TRANSFERABLE DEVELOPMENT RIGHTS

by

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TRANSFERABLE DEVELOPMENT RIGHTS

ABSTRACT: The preservation of land, such as wetlands and agricultural lands, is often pursued through traditional methods such as zoning or eminent domain. Transferable Development Rights provides a different approach to the preservation of land by allowing the sale and transfer of development rights from land to be protected to land in which development is desired. The sale of development rights provides a means by which to compensate the landowner who is restricted in developing his land. This paper reviews the origin of TDR, reviews proposed and implemented TDR plans, and discusses the advantages and disadvantages of TDR.

INTRODUCTION

Each year thousands of acres of open space land in this country are committed to development. The preservation of woodlands, wetlands, agricultural lands and other open space lands is a necessity for agricultural, recreational and ecological purposes. Although traditional land use methods such as zoning and eminent domain can deal with the preservation of open space, a new land use management tool, termed Transferable Development Rights (TDR), has been developed which in some instances may be more effective in preserving open space.

TDR has already been implemented for the preservation of open space in a few locations around the country. It is necessary to
continue researching this subject in order to effectively compare and contrast this new method with traditional land use planning techniques, and evaluate its current successes and/or failures.

Problems with Current Methods of Land Use Control

To date, most efforts to preserve open space have been based on condemnation through the powers of eminent domain or the regulatory powers of zoning. These two techniques, while invaluable for land management, have certain inherent limitations.

Public condemnation of land through the use of eminent domain powers is not explicitly authorized in the United States Constitution. However, over the years the Courts have generally ruled that land may be taken from an individual only if the land taken is to be used for the good of the public and, furthermore, only if the landowner is compensated for the loss of his land or development opportunity. The legal authority for eminent domain has been based, to a degree, on the Fifth Amendment, which reads in part "... nor shall private property be taken for public use without just compensation."\(^1\) The major limiting factor in using eminent domain powers to acquire and protect certain parcels of open space land is the public cost.

Zoning regulations constitute the traditional and primary method of land use management in the United States. Agricultural zoning, forest zoning, and flood plain zoning are examples of zoning which may be employed to preserve various types of undeveloped land. Zoning has not always worked effectively in preventing development on certain categories of land because the courts may rule that these regulations constitute an unreasonable economic burden on the landowner, which is termed a "taking."\(^2\) Although zoning regulations do not require that
the property owner be paid compensation, they must nevertheless be sensitive to the Fifth Amendment which states: "No person . . . shall be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use without just compensation." Zoning regulations may significantly change the value of land. If the property value is severely depreciated by the zoning regulations, then those zoning regulations may be unconstitutional. The Courts are generally sympathetic to the need to protect certain lands from development; they may require, however, that the cost be borne by the public, not the private landowner alone.

The compensation issue is not a clearly defined legal case. It is argued that it is legal to zone for open space purposes (without concern for the "takings" issue) if those zoning regulations are supported by explicit policies and documented by factual information. Conversely, there are examples of zoning regulations designed to protect open space which have been struck down by the Courts because they represented an unreasonable burden on the landowner. Therefore, proper management and protection of open space may be enhanced by using a technique that will provide adequate compensation to the landowner while at the same time restricting the development of the land.

TRANSFERABLE DEVELOPMENT RIGHTS

Transferable Development Rights is based on the concept that the right to develop land is separable from the right to own land, and that ownership of land is really ownership of a bundle of rights, any of which may be dealt with separately. Usually considered among these rights are the right to extract minerals and the right to develop the land. For example, mineral rights may be sold to a corporation with the know-how and capital to extract the minerals, and development
rights may be sold to a government in exchange for an easement on the property.

TDR is a land use management technique which separates the ownership of the land from the right to develop the land and then allows the transfer of those development rights. During the last few years a number of plans have been proposed, and some implemented, that apply TDR to the protection of open space. Although the mechanics of each plan differ, the following is a simplified example of how a TDR plan may be organized:

1. Land to be permanently preserved is delineated
2. Those areas in which increased development may occur (through transfer and use of development rights) are delineated
3. Development rights are assigned the landowner on the basis of one development right per acre of land; the value of the development right is equal to the estimated difference in land value before and after development
4. The developer has a two-tier density development option: He may develop at the normal density limitations of existing zoning, or he may purchase development rights and build at an increased density level.

The advantage of TDR to the developer is that with the purchase of development rights he may build at a greater density and thus at a greater profit. The advantage to the resource owner is that he is compensated for his lost development opportunity. Finally, the advantage to the local government is that it does not have to pay for the cost of protecting open space as it is borne by the private market.

Origin of Transferable Development Rights

The origin of TDR may be traced back to the 1947 English Town and Country Act. This act authorized the British government to acquire the unused development rights from all undeveloped land.
Compensation equal to the difference between the "restricted and unrestricted" value of the land was paid to the landowner if the landowner was denied permission to develop his land. Development of land required the permission of the local government, usually the county borough. If permission to develop was granted, the developer would have to buy the necessary amount of development rights back from the government. It was reasoned that through proper allocation of development rights, growth could be properly directed. Some planners thought the act successful in preventing widespread suburban sprawl. Nevertheless, confiscation of a landowner's development rights was one of the significant factors that spurred the controversy that lead to a revision of the Town and Country Planning Act in 1953 and 1954.

TDR was first used in this country in New York in 1961 for the purpose of creating plazas. The first step leading to TDR was to allow a developer to build in excess of density limitations on one lot if there was a corresponding decrease in density on an adjacent lot. Later, the adjacency requirement was relaxed so as to allow the transfer of density between lots on the same block.

In 1968 New York City passed, as part of its zoning ordinance, a law enabling historical landmark owners to sell and transfer the unused development rights of their landmark sites, usually air space above the building. With the sale of the development rights, the landmark site henceforth would be limited to a building density equal to what the zoning ordinance normally allows minus the development rights sold. The buyer of development rights could build at a maximum of 20% greater than normally allowed on the site; however, the development rights could only be transferred to lots that were
within the same block or across the street or intersection from the landmark. This limited transferability of development rights is one of the reasons why this regulation has been little used in New York thus far.\textsuperscript{13}

In 1974 John J. Costonis published his book, *Space Adrift, Landmark Preservation and the Marketplace*, in which he presented a TDR plan detailing a method Chicago could use in preserving its historical landmarks.\textsuperscript{14} The mechanics of the Chicago plan were considerably different from the New York plan to save landmarks. One such difference was that the Chicago plan called for the creation of transfer districts which would greatly increase the marketability of development rights. In June of 1974, however, the city fathers indicated their desire to protect historical landmarks through the use of the city's planned unit development ordinance, and not, at least at present, through the use of TDR.\textsuperscript{15}

The early experience of TDR in England, New York, and Chicago was less successful than hoped. Although there were early failures in the use of TDR, it was not long until TDR was studied for its use in natural resource protection. Several plans have been proposed for this purpose, and the bulk of this report focuses on the application of TDR to natural resource protection.

**TDR and Related Legal Issues**

The application of TDR to the protection of natural resources is a very recent idea. There are potential legal issues, concerning TDR as it relates to the preservation of undeveloped land, which have yet to be fully resolved in the courts — owing of course to the novelty of this technique, and its lack thus far of widespread
Relationship of TDR to Eminent Domain and the Police Power

A logical question concerning the legal aspects of TDR is whether this technique is derived from the police or eminent domain powers of government.

The police power gives state governments authority to pass laws in the interest of the health, safety, and general welfare of the people. The object of TDR, resource protection, falls within the scope of the legitimate uses of police power because it may be in the interest of the health, safety, and general welfare of the public. Legitimate uses of the police power do not require that compensation be paid to the affected landowner. TDR differs from the police power because it provides compensation to the restricted landowner, whereas the police power laws do not.

The right of eminent domain gives the government authority to acquire private property for necessary public use or for the public welfare if "just compensation" is provided. Eminent domain actions require immediate cash compensation to the affected landowner. TDR differs from eminent domain because compensation may be neither immediate nor "just." In order for the landowner to receive compensation, he may first be required to sell his development rights, which may be a time-consuming process. In addition, the value of his development rights may be dependent on market conditions, and therefore not necessarily be just compensation.

In actuality, TDR is derived neither directly from eminent domain nor the police power. As Jerome Rose states, TDR combines the characteristics of both eminent domain and the police power: "To use legal
phraseology, it is *sui generis*; it is in a class by itself."18

**Severability of Property Rights**

The severability of a landowner's property rights has precedence that extends back to the origin of this country. Examples include the Milldam Acts of the early 1700's, which allowed a private individual to erect a dam in order to utilize water power for special public purposes, even though upstream land might be flooded; the drainage and irrigation projects of the 1800's, which enabled the creation of special irrigation and drainage districts, extracting compensation from those who benefit from the special districts, and compensating those who were restricted in the use of their land; the construction of canals and railroads in the 1700's and 1800's, which allowed for the acquisition of rights-of-way over land even from the unwilling landowner; and more recently, common zoning ordinances which may zone land for open space, thereby severing the development potential of that land, at least temporarily.19

The severability of development rights from other property rights might initially be considered a very radical aspect of TDR. That there is considerable historical precedence for this in our country is illustrated by an in-depth look at one of these precedents, the Milldam Acts.

The Milldam Acts, employed first in the American Colonies, had their origin in the controversy that arose when a landowner constructed a dam across his property in order to utilize water power to operate grist mills and in so doing inundated upstream land.20 Had the upstream landowners possessed absolute and complete ownership of all rights to their land, they could have forced the dam owner to
remove his dam. However, the property rights of the upstream landowners were not absolute, and consequently the flooded landowners could acquire compensation for flood damage only, and not force the removal of the dams. The courts justified the construction of the dam and consequent inundation of upstream land by reasoning that the power derived from the dam served a "public purpose" in that the grist mill operators were required to grind the grain of all people. Later, courts were required to review situations where dams were constructed across streams to serve strictly commercial or industrial purposes. Again the upstream landowners found that their rights regarding use of their land were limited. In the later case the dams were justified because they served as a "multiplier effect" by broadening the "industrial and employment base of the state . . ." The important point was that development rights were indeed considered a severable portion of property ownership.

Common zoning regulations are a more contemporary example of the implied severability of development rights. For example, a given parcel of land may be zoned for agricultural use, severely limiting the owner's development potential on that land.

The "Takings" Issue

The "takings" issue, which plagues the successful implementation of some zoning regulations, is addressed by the TDR technique insofar as it provides some compensation to the restricted landowner. The problem with zoning is that it may financially harm a landowner by restricting his use of the land. When the owner suffers a significant economic loss because of restrictions placed on the use of his land, then those
zoning regulations may be considered a "taking" and thus held unconstitutional. TDR seeks to remedy this situation by providing compensation to the restricted landowner.

Density Determination

The success of any TDR program is dependent on having an adequate market for the development rights. There are two procedures that would increase the demand for the purchase of development rights: allowing an increased density (e.g., dwelling units per acre, floor area ratio, etc.) over that normally allowed on the transfer site, and downzoning.

Judicial acceptance or rejection in allowing increased density on a given site will depend not so much on contemporary zoning regulations for the area, as on whether or not the increased allowable density comports with sound planning criteria (which is measured by such criteria as the amount of available light, air, density, and public services). Increasing allowable density will be particularly difficult in those areas which are already zoned for high density use.

Downzoning, or decreasing the allowable building density on land already zoned, has been suggested as a way to encourage the purchase of residential, commercial, or industrial development rights. This procedure may be successful on new transfer sites where no development currently exists. Downzoning is less feasible for both political and practical reasons where development has already taken place.

There are means other than manipulating allowable densities on a transfer site that will encourage demand for development rights. One of these is the actual location of the transfer site, preferably in an area of great development potential. Other factors that would influence the demand for development rights include minimizing bureaucratic red tape in allowing transfers of development rights; in
simplifying the development rights transfer program; in educating the potential users of TDR; and in using commercial and industrial development rights in the TDR market.

Current Extent of TDR Use for Resource Protection

In an effort to determine the degree to which TDR is being used in the United States for the protection of open space, letters requesting TDR information were sent in June, 1975 to the state planning agency and the state university Extension Service in each state. Among the questions asked were whether the agency was aware of TDR, whether TDR had been used, and if TDR had been used for what purposes it had been used.

In response to the fifty letters sent to state planning agencies, there were forty-two replies, an eighty-four percent response. Of the fifty letters sent to state Extension Service administrators, there were thirty-one replies, a sixty-two percent response.

The results of these responses and other literature indicate that several TDR programs are being tested, including the following:

(1) Collier County, Florida, is using TDR to a very limited extent to preserve undeveloped land for conservation purposes. TDR is used as a "tool for zoning" at the local level.

(2) Bridger Canyon, Montana, is using TDR as a part of its zoning code to provide cluster development and open space.

(3) St. George, Vermont is using TDR to promote organized and timely development and to preserve the rural character of the land by maintaining some land as open space while directing development on other land.

(4) Bucks County, Pennsylvania, is using TDR to protect prime agricultural land.

(5) Gig Harbor Peninsula in Pierce County, Washington is using TDR to preserve natural, historic and cultural areas.
Although these results should not be considered complete, they do indicate that at the present time there is only minimal employment of TDR for resource protection. However, every respondent to this survey indicated an awareness of the TDR approach to land use management, and many agencies indicate that they are studying TDR to determine its potential applicability to their respective areas.

REVIEW OF PROPOSED AND IMPLEMENTED TDR PLANS

This section consists of a brief overview of proposed and implemented TDR plans. This will aid the reader in understanding the review of different TDR plans in the next section of this paper. Each plan is reviewed by looking at the problem the plan is designed to alleviate, stating the overall objectives of each plan, and describing the plan itself.

A TDR Proposal by Audrey Moore, Supervisor Annandale District, Fairfax County, Virginia.

PROBLEM: Land use management has been based largely on zoning which is unfair since it may create monetary windfalls (or greatly increased land values) for some landowners, while wiping out others (or greatly decreasing their land values). Land use management techniques have typically not protected natural resources; they induce untimely and unorderly development; and finally, these common land use management methods invite official corruption.

OBJECTIVE: The objective of this TDR proposal is to create an equitable and workable system of land use planning by completely replacing zoning with Transferable Development Rights.

PLAN: The basic procedures of this plan are:
(1) The community will adopt a comprehensive plan which will, among other goals, establish the total number of residents projected to live in an area and the total number of commercial/industrial needs for that area.

(2) The community would determine how many development rights are required for each kind of residential and commercial/industrial development. Public facility use, farm use, conservation and recreation use, and utility lines will require no rights.

(3) The government will assign each property owner of record his rights in direct proportion to the number of acres of land owned, subtracting any development that may exist or development rights considered by the community to have vested.

(4) To initiate development, the landowner will file with his site plan or subdivision plan, transferable development rights equal to what is required for that development.

The Puerto Rican Plan
by J. J. Costonis, Professor of Law, University of Illinois.26

PROBLEM: The problem that faces the island is the destruction of the natural resource areas as a result of residential and commercial/industrial development.

OBJECTIVE: The objective of this plan is to protect the island's Phosphorescent Bay and other environmentally sensitive resource areas.

PLAN: This plan will function in the following way:27

With the assistance of an intergovernmental advisory group, the Planning Board would prepare an inventory of Puerto Rico's known environmentally sensitive areas, designate them as PEZ's (Protected Environmental Zones) and prescribe criteria and related procedures for designating other areas in the future. This inventory and the policies guiding natural area protection would become a part of the master plan. The board would then promulgate regulations prescribing the kinds and intensities of the development that would be permitted within the PEZ's. It would again be aided by other public agencies, and would impose development moratoria, where appropriate, to gain the time needed to prepare the regulations. Plainly prohibited would be development injuring the unique features of a PEZ — be they the dinoflagellates of the Phosphorescent Bay or the "haystacks" of the Karst area. Other types of development would be allowed if consistent with overlapping regulations of other agencies, exemplified
by the water or air quality standards of the Environmental Quality Board. Regulating the PEZ's in this manner would protect the resource yet minimize governmental interference with private ownership. Permitting a broad range of alternative uses short of those threatening environmental harm, moreover, would eliminate the "taking" objections to the Plan's application in many cases and it would reduce the amount of compensation found to be due in others.

If it is determined that a landowner has been denied a reasonable return on his property, then he may be compensated for his lost development potential. The monetary value of his lost development rights would be "transferred" to another site, and expressed in increased allowable density.

The Growth Management Program by B. B. Chavooshian, G. H. Nieswand and T. Norman, published by the Cooperative Extension Service -- Rutgers University.28

PROBLEM: There is an inability in local planning to handle growth and at the same time assure the protection of certain resources. Development often exceeds the carrying-capacity of the municipal infrastructure (e.g., schools, water supply, sewer capacity, etc.) to support such development, while at the same time development causes further attrition of certain resources (e.g., farmlands, wetlands, etc.)

OBJECTIVE: The objective is to develop a planning program which will accommodate regulated growth, while at the same time adequately provide for the protection of certain natural resources.

PLAN: The use of TDR is one part of the Growth Management Plan. The function of TDR in the Growth Management Plan (GMP) is to help mitigate the "windfall" and "wipeout" syndrome that accompanies typical land use planning programs.

The initial step of the GMP is to conduct an inventory of the natural resource base. This inventory would form the base map from
which specific plans would be formulated. An initial step would be
delineation of critical areas: that is, designating those areas that
should be preserved (e.g., agricultural land), and those areas that
must be preserved (e.g., prime agricultural land).

An important aspect of this plan is to determine the current
capacity of the municipality to support development. Current capacity
would be determined by considering such factors as existing development
and infrastructure, the delineation of critical areas, and the general
physical environment.

The municipality would write an ordinance specifying the growth
management regulations. These regulations would be in accordance with
critical areas delineation and current capacity as noted above. Regional
and socio-economic factors, as well as community objectives, would
also be examined. The ordinance would specify a maximum development
density. This density could not be exceeded unless it complied with
all factors listed above, including an adequate supportive infrastructure.

All landowners would receive development rights. Where development
had already occurred on a given parcel of land, then apportioned develop-
ment rights would simply merge with the existing development. In order
to develop a given parcel of land, the developer would have to be in
accordance with growth management regulations as well as have the proper
number and type of development rights. A landowner possessing unused de-
velopment rights would have the option of using them for development on
his property or selling them in the free market.

Buckingham Township -- An Implemented TDR Technique
by Bucks County Planning Commission.29

PROBLEM: Zoning is an inadequate tool for preserving farmlands and
agricultural soils.
OBJECTIVE: The objective in using TDR is to permanently protect farmlands and agricultural soils in Bucks County, Pennsylvania.

PLAN: Transfer of development rights comprises one part (Article) of the Buckingham Township Zoning Ordinance. Under this section of the ordinance, Development Rights Certificates are made available to all owners of at least ten acres of land within the "Agricultural District." A permanent agricultural district is created when the landowner voluntarily decides to sell or transfer the development rights made available to him.

Accompanying the sale of the development rights would be a restrictive covenant running with the land which would strictly regulate all additional development. All additional uses of the land would be subject to regulations governing the use of land found within the Agricultural Preservation District regulations, which are in the Buckingham Township Ordinance.

Distribution of development rights to owners within the "Agricultural District" would be on an acreage basis, one development right certificate per acre. This distribution corresponds to the average dwelling unit allowed per acre. Increased development in the various residential districts, or the Planned Industrial districts, would be allowed if the proper number of certificates were held by the developer, and if that development were in accordance with the performance standards as delineated in this zoning ordinance. Development rights would be assigned to the Planned Industrial district based on a ratio of .35 certificates for each one thousand square feet of floor area.

Development rights could also be transferred to cluster developments within the agricultural district. By allowing higher density
clusters within the district, the market for TDR's is enlarged and surrounding farmland permanently protected.

In the event that landowners possessing development rights are unable to receive a fair market price for them, they may make an "Appeal on Marketability" to the Supervisors. The details of the appeals procedure are explained in the ordinance.

The Implementation of TDR in St. George, Vermont.30

PROBLEM: The Town of St. George is 2,304 acres in area and is located ten miles from the metropolis of Burlington, Vermont, which has an expanding population now numbering over 85,000 people. The Town of St. George, with a population of 500 people, is threatened with being converted from a predominantly rural environment to complete suburban sprawl.

OBJECTIVE: The objective is to develop a plan which will accommodate limited growth while at the same time preserve the rural character of the area.

PLAN: In 1970 the people of St. George purchased forty-eight acres of land which would serve as the new town center. On this land some housing, a community center, and shops would be built. Additional housing of different types and densities would be interspersed with areas of open space occupying about 300 acres around the town center. The new town would consist of public, commercial, possibly industrial, and of course residential development. Under this plan, St. George will be designed to accommodate approximately 3,000 people.

Within the Town of St. George development rights would be apportioned based on dwelling units per acre of land. In order for a developer to build in the town center, he may first be required to purchase the necessary development rights from the surrounding areas. A
simple example is as follows: A developer wishes to build fifty housing units in the town center. In order to do so he is required to purchase and transfer development rights from other land in St. George. This developer secures acquisition to development rights on land zoned for one dwelling unit per acre. Henceforth, development on that land will be prohibited. The acquired development rights are then applied to development within the town center. The demand for purchasing development rights will be encouraged by initially downzoning the transfer site.

Gig Harbor Peninsula, Pierce County, Washington -- An Implemented TDR Technique.

PROBLEM: The population of Gig Harbor Peninsula has increased from 6,000 people in 1966 to 11,000 people in 1974. This increase in populations and concomitant development threatens the historical, natural, and cultural amenities of the peninsula.

OBJECTIVE: The objective is to preserve the natural, historic, and cultural amenities of the peninsula as defined in the Gig Harbor Peninsula Comprehensive Plan.

PLAN: This TDR plan is one part of the Development Regulations for the Gig Harbor Peninsula. The use of TDR pertains to the transfer of residential development rights only. The means designed to accomplish this goal involves the transfer of residential development rights from within the Natural and Conservation-Historic areas to three specific categories of residential environments with varying degrees of allowable increased density.

TDR in Collier County, Florida

PROBLEM: It is difficult to protect environmentally sensitive areas in Collier County because of the pressures of development.

OBJECTIVE: The principal objective is to protect environmentally
sensitive areas in Collier County because of the pressures of development.

OBJECTIVE: The principal objective is to protect environmentally sensitive areas by prohibiting development which significantly threatens the natural environment of the area.

PLAN: Collier County is over 2,000 square miles in area, and is located on the southwest coast of Florida. Specific areas in this county, such as freshwater and tidal marshes, natural drainage courses, and mangrove swamps, have been designated as Special Treatment Districts ("ST") because they are environmentally sensitive areas which cannot be adequately protected under existing zoning and other land use regulations.

On the broadest level, development on the "ST" designated land must be in accordance with existing zoning ordinances. Additionally, all development within the "ST" areas requires a special permit. No permit will be issued if the development would "severely or substantially" damage the natural environment.

It is not necessary for a landowner to comply with these rigid development requirements in order for him to exercise his rights to development. The owners of the "ST" designated land may transfer their residential development rights to a contiguous land parcel (under the same ownership) if: the contiguous land is not designated "ST"; the "ST" land must be used in conjunction with with the contiguous non-"ST" land; the "ST" land must be preserved in its natural state.

The procedure for density transfer is to have: first, a pre-application conference with the "Director and appropriate County staff;" second, a review of the application by the Planning Department; third, advice and recommendations from the Environmental ...
Advisory Council and the Water Management Advisory Board; fourth, an Environmental Impact Statement filed; and fifth, a public hearing directed by the Planning Department. The Board may then choose to grant, deny, or authorize the density transfer with special conditions.

COMPARATIVE ANALYSIS OF TDR PLANS

As is evident from the preceding section, each TDR plan has a relatively unique composition and structure. There are, however, basic factors with which all TDR plans must deal. For example, the number of apportioned development rights must be based on some criteria. The criteria could be based on acreage, land value, a combination of the two, or some other measurement. This section examines and compares steps common to most or all TDR plans to facilitate a better understanding of the different ways TDR plans are structured to accomplish similar purposes.

QUESTION: What land is assigned transferable development rights? (e.g., All land in the planning district? Certain preserved natural resource land?)

(1) The Audrey Moore TDR Plan: All property owners are apportioned development rights.

(2) Puerto Rican Plan: The owners of land designated as "Protective Environmental Zones" relinquish all development rights which may threaten the protected resource. A PEZ landowner may receive monetary compensation equal to the lost development rights if he petitions that he has been denied a reasonable return on his land and receives a favorable decision from an appeal board or the Courts.

(3) Growth Management Program: All landowners receive development rights. However, the assigned development rights will be subtracted from existing development.

(4) Buckingham Township Plan: Development rights are available to all landowners with ten or more acres of land in the "Agricultural District." The development rights are held by the township and actually issued only when the landowner requests that they be
transferred to a buyer and "attached" to a specific parcel of land.

(5) Township of St. George: All landowners in the town of St. George possess development rights as existing zoning regulations stipulate. The right to develop one's land is eliminated when the unused development rights on that land are sold and transferred for use onto another site.

(6) Gig Harbor Peninsula: Landowners may have the option of transferring and selling development rights if their land is undeveloped and is within the "Natural" or "Conservation-Historic" areas as delineated in the Gig Harbor Peninsula Comprehensive Plan.

(7) Collier County, Florida: Those people who own land designated "ST" may have the option to transfer all or some of their residential development rights, subject to the approval of the board.

QUESTION: How is the number of development rights determined?
(e.g., Is the number of development rights based on land acreage? Land Value?)

(1) The Audrey Moore TDR Plan: Real property records will be examined to determine the extent of existing development. Assigned development rights will be subtracted from existing development. Development rights are apportioned uniformly on an acreage basis. A Transferable Development Rights Subdivision/Site Plan Ordinance, written in accordance with the comprehensive plan, would delineate desired future residential, commercial and industrial development. Development rights would then be apportioned to all landowners, however existing development would be subtracted from the apportioned development rights.

(2) Puerto Rican Plan: There are no specific numbers or types of development rights. If it is determined that the landowner has been denied a reasonable return on his land, then one alternative is that he will be monetarily compensated for that loss. A monetary value equal to that paid the landowner will be apportioned to a developer in terms of increased allowable density at another site.

(3) Growth Management Program: Development rights would be based on density, acreage, or a combination of the two. If the development rights are based on density, then the number of dwelling units, or bedroom units, could be used for residential development. Development density for industrial or commercial purposes would be based on square footage. If development rights were distributed on an
acreage basis, then the number of development rights created would simply correspond to (1) residential, (2) commercial, and (3) industrial acreage. The authors suggest that using a combination of bedroom units for residential development and acreage for commercial and industrial development might be the best alternative. All development rights (residential, commercial and industrial) "would be established on the basis of the ratio between the assessed value of each parcel of land in the community and the total assessed value of all land in the community. Every landowner would be entitled to receive a proportionate share of each type of development right based on this ratio but not to exceed the full development potential of developable land as reflected in the growth management regulations. In the case of existing development, landowners would receive sufficient development rights to cover such development."33

(4) Buckingham Township Plan: One development right is assigned to one acre of land. (Government land and land restricted to easements is not included.)

(5) Town of St. George: Development rights are not specifically apportioned; rather a developer desiring to build in the core village area would have to buy the necessary number of development rights from other landowners. The number of development rights available would be based on the number of dwelling units allowed on a given amount of land under present zoning.

(6) Gig Harbor Peninsula: The number of development rights is not initially determined or apportioned. Landowners within the Natural or Conservancy-Historic areas have the option to transfer their unused residential development rights (based on the number of allowable, but unused, dwelling units per acre) to three other delineated Environments if the transfer is made in accordance with both the Comprehensive Plan and the specific regulations governing the transfer of residential development rights.

(7) Collier County, Florida: Transferable development rights are based on acreage, matching one acre of "ST" land to one acre of non-"ST" land. The maximum allowable transfer is "calculated on the number of dwelling units which are permitted in the zoning district to which the credit density is being transferred."34 Where more development occurs in "ST" as opposed to non-"ST" land, then the allowable transfer of density for the excess "ST" land is based on .2 dwelling units for each extra acre of "ST" land.

QUESTION: What restrictions on the land accompany the transfer of development rights?35
(1) The Audrey Moore TDR Plan: No land could be developed unless the appropriate type and number of development rights were possessed, and development would have to be in accordance with the Subdivision/Site Plan (conservational and recreational land is also required to have a Site Plan) and the Comprehensive Plan. Increase of allowable residential, commercial, or industrial density at a later date would require a revision of the Comprehensive Plan to be approved by a referendum of the people. The availability of development rights for any particular land parcel would be formally recorded in the registry of deeds.

(2) Puerto Rican Plan: If the landowner is compensated for his lost development potential then a conservation restriction will be conveyed to the Commonwealth, "stripping from his parcel in perpetuity the development rights associated with development that conflicts with the PEZ regulations." 36

(3) Growth Management Program: No land could be developed unless the developer possessed the appropriate number and type of development rights and unless that development comported with growth management regulations. This is the tool with which land development would be regulated and these regulations would be adopted as ordinances. In order to develop land, the proper number and type of development rights would be required, as well as that development being in accordance with the Growth Management Plan (GMP). The number and type of development rights would have to continuously keep pace with the GMP. Density-based rights would require distribution of additional development rights, or conversion of existing development rights to another use (e.g., converting residential development rights to commercial development rights). Converting development rights from one use to another would be based on the ratio between the number of rights each type involved in the changes (i.e., an exchange rate would be established for each amendment of the growth management regulations). Acreage land development rights would be converted from one use to another simply on an 'acre-by-acre' exchange rate." 37

(4) Buckingham Township Plan: Distribution of development rights requires that the owner of preserved land file a "restrictive covenant" on the land. Any development thereafter would be strictly regulated according to the standards pertaining to the Agricultural Preservation District as set forth in this ordinance. If the landowner wishes to sell development rights representing only a part of the entire tax parcel, then the best agricultural land must be represented by the sale of development rights first. An amendment to the Township Zoning Ordinance may provide for development within the Agricultural Preservation District not otherwise permitted. Any such amendment would among other things, have to be in accordance with the Township's
Comprehensive Plan and be approved by a majority of the voters.

(5) Town of St. George: Once development rights are sold, the land may not henceforth be developed "unless the town releases it to meet future needs." This restriction is recorded on the deed to the land.

(6) Gig Harbor Peninsula: Upon approval of the transfer of development rights by the Examiner, the accompanying restrictions on the land will be delineated on the deed. Development on the "preserved" land thereafter will be prohibited relative to the number of development rights transferred.

(7) Collier County, Florida: Transferring development rights requires that the landowner file a covenant with the Clerk of the Circuit Court of Collier County. This covenant would restrict future development of the land except when that development is in accordance with an approved development permit or when that development is in accordance with an amended development permit, which requires the unanimous approval of the Board. Under the restrictive covenant, however, certain uses would be allowed such as some recreational uses, scenic trails, surface drainage, etc.

Question: What is the involved level of government -- city, county or state? What are the specific agencies involved and their responsibilities?

(1) The Audrey Moore TDR Plan: Full implementation of this plan would require state enabling legislation. The plan itself would be administered by the county or municipal government.

(2) Puerto Rican Plan: The government of Puerto Rico would be the level of political involvement. The Puerto Rico Planning Board would be in charge of mapping both the PEZ areas and the transfer districts. The land administration would be in charge of selling the development rights.

(3) Growth Management Program: This TDR program would be implemented by the municipality.

(4) Buckingham Township Plan: The involved level of government is the Township of Buckingham. The responsibilities of this Township include: one, the creation of development rights; two, notification of qualified landowners as to the number of development rights available to them; and three, the issuance of development rights. The Township Supervisors are responsible for handling proposed revisions of the Township Comprehensive Plan and reviewing recommendations by the Planning Commission on the marketability of development rights. The Buck County Recorder of Deeds Office is responsible for recording the issuance of development rights, and these results are also filed with the Bucks County
Board of Assessors for tax purposes. The Township Planning Commission shall coordinate the procedure for "Appeal on Marketability" and make recommendations to the Supervisors. Additionally, the Township Planning Commission is responsible for conducting the bi-annual review of the TDR technique.

(5) Town of St. George: The involved level of government is the Town of St. George.

(6) Gig Harbor Peninsula: The involved level of government is Pierce County, and the primary agency involved is the Pierce County Planning Department.

(7) Collier County, Florida: The involved level of government is Collier County. The involved government agencies include the "Director and appropriate County staff," the Environmental Advisory Council, the Water Management Advisory Board and the Planning Commission. See the summary of this plan for details concerning each agency's responsibilities.

Question: What is the cost of administering the TDR program?

(1) The Audrey Moore TDR Plan: The costs of administration of the TDR program are not specifically addressed. However, revenue would accrue to the local government from the sale of development rights apportioned to public land.

(2) Puerto Rican Plan: Money needed to compensate restricted landowners as well as pay for other administrative costs would be derived from the Environmental Trust Fund, administered by the Land Administration. The funds involved would be derived from the sale of development rights (from PEZ's) plus other government appropriations and gifts. Although existing agencies would administer the TDR program, personnel within these agencies might have to be increased. The amount of funds necessary to guarantee development rights would depend on the specific type of program.

(3) Growth Management Program: The costs of administration of the TDR plan are not specifically addressed. However, there will be no need of an agency to administer TDR. The initial TDR zoning ordinance is prepared by the local planning board. Costs of preparation will, of course, be encountered, as is the case each time the board updates or modifies its current comprehensive plan and/or its zoning ordinance. If a new property valuation is needed, this will become an added cost. The recording of development rights will be like recording any land title which should not involve much of a cost.

(4) Buckingham Township Plan: Buckingham Township is under contract with Bucks County Planning Commission, which provides assistance in administering the TDR program. The Planning
Commission has notified all landowners eligible to receive development rights at a cost slightly in excess of $1,000.00. The actual administration of TDR will be one of the duties of the Township Manager and clerical staff. The costs are estimated to be several hundred dollars annually. Additional (and minimal) administrative costs will occur through the need to notify the County Recorder of Deeds and County Board of Assessment of all certificate sales and cancellations. Guaranteeing the marketability of development rights will probably be handled "by either raising densities in the development districts, increasing the area of the development district, reallocating development certificates, or any combination thereof." A less likely approach to guaranteeing the marketability of development rights would be to create a purchase fund by which development rights could be acquired. This fund, if implemented, could require many thousands of dollars.

(5) Town of St. George, Vermont: There are some legal fees involved when the town and the developers negotiate the actual transfer of development rights. The deeds of both the protected and transfer sites reflect the transfer of development rights. Actual administration of this TDR program will be at little cost to the public.

(6) Gig Harbor Peninsula: There is no mention of administrative costs.

(7) Collier County, Florida: The administrative costs of this TDR program are minimal. The reason for the minimal cost is largely due to the fact there is no marketing of the development rights (development rights are transferable only to contiguous sites under the same ownership), and the TDR program is simply administered as one part of the total zoning program. Initially some time, hence cost, was incurred by the County Planning Department in delineating the transfer sites. The County Recorder is in charge of documenting the transfer of development rights.

Question: How are the transferee sites designated?

(1) The Audrey Moore Plan: All development would have to be in accordance with a site or subdivision ordinance, which in turn would be based on the comprehensive plan. Before development is permitted there would have to be adequate public facilities available, and there could be no adverse effects on the surrounding neighbors. Development for farm, recreation and conservation use, as well as for public facilities and power lines would not require development rights.

(2) Puerto Rican Plan: The transfer district would be located where increased density is desirable, where increased density may be based on sound planning criteria, and the
market demand for the new construction is present. All three of these points will have a bearing on the type of development, whether residential, commercial or industrial. Within the transfer district, zoning will be two-tiered. There will be an as-of-right development opportunity which will not require the purchase of development rights. Allowable density development in this zone will be skewed downwards to facilitate demand for purchase of development rights. The second density level is that which may be obtained with the purchase of development rights.

(3) Growth Management Plan: There are no specifically laid-out transfer sites. Development may occur whenever the developer possesses the proper number and type of development rights as long as that development is in accordance with the Growth Management Regulations.

(4) Buckingham Township Plan: Development rights may be transferred to County, Residential, Village Residential, and Village Center Districts, as well as to Planned Industrial Districts. The extent to which increased density is allowed is specified by the performance standards set forth in this ordinance as well as the requirement that the developer possess the required number of development rights.

(5) Town of St. George: The transfer site is the central village area which the town owns. Development rights from any other property in the town may be transferred to this site.

(6) Gig Harbor Peninsula: The Examiner must authorize the transfer of residential development rights from the Natural or Conservancy-Historic areas to the "Urban," "Rural," or "Residential" sites. The Examiner’s decision as to whether the transfer is approved is based in part on the recommendations of the Planning Department and the proceedings of the required public hearing. The maximum allowable density on the transfer site is as follows: in the Urban Environment, twenty-four dwelling units per acre; in the Residential Environment, sixteen dwelling units per acre; and in the Rural Environment, six dwelling units per acre.

(7) Collier County, Florida: The "ST" parcel must be contiguous to the transfer parcel; the transfer parcel cannot have an "ST" classification; and development must be in accordance with "site and development plan approval."

Question: Who may purchase development rights?

(1) The Audrey Moore Plan: Development rights are negotiable instruments, freely transferable between individuals.

(2) Puerto Rican Plan: The Puerto Rican Land Administration would regulate the sale of development rights by direct
negotiation with the developer or through a bidding procedure. Only developers wishing to build in the special transfer districts will have any desire to purchase development rights.

(3) Buckingham Township Plan: An individual may purchase development rights in the free market. (Development rights may be transferred and used only within Buckingham Township.)

(4) Growth Management Program: Any individual may purchase development rights in the free market.

(5) Town of St. George: Any individual may purchase development rights in the free market.

(6) Gig Harbor Peninsula: Development rights are considered real property. Thus an owner of land with transferable development rights may sell them to any willing buyer.

(7) Collier County, Florida: Development rights may only be transferred to a contiguous land parcel under the same ownership.

Question: Are the development rights directly convertible from the protected land to the transfer site, or is a conversion technique needed?

(1) The Audrey Moore Plan: No conversion system would be needed.

(2) Puerto Rican Plan: Development rights are transferred in the form of dollar value. For example, a landowner may receive as a result of a PEZ designation the sum of $10,000.00. The Land Administration then authorizes and increased development premium worth $10,000.00. This development premium may then be used by the developer in a variety of ways, such as by allowing him increased in height, bulk, or other density limits.

(3) Growth Management Program: No conversion process would be needed; however, a developer would need to purchase the proper type (density or acreage) and the proper number of development rights.

(4) Buckingham Township Plan: The only conversion needed would be where development rights are to be used for the Planned Industrial District where each increase of 1,000 square feet requires .35 development rights.

(5) Town of St. George: No conversion system is needed.

(6) Gig Harbor Peninsula: No conversion system is needed.

(7) Collier County, Florida: No conversion system is needed.
EVALUATION OF TDR

The examination of the seven different TDR plans provides evidence of the many different ways TDR may be employed, and the varying objectives of each plan. For example, the Audrey Moore TDR plan proposes to replace entirely existing zoning regulations with TDR, while other plans simply consider TDR to be a supplement to existing land use management tools. The only TDR plans which have been implemented are those which use TDR in conjunction with other land use management techniques. At least for the immediate future, TDR will probably be most successful in this manner.

Factors Contributing to the Success of TDR

The success of a TDR program may be enhanced if the following conditions exist:

First, a comprehensive plan should be developed, clearly defining the goals and objectives of community development. Included in this comprehensive plan there should be a clear delineation of what land resources should be protected from development.

Second, a sound TDR program should be developed by the local planning body, preferably with the input of the general community. The TDR plan must clearly delineate that land which is to be protected from development, and this should be in accordance with the comprehensive plan.

The marketability of the development rights is an important key to the success of a TDR program, and a major requirement therefore is that there be an adequate development demand.

The overall success of TDR will be enhanced if state enabling legislation is passed for the use of TDR. Passage of enabling legislation will help prevent legal controversies concerning the
the programs' statutory authorization and constitutional validity because enabling legislation can clearly provide municipalities with the power to implement TDR programs. The New Jersey General Assembly has passed enabling legislation for its development rights act. Other TDR proposals, such as the Audrey Moore TDR plan, and the Growth Management Program, suggest the passage of enabling legislation prior to the implementation of the proposed TDR programs.

Disadvantages of Transferable Development Rights

Based on a review of the literature, and some proposed and implemented TDR plans, it is apparent that there are legal, political, and administrative problems which may plague future TDR programs.

For example, a factor which is basic to the success of any TDR program is the actual transferability of development rights. In order for a TDR ordinance to be considered a reasonable application of the police power, it may be necessary to assure an adequate market demand for the sale of development rights at a reasonable price. If a landowner cannot be reasonably certain of this, then TDR may be considered a "taking" by the courts.

The successful transfer of development rights may in turn cause another legal issue. Usually density levels are set according to existing conditions. These conditions include such considerations as existing public facilities, transportation factors, noise, etc. However, TDR encourages increased density for the purpose of marketing development rights only. The successful TDR program will require that increased density be based on sound planning criteria.

TDR programs may require considerable time, money and effort to become operational. The administration of TDR programs by local planners who typically operate on tight budgets may therefore prove difficult.
The political problems which may arise from utilizing TDR programs may prove great. Under general examination the broad concept of TDR is likely to hold up under legal scrutiny. However, because TDR programs are an overt and obvious separation of land ownership from development rights, there may be adverse public reaction to such programs. Therefore a significant limitation in using TDR will probably be the difficulty that arises in trying to educate and inform the public as to how TDR works and what it has to offer.

**Advantages of TDR**

Among the advantages of TDR is that it may be used to insure timely and orderly growth, as the Audrey Moore TDR proposal, the Growth Management Program, and the use of TDR in St. George, Vermont all illustrate.

Secondly, TDR may be used to regulate and locate development by specially designating certain areas as transfer sites for increased development. (The location of development may be directed by having the local government provide water and sewage treatment facilities where development is to be encouraged.)

Another advantage of TDR is that the land is taxed for its use, not its development potential, thus discouraging the conversion of undeveloped land.

The single greatest advantage of TDR is that it provides a means to compensate a landowner for his restricted use of his land, while allowing that land to remain protected, productive and under private ownership.

**CONCLUSION**

Preservation of land is a controversial issue. The issue is
often not whether the land should be protected, but who should pay for the protection. TDR is unique among the various tools of land use management, because it provides a means to fund resource protection within the private market system.

Because there has been little actual use of TDR for the protection of natural resources, it is premature to judge the utility of TDR at this time. Based on a review of the literature, and some proposed and implemented TDR plans it is apparent that there are certain legal, political, and administrative problems which plague many TDR proposals. The extent to which these problems are ironed out will ultimately determine the overall success of TDR in protecting natural resources.
FOOTNOTES


3 Carmichael, op. cit., footnote 1, p. 36.

4 Attempting to weigh the rights of the individual with the broader rights of the public is a difficult task even for the courts to undertake. A good discussion of this dilemma is found in: J.G. Rose, "The Courts and the Balanced Community: Recent Trends in New Jersey Zoning Law," American Institute of Planning Journal, July 1973, p. 270. In this article Rose states that New Jersey Courts have "held zoning ordinances restricting the use of land for flood-detention purposes to be invalid because it constitutes the taking of land for public purposes without just compensation." Conversely however, Rose points out that courts are placing increasing importance on ecological considerations: "The courts in Massachusetts and Wisconsin have upheld the validity of laws that prohibit the draining, filling, and dredging of wetland even though the owner is thereby prevented from developing his land."

5 Anderson, op. cit., footnote 2, pp. 66-81.

6 J.G. Rose, op. cit., footnote 4, p. 270.


9 R.A. Shellan, op. cit., footnote 8, p. 453.


13 Costonis, op. cit., footnote 12, p. 55.


21 Carmichael, op. cit., footnote 1, p. 62.

22 Carmichael, op. cit., footnote 1, p. 62.


24 A. Moore, Transferable Development Rights, (Fairfax County, Virginia: prepared by A. Moore, Supervisor, Annandale District, Fairfax County, Virginia, 1974), 22 pp.


29 Bucks County Planning Commission, Buckingham Township Zoning Ordinance, March 6, 1976, 133 pp.


31 Development Regulations for the Gig Harbor Peninsula, pp. 210-7 to 210-10.
32 K.C. Clayton (Extension Resource Economist) personal correspondence including information on special regulations for the use of TDR in Collier County, Florida; and N.J. Spagna, "Can 'ST' Save Colliers Unspoiled Lands?" in Florida Environmental and Urban Issues, May-June, pp. 4-6.


34 Clayton, op. cit., footnote 32.

35 Some TDR plans are designed to protect land through the use of easements while other TDR plans use deed restrictions or restrictive covenants. The reader should be aware of some of the basic differences between easements and restrictions.

An easement allows the use of land without actually having possession of the land or taking anything from the land. An easement is legally binding, and is usually a permanent written contract. The easement usually applies to subsequent owners of the land and cannot be revoked.

Whereas an easement is a non-possessory use of land, a deed restriction is a clause within the deed which limits the use of property for a given period of time. Deed restrictions provide additional limitations on the use of property over those provided by public regulations such as zoning ordinances. Deed restrictions may provide regulations governing such things as the cost of houses in a subdivision, the architectural design of houses, and setback lines.

The enforceability of a deed restriction is less certain than that of an easement. The impetus to initiate enforcement of a restriction is left up to the private landowners. As a consequence, the time and expense of legal action may be prohibitive. However, even if legal action is taken, the courts may be unwilling to enforce a restriction if there has been a character change or zoning change in the neighborhood; or if there have been numerous other violations of this restriction.


36 Costonis and DeVoy, op. cit., footnote 27, p. 203.


39 Clayton, op. cit., footnote 32.
40 J.J. Costonis, personal correspondence with author, September, 1975.

41 B.B. Chavoshian, personal correspondence with author, September, 1975.

42 W.C. Evans (Community Planner), personal correspondence with author, September, 1975.

43 Evans, op. cit., footnote 42.

44 A.J. Beliveau, personal correspondence with author, October, 1975.

45 Clayton, op. cit., footnote 32.

46 Carmichael, op. cit., footnote 1, p. 105.