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Impressions on the Marketability of TDRs

By James A. Graaskamp*

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Transferable development rights are expected to provide economic compensation to those who must forego the development potential of a site to conserve landmarks or open space. In a larger sense, TDRs are expected to distribute the wealth created by planning decisions to those who incur economic hardship as the result of public restrictions on use. For these transfers to occur, the development rights, however defined, must have some marketability and a market price. The current interest in the transferable development right may be the first time that planners have faced directly the ethics in the inter-relationship between spatial allocations by the planner and the creation or destruction of wealth for individual owners.

At the University of Wisconsin real estate is defined as artificially delineated space of any kind with time as a fourth dimension. The space frame may be defined by pylons on the Nile, structures of wattle or geodesic frames, or condominium plats at Lake Tahoe. To these space frames various attributes are added such as air conditioning, roads, styles and landscaping. The time dimension is defined by deed or lease. This real estate space-time product is an interface of land (an exhaustible public resource), manufactured improvements and services, and cultural preference expressed through public regulation and market transactions. The real estate business is the conversion of space-over-time to cash-flow-time and involves the interaction of three cash cycle enterprises, a consumer, a producer, and a government entity. Sound real estate in the social sense occurs where the product permits each actor or enterprise cash cycle solvency at the minimum and hopefully a cash surplus to justify the allocation of resources. The business of real estate is the conversion of space-time for money-time and therefore the transferable development right strikes at the essence of the relationships between public planning decisions and private expectations relative to land use.

Since the planner has never understood money, the TDR has appeal as a special scrip or street-car token which can be printed right in the planning office. This new coin of the planning realm to have free marketability must have a number of qualities:

- It must be scarce enough that it is not virtually a free good.
- It must have readily understood standard definition to be a fungible or exchangeable commodity.
- It must have statistical market of sufficient buyers and sellers to establish a negotiated price, preferably day by day or week by week over the counter.
- It must have broadly distributed ownership of the surplus to prevent monopoly or monopsony, a situation in which one buyer controls the market of many sellers. Of course, a free market may be an anathema to the planner but that is ahead of the story.

Before examining some considerations of a market model for TDRs, it is first desirable to define the base unit, the fungible module to be traded in the market place. There is no real consensus on what this unit should be; in my mind, the units which have been suggested should be discarded.

First, assessed valuation which has been suggested as a base for distribution of development rights is the worst possible standard. Fair market value itself is a statement about future productivity which depends on a set of assumptions made under conditions of uncertainty, a future even more uncertain with the advent of intensive land-use controls. Moreover, fair market value as used and recorded by assessors is drastically inequitable as a tax and therefore would be scarcely equitable as a base for defining TDRs. Indeed, reform of our present tax proration system should be a part of any improved system for land-use control.

Second, the Chicago Plan and other which have related to floor-area ratio (FAR) zoning limits as a measure of commercial development potential have been suggested. This standard could not be expanded to deal with improvements which did not have floors such as oil refineries, open space areas, or unusually shaped structures like theaters, banks, and fried chicken stands.

Third, those who relate TDRs to number of dwelling units presume the land-use development problem is unique to suburban land and residential neighborhood. Nevertheless the range of applications already demonstrated suggests a more universal standard for TDRs is desired.

Finally, cubage is closer to the essence of real estate as a space-time product and is fungible for any particular land use including dwelling units, office space, custard stands or refineries. Cubage could be defined as a cubic foot or a cubic meter, if we would anticipate other reforms now under way. Moreover, since environmental disturbance of land is the consequence of any form of improvement, why not attach one attribute to this space-time frame for TDRs, that is 1/10 of a square foot or square meter of impervious surface is permissible for every cubic TDR. It would then be possible to require the highway department, the airport people and the tennis court crowd to buy their development cubage rights, too, perhaps from open space owned by the Sierra Club.

Assume for the moment then that the universal fungible unit of all TDRs is one cubic foot with the single environmental limit of 1/10 of a square foot of impervious surface, name it the cubit, and what follows is the new land economics of "cubernetics," a three dimensional chess of windfall, wipeout, and public welfare, to replace the older Parker Brothers version of Monopoly.

In structuring a marketing model for cubits, the planner undoubtedly will want to have a part in defining the basic objectives of all such transactions. Critical issues of the market structures are those which define how many cubits

*University of Wisconsin School of Business, Madison, Wisconsin.

each property owner receives for openers, who is to receive the money for sales, who pays the grantor of cubits, who is eligible to be the federal reserve bank of cubits, and when and if Milton Friedman should have the right to inflate periodically the available supply of cubits. Resolution of these basic issues depends on how narrowly or broadly one conceives of TDRs as a tool for planning, a function of the political psychology required to lead legislators down the primrose path of TDRs a step at a time. TDR would benefit:

- Landowners who accede to socially desirable things like creating green space, plazas for lunch, landmark conservation, or downzoning.
- Those who forfeit without recourse development expectations and potentials due to zoning classification within a larger master plan.
- Those who possess undeveloped land with appropriate physical suitabilities but whose plans are out of proper sequence with the tempo or urban development or with the priorities of public policy.
- Individuals or government entities denied growth benefits as part of a regional land-use rationing system such as the California Coastal Zoning system.
- All property owners, private and public, to the degree that public land-use controls diminish their expectations and alternatives in relation to those which they enjoyed as of some specific date.
- All property owners, private and public, correlated to the number of existing improvements and potentials for land as defined by a public agency as of specific date.

It has been suggested that the TDR is a compensatory device with payment in kind instead of in cash, as is presently required for eminent domain and inverse takings of any kind. For example, funds would flow:

- From government to government where one community, as a result of regional land planning decisions, benefits at the expense of another in terms of economic base or assessment base.
- From government to those who have been adversely affected by exercise of the police power which constitutes a taking of property.
- From developer to a public bank of TDRs so that the public can enjoy a portion of the wealth created by planning decisions to permit an increase in permissible densities or unit capacities.
- From developers of sites suitable and zoned for development to landowners whose sites are economically unsuitable or not zoned for development.

These varying degrees of participation and of definition for the territory of the marketplace reflect both a philosophical issue as to who owns "development potential" and a technical problem as to what degree that potential already is scarce commodity with economic value which could be increased for any one property owner without an adverse impact on the quality of life influenced by the site. The Wisconsin Supreme Court¹⁶ has suggested that development potential as yet unrealized is a public asset that ought to be allocated in the public interest. The

public would own all development potentials and could sell cubits at some stated price; the proceeds would be divided by formula among all the governments within the purview of the regional land plan. On the other hand, if one subscribes to the theory that TDRs permit simply the detaching of development rights from existing private property, then any property owner would be eligible to receive payment for his unused cubits. As a free enterpriser who interfaces land as a public resource, I would like to follow the latter thesis and set up a market for universal cubits applicable to highway builder and rugged conservationist alike. As a real estate professional, one must adapt and buy low or sell high any little thing planners choose to give for merchandise.

To create a supply of development potential defined by cubits, cubits which can be detached or transferred to other private parcels, it is first necessary to create a supply for the marketplace. Assume for the moment a cubit is a cubic foot; then every landowner in the county would be given a supply of cubits equal to ten times the square foot ground area of their parcels plus the cubits necessary to equal cubic footage of all existing structures as of a certain date. Government owned land as well as street right-of-ways, single family lots, and skyscraper office buildings would all receive their allotment of cubits. All God's children owning land would have cubits to define their development potential. For a time government would work from plats and aerial photos to determine the cubit assignment for each property but as each owner became concerned with a verified measure of his cubits, he would undertake the expense of paying a licensed surveyor to measure it more precisely than the government. This supply of cubits for any one site should be less than is required for anything other than agriculture or single family detached homes, so that other developments would generally require the purchase of cubits in order to proceed with improvement.

To have value cubits must enjoy economic scarcity, even an artificial one, such as diamonds or gasoline. Public planners can profit from the lesson taught by the petroleum industry, which sells land resources by the gallon instead of by the cubit. Rather than permit the planners to forecast the annual demand in cubits, the alternative would be to distinguish suitability of a site from capacity of a zoning envelope needed to build the appropriate use for matters of zoning. Therefore it is proposed that a county undertaking a cubit approach have a master plan for land use which reflects the suitability of sites for uses consistent with certain community goals (such as conservation of prime agricultural or concentration of high density development to facilitate public transit) and physical land attributes (such as soil, and water table). Codes would establish the minimum cubits, or density (HT.), required for various land use, perhaps something like this:

1. Marsh land, bluffs, and other low utility open spaces such as privately owned storm water swales or golf course fairways in excess of a minimum of 20 per cent of a contiguous parcel. (HT. #1)
2. All easements and road right-of-ways (HT. #4)
3. Agricultural land low productivity (HT. #4)

16. *Just v. Marinette County*, 201 N.W. 2d 761 (Wis. 1972).

Agricultural land average productivity (HT. #6)
Agricultural land high productivity (HT. #8)

4. Residential land
 - a. Single family detached home sites (HT. #20)
 - b. Multifamily 2-3 D.I. per acre (HT. #30)
 - c. Multifamily 4-10 D.U. per acre (HT. #40)
 - d. Multifamily 10.1-17.0 D.U. per acre (HT. #60)
 - e. Multifamily 17.1 D.U. per acre and above (HT. #80)
5. Government or private land utilized for the public interest such as all types of schools, churches, and other eleemosynary institutions, officially designated landmarks, or significant and officially designated limited use open areas such as scenic easements, or urban plazas in excess of 15,000 square feet (HT. #10)
6. Commercial-retail land
 - a. Permissible FAR of 1.0 or less (HT. #40)
 - b. Permissible FAR ratio 1.0-3.0 (HT. #60)
 - c. Permissible FAR greater than 3.0 (HT. #80)

7. Industrial, transportation, and mining lands (HT. #30)

No property owner would be allowed to sell cubits if he has less than is required by his zoning classification. Notice that the master plan reflects physical suitability while the minimum cubits to make a site ready for capacity development are in excess of those granted to each parcel owner. Since cubits were originally awarded for the cubage enclosed in existing structures at the time the law would go into effect, a developer could buy an old building and demolish it to gain the cubits while the public would be thus helping to discourage encroachment of new construction on raw land. In addition to the cubits required to provide suitably zoned land with capacity for a building permit, the developer would also have to own cubits equal to the cubage in the building plus any impervious surface area in excess of 10 per cent of building cubage. This constraint would promote conservation of building materials by creating some small incentive, depending on the market price of cubits, for smaller buildings. Of course there is always the danger that the price of cubits would go so high that building owners would design six foot ceiling heights and provide four levels of hammocks to reduce sleeping room cubage.

Given a supply and a demand, what kind of transactions could then take place? Certainly a cubit exchange commission (CEC) would be needed to establish transaction rules, and to police the market, but there are more serious questions in creating a fungible commodity such as a transferable development right or cubit. All the economic institutions and tactics that characterize fungible commodities such as grain or pork bellies could appear, but unlike foods with a short storage life and future supply input from crops, TDRs would have an indefinite future life, and, since real estate is in fixed supply, monopoly value would grow with the century as population pressures and food shortages mounted. By analogy many of these possibilities have some undesirable byproducts of a futures market.

First, the smaller the region defined for a given TDR

market area, the easier it might be to corner the available floating supply of development rights.

Second, at the initial outset of the program, there would be no knowledgeable buyers and sellers and little information as to the economic value of a cubit. How would a farmer in the hinterland know the marginal value of cubits to make a knowledgeable sales price decision to an office building developer at a preferred urban location? At the same time the poorest landowners would have an immediate incentive to dump their surplus cubits for a little hard cash, depressing the immediate price level and permitting the concentration of cubit control among those with less need for liquidity and more concern for long term futures.

Third, freely detachable cubits would be a fantastic estate transfer device because they could be acquired at a low cost and would have relatively low market value or holding cost in the near term and, therefore, a low value for estate taxes. Only later, as the heirs reached financial maturity, would the monopoly value of their cubit inheritance be realized fully.

Moreover, as construction volume or community growth trends shifted with interest rates and economic events, TDRs would be incredibly volatile, analogous to warrants or options on development opportunities within a microarea. There are other analogies which could be found in crop allotments for government supported farm goods, water rights to a rancher, gallonage allotments in an irrigation district, timber stripping when stumpage value exceeds purchase price of north woods land, and so on.

Finally, given a futures market, could one buy an option (call) in a national market on a development right in a particular locality and could one buy a "put" (right to sell at a predetermined price) to hedge against a locality changing their cubit codes?

Almost all of these damages are possible when a TDR is freely detachable from actual land ownership and available for purchase by absentee speculators. Therefore, in my opinion, several constraints should be imposed on the free marketability of TDR cubits.

First, a development right must always be attached to a parcel of land within the planning region, just as easement serves a dominant estate at the expense of a subservient estate. To own TDRs, one must own land and the total cubits attached cannot exceed the capacity required by its zoning plus the cubits required for an approved improvement plan. The only exception would be ownership by a quasi-government cubit bank.

Second, a government land or cubit bank should be established by the planning region to stabilize an orderly transaction market in cubits, perhaps establishing a minimum price from time to time, as well as recording all cubit transactions. In addition, governments owning surplus cubits could sell through the cubit bank. Such an institution to regulate the tempo and traffic in development rights could introduce a variety of regulatory complications:

- Does every landowner receive a coupon book as in food rationing where different colored stamps become saleable at different times?

- Should there be a half-life on development rights once they are detached from the land so that a stockpile of accumulated development rights would evaporate if they were not used to construct actual developments?
- Would the planners periodically announce special bonus coupons for the rehabilitation or destruction of slum areas or old-style industrial plants?
- Would the vacillations of the futures market lead to government support of price levels or land banking of development rights?
- Would there be interplanning district pooling at the government level to avoid short-term shock impact on an individual district's supply of floating development rights? This would be analogous to pooling and reinsurance between actuarial classifications for fire or earthquake premiums which failed to anticipate losses beyond a certain level of probability.
- Should there be counseling of sellers to protect against exploitation of those in need of cash?
- Real estate potential would be measurable, divisible, liquid, and mobile as it never has been before.
- The windfall, wipeout, and welfare tradeoffs of planning decisions would have a benchmark for economic cost benefit analysis.
- All land-use decisions would have a common denominator and constraint requiring careful optimizing by public agencies as well as private enterprises.
- A device would be available to provide compensatory transfers among property owners and among government entities for land-use decisions which was never before possible.
- Economic incentives would be available to encourage desirable public goals such as landmark conservation and open space with equity to the private property owner. The real estate tax negative incentives could be rifled and the tax more broadly distributed and efficiently administered if it could abandon, in part, the fictional scenario of highest and best use appraisal for development land.

Another constraint which should be imposed on the free marketability of TDRs is this: real estate tax should be shifted, in part, to cubits. Assessors fail most consistently to measure the "fair" market value of land. For example, assume that 30 per cent of the community's tax base is represented by land values. Therefore, the tax law could permit 30 per cent of revenues raised from the real estate tax to be generated from all the cubits in a tax district including all the currently exempt church, government, and school owned land—which currently remain exempt primarily because no one knows how to appraise these properties. The balance of tax revenues would be assessed against cost of acquiring the improvements and the land, less an arbitrary percentage established by statutes for the value contribution of the land. There is no legal reason why real estate taxes cannot be prorated by cubits rather than value as long as the system is uniform.¹⁷

Finally, there should be a transaction cost on all cubit transfers which would go into a state pool to be redistributed in inverse proportion to the cubit transactions in each community in a state in order to provide some modest compensation for regional land-use rationing.

Naturally, all of these problems and implications may frighten legislators and voters from consideration of TDRs. Like other modeling devices, it would probably work best where it was kept simple and controlled by a local land bank with both government and private representation on its board of directors. The marketing of cubits should be a power clearly separated from the planning function. It should then be possible to build a workable system with all of these immensely desirable and heretofore unavailable benefits:

Certainly all of these beneficial features would justify the cost of designing a workable marketing structure for TDRs which would not have all of the characteristics of a fungible commodities market.

One other economic aspect or irony in the logic of planners advocating TDRs intrigues me. Back in 1947 Ratcliff wrote that in the ideal sense the function of the planner is to reduce the cost of friction, and other marginal surpluses that give rise to differential values, to zero so that all land in a region would be equally valuable. Having failed to do that, the planner now wishes to declare by statute that all land within a district is equal in potential and therefore in value. On another point, planners have always longed to tax the incremental value of land on the theory that it was an unearned return due to the propensity of people to multiply and of government to provide services not fairly costed to the beneficiaries. Since no one yet has discovered an accounting method which would measure the incremental value to be taken from a land tax, why not have the developer set the tax on himself by making him bid for his development potentials, just as he now bids for mortgage futures in the Fannie May auction? Not only will that distribute the present incremental value but it will provide a base for an immediate ad valorem tax on the development right long before the community could expect to tax the land at highest and best use. Until now the planner has felt impotent because voters did not perceive any immediate vested interest in what the planner had to say. If the planner could create his own pseudocurrency called development rights, a very large constituency of nondevelopers would have a vested interest in supporting the value judgments of the planner at the expense of the developer and consumers who come later. What an interesting way to buy voting power!

17. For an expansion of the fallacies of market value and an alternative tax system compatible with TDRs, see "A 'Uniform' Process of Preferential Real Estate Tax Assessment in Wisconsin," by J.A. Graaskamp, unpublished.