delineation of the sending and receiving zones must be in line with the regional plan and community members for members of the community to approve the zoning changes.

Community support is pivotal when delineating the receiving areas as well. Neighboring property owners are often weary of being near increased development for several reasons: decreased property values, environmental concerns, increased traffic, a desire to limit affordable housing, and large class sizes in the public school.⁶⁵ In order to address these concerns communities need to increase the infrastructure in the receiving

⁶² Pizor, Peter. 1986. “Making TDRs Work” *Journal of the American Planning Association* Planner’s Note Book. Spring: 206

⁶³ Pizor “Making TDRs,” 204

⁶⁴ Ramifications of down zoning are addressed in the Legal Issues section later in the chapter.

⁶⁵ Sue Leven (Brewster Town Planner) in discussion with author, December 16, 2011.

area. Infrastructure additions include means of public transportation, sewer lines, larger schools, employment opportunities, as well as many other resources that prepare the area for higher densities.⁶⁶ There is no set formula; rather each community needs to create scenario that works for it while also creating a market for transactions to take place.

Creating a Market for Development Rights

Successful TDR programs rely on a well functioning market in which transactions readily occur thus preserving a significant amount of open space. Setting the price of TDR credits at a level that encourages property owners in the sending zones to sell and that encourages developers to purchase credits. The market equilibrium must be met properly examining both the demand and supply side of the market.⁶⁷

On the demand side of the market the developer must receive enough compensation from using the credit that they are willing to pay the cost that sufficiently compensates the landowner in sending area. Many programs such as Montgomery County and Collier County increase the value of the credit when it is used in a receiving zone.⁶⁸ For example rather than a credit being worth one extra dwelling, the program will allow it to be used for two extra dwellings, thus increasing its value to the developer.

The value of the TDR credit to the supply side must also follow a careful balancing act. The allocation of credits per acre should be at a level that creates a price that encourages landowners in the sending zones to sell, but not so much so that they are not preserving the maximum amount of land. If credits are too affordable landowners are not receiving just compensation for the permanent restriction of their land because

⁶⁶ Pruetz and Standridge “What Makes,: 82

⁶⁷ Kopits, Elizabeth; Virginia McConnell; and Margaret Walls. 2003. “Making Markets for Development Rights Work,” Discussion Paper 05-45, Resources for the Future, Washington, D.C.

⁶⁸ Johnston and Madison, “Landmarks to Landscapes,” 365

developers would have been willing to pay more to preserve that amount of land. Essentially the more development potential credits have the more desirable they are for developers. However, if credits have too much value for their price, developers will fulfill the demand for development without protecting a sufficient amount of land or justly compensating the sellers. It is essential that there is a balance between the environmental and economic goals of the region. The key is to structure TDR credits so that they “accurately reflect the development potential of the preserved land.”⁶⁹

Creating a TDR credit that is properly priced for the amount of land that will be preserved is a difficult balance. Active TDR programs are constantly monitoring and adjusting the allocation and price of credits to ensure that the market stays balanced.⁷⁰ This is a constant obstacle for TDR programs because adequate resources are required to ensure all parties are educated on the current condition of the market.

Education and Developing Trust

The first step installing a TDR program is education of town officials, residents, and developers. The New Jersey Pinelands program is a user friendly website that demonstrates excellent public outreach through a variety of recreational and educational programs for children as well as adults.⁷¹ TDRs are a long-term plan to solve development patterns that are harmful to communities.⁷² Goals of politicians do not always conform to those of the community. Politicians need short-term results not long-term solutions. Education opportunities need to be provided throughout the life of the TDR program not just in the initial phases. Further throughout a TDR program politicians

⁶⁹ Bruening, “The Siren Song,” 428

⁷⁰ Ibid

⁷¹ Pruetz and Standridge, “What Makes” 85.

⁷² Woodbury, Stephen. 1975 “Transfer of Development Rights: A New Tool for Planners.” *Journal of American Institute of Planners*, 41(1): 3.

will change, and the support of the program by the community must be strong in order for it to persevere.⁷³ The department associated with the TDR program needs to promote and encourage the residents to take advantage of the program. Residents must be aware of the program and the opportunity that exists for selling the development rights of their land.

Developers need to know that credits can be used to develop beyond the existing zoning limitations. For example, in the Pinelands no entity was monitoring or guaranteeing the use of development credits. As a result, developers who had zero experience with TDRs were reluctant to purchase development credits because they were wary of how they could be used.⁷⁴ Developers were also weary of the approval process when using development credits. They thought they would be subjected to the same approval process as developers who did not purchase credits. Their fear was that a third party approval board would not recognize the credits they had purchased and reject their plans.⁷⁵ Misunderstanding and lack of education is an issue that must be constantly addressed by the TDR program or the administrative body.

Administration

TDR programs require a large amount of oversight. Figure 2.2 shows that three of the four most successful TDR programs in terms of land preservation have TDR banks. A third party or TDR banks is able to be promote, regulate, monitor, and at times participate in the TDR market in order to maximize its effectiveness.⁷⁶ Programs across the country handle the administration very differently. Some create TDR banks that are active participants on the market; others have banks that simply records transactions. Other

⁷³ Pruetz and Standridge “What Makes,” 85.

⁷⁴ Pizor “Making TDRs Work,” 207.

⁷⁵ Pizor “Making TDRs Work” 208.

⁷⁶ Executive Office of Environmental Affairs, “Feasibility of Establishing,” 4.

towns place the burden of the program onto the planning department. Regardless each transaction needs to be recorded and reflected on the deed of the property. Until recently, most TDR officials who understood the concept, but lacked sufficient experience working with TDRs designed the programs. Often times these programs are administered by small staffs that have many other responsibilities outside of the TDR program. Therefore there isn't adequate time to analyze, study, and refine techniques.⁷⁷

Legal Issues

This section will discuss the three main legal issues that are most prevalent in TDR programs. Throughout the literature on TDRs there are varying opinions on the legality of TDRs. Since TDRs have not been officially accepted or rejected by the Supreme Court there are several legal issues that can arise, including: the takings issue and due process.

The Takings Issue

The first legal challenge to TDRs is whether a taking issue occurs under the 5th Amendment of the U.S. Constitution. As *Pennsylvania Coal Co. v. Mahon* shows, a regulatory taking can be equivalent to a physical taking of property⁷⁸. In *Penn Central v. City of the New York* the U.S. Supreme Court held that development rights do provide value to landowners; thus TDR's do not represent a full taking. However, more recently in *Suitum v. Tahoe Regional Planning Agency*, Justice Scalia argued that TDR credits do not qualify as just compensation because the landowner could receive "substantially less than if the landowner had received just compensation for the loss of the entire parcel."⁷⁹ While the court did not directly rule on the issue of whether TDR credits offer just

⁷⁷ Pizor "Making TDRs Work," 204.

⁷⁸ *Penn Central Transportation Co. v. City of New York*, 438 U.S. 104 (1978)

⁷⁹ *Suitum v. Tahoe Regional Planning Agency*, 520 U.S. 725 (1997) 748

compensation it appears that courts would be required to scrutinize TDR programs to ensure that credits provide just compensation.⁸⁰ This case also begins to questions whether mandatory TDR programs are legal. As discussed in Chapter I, TDR organizers must determine if the program is going to operate on a mandatory or voluntary basis. Justice Scalia argues if a stakeholder is required to partake in a TDR program they will not receive just compensation for the restriction placed on their land. He insinuated that all programs must contain a voluntary aspect of the program in order to avoid a regulatory taking.⁸¹

Fred French Investment Co. v. City of New York further enforces the taking issue because development rights on the open market have no set value, only potential value.⁸² Thus, it would be a violation of the 5th Amendment because the landowner is not compensated for their lost value within any given timeframe.⁸³ There is no set formula for determining when or if a TDR program would trigger the takings clause.. However, a TDR bank would remove the possibility of a potential regulatory takings as the bank would always be present to purchase the development rights being transferred.

Due Process Challenge

The government is allotted the right by the Constitution to use police powers in order to protect the health, safety, and welfare of its community. *Village of Euclid v. Amber Realty Co.* in 1926 was the first case in which the courts ruled in favor of zoning.⁸⁴ The Supreme Court ruled that the enforcement of zoning qualifies as a police power because it limits nuisance to adjacent property owners. Further the Supreme Court

⁸⁰ Frankel, Jennifer. 1999. "Past, Present, and Future Constitutional Challenges to TDR." *Washington Law Review* 74(3) : 840

⁸¹ *Suitum v. Tahoe Regional Planning Agency*, 520 U.S. 725 (1997) 748

⁸² *Fred French Investment Co. v. City of New York* 429 U.S. 990 (1976)

⁸³ Merriam, Dwight H. 1978. "Making TDR Work." *North Carolina Law Review* 56: 94

⁸⁴ *Village of Euclid v. Amber Realty Co.* 272 U.S. 365 (1926)

made clear that zoning's regulation of private property and diminishment of property values must rest upon a rational basis.⁸⁵

Due process can be challenged when considering TDR programs. If the zoning laws have been set correctly at limits that best protects the public, then transferring development rights into these areas (Receiving zones) would allow over-development and jeopardize the health, safety, and welfare of the people. Thus a due process challenge would be viable because the Government is no longer protecting its citizens.⁸⁶ The Supreme Court in *Nectow v. City of Cambridge* asserted that if zoning does not promote health, safety, and welfare of the community than it is not legal.⁸⁷ When designating sending and receiving zones architects of TDR programs must ensure that the program will benefit the public otherwise it would be illegal.

Conclusion

The goal of a TDR program is to preserve and insulate environmentally unstable areas, endangered species habitats, farmland, forests, etc. Preservation is a byproduct of an open market transaction between private property owners. The general public's welfare is protected at minimal expense while allowing developers to build using "Smart Growth" tools and more cost effectively. Banks cannot only be used to promote programs and help facilitate transactions amongst landowners, but also to help alleviate some issues that arise with TDR programs. TDRs are not ideal for every community; however they are without question a viable method for land preservation and smart growth when the right circumstances arise.

⁸⁵ Karkkainen, "Zoning," 46.

⁸⁶ Frankel "Past, Present, and Future," 842.

⁸⁷ *Nectow v. City of Cambridge*. 277 US 183, 188 (1928)

Chapter III: The Case For a Regional TDR Program in Barnstable County

Introduction:

This chapter will examine Barnstable County's comprehensive plan, land use techniques, and analyze the feasibility of a TDR program within the county. The most essential elements of a successful TDR program are a demand for development and preservation, both of which exist in Cape Cod. In order for a successful regional program to exist the Cape Cod Commission would have to be an integral part of the program using the powers that have been given to them by the Commonwealth of Massachusetts. This chapter will further analyze how those powers could be used in establishing and maintaining a TDR program.

The Role of the Cape Cod Commission in a Regional TDR Program

The CCC is charged with the task of protecting Barnstable County's distinctive natural environment while expanding the economic opportunities. Essentially all TDR programs work to further both of these goals.⁸⁸ A regional TDR program in Cape Cod would be dependent upon the involvement of the Cape Cod Commission.

Cape Cod Commission

The CCC's status as a regional planning authority overrides municipal standards and mandates individual towns to adhere to the comprehensive plan of the region. It provides technical and financial assistance to towns that are trying to create local comprehensive plans. By encouraging towns to work with the CCC, it is able to ensure that each local plan coincides with the regional plan. Further, the CCC must approve all

⁸⁸ Arthur Nelson et al. 2012 *The TDR Handbook: Designing and Implementing TDR Programs* (Washington DC: Island Press), 236

developments of regional impact (DRI). Thresholds have been established that quantify projects as developments of regional impact.⁸⁹ The CCC will also work with towns on smaller projects in a joint review process to ensure that the project corresponds with the regional plan. They are able to monitor most development in the region, which allows it to protect the natural resources.

When the Commonwealth of Massachusetts granted the CCC these discretionary powers (removing vested rights, developments of regional impact, and development agreements) Barnstable County became similar to a plan state. A plan state is a state such as Rhode Island or California, where each town's plan has to correlate or fit within the region's comprehensive plan. Each land use decision must fall in line with the comprehensive plan, this type of integration is called vertical integration. Vertical because there is a master plan on at the top level (State), and each ensuing level of government has plan that aligns with the plan above it. For example, the Pinelands Commission reviews all zoning changes, no matter how small in each of the sixty jurisdictions to ensure that everything is cohesive with the regional plan. The opposite of planned states are non-plan states. Non-plan states do not have to align with a plan. They are allowed to make any land use decision as long as it is not arbitrary and promotes the health, safety, and welfare of the public.⁹⁰ Barnstable County is similar to a plan state because they have a regional plan and are in the process of vertically integrating each town to the regional plan.

In Barnstable County vertical integration is an ongoing process. The CCC has approved local comprehensive plans for eleven of the fifteen towns and is currently

⁸⁹ Cape Cod Commission. "Regional Plan." 3.

⁹⁰ Jon Witten in discussion with author, February 2012.

reviewing two other applications.⁹¹ Each certified plan's goals and land use patterns comply with the regional plan. In order for local comprehensive plans to be certified they must not only comply with the regional plan, but the policies established within the plan must promote each other. This is called horizontal integration. For example, if a plan's goal was to increase the build-out in village centers, the town would not expand sewer lines to rural areas. Sewer expansion would support outward growth when the plan had wanted compact growth. Integration is important because it allows development to fit in with a plan and provides developers with increased assurance that projects will be approved if they follow the guidelines.

Delineation of Sending and Receiving Zones

Dating back as far as 1974, John Costonis explained in his essay *Space Adrift: Land Mark Preservation and the Market*, the delineation of sending and receiving zones is one of the most arduous tasks in developing a TDR program. Property owners are uninterested in forfeiting development rights because doing so results in a loss of value. Neighboring property owners often oppose higher density development because of the problems that are associated with it such as, lack on infrastructure, traffic and noise among other impacts.⁹² Elected officials are hesitant to enforce burdens on property owners because they have the potential to diminish property values. These burdens make it challenging for towns to delineate sending and receiving zones.

Barnstable County is unusual in this respect because an up-to-date comprehensive plan denoting potential sending and receiving areas is maintained. The CCC has worked

⁹¹ Sharon Rooney, email message to author, August 2015.

⁹² Charles Haar and Jerold Kayden. 1989. *Zoning and the American Dream*. Chicago, IL: American Planning Association. 151

with eleven of the fifteen towns on certifying a comprehensive plan.⁹³ In order to be certified each town's plan must coincide with CCC's plan for the region. The town must designate areas for increased development, recommend areas in need of preservation, and promote certain land use techniques. Areas that are designated for increased development are labeled as "Growth Incentive Zones."⁹⁴ Growth incentive zones have the infrastructure or the physical attributes to handle additional development. Further areas containing these attributes are not located in environmentally sensitive sites or critical habitats. Growth incentive zones have been delineated by the towns and approved by the CCC. Growth incentive zones fit the criteria of a receiving zone in a TDR program.

The CCC has also regulated areas that would qualify as sending zones. The CCC has labeled areas that are in need of increased preservation as "Districts of Critical Planning Concern". These areas include critical habitats, polluted watersheds, wellhead protection areas, etc. They have been identified as "critical to the ecology, economy, character, and viability of the region."⁹⁵ In order to receive this status towns must nominate each district. The CCC studies the nomination and makes a recommendation to the Barnstable County Assembly of Delegates who makes the final decision.⁹⁶ Towns also have the ability to collaborate with other towns in order to protect natural resources that go beyond political boundaries.⁹⁷ These areas could serve as sending zones in a TDR program. All of the certified towns have delineated potential sending and receiving zones.

Towns must have their plans re-certified every five years in order to maintain certified status. Certification of towns allows them to be eligible for funding from the

⁹⁴ Cape Cod Commission "Regional Plan," 6

⁹⁵ Cape Cod Commission "Regional Plan," 3

⁹⁶ Sharon Rooney, in discussions with the author, February 2012.

⁹⁷ Cape Cod Commission "Regional Plan," 3

CCC and other state agencies. MassWorks can also provide additional infrastructure funding for certified towns. Updating the town plan also ensures that the growth districts and districts of environmental concern will be up to date. The zones will accurately reflect current conditions.⁹⁸ TDRs provide a long-term plan for development and preservation so it is important that sending and receiving zones reflect current conditions. The CCC's ability to maintain receiving and sending zones is an important aspect of implementing a TDR program.

Potential Receiving Zones

Potential receiving zones have currently been labeled economic centers and growth incentive zones visible in Barnstable County (Figure 3.1). The CCC's growth policy "is to guide growth toward areas that are adequately supported by infrastructure and away from areas that must be protected for ecological, historical, or other reasons."⁹⁹ Economic centers are located in village centers and have been recognized by individual towns as part of their local comprehensive plan. Each town has been encouraged to identify new districts of potential growth, called growth incentive zones.¹⁰⁰ These areas facilitate compact and mixed-use development. A report completed by the Executive Office of Environmental Affairs on the feasibility of a TDR under the Rivers Protection Act states that "existing downtowns and urban centers where economic revitalization is desired" are important factors in determining receiving areas.¹⁰¹ The CCC has identified the growth incentive zones as areas capable of supporting increased building and population density. Labeling these areas as growth incentive zones and economic growth

⁹⁸ Sharon Rooney, in discussions with the author, February 2012.

⁹⁹ Cape Cod Commission "Regional Plan," 2

¹⁰⁰ Sharon Rooney, in discussions with the author, February 2012.

¹⁰¹ Executive Office of Environmental Affairs. "Feasibility" 3

zones has been completed and is considered one of the more difficult tasks when initiating a TDR program. As previously discussed the delineation of a receiving area is one of the most unpopular decisions made during the initiation process of a TDR program.

Cape Cod towns that have created growth incentive zones and economic development centers have capitalized on several benefits provided by the CCC. Any new development in these areas is

subject to a streamlined review process.¹⁰² Streamlined review processes are very important to developers. Long and arduous review processes cost developers time and money.

The use of an expedited review process is common in TDR programs. Morgan Hill, California awards priority development application to

projects that incorporate TDRs. Tahoe Regional Planning allows developers to avoid waiting years for a permit by removing nonconforming uses from Sensitive Stream Environment zones.¹⁰³ Developers desire application processes that are fast and have predictable outcomes. Decisions that are made by discretionary (adjudicative) committees or require extensive public hearings are often delayed or changed, increasing their

Figure 3.1



¹⁰² Cape Cod Commission "Regional Plan," 2

¹⁰³ Nelson et al. *Handbook*, 238

costs.¹⁰⁴ According to Pruetz, seventy-five percent of the most successful TDR programs provide developers with assurances that their projects will be approved as long as they comply with the minimum standards of the municipality.¹⁰⁵ The CCC already contains the mechanisms to streamline projects, which is a major success factor to TDR programs because of the developer’s confidence in the project coming to fruition and the costs savings.

Sending Zones

As stated in chapter II there must be strong public support for areas in need of preservation. Cape Cod is unique in this aspect because there are multiple areas that are in need of added protection. The natural resources, rural agricultural lands, and the historic districts are all in need of added protection in order to maintain the character of the region.

Natural Resources

In order for any TDR program to be successful there must be a demand to preserve areas within the region. Cape Cod has an abundance of natural resources that make it a desirable residential and tourist destination. One of every four acres in Barnstable County is a wetland. This statistic includes over

Figure 3.2	Unprotected Acres	% of Total Acreage of Town
Barnstable	5,271	13%
Bourne	3,520	15%
Brewster	2,816	17%
Chatham	863	8%
Dennis	2,116	16%
Eastham	811	10%
Falmouth	6,055	23%
Harwich	2,679	19%
Mashpee	2,596	16%
Orleans	2,005	22%
Provincetown	164	2%
Sandwich	6,496	23%
Truro	1,570	12%
Wellfleet	1,558	12%
Yarmouth	1,975	13%
Cape Total	40,495	16%
*All % based on percent of total town acreage		

¹⁰⁴ Anonymous Developer, discussions with author, March 2012

¹⁰⁵ Nelson et al. *Handbook*, 233

one thousand freshwater ponds and seven hundred forty eight acres of lakes.¹⁰⁶ These beautiful areas have high intrinsic value to the residents and are sources for groundwater recharge and public water supply.

The CCC and towns with certified comprehensive plans have identified areas in need of protection. In addition to the districts of critical planning concern other agencies have recognized areas in need of conservation. The Commonwealth of Massachusetts has created the Rivers Protection Act and the Wetland Act. The purpose of these acts is to protect: water supply, groundwater, land containing shellfish and fisheries, to provide flood control, to preserve wildlife habitats, and to prevent storm damage and pollution.¹⁰⁷ The Rivers Protection and Wetland Acts restrict development in certain locations and recommend protection for other areas. The Rivers Protection Act amends the Wetlands Act by recommending “a 200 foot buffer on the mean high water line of all perennial flowing bodies of water.” In densely populated areas the buffer is reduced to 25 feet. The acts do not prevent development in the area rather require all development to be approved by an adjudicative board. The Rivers Protection Act required developers to apply to the Department of Environmental Protection (DEP) for a special permit in order to develop the area.¹⁰⁸ While these are subject to increased scrutiny, development is not permanently restricted, thus making these viable sending zones.

In addition to the recommended buffers in these acts, recent studies performed by the CCC have shown that larger buffers need to be required. One hundred to three-hundred foot buffers are needed to remove natural pollutants such as phosphorus, man made pollutants and sedimentation to name a few. To remove fifty percent to ninety

¹⁰⁶ Cape Cod Commission “Regional Plan,” 28

¹⁰⁷ The Executive Office of Environmental Affairs “Feasibility” 9

¹⁰⁸ Kurt Gaetner, discussions with the author, February 2012

percent of man made pollutants, nutrient buffers must be between three hundred and one thousand feet.¹⁰⁹ The difference between the recommended two hundred foot buffer by the Rivers Protection Act and the actual one thousand feet needed to remove the majority of pollutants leaves an eight hundred foot gap on each side of all perennial flowing water bodies. The large areas of land surrounding these water bodies must be protected in order for them to maintain their current uses. Significant portions of these open parcels surrounding flowing water bodies are unprotected and subject to development, thus they could account for a portion of the potential sending zone.

Local Character and Economy

The character of Barnstable County is derived from not only its natural aquatic resources, but also the rural and agricultural lands. In 2002 there were 5,999 acres of farmland on the cape. Currently there are approximately 300 farms on Cape Cod that incorporate 3,299 acres.¹¹⁰ Of 3,299 acres almost half are still unprotected and are a threat to be developed. These lands provide precious intrinsic and economic value to residents and visitors. As the population has aged there has been a decrease in the number of industries located in the region.¹¹¹ Local industries are important because they generate tax revenue, create jobs, and stimulate the economy. Locally grown and distributed products keep the entire market for the product in the region. In total the farms produce over \$14,000,000 in sales.¹¹² The continued development of these acres will damage the

¹⁰⁹ Cape Cod Commission “Regional Plan,” 48. These numbers have been confirmed by the Horsley Witten Group, an expert in the field, in various publications such as the Low Impact Development Work Shop for Developers, Designers, and Regulators

¹¹⁰ Tom Stone and Katherine Beauchamp. 2014 “The Status of Agriculture in Barnstable County,” For the Cape Cod Commission

¹¹¹ Rooney, discussions with the author, February 2012

¹¹² Stone and Beauchamp “Agriculture”

economy of the Cape and will hurt the rural character that attracts residents and visitors in the first place.

Historic

The character of Cape Cod also originates from the historic town centers. The Cape contains thousands of properties on the National Register of Historic Places, dozens of local historic districts and several sensitive archaeological areas.¹¹³ The Historic Preservation or other adjudicative boards review all development in these areas. These boards have the power to limit the development, however they also have the ability to approve development.¹¹⁴ The boards do not provide additional protection to all of the historic regions of the Cape, only the districts and buildings that have been designated. Thousands of historic buildings remain unregistered in Barnstable County.¹¹⁵ Each year noteworthy buildings are torn down in favor of new construction. Failure to protect these buildings makes Barnstable County a less desirable place to live.

Maintaining the historical character of the Cape is an integral part of making the region a popular tourist destination. In a survey of residents by the Cape Cod Commission in the 2010 Regional Plan, 68% of people who did not grow up on Cape Cod said that the historic character was an important part of their decision to reside there. Additionally 83% of respondents said that they would support regulations that required new buildings to integrate with the historic character.¹¹⁶ The importance of the historic districts and buildings to the Cape Cod economy make them worthy of protection. These

¹¹³ Cape Cod Commission “Regional Plan,” 82

¹¹⁴ Terry Whalen, discussions with the author, October 2012

¹¹⁵ Cape Cod Commission “Regional Plan,” 81

¹¹⁶ Cape Cod Commission “Regional Plan,” 81

areas could potentially be apart of a sending zone in a TDR program. Further there would be community support for permanent preservation of these areas.¹¹⁷

As previously discussed in Chapter II obtaining town support for the designation of sending zones is typically one of the most challenging aspects of implementing a TDR program. The town planner of Chatham thought that residents in his town would be in favor of having their property rights restricted in order to maintain the character of the town. The CCC further recognizes the importance of these areas by stating that heritage preservation and community character are major goals of the 2010 regional plan.¹¹⁸

The last several paragraphs have confirmed that there are multiple areas and resources in Barnstable County that are in need of preservation. *The TDR Handbook* states that TDR programs aimed to protect multiple resources are more effective than programs focused on protecting one resource.¹¹⁹ Barnstable County clearly contains several different types of areas that would be viable sending zones. The research shows that with over 40,000 acres of undeveloped land, additional buffers needed on all perennial flowing water bodies, approximately 1,500 acres of unprotected farmland, and thousands of unregistered historical buildings would provide adequate sending zones. Further the CCC and the towns have already identified the majority of these zones in their comprehensive plans. Identification and public support are critical factors in helping to determine the feasibility of a TDR program in the region.

Demand For Development

There are three types of development: residential, commercial, and industrial. Each type of development is sought and provides utility for the region. Each town is

¹¹⁷ Terry Whalen, discussions with the author, October 2012

¹¹⁸ Cape Cod Commission "Regional Plan," 82

¹¹⁹ Nelson et al. *Handbook*, 230

unique in their demand for development. Figure 4.3 shows that some towns in Barnstable County are not seeking any residential development, but instead are focused on soliciting commercial and industrial development.¹²⁰ Commercial and industrial require less infrastructure (roads, water/sewer lines etc.), which results in lower costs to towns, while receiving the same tax benefits as residential development.¹²¹ Due to the economy and the aging population towns are in need of revenue from development because they are not able to raise income through property taxes.¹²² As a result towns are in need of finding other ways to generate

additional revenue. One of the best ways to increase tax revenue is through new development.¹²³

Towns must want to grow and restructure as well developers wanting to build in those locations. Without demand from one of these groups development will not

Figure 3.3 Town	Seeking Residential Development	Seeking Commercial Development?	Open Space in Need of Preservation
Barnstable	Yes	Yes	Yes
Bourne	Yes	Yes	No
Brewster	Yes	Yes	Yes
Chatham	Yes	Yes	No
Dennis	Yes	Yes	Yes
Eastham	Yes	Yes	Yes
Falmouth	Yes	Yes	Yes
Harwich	No	Yes	No
Mashpee	Yes	Yes	No
Orleans	No	No	No
Provincetown	No	No	Yes
Sandwich			
Truro	No	No	Yes
Wellfleet			
Yarmouth			

happen. In order to determine whether towns are interested in attracting more development to their towns a survey was conducted. Every town was contacted and

¹²⁰ Kurt Gaetner, discussions with author, February 2012

¹²¹ Sharon Rooney, February 2012

¹²² Terry Whalen, October 2012

¹²³ Kurt Gaetner, discussions with auth, February 2012

twelve of the fifteen towns responded. Eight towns are interested in adding additional residential units and nine towns are actively seeking commercial and/or industrial development. Below is a brief update on each town in terms of their commitment to development.

Individual Towns Demand

Barnstable

JoAnne Buntich, the town planner of Barnstable, said, “Barnstable is ready to grow.” Barnstable is the regional urban center and has the third most unprotected acres of the fifteen towns. Discussions have already taken place and plans to improve the infrastructure of the town are progressing.¹²⁴ Barnstable could be a potential sending and receiving zone.

Bourne

Currently the town is interested in adding residential units into the downtown area, or economic development area. The town is open to commercial development in any part of the town.¹²⁵ Bourne could have a receiving zone located in the town center.

Brewster

Maplewood Assisted Living center is nearing completion at the end of 2015, which is a 132,000 SF living center. Sue Leven, the town planner, is hoping that more large scale commercial projects like Maplewood will create projects within the town. She is confident that the town can handle additional growth, however residents of the town need to be convinced.¹²⁶

¹²⁴ JoAnne Butnich, discussions with the author, February 2012

¹²⁵ Coreen Moore, email message with the author, August 2015

¹²⁶ Sue Leven, discussions with the author, December 2012

Chatham

Terry Whalen the former town planner stated that in the last ten years most of the development in town has been redevelopment of older residential homes. However, there is a need for commercial and residential development in the town as the population ages.¹²⁷ However, Chatham is another town where residents do not want additional growth despite the need for senior citizen living facilities, low-income housing, medical facilities, and restaurants.¹²⁸

Dennis

Dennis is one of the most exciting towns in term of growth. Daniel Fortier, the town planner, is actively seeking residential and commercial development. In the next 12-18 months a plan and a bylaw will be presented to voters for a large mixed use development off of Route 9. The goal is to create an economic development center with greater density, mixed use, and walkability.¹²⁹ There is a second project off of route 28 that town is trying to up-zone to create more affordable housing units.¹³⁰ Dennis is a town that is looking to grow and could be a potential receiving zone.

Eastham

The community would be open to commercial development if it helped to serve local needs, however they are not actively pursuing any opportunities at the current time. Several years ago the town created a village overlay district (Economic Development Center) in an effort to increase development downtown. The town is currently installing

¹²⁷ Terry Whalen, discussions with the author, February 2012

¹²⁸ Ibid

¹²⁹ Russell, Caitlin. 2015 "The Long View: Developing Dennis" Wicked Local. Dennis, MA. July, 23.

¹³⁰ Daniel Fortnier, discussions with the author, August 2015

its first municipal water system, which could allow for much high-density development.¹³¹

Falmouth

Brian Currie, the town planner, stated the town is looking for commercial and industrial development however, they are limited by the town's infrastructure. A serious commercial development would have to be in the right industry, such as marine research center. He also noted that he has seen a decrease in the number of application for new residential units in the past few years.¹³² A report in 2014 estimates that the town can support an additional 44,200 SF to as much as 221,200 SF in the next ten years.¹³³

Harwich

Harwich is centrally located in the county and would be a great place for a central commercial development to take place. However, the feeling in town is to keep growth under control.¹³⁴ It is unlikely that Harwich would contain a receiving zone.

Mashpee

The town is not currently seeking new development. They would be interested in a commercial project, however it is not being actively pursued. The town is close to its build out potential for residential units.¹³⁵ It is unlikely that Mashpee would contain a receiving zone.

There is interest from those towns, however it is to varying degrees. As figure 4.2 shows the towns that are not actively seeking development are interested in preservation, with the exception of Orleans. That is how a regional TDR program should work.

¹³¹ Paul Lagg, emails messages with the author, August 2015

¹³² Brian Currie, discussions with the author, February 2012

¹³³ RKG Associates. "Market Assessment For the Reuse Potential of the Falmouth Landfill," May 22, 2014: 12

¹³⁴ David Spits, discussions with the author, December 2014

¹³⁵ Thomas Fudala, email messages with the author, January 2014

Development credits move from one town to the other based who is seeking new development and who is trying to restrict growth. The research shows that there is a demand for development and some towns are actively seeking new development.

What Type of Development?

In February of 2014 the CCC commissioned The Chesapeake Group Inc. for TischlerBise to perform a market analysis for future development. The study found that “Opportunity to expand economic activity on Cape Cod in the Future.”¹³⁶ The study went on to state that the economic activity would be dependent “on mixed use structures with more than one floor and allowances of increased density.” The report gathered information from the following sources: Interviews with select stakeholders, small group discussions, survey of households throughout Cape Cod, review of secondary available data (US Census, Cape Cod Commission, Chamber of Commerce), proprietary computer modeling, and experience the Chesapeake Group’s principle members.

The report also performed as gap analysis to determine which industries are over and under populated. The Chesapeake Group found that there 149 industries that under represented in Cape Cod. The biggest being medical services. Fudala, Whalen, and Buntich all expressed the need for increases in medical services as well as residential retirement facilities. Other under represented industries include; supermarkets, gas stations with convenience stores, restaurants. The study demonstrates that is demand for commercial development in several industries. That demand aligns with several of the towns desires to grow.

¹³⁶ Chesapeake Group Inc. 2014 “Market Assessment for Cape Cod, Massachusetts.”

Lastly, the study encourages towns to create mixed-use and denser developments. Demand for bonus development is one of the most important factors in successful TDR programs.¹³⁷ Having a third party recommend the use of smart growth development techniques as well as the need for additional development is encouraging for the prospect of a regional TDR program.

Bonus Development

This section explains the precedents that have already been set to in the region in terms of development agreements between towns and developers as well as inter jurisdictional developments (Developments of Regional Impact). Precedent has been set that allows towns and the CCC to allow development that goes beyond the zoning.

Development Agreements

The Cape Cod Commission Act has given unique powers to the commission and towns to help them obtain the regional goals of the CCC. Towns are able to enter into development agreements with developers. A Development agreement is a contract between a town and a developer, through which the municipality agrees to freeze the zoning for a parcel of land in exchange for public benefits.¹³⁸ Development agreements are different than special permits, which can be offered by the adjudicative committees and are common across the state.¹³⁹ Special permits do not change the zoning, rather allow a land use or building that would typically be impermissible. The Cape Cod Commission Act has granted this right to towns that have had their comprehensive plan certified by the CCC.¹⁴⁰ The agreements give developers confidence that projects will

¹³⁷ Pruetz and Standridge “What Makes,” 80

¹³⁸ Cape Cod Commission “Development Agreement Regulations” Barnstable County Ordinance 92-1 November 2014 page 3

¹³⁹ Jon Witten, discussions with the author, February 2012

¹⁴⁰ JoAnne Butnich, discussions with the author, February 2012

come to fruition. Depending on the size of the public benefit developers can also be allowed to build below the minimum standards described in the CCC regional plan. In return, jurisdictions are allowed to include conditions, which the developer must meet in order to fulfill his obligation in the contract.¹⁴¹ In Barnstable County developers have had to improve site planning or infrastructure or protect parcels of land in exchange for the right to develop.¹⁴²

Certified towns that are interested in attracting development are often thrilled to be able to use development agreements.¹⁴³ Developers know that if they can reach an agreement they will be able to build. There is not a third party, or an adjudicative body that needs to deliberate. Discretionary hearings and decisions take time and do not have guaranteed outcomes.¹⁴⁴ It is simple and straightforward to the developer. They have the ability to determine if the cost of public benefit outweighs the profits of potential development.¹⁴⁵ Pruetz and Standridge identified “Certainty for Developers” as the sixth most important component of a TDR program.¹⁴⁶ Development agreements are a different land use technique than TDR. However, developers know that towns have ability to sign contracts that allow them to develop in ways that would not be ordinarily acceptable. This would provide them with confidence that TDR credits would have value. Nearly seventy-five percent of all TDR programs provide assurances that the credits will be used.¹⁴⁷ The current use of development agreements is a boost to a potential TDR program because towns already allow exceptions to zoning in exchange for a public

¹⁴¹ Cape Cod Commission “Development Agreement Regulations” Barnstable County Ordinance 92-1 November 2014 page 5

¹⁴² JoAnne Butnich, discussions with the author, February 2012

¹⁴³ Sue Leven, discussions with the author, December 2011

¹⁴⁴ Jon Witten, discussions with author, February 2012

¹⁴⁵ Developer, August 2015

¹⁴⁶ Pruetz and Standridge. “What Makes” 84.

¹⁴⁷ Ibid

benefit. Further the use of development agreements shows that there is a demand for bonus development from the developers.

Developments of Regional Impact

An additional power granted in The Cape Cod Commission Act is the authority of the CCC to review developments of regional impact (DRI). This is a system of regional reviews for projects that affect multiple municipalities and meet certain criteria.¹⁴⁸

Projects that are potentially damaging because of their size, location, or character are forced to go through this mitigation. The regional policy plan sets forth minimum performance standards for DRIs.¹⁴⁹ Like development agreements these standards are flexible so long as the developer is willing to help protect other interest of the public. The CCC will make a recommendation to the Barnstable County delegates whom will ultimately decide whether or not the developers' proposed benefits to community offset the costs of the development.¹⁵⁰

Developers that incorporate best development practices (recommended by CCC) will be allowed to ignore certain minimum standards of the regional plan if the CCC and local town officials determine the benefits are greater than the costs.¹⁵¹ Benefits can include: installation of wastewater and storm-water management systems, improvements to roads, reduction of traffic, permanent conservation of open space (especially open space in districts of critical concern), and aesthetic designs that fit into the character of the communities. Developers can also make cash contributions to the towns for use at the

¹⁴⁸ Cape Cod Commission "Chapter A: Enabling Regulations Governing Review of Development of Regional Impact." Barnstable County Ordinance 90-12. November, 2014

¹⁴⁹ Cape Cod Commission "Regional Plan," 91

¹⁵⁰ Cape Cod Commission "Regional Plan," 94

¹⁵¹ Cape Cod Commission "Regional Plan," 96

town's discretion. DRIs that are located in economic centers or growth incentive zones are not required to meet the same standards as DRIs outside of these areas.

Administrative

The discretionary powers that have been given to the Cape Cod Commission put it in a unique situation. The CCC's involvement with each town's local government, developers, land trusts, and residents allow them to be an effective communicator across the region. In order to install a regional TDR program the CCC would have to be implicitly involved. They contain the knowledge and connections to perform many of difficult tasks when initiating a TDR program. With over 40 employees the CCC would be able to educate citizens, promote the program, value development credits, and provide market information to potential buyers and sellers.

Conclusion:

The growth policy goal as expressed in the CCC's 2010 Regional Plan, "Is to guide growth towards areas that are adequately supported by infrastructure and away from areas that must be protected for ecological, historical, or other reason."¹⁵² When compared to the opening sentence in the *TDR Handbook*, one cannot help but see the similarities. "Communities across the nation struggle with preserving open spaces, historically significant buildings and sites, farmland, and other local assets from development. They also seek ways to steer development from areas with little or no infrastructure, and towards areas where public services already exist or can be efficiently provided."¹⁵³ The objectives of the CCC's growth policy are achievable and are remarkably similar to those of a TDR program. TDR programs established to operate

¹⁵² Cape Cod Commission "Regional Plan," IV

¹⁵³ Cape Cod Commission "Regional Plan," XIX

solely within individual towns would fail because most towns do not have sufficient demand for preservation and development. However, almost every town possesses at least one of these two requirements. The majority of these towns are not able to meet the demands of their residents by themselves. By working collaboratively on a regional level towns would have the opportunity to restrict or increase growth as transactions occur. A regional plan involves the CCC on many levels. The education of residents, landowners, and public officials would need to be performed by the CCC. The CCC possesses a unique knowledge of the Cape and would be an integral part of the physical planning of a TDR program. The CCC role as a mediator and technical resource is already viewed as a valued asset by the towns.¹⁵⁴ A regional TDR program would increase the CCC's value to the towns.

¹⁵⁴ Terry Whalen, discussions with the author, February 2012

Chapter IV: The Case Against A TDR Program in Barnstable County

Introduction

This chapter will demonstrate the reasons that a regional transfer of development rights program would not be possible. The fifteen towns that encompass Barnstable County are all very independent in their operation. There is one main reason for a TDR program being challenging to implement as well as several other factors. The biggest issue with a regional TDR program will be the complexity of the program. Other factors that will be difficult to navigate will be education, administration, as well as other avenues to receive development bonuses.

Complexity

Residents, developers, and town officials must understand the basic process for transferring development rights. There are many issues in Barnstable County that will lead to a regional TDR program becoming complex. Simplicity in a TDR program is one of the most important aspects of a successful TDR program. Lack of contiguous undeveloped land and the allocation of development rights, and regional cooperation are the main factors contributing to a complicated regional TDR program.

Lack of Contiguous Undeveloped Land

Due to the development patterns, public acquisition of land, success of land trusts, and current regulations in the Cape Cod region there is a lack of contiguous undeveloped land. The result of not having contiguous undeveloped land will lead to the complication of valuing development credits from sending to receiving areas. Complication of the valuation of credits will lead to less understanding and willingness of residents to use the

TDR program. As a result this is the first reason why it would be difficult to institute a TDR program in Cape Cod.

Contiguous undeveloped land is an important aspect of successful TDR programs. One of the most common responses of the interviewers when answering the question “What is biggest obstacle to a TDR program in Barnstable County?” was the lack of contiguous undeveloped land. JoAnne Butnich stated that over 50% of the unprotected land on the Cape was “all chopped up.”¹⁵⁵ Don Keeran, the assistant director of The Association to Preserve Cape Cod (APCC) agreed with Ms. Butnich by saying, “The greatest obstacle (to a regional TDR program) is that there are not that many areas with significant enough contiguous undeveloped land.”¹⁵⁶ Due to the development patterns of the region most of the unprotected undeveloped land is fragmented by pre-existing development. The most successful TDR programs have large portions of unprotected land.¹⁵⁷ The lack of adjoining undeveloped land is the biggest difference between the Cape and the Pinelands, one of the most successful TDR programs.¹⁵⁸ The contiguous undeveloped land is an important aspect of sending zones.

Mark Robinson, the executive director of The Compact of Cape Cod Conservation Trusts, said that approximately 40% of the region is developed, 40% is protected, and 20% is unprotected and undeveloped. The 20% that could be marked for preservation is all split up throughout the region. Mr. Robinson noted that 30 contiguous undeveloped acres is a major undeveloped lot.¹⁵⁹ The largest undeveloped lot in the Cape is 1200 acres and the town of Wellfleet and the National Park Service owns that land.

¹⁵⁵ JoAnne Butnich, discussions with the author, February 2012

¹⁵⁶ Don Keeran, discussions with the author, October 2012

¹⁵⁷ Sharon Rooney, discussions with the author, January 2012

¹⁵⁸ JoAnne Butnich, discussions with the author, February 2012

¹⁵⁹ Mark Robinson, discussions with the author, March 2012

According to The Compact of Cape Cod Conservation Trust that average open space acquisition is less 4.74 acres.¹⁶⁰

The Compact of Cape Cod Conservation Trust is a nonprofit organization that provides assistance to local and regional land trusts. The Compact was originally founded in 1986 with six members. Today there are 24 members, each town's land trust is represented as well as other regional programs. The National Land Trust Alliance has called The Compact a nationwide model of sustainable land trust coalition. The Compact provides guidance on real estate, land conservation and property stewardship, ecology, fundraising and nonprofit management. The work done by The Compact is primarily with a limited number of acres. The vast majority of transactions that they are involved with are less than ten acres.¹⁶¹ The Compact has assisted each town in open space preservation.

In 1998 Cape Cod residents voted for a three percent surcharge on property taxes to fund individual town land banks. The land banks would then be responsible for deciding what properties were most important to the town and then purchase them. Between 1999 and 2007 taxpayers preserved over 4,450 acres (Golden Age of Preservation). In total, the taxpayers spent \$212 million (See figure 4.1) These numbers show that residents are committed to protecting the land and have been an active participant in creating contiguous undeveloped land.

¹⁶⁰ Ibid

¹⁶¹ Ibid

Figure 4.1 Town	Number of Completed Land Bank Projects	Land Bank Acres Acquired	Total Land Bank Purchases*
Barnstable	3	917	\$50.7
Bourne	9	314	\$5.4
Brewster	10	116	\$5.3
Chatham	16	162	\$12.8
Dennis	28	211	\$16.6
Eastham	8	40	\$3.1
Falmouth	28	914	\$44.1
Harwich	17	338	\$15.2
Mashpee	17	551	\$17.5
Orleans	9	99	\$8.6
Provincetown	5	20.4	\$3.7
Sandwich	12	543	\$14.7
Truro	6	31	\$4.2
Wellfleet	10	60	\$4.5
Yarmouth	26	136	\$6.8
Totals	234	4,452	\$213.0
<ul style="list-style-type: none"> *All dollar amounts in millions The Compact of Cape Cod¹⁶² 			

In addition to public purchases of land state and federal grants of provided large sums of money to the land banks. As of 2007 over \$38 million had been granted to help with the purchase of open space.¹⁶³ As stated in Chapter III there is significant demand to preserve land in the region, however this demand has left the potential sending zones “all chopped up.”

Sending zones that are located in contiguous tracts of land have several main benefits. First there is little pressure by the community to develop individual parcels of land. The value of protecting land to the community is in part measured by the size of the

¹⁶² Robinson, Mark. “The Golden Age of the Land Bank,” The Compact of Cape Cod Conservation Trusts, INC. August 6, 2008. <http://www.thecompact.net/golden-age-of-the-land-bank/> (Accessed August 15, 2015)

¹⁶³ Ibid

area being preserved. Therefore the smaller the lot the less desire the community has to preserve it. Additionally individual parcels do not have the development potential of larger lots so neighbors would be less opposed to the development. Since the lots do not have the development potential, developers would need to partake in additional transactions in order to accumulate adequate credits. Finding multiple sellers and agreeing to the various transactions will be an added burden to developers thus decreasing their desire to purchase development rights from smaller lots. The added expense of developers having to purchase from multiple landowners will decrease the value of the development credit. The risk in a TDR program is that the development right could be devalued to the point where landowners are not receiving sufficient compensation for the permanent restriction of their land thus unwilling to sell.

Allocating Development Credits

Allocating development credits to landowners is another arduous task that would need to be completed prior to the first market transaction of a TDR program. One of the problems of allocating development credits would stem from the lack of contiguous undeveloped land. Administratively, it would take significant resources to provide each individual parcel with a development right value. There are several ways to provide value to the development rights.

Number of Housing Units – Simply, the number of buildable lots on the seller's property based off of the prior zoning constraints. This is the most basic transfer as it shifts the same amount of development from one area to the next. The problem with this method is that it does not address which areas are in most need of preservation. It also may not value development credits enough to incentivize developers to purchase them.

Square Footage – The TDR program could assign credits based on the amount of developable square footage on each parcel in the sending area. That amount of square footage could then be applied to the receiving zone. This system is best to help facilitate transfers between different types of development. Developers are able to collect rights that provide them with extra footage to create mixed-use buildings. Due to the lack of contiguous undeveloped parcels this method would be time consuming because of the number of transactions that would need to occur.

Sewer/Septic Capacity – Development rights can be assigned based on the total sewer or septic capacity that would have been permitted under current zoning. Transferring these credits into the receiving areas increases sewer/septic capacity in areas more suited for higher volume. This type of septic-credit system can also be used to exchange development credits from one type of development to another.¹⁶⁴ The problem with this method is a lack on understanding and complexity of valuing credits.¹⁶⁵

Development Appraisal – Development credits are allotted by subtracting the current value from the appraised development value. The remaining value is converted into development credits (i.e. X amount of money equals one credit). This method is complicated and requires a large amount of resources, but allows more equitable allotment of resources based off of real estate values. This method would provide landowners on waterfront properties or scenic areas with more development credits.¹⁶⁶

The programs that demonstrate the simple and straightforward transfers do not equitably distribute development credits to landowners. However, as equity in the distribution of rights increases so does the complexity of the program. Transfer of

¹⁶⁴ Executive Office of Environmental Affairs “Feasibility” 2008

¹⁶⁵ Pruetz. “Beyond Takings and Givings” 53

¹⁶⁶ Executive Office of Environmental Affairs “Feasibility” 2008

development rights are not a well-known smart growth tool to the majority of landowners. The more complex the systems for allocating development rights the more difficult it becomes to have market transactions take place.

Regional Cooperation

The second most common response from the town planners in response to why a TDR program would not work in Barnstable County was a lack of regional cooperation. One town planner stated that, “Towns in Massachusetts tend to be very territorial and don’t typically play nice.”¹⁶⁷ Additionally four planners stated that the lack of regional cooperation as the number one reason why a TDR program was not possible on the Cape. One public employee said “The level of cooperation amongst the fifteen towns that would be needed for successful TDR program is not a reality at this point.”

One of the reasons for lack of regional cooperation is that Massachusetts is a home rule state. The Commonwealth of Massachusetts has granted each town the ability to create their own laws so long as they comply with state and federal constitutions.¹⁶⁸ The result is that each of the fifteen towns is unique. Towns have their own zoning bylaws and varying build-out potential depending on the town’s goals. Terry Whalen said that each town is very vocal and have varying opinions on what is best for each town.

Individual town politics would play a large role in a regional program. First towns would need to determine if they would want to be a sending zone, a receiving zone, both, or none of the above. In order to do this all of the towns would need to define their build out potential. The build out potential of the town could have a drastic effect on the

¹⁶⁷ George Meservey, discussions with the author, February 2012.

¹⁶⁸ Jon Witten, discussions with the author, February 2012.

tax revenue.¹⁶⁹ In order for towns to commit to a TDR program they would need to know how many development credits they are capable of sending or receiving as that would have a large effect on their potential tax revenue.

Several planners indicated that towns that would be sending zones might be hesitant to permanently restrict development because it would limit the amount of tax revenue they could collect.¹⁷⁰ As a result these towns would be adamant about creating a tax revenue sharing system. The basic TDR argument against revenue sharing would be the towns that are receiving development need the revenue in order to build adequate infrastructure to handle more density. The towns that are sending out development credits need less revenue because they do not need the same level of infrastructure. This would be a time consuming and difficult process to create a system that satisfies all parties.¹⁷¹ Tax revenue sharing program would only add to the complexity and administration of a regional TDR program.

The lack of confidence that town planners have in working together in a regional program is obstructive to any progress on a regional program. After reviewing each interview it appears unlikely that towns would be willing to work together to institute a regional TDR program, especially one that would be complicated.

Conclusions

¹⁶⁹ Sue Leven, discussions with the author, December 2012

¹⁷⁰ JoAnne Butnich, discussions with the author, February 2012

¹⁷¹ Towns would also have to agree on other issues such as; recording titles and deed transfers, taxation of transactions, tax titles, foreclosure on development rights, liens against development rights, cumulative impacts of development

Development patterns, public land acquisition, land trusts, and environmental regulations have left the undeveloped land in the county “All chopped up.”¹⁷² Six of the regions town planners stated this as the number one flaw to creating a regional transfer of developments right program. It is not as much that the parcels of land are not adjoining, rather, that system to grant development rights would be more complicated to administer. As Pruetz and Standridge highlighted in “What Makes Transfer of Development Rights Work” simplicity is an important aspect of most successful programs.

Alternatives to TDR for Additional Development

This section will discuss some of the ways that already exist for additional development at the regional and local levels. According to researchers one of the four most important factors in successful TDR programs is having few or no alternatives to TDR for achieving additional development.¹⁷³ One planner said that main reason a TDR was not possible was because there were too many other options to gain additional development. Communities that offer alternative density bonus often undermine a TDR program. Developers would rather achieve bonus densities using features that enhance the value of their development, rather than preserving land in an unrelated area. Other examples include communities that allow variances or upzoning to developers. Exemptions to TDRs will destroy the program.

Developments of Regional Impact (DRI's) and Development Agreements

DRI's and development agreements have been discussed at length in Chapter III. The current practice of DRI's is a positive for a potential TDR program, but also a negative. These tools would have the ability to undermine a TDR program. Developers

¹⁷² Mark Robinson, discussions with the author, March 2012.

¹⁷³ Pruetz and Stradridge “What Makes” 83

would try and find the cheapest way to complete their project and both of these methods could provide an alternative method to TDR.

Cape Cod Regional Policy Plan: Exemptions

Redevelopment within Growth Incentive Zones and Economic Centers

“As an incentive for infill and redevelopment in appropriate locations, redevelopment with growth incentive zones and economic centers is not required to provide open space.”¹⁷⁴

Open Space Credits

The CCC has identified five areas of importance:

“High quality, naturally vegetated open space is provided in significant natural resource areas contiguous to existing permanently protected open space and is made permanently accessible for use by the public, or all development provides 350 foot undisturbed buffer from the mean annual high-water line of pond or lake, all development provides 200 foot undisturbed buffer from the mean annual high water line of a river, as determined by the local Conservation Commission consistent with River Protection Act, all development provides a 500 foot undisturbed buffer from a vernal pool, the protected open space provides significant vistas of the natural cape cod landscape.”¹⁷⁵

Developers are required to preserve twenty percent less area by not building in these specified areas. The CCC encourages towns to use this market technique to help guide development away from the natural resources towards areas that are more suitable for development. Conceptually this process is similar to TDR in that it is directing growth. However, it is dissimilar because it does not require developers to purchase credits nor does it allow density bonuses for protecting specified areas. Open Space Credits offer another way for developers to get bonus development without purchasing credits.

¹⁷⁴ Cape Cod Commission “Regional Plan” 137

¹⁷⁵ Cape Cod Commission “Regional Plan” 139

Removal of SNRA Designation for the Calculation of Open Space Requirement

This exemption allows developers who can provide written proof to the CCC that the area of development is no longer in a significant natural resources area (SNRA) the open space requirement may be reduced.¹⁷⁶

Education

Education is the most basic part of a TDR program. As this report has established landowners, town employees, and developers need to understand the TDR market in order for transactions to be completed. Most importantly the people who are trying to create a TDR program need to first fully understand the concepts as well as the capabilities of a TDR program.

Having completed interviews with thirteen town planners in the region it is apparent that there are varying degrees of understanding about TDR. One planner stated “It is often tossed out as a nice concept, but they (planners) don’t understand the full ramifications of a TDR program.” Every planner can explain the basic elements of transferable development rights, however many do not fully comprehend the scope of a regional program. Further, there are knowledge gaps in the ability of successful TDR programs to specialize and with the right leadership to adapt a program to the region.

In addition to lack of understanding from planners, landowners typically have very little knowledge about transferable development rights program. Terry Whalen said “People don’t know about TDR, a massive educational program would have to be conducted.”

¹⁷⁶ Cape Cod Commission “Regional Plan” 137

Resources

Administration of a TDR program requires a lot of work and there are many tasks that need to be completed and monitored throughout the life of the program. There are many issues that would need to be resolved before a program is initiated.¹⁷⁷ Many of the issues listed below would need to be decided by the towns, and could fit into the problems with regional cooperation:

- Allocation of development rights
- Market analysis
- Purchasing and selling TDR credits
- Education
- Recording titles and deed transfers
- Taxation of transactions
- Tax Titles
- Foreclosure on development rights
- Liens against development rights
- Cumulative impacts

The town planning departments in each of the fifteen towns are small typically consisting of two or three people at most. As a result the logical third party administrator of a TDR program would need to be the Cape Cod Commission. However, they are not currently capable of adequately handling the amount of work that would be needed.

Conclusions

Complexity, alternatives for density, development, education, and lack of resources are the main reasons a regional TDR program difficult to introduce into Barnstable County. The complexity of valuing and allocating development credits to landowner's across the region would be time consuming and complicated. The lack of contiguous undeveloped land is a major factor in complicating the program.

¹⁷⁷ Executive Office of Environmental Affairs "Feasibility" 6

One of the most discouraging factors is the weariness town planners have of trying to promote regional cooperation for a TDR program. There was not one town planner who thought that a regional TDR program was likely to be introduced. The lack of confidence in a TDR project comes from the need for additional education, additional resources, and skepticism about working with other towns on a regional project of this scale.

Chapter V: Conclusions and Recommendations

This chapter will summarize the findings of this research paper. This study concluded that a regional TDR program is feasible in Barnstable County. The chapter also contains recommendations that need to be executed in order for a regional TDR program to be successful.

A Regional TDR Program

Transfer of development rights are an incentive based smart growth tool where land preservation is a by-product of a market transaction. Market transactions are executed by private landowners and developers who are looking to improve their positions by being compensated for restricting their land or are looking to capitalize on the benefits of denser developments. Over the 50-year history of TDR's they continue to be underutilized and largely unsuccessful. In large part they remain an excellent academic theory, however not applicable to real world situations. However, in the right situations (King County, WA, Pinelands, NJ, and Montgomery County, MD) programs have had extraordinary success.

Cape Cod is in a position to capitalize on the benefits of a regional TDR program. After analyzing the regional comprehensive plan and the demand for development or preservation of each town it can be determined that the Cape possess many of the attributes of successful TDR programs. A regional TDR plan aligns with goals of the Cape Cod Commission "to guide growth towards areas that are adequately supported by infrastructure and away from areas that must be protected for ecological, historical, or

other reason.”¹⁷⁸ This study concludes that a regional TDR program is feasible, so long as the Cape Cod Commission is integrally involved in all aspects of the program. This study acknowledges that a regional TDR program is not possible in the immediate future due to the lack resources within the Cape Cod Commission for a project of this scope. A model Transfer of Development Rights Bylaw/Ordinance has been written at the request of the CCC and agrees with the findings of this study.¹⁷⁹ The obstacles that stand in the way of a successful regional TDR plan can be addressed.

As discussed in Chapter II there are certain factors of TDR programs that are prevalent in successful and unsuccessful programs. Figure 5.1 portrays the components of successful TDR programs. Four the six most important qualities, as highlighted by Pruetz and Standrigde are established in the region; demand for development, desirable

Figure 5.1

Components of Successful TDR Programs	Does Barnstable County Possess this Attribute Already?
Demand for Development	Yes
Location of Receiving Zone	Yes
Clear and Valid Public Purpose	Yes
Horizontal and Vertical Integration	Yes
Simplicity	No
TDR Bank	No

location of receiving zones, clear and valid public purpose, and integration into the regional policy and plan.

Demand for Development

¹⁷⁸ Cape Cod Commission “Regional Plan,” IV

¹⁷⁹ Witten, Jon. “Transfer of Development Rights Bylaw/Ordinance for Towns in Barnstable County, Massachusetts” Cape Cod Commission Model Bylaws and Regulations.
<http://www.capecodcommission.org/index.php?id=154>

Figure 3.3 showed that nine out of the twelve surveyed towns are currently looking to attract development. Additionally the CCC commissioned the Chesapeake Group INC to perform a study, which recommended additional mixed-use development with increased density in economic centers.

Location of Receiving Zone

Receiving zones need to be in areas that developers want to build, meaning the location must be desirable and possess adequate infrastructure to handle greater densities. The CCC and each certified town have already identified economic centers and growth incentive zones in their comprehensive plans.

Clear and Valid Public Purpose

A clear and valid public purpose refers to the public having a demand to protect certain resources for the public good. This study confirmed that there are multiple assets in the region that need to be protected. The natural resources (Areas buffering streams, ponds, wetlands, etc), agricultural lands, and historic landmarks are all in need of additional protection from development. Lastly, surveys have shown that overwhelming number of residents want to see preservation in these areas as it adds to the intrinsic value of the region. The research also shows that TDR programs with multiple resources in need of protection are often more successful.

Horizontal and Vertical Integration

A regional TDR program aligns with the regional plan created by the CCC as well as the policies set forth. Certain areas of each certified town have been identified for preservation and/or development. Policies such as development agreements and

developments of regional impact have been established to encourage mixed-use higher density development while preserving natural resources.

Chapter II also identified the largest obstacles to TDR programs. Currently Barnstable County has the ability to address the four main barriers to successful programs, as shown in Figure 5.2.

Figure 5.2

Obstacles to TDR	Does Barnstable County have a Solution for ?
Designating Sending and Receiving Zones	Yes
Creating a Market for Development Rights	Yes
Education and Developing Trust	Yes
Administration	Yes

The delineation of sending and receiving zones has been accomplished. This study has shown that there is a demand for preservation and development, which demonstrates that there would be a market for TDR transactions. Research has shown that delineating these zones is one of the most difficult tasks when creating a TDR program. Individual towns and the CCC have already identified districts of critical concern (Sending zones) and growth incentive zones (Receiving areas) in the regional comprehensive plan.

The market to buy and sell TDR credits has been established because there is a demand for preservation and increased development. However, buyers and sellers are not always in the same municipality. As a result inter jurisdictional transfers would need to take place to have enough active participants in the market. In order for transactions to take place an entity would need to educate the region and administer the program. As currently constituted there is not an entity in the region that could assume these responsibilities. The question that needs to be answered is how can the region solve the

current challenges. The obstacles in way of creating a regional TDR program are: Simplicity, administration, promotion, and education. Simplicity is the only one that cannot be completely solved by creating a TDR Bank.

Create a TDR Bank within the Cape Cod Commission

The discretionary powers that have been granted to the CCC place it in a unique position to implement, monitor, and partake in a regional TDR program. The CCC is an established regional body that has the ability to interact with each of the fifteen towns. They have ascertained detailed information from every town and would be in a unique position to guide the development of a TDR program. They are the only group that has the potential to successfully administer a program in Barnstable County. Currently the CCC does not possess adequate staff to manage a TDR bank. Additional resources would need to be raised. In the New Jersey Pinelands the bank was initially given \$28 million to create the Pinelands Credit Bank and the bank currently receives \$200,000 annually. A lump sum payment would need to be given to the CCC to initiate the program, however citizens of the Cape have been willing to protect their county.

Funding

Residents of Barnstable County have proven multiple times that they are willing to fund resources that protect the region. In 1988 seventy-six percent of voters approved the creation of the CCC using taxpayer dollars. In 1990 the Cape Cod Commission Act was approved by majority of resident in a county ballot. Further the success of the public land trusts in the area proves that taxpayers are willing to pay for protection of their resources. As figure 4.1 demonstrates, taxpayers spent over \$210 million dollars on preserving land. If the benefits of a TDR can be properly explained to the public they could be interested in helping to fund the development of a bank.

If a TDR bank helps to address current problems and better regionalize the county the Commonwealth of Massachusetts may provide additional funding. The Commonwealth has been encouraging towns to regionalize public services such as; trash collection, fire departments, and schools.¹⁸⁰ The State would need to provide the CCC with funding to have a functioning TDR administration. The State should be willing to support the CCC, as they are also actively looking to improve the partnerships between the towns, especially with regard to land use planning, infrastructure planning, growth management, and economic and community development.¹⁸¹

One of the major issues on the Cape is wastewater management. If a TDR program were designed to help alleviate this problem the State would potentially be interested in helping to provide resources for the creation of a TDR bank. Incorporating a TDR bank would help to accomplish these goals and better regionalize the area.

Allocation of Development Rights

Creating a system that equitably and efficiently allocates development credits to land owners and developers is the most complicated part of creating a TDR program. The method that would be most effective on the Cape is based off of the Septic-Sewage capacity model. This type of system;

- Facilitates the exchange of residential to commercial development
- Addresses concerns within the region about wastewater management
- Encourages best development practices that limit wastewater

Additionally by using Figure 5.1 which ranks land from maximum to low in terms of their conservation value, as determined by The Compact of Cape Cod Conservation Trust,

¹⁸⁰ JoAnne Butnich and Thomas Fudala,

¹⁸¹ Cape Cod Commission “Regional Plan,” 85.

Figure 5.3

Rank	# of Parcels	Acres	% Acres Protected
Maximum	1,633	42,763	86%
High	11,388	61,591	48%
Medium	13,382	31,174	16%
Low	2,810	2,923	8%
Total	29,213	138,451	52%
http://www.thecompact.net/cape-cod-wildlife-conservation-project/			

a TDR administer would be able to equitably allocate development rights. Additional capacity (Development rights have more build out potential) could be granted to parcels in the maximum category to increase their appeal to developers. This would also create incentive for people to sell in the maximum risk parcels. The allocation of credits would be less as the land’s conversation value moves down to high, medium, and low. A system like this would be relatively straightforward while providing maximum benefit to the community while addressing a major problem in the region.

Education

The CCC uses a variety of communication methods to increase the public’s knowledge of the CCC’s policies and activities. The CCC actively seeks Cape citizens to serve on committees, participate in seminars and attend educational lectures. These public outreach methods are critical to the development of a TDR program. Researchers have continually demonstrated that without public knowledge it is highly unlikely that a program could succeed.

The first step would be to provide additional education to town planners, officials, developers, as well as the CCC. While most town planners are aware of the TDR concept, their knowledge is somewhat limited on the full capabilities of a regional TDR program.

The model TDR bylaw created for the CCC highlights that the region has a unique opportunity to create a TDR program.¹⁸² Creators of successful TDR programs have designed programs that are specifically suited for their region. In Barnstable County TDR designers could focus preservation on three main areas (Natural resources, historic buildings, and agricultural land) and promote badly needed development in economic centers or growth incentive zones. Town officials and planners need to be shown examples such as the New Jersey Pinelands or King County TDR programs that show regional programs are possible and highly effective.

All parties involved in the TDR program need to be educated for the program to be effective. Once town officials have been further educated discussions could take place on how best to address the problems with a regional TDR program. Educational opportunities would then need to be extended to the public.

Residents must be made aware of the development potential of each town. One planner stated that their citizens do not have any idea how much more development is possible in their town. The build out potential of each town involved in a TDR program would need to be made clear to the residents. Residents should be aware that more development is not a bad thing, rather that it would be a positive for their town. This needs to be the foundation of the education for residents. Education on a regional TDR program would come second to understanding that towns are capable of handling more development.

Administrative

The CCC's involvement with each town's local government, developers, land trusts, and residents allow them to be an effective communicator across the region. In

¹⁸² Witten "Model Bylaw"

order to install a regional TDR program the bank would need to be apart of the CCC. The CCC contains the knowledge and connections to perform many of difficult tasks when initiating a TDR program. With additional resources and a larger staff the CCC would be able to educate citizens, promote the program, value development credits, and provide market information to potential buyers and sellers. Further, they would be able to maintain a website that that contains all information about TDRs, market conditions, and a list of buyers and sellers. Having an administrator of the TDR programs helps to simplify the process for buyers and sellers. As the TDR program becomes closer to having market transactions the TDR bank would be in position to track, promote, and execute the purchase and sale of development rights.

Conclusion

Despite the current setbacks, TDRs provide a way to help protect the remaining 48% of the region while also forcing development into areas that have already been approved for additional development. Increasing the density of development in economic development zones and growth incentive zones will create more mixed-use development, affordable housing, and local jobs. These are the things that are most needed to increase the local economies. A regional transferable development rights program would offer a regulatory approach to achieving these goals.

Appendix

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Case Studies

Pinelands New Jersey

In 1978 the State of New Jersey acted to protect almost one million acres of resources from increased development pressures. 930,000 acres, over twenty percent of New Jersey, has been designated as the Pinelands region. This region consists of pine and oak forests, cedar and hardwood swamps, pitch pine forests, bogs, and marshes.¹⁸³ Additionally there are over 1,200 types of plants and wildlife in the region. Almost one-quarter of New Jersey's agricultural production comes from this area, which specializes in cranberries and blueberries. The region is also home to one of the largest and least polluted aquifers in the continental United States.¹⁸⁴

The Pinelands regions came into focus during the 1970's when the region became a tourist destination. During the 1970's an enormous growth in the population led to the Pinelands becoming the first Nation Reserve in 1978.¹⁸⁵ The federal designation as a national reserve also established a regional planning authority whose responsibility was to create and implement a protection plan. The state created the Pinelands Commission. The Commission authority crossed county and municipal boundaries. The Commission is an independent state agency under federal and state law to conduct research on how to protect the Pinelands. Consisting of fifteen members; seven representatives from each county, seven members appointed by the New Jersey Governor, and one member designated by the US secretary of the Interior.¹⁸⁶ The result of the Commission was the 1979 Pinelands Protection Act, which was approved by the New Jersey State Legislature.¹⁸⁷ The goal was to protect the natural resources of the area and to create a comprehensive plan for the region.

The comprehensive plan that was created in 1979 divided the Pinelands region

¹⁸³ Pruetz 1997

¹⁸⁴ State of New Jersey Pinelands Commission, 2010a.

¹⁸⁵ Pruetz 1997

¹⁸⁶ Ibid

¹⁸⁷ State of New Jersey Pinelands Commission, 1979

into two areas. One area, the inner preservation area, consisted of 368,000 acres and the 566,000-acre protection area.¹⁸⁸ These two overlays zones were subdivided into nine management zones (Preservation Area District, Forest Areas, Agricultural Production Areas, Special Agricultural Areas, Rural Development Areas, Regional Growth Areas, Pineland Towns, Military and Federal Installations, and Pineland Villages). Each area was assigned a designated use. The plan also required that the State and Federal Agencies use \$23 million to preserve 100,000 of the inner preservation area (National Parks and Recreation Act, the Federal Land and Water Conservation Fund, and the New Jersey Green Acres Program).¹⁸⁹

The Commission also initiated the Pinelands Development Credit (PDC) Program and the Pinelands Development Credit Bank. The PDC program allowed landowners in certain districts to place conservation easements on their land and sell the development rights to developers (Sending areas). Developers could then build at greater density than the by-right zoning allowed. Developers were only allowed to develop in the regional growth areas (Receiving areas). Landowners who sold their development rights retained title to the land, but could only use the land as its prescribed use according to the comprehensive plan.

The Commission works with municipalities to ensure zoning ordinances permit opportunities for PDCs to be used. The Commission also ensures that local zoning laws maintain the standard of the regions comprehensive plan and allocates PDCs. All zoning changes and site plans in the region need to be approved by the Commission.¹⁹⁰ The commission on a case-by-case basis performs the allocation of development credits. Landowners must apply for development credits.¹⁹¹ The commission takes into account the predetermined district of the property owner, existing structures, and environmental

¹⁸⁸ State of New Jersey Pinelands Commission, 2010a

¹⁸⁹ Pruetz 1997

¹⁹⁰ Pruetz 2003

¹⁹¹ State of New Jersey Pinelands Commission 2009a

concerns of the area. A full PDC credit has the ability to build four homes. Landowners with buildings or businesses on their property can still be eligible to acquire partial PDCs to sell. Property owners who are not in sending areas can separate the development rights from their property if their zoning has development restraints, such as environmentally sensitive areas. PDCs can be bought and sold in one-quarter increments.¹⁹² Regional growth areas are the only receiving areas. In these areas developers can build in density up to 50% percent greater than underlying zoning would permit. PDCs can be bought or sold by individuals or the Pinelands Credit Bank.

The Pinelands Credit Bank was originally created in 1980 by the Pinelands Commission and then rejected by the Governor of New Jersey. In 1981 it was reinstated by Burling County as a last resort buyer and to ensure that there would always be a market for PDCs. The bank could buy PDCs for \$10,000 plus the cost of fees and additional expenses if a buyer could show financial hardship.¹⁹³ The credit exchange proved to a successful addition to the PDC Program so much so that in 1987 the State of New Jersey Legislature created The Pineland Development Credit Bank. The PDC Bank is an independent state agency that is responsible for issuing PDC certificates, tracking the purchases and sales of PDCs, educate residents about the program, and in certain cases actively participating in the market as a buyer and seller. In most cases the bank is still a last resort buyer of PDCs for \$10,000, however the bank does have the ability to purchase PDCs above that price unless the cost is less than 80% of market value.¹⁹⁴ As an active member of the market, the bank needs to hold public auction to sell PDCs to ensure that they do not undermine the market.

The Pinelands TDR program has been one of the most successful in the country because they have a straightforward program that works within the comprehensive plan of the region. Transfers across municipal and county boundaries increase the market for

¹⁹² Pruetz, 2003

¹⁹³ Pruetz, 1997

¹⁹⁴ State of New Jersey Department of Banking and Insurance 2010

PDCs. The Commission maintains an excellent website. All transactions are displayed as well as all of the information needed to get involved in the market. Further the commission is innovative in several ways. In addition to being used for density bonuses, PDCs can also be used as a variance for non-conforming uses. For example in some areas that zoned as business districts developers have been able to purchase PDCs and build residential units. New Jersey does an excellent job of adding value to PDC by allowing them to be used in multiple ways.

The PDC Program has been a great TDR success story because of the number of transactions, acres preserved, and the regional aspects of the program. The success has come at a high cost to the State of New Jersey. \$28 million in taxpayer dollars have been used in order to start and to continue to run the program. Annually, another \$200,000 is required to maintain the staff salaries, benefits, capital costs, and overhead.¹⁹⁵ The program has protected more land than could have been preserved by using the money to purchase private land.¹⁹⁶ The program and the bank are still dependent on receiving funds from the State and without that support the TDR program will struggle to exist.

Long Island Pine Barrens, New York

Located in Suffolk County the Pine Barrens region is largest undeveloped area on Long Island. It includes pine forests, coastal ponds, fresh and salt-water marshes, and the largest concentration of threatened plant and animal species in the State of New York.¹⁹⁷ It also contains an aquifer that provides drinking water for the majority of the residents on Long Island. The region consists of over 250,000 acres, due to development, the TDR program is comprised 102,500 acres, 55,000 of which been designated as core preservation areas. Three municipalities, Southampton, Riverhead, and Brookhaven, make up the Pine Barrens region.

Due to the quick development of the three towns numerous environmental groups

¹⁹⁵ The State of New Jersey Pinelands Commission 2010

¹⁹⁶ Vivas 2010

¹⁹⁷ Central Pine Barrens, 2011

sued the towns and Suffolk county over 200 impending developments. The State ruled that the Pine Barrens needed protection, leading to the Pine Barrens Protection Act of 1993.¹⁹⁸ The Central Pine Barrens Joint Planning and Policy Commission was established to create a comprehensive protection plan for the region. The commission was comprised of representatives from the three towns as well as representatives from Suffolk County and the State.¹⁹⁹

The goal of the program is to protect over 75% of the privately owned land in the sending area. Brookhaven and Southampton already had TDR programs when the Commission created a regional program. The regional TDR program formed two areas, the core preservation area and the compatible growth area. The core preservation area accounted for 52,200 acres that are designated for agriculture, recreation, open space, and very modest development. The growth area is slightly smaller, 48,50 acres, it is designated for suitable development patterns. In the sending area all development is restricted except for additions to existing homes on parcels greater than 10 acres, areas on existing street fronts, and areas with pre-existing development.²⁰⁰ Unlike the Pinelands program, the Pine Barren Credits (PBCs or development credits) must used within the town they were sent. In Southampton, they must be used in the same school district.²⁰¹ Each town must designate receiving areas where the PBCs can be used by-right, meaning developers do not have to go through a lengthy public review or special permitting process. In certain receiving areas developers can increase density by up to ten times the current zoning allowance with the use of PBCs.

Property owners are allocated development rights, Pine Barren Credits (PBC), based off of the size of their parcel, underlying zoning, and current construction. In order to increase the number of PBCs on the market there are no reductions in credits for

¹⁹⁸ Pruetz 1997

¹⁹⁹ American Farmland Trust. 2001. "Transfer of Development Rights," Fact Sheet, American Farmland Trust, Washington, D.C.

²⁰⁰ Central Pine Barrens, 2011

²⁰¹ Ibid

development constraints, such as, steep slopes or wetlands. Interestingly, the Pine Barrens program allocated fewer development rights than could be built under existing zoning. This is because development is not permitted on many of the parcels due their size, 40 by 100 feet. By allocating PBCs to these lots the program actually increases their property value. Each town determines the amount of build-out differently. With the use of development credit Riverhead permits an increase of development up to 300 gallons per day per acre of sewage flow. Sewage flow had been a concern of the towns because residential development was occurring with cesspool/septic systems. PBCs can be used for residential, commercial, or industrial density bonuses.

Along with the TDR program the State of New York also created a Pine Barrens Credit Clearinghouse. The Clearinghouse's responsibilities include issuing, monitoring, purchasing, and selling development credits. Also they are required to maintain a list of potential buyers to facilitate transactions. The main goal of the bank is promote private transactions. With the up to date and easily accessible list of potential buyers and sellers transactions commonly occur without involvement from a third party. The Clearinghouse can participate in the market if its Board of Advisors anticipates an opportunity, however their role is largely as a promoter and administrator. In 1996 PBCs sold for \$7,500 and now the price ranges from \$65,000 to \$80,000 depending on the town. To date over 890 development credits have been sold in exchange for over \$30 million.

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