# VALUE CAPTURE AS A TOOL IN TRANSPORTATION:

# AN EXPLORATION IN PUBLIC FINANCE

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by

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# EXECUTIVE SUMMARY

Value capture is a means by which to finance capital infrastructure, particularly transportation services, in ways that allow for efficient economic performance, simple administration, financial justice, and social facility. Because American society needs to find new means to finance transportation capital investment, particularly public transit, value capture offers an opportunity, essentially painless to participants, to achieve these goals.

This study shows how value capture could have been used to finance a portion of the New York State Interstate Highway System, a nine-mile stretch of I-87 known as the Northway, from its southern terminus to the point where it crosses the Mohawk River in Albany County. It is the most heavily travelled section of the Northway and has experienced the greatest contiguous development of any location along its 178 miles since its construction in the late 1950s. While this short stretch of the Northway's right of way and construction costs were in the range of ___ (current dollars), the additional land value that has been generated on its account only within two miles on either side has totaled $3.668 billion. What this study shows is that the capital finance of the Northway, at least in this area, could easily have been done by recapturing the windfall gains that fell to private landowners. That added value, the direct result of public investment, should, one could argue, rightfully be returned to the public. It should be recaptured to pay off the bonds that were issued to build the project, rather than be left to opportunistic speculators to reap private gain. Value capture therefore offers a promising approach for funding future transportation development, leaving fees, that are presently used, to recover operating and environmental costs.

## Introduction

This study explores how a large infrastructure investment in the Capital Region of New York State might have been financed with greater effect and benefit than the method that was used. As with every bit of the Interstate Highway System, the chosen method, established at its inception in the 1950s, was the Highway Trust Fund, which relied upon motor fuel revenues to support both capital and maintenance costs. The cost shifting and the diversion of burdens which this approach entails has resulted in a transportation system that has been expensive, inefficient and unbalanced. An alternate approach would have been to employ a method known as value capture. It would have better balanced costs and benefits and also discouraged the over-consumption of infrastructure and land that we have witnessed under the existing approach.

Although the interstate highway system is essentially complete and the only further costs involved for the most part will be in its maintenance, value capture offers a convincing approach in ensuring that it will remain adequate to serve motor vehicle needs for the indefinite future. This can be done by the inducement it offers to capitalize on the land value created in the vicinity of the access and exit nodes, and the discouragement it imposes on speculators to continue holding their parcels off the market in expectation of future gains. Indeed value capture can be an attractive means for the capital finance of future enterprises and infrastructure, particularly if the public elects to build transit projects to complement and redress our current over-reliance upon private motor vehicle use. The record shows that the illustrations of value capture applied to date have been in the finance of public transit systems, not for highway service.[1] But it can work for many infrastructure projects.

## Value Capture Defined

Value capture, most simply defined, is the means by which capital infrastructure investment is financed through means of "capturing" either some or all of the added value of real property that results directly from that investment.

Value capture in transportation investments works in two ways:

1. Insofar as infrastructure investments are capitalized in land values in the vicinity of stations or gates by improved accessibility, those values can be recaptured as "rents" put at the service of debt, and even perhaps for operating expenses, in support of the service provided.
2. The higher rents on land values in the proximity of the services serve further as an incentive to development density. This occurs because landowners seek to recover their investments, pressed by the immediacy of the rents, rather than holding them for speculative gain.[2]

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[1]See notations *infra* in regard to Lindenwold (Philadelphia), Washington *Metro*, Orange County (New York), and the Singapore Underground.

[2]Under current practices the selling price of land balloons immediately after projects are announced because future rents are expected to increase. Rent is the present value of expected future net rents; the land value is now a function of expected rental value in the future. If half the rent is taxed, then half the future rents

Value capture is an old idea, which has been given this new name by the US Department of Transportation as it explores innovative approaches to infrastructure finance.[3] It can be traced in the theories of public finance to the work of the 18th century French physiocrats.[4] In the past century the approach compares closely to the thinking of Henry George and his followers.[5]

There are now enough cases where value capture has been employed to finance infrastructure that there is no longer doubt about its merit.[6] As conventional approaches to capital finance are found to be wanting and are exhausted or discarded, value capture represents a tried and true method of both public infrastructure finance and an incentive to further sound growth. In a word, value capture becomes an effective engine to its own further development.

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are taxed, and the present value of the land will be half the pre-tax value. So a tax on the land value is still equivalent to the tax on the rent. The relationship between the amount of rent taxed and the rax rate on the land value is: $x = t/(i+t)$, where t is the tax rate on the price of land, x is the percentage of the rent that is taxed, and i is the real interest rate after deducting inflation.

[3]Walther, E, Hoel, L.A, Pignataro, L.J., Bladikas A, *Value Capture Techniques in Transportation.* Final Report, Phase One. No. DOT-T-90-11, Washington DC: US Dept. of Transportation Program of University Research, 1991.

[4]See *The International Encyclopedia of Social Sciences*, Joseph Spengler, "Physiocratic Thought, Vol. 4, pp. 443-445.

[5]Henry George (1839-1897) was most famous for his book *Progress and Poverty*, which argued that taxing land according to its value instead of labor or capital would be both more just and more economically efficient. For an overview of Georgist approaches to taxation, see Richard W. Lindholm and Arthur D. Lynn, Jr. (eds.) *Land Value Taxation: The Progress and Poverty Centenary*, Madison: University of Wisconsin Press, 1982.

[6] Among the significant studies on the merits of value capture as an approach to infrastructure finance are the following: B. Allen, Value Capture in Transit. *Journal of the Transportation Research Forum,* Washington DC, Vol. 28,(1987), pp 50-57; B. Allen, K. Chang, D. Marchetti, & J.Pokalsky, *Value Capture in Transit: The Case of the Lindenwold High Speed Line*, Final Report # PA-11-0031-86-1, UMTA, US Department of Transportation and Philadelphia: University of Pennsylvania, 1986; D. Callies, "A Hypothetical Case: Value Capture / Joint Development Techniques to Reduce the Public Costs of Public Improvements." In *Urban Law Annual.* St. Louis, Washington University School of Law Vol. 16 (1979),. pp 155-192; R. Cervero, P. Hall, & J. Landis, *Transit and Joint Development in the United States,* University of Calif. Berkeley, Institute of Urban and Regional Development, 1993; Monograph 42; R. Cervero, *Rail Transit and Joint Development: Land Market Impacts in Washington, DC and Atlanta. Journal of the American Planning Association, Vol.* 60(1994), Number 1, pp 83-94; G. Johnson, L.A.Hoel, *An Inventory of Value Capture Techniques for Transportation.* University of Virginia, Charlottesville, VA, 1985; W. Rybeck, Assisted by Wade J., and Josephs, R. *Metrorail Impacts on Washington Area Land Values.* Subcommittee on the City Committee on Banking, Finance and Urban Affairs US House of Representatives , 1981; C. Sharpe, *Value Capture and Joint Development Applications: Chicago/ Louisville/ Los Angeles.* Rice Center for Community Design and Research. Report No. DOT-TST-77-72, US Department of Transportation. Houston, TX, 1977.

Using a tax on land values that benefit from particular capital investments satisfies all the virtues of sound taxation theory.[7] Unlike finance methods that rely directly or indirectly on income, sales, or franchise taxes, a levy on land correlates well with benefits received, and is likely to be stable, simple, administrable, progressive,[8] and, most of all, efficient. It is efficient because it is economically neutral; that is, it imposes no distortions on economic choices because land, particularly strategically located land, is limited in supply—in economic terms, inelastic. Whereas operating costs are frequently better financed from user fees that also employ the benefit approach, capital development costs are reflected in good part by location, and the resulting added value can be recaptured at the same rate that bonds financing projects are amortized.

Experience in other nations shows that the extent to which land can sustain tax burdens is considerable, depending on the economic growth and development pressures of a region.[9] Within walking distance of commuter rail stations, for example (typically about ¼ mile), the land values may increase as much as 25 percent as a direct result of public investment in transit. Rather than permitting this windfall resulting from public investment to redound to the private landowners, land taxes in the form of value capture instruments can easily recoup the typical debt of projects.[10] Depending upon the planned density of the land use for commercial or residential purposes, the return can even be higher.

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[7]For a discussion of what students of tax policy regard as the principles which should guide their design, see, for example, George Break, "Taxation," *Encarta Encyclopedia* by Microsoft, 1993; "Principles of Taxation, in Light of Modern Developments," Washington: *Federal Tax Policy Memo*, The Tax Foundation; "Principles of a High Quality Revenue System," *Tax Notes*, March 21, 1988; and David G. Davies, *United States Taxes and Tax Policy* (New York: Cambridge University Press, 1986), pp. 17-19.

[8]Many people are under the illusion that taxes on real property are regressive. The consensus of students of fiscal policy is that this is not so, although comprehensive studies have not been done. See, for example, Harvey S. Rosen, *Public Finance*, 2nd Edition (Homewood, IL: Irwin Press, 1988), pp. 483-489; Mason Gaffney, The Property Tax is a Progressive Tax," *Proceedings*, National Tax Association, 64th Annual Conference, Kansas City, 1971, pp. 408-426. [Republished in *The Congressional Record*, March 16, 1972: E 2675-79. (Cong. Les Aspin.) Resources for the Future, Inc., *The Property Tax is a Progressive Tax*, Reprint No. 104, October, 1972]; and James Heilbrun, "Who Bears the Burden of the Property Tax?" in C. Lowell Harriss (ed.), *The Property Tax and Local Finance* (Proceedings of the American Academy of Political Science, Vol. 35, No. 1 New York, 1983), pp. 56-71.

[9]Nicolaus Tideman (ed.) *Land and Taxation*, London: Shepheard-Walwyn, Ltd., 1994, *passim*.

[10]A feasibility study of the Washington *Metro* in 1980 showed that conservative interpolation of the findings to all completed stations, as well as an accounting of the increments in value that were being recorded along much of the 101-mile system in advance of construction, made it evident that the growth in the Metro-induced land values easily exceeded $3.5 billion, compared with the $2.7 billion of federal funds invested in *Metro* up until that time. See Walter Rybeck, "Transit-Induced Land Values: Development and Revenue Implications," *Economic Development Commentary* (National Council for Urban Economic Development), Vol. 5, No. 1 (October, 1981), pp. 23-27.

Much of the projected return on investment necessarily relates to the demand for development in a region. In regions where projections show substantial in-migration, the demand for housing is typically reflected in increased land values. But increased housing development does not need to mean commensurate increased land use. The attractive ambience of "walkable" communities may engender still higher growth levels, precisely because they accommodate human beings rather than motor vehicles. Fixed guideway systems, for example, financed through the value capture approach can channel development pressures to narrowly contained areas in contrast to conventional sprawl patterns typically found in commuter communities.[11]

Development along these lines can occur in one of two ways: either as joint development (wherein significant capital finance is likely to be required concurrently "up front") or by induced development through such mechanisms as incentive taxation and "value capture." Creating a heavier tax burden on landowners in a defined region exerts a downward pressure on price, thereby inducing greater incentive for investment and opportunities for development. Many students of incentive taxation argue that the full limits to which such taxes can be imposed are unexplored, and that they offer great promise for the economic enrichment of a region.[12]

Background of I-87 Development: the "Northway"

In the 1950s the land on the western edge of the city of Albany, New York, was largely farms. In fact it was some of the best farmland in Albany County and even in the State of New York, because it was at the confluence of the Mohawk and Hudson Rivers, largely flat alluvial terrain. But the construction of the New York State Thruway, finished in the late 1940s, had already influenced the pace of suburban development in the area, and post-war prosperity and the boom in families further spurred the growth of housing on what was, by city standards, cheap land.

The National Defense Highway Act of 1956 created the Interstate System and a route from Albany to Montreal Canada became a key part. The New York State Thruway from New York City to Albany became Interstate 87, and I-87 continued north from there on to Montreal as the Thruway turned west to become Interstate 90. Construction of the Interstates affected the region profoundly. Albany and the larger Capital Region became a major transportation hub. Saratoga County to the north had receded in importance with the decline of rail service, despite

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[11]A study proposing just such a project, intended primarily to respond to projected population increases over the next few decades, has been done under contract with Orange County, New York: *2020 Vision: A Transportation Plan for Orange County, New York.* See also Phillip J. Shinbein and Jeffrey L. Adler, "Land Use and Rail Transit,"
*Transportation Quarterly*, Vol. 49, No. 3 (Summer, 1995), pp. 83-92.

[12]Steven Cord, "How Much Revenue Would a Full Land Value Tax Yield?" *American Journal of Economics and Sociology*, Vol. 44, No. 3 (July, 1986), pp. 279-294. Lists of publications on incentive taxation in its various forms are available from The Robert Schalkenbach Foundation, in New York City, The Center for the Study of Economics, in Columbia Maryland, and The Lincoln Institute for Land Policy, in Boston, Massachusetts.

its attraction for thoroughbred racing and gambling. But during the 1970s and 1980s it became the fastest growing county of the State, a suburban community servicing Albany, the seat of government, Schenectady, the home of General Electric, and Troy, the home of Rensselaer Polytechnic Institute. Saratoga County epitomized the development of residential sprawl, while the downtowns of Albany, Schenectady, and Troy across the Hudson River floundered. By the mid-1990s these three cities were suffering major financial problems on account of their declining commerce and industry, while the suburbs flourished. Figure 1 shows the area of the Northway discussed in this monograph.

The center of capital development and the major area of economic activity shifted to the lands close by the Interstates, especially the Northway. Enormous retail shopping centers and office parks lined up on either side. Parallel to the Northway was Wolf Road, formerly a farm road, which now became Albany County's "million dollar mile." Exaccerbating the problem further was the fact that it was located just outside Albany city limits in the unicorporated Town of Colonie, allowing it to take full advantage of the lower taxes than the city exacted.

This page reserved for Figure 1: map of Northway area discussed.

The development alongside the Northway was robust but was also haphazard. The Northway needed a third lane in the early 1990s, something never initially contemplated, and it is already beyond capacity to serve traffic during rush hour. Even Wolf Road became at times so crowded with traffic that some businesses, and even agencies of New York State government, elected to move elsewhere.[13] When transportation engineers were asked to do forecasts of what additional development would mean for traffic volume, they had to recommend that the project permits be declined.[14] Meanwhile, title holders to lands contiguous to the Northway access points saw their properties soar in value. Sometimes the luck fell fortuitously to farmers; others' fortunes were a result of speculative calculation, frequently a consequence of insider knowledge of where the roads were to be built. Adding to the challenge of planners is the fact that the Albany County Airport, which serves the entire Capital Region, is less than a mile away and local roads must respond to the traffic generated on its account. As this is written in 1997 the airport is undergoing major expansion, and traffic at times exceeds capacity. But as yet the region has not seen such congestion that it has adversely affected land values, and the only alarms seem to be from environmentalists that note that the Capital Region is now identified by the EPA as a non-attainment area with respect to clean air.

In the early years the Highway Trust Fund was awash with money, making it easy for states to get approval for extensions to their systems.[15] Bypass and feeder roads, and "beltways" grew, circumventing urban areas, and lanes adding to original construction designs were still insufficient. Early on it appeared that there was no limit to the money available to build super-highways, but the nation has now learned that it cannot build its way out of traffic problems as land and roads become more expensive and funding becomes increasingly scarce.[16] The dominance of motor-vehicle dependent transportation, foreseen to bring future wealth, may yet prove to be its greatest liability. Payments have never been set to recover true costs. Motor fuel can be a satisfactory user fee to pay operating costs if it is high enough to pay for both highway use and environmental externalities. But employing it for capital cost recovery has been a mistake. Doing so has pushed the costs onto many who have unfairly borne the burden—those bypassed in benefits in the inner cities as well as those too old, too young, too poor or disabled

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[13]As this is written, the Governor's Office has announced that the Department of Environmental Conservation, which had since its inception rented the largest office building on Wolf Road, would relocate to downtown Albany in an effort to revitalize the city.

[14]Personal communication with Creighton Manning Incorporated, a transportation consulting firm in the Capital District of New York State.

[15]The best book ever written recounting the extent to which highway interests were able to overwhelm competing forces in communities is Robert Caro, *The Power Broker: Robert Moses and the Fall of New York*, Vintage Books, 1975.

[16]In a noteworthy article a mathematician, challenged by the dilemma of highway traffic growth has proven that the construction of more roads simply compounds the traffic problem geometrically. See Thomas Bass, "Road to Ruin," *Discover*, (May, 1992).

who could not drive. Most importantly it gave to holders of private lands adjacent to interstate developments huge windfall gains that they did nothing to earn.

It is not just the underpayment of transportation services by those who have been the beneficiaries that is precipitating the problems we witness today. It is more importantly their over-consumption. Articles and books are now appearing daily that consider the problems that general reliance upon motor vehicle transportation have brought about.[17] None, however, have recognized the relationship between the automobile, land use, and taxation.[18] Had value capture been the approach by which to pay the capital costs of highway construction, it would have facilitated far more compact and efficient development at the nodes of highway access; there would have been fairer sharing of the burden of the capital costs; and there would have occurred development densities to facilitate the reliance upon a public transit system complementary to motor vehicle reliance. What follows is an examination of how much value might have been enjoyed to pay the capital costs of the Northway's construction had value capture been relied upon as the chosen approach to finance.

Methodology

The means by which to calculate the added increment of land value resulting from infrastructure investment is quite simple. It involves: 1) identifying the land parcels within service proximity of the infrastructure investment; 2) ascertaining the assessed and market value of those land parcels prior to the project's beginning; 3) obtaining the assessed and market value of those same land parcels when the bonds will be paid off; 4) converting both totals to constant dollars; and 5) establishing the debt service of the project, so that the proper level of value capture tax can be imposed. Small costs should be apportioned to local service as opposed to thru-traffic, just as property taxes pay for local roads now. These should be subtracted from the burden to be assigned to beneficiaries of the new investment. For this study the data for all this was available from the public records of New York State agencies.

Records of the purchase prices of the land parcels acquired by the State of New York for development of the Northway were acquired from old Department of Transportation files, noting particularly the parcel area in acres and whether or not the parcels had improvements.

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[17]A few of the more significant ones are worthy of note: Stephen B. Goddard, *Getting There: The Epic Struggle between Road and Rail in the American Century*, Chicago: University of Chicago Press, 1994; Clay McShane, *Down the Asphalt Path: The Automobile and the American City*, New York: Columbia University Press, 1994; and Jane Holtz Kay, *Asphalt Nation: How the Automobile Took Over America and How We Can take It Back*, New York: Crown Publishers, 1997.

[18]Understanding of the relationship between land use policy and transportation policy is slowly beginning, however, even if little attention is paid to tax policy. In 1995 a major conference sponsored by The Brookings Institute and the Lincoln Institute of Land Policy was held in Washington exploring alternatives to sprawl. See *Alternatives to Sprawl*, Conference Report published by the Lincoln Institute (Boston, 1995). Rutgers is currently updating a 1974 study entitled *The Costs of Sprawl*, projected to be done in the spring of 1998.

Since the State paid fair market value for each parcel, this provided a baseline for calculating what the land value of all parcels—essentially farmland—in the area was. New York State Real Property Tax Law requires assessment of all properties according to land value and total value,[19] but assessments have not had a reputation for accuracy and the sale price records of the State of New York provide a far more reliable indicator of land value. Only the total acreage and total purchase price of parcels that were unimproved were used as an indicator of average value of market price per acre for 1958, the year they were acquired. Instead of computing land value differences for the whole distance of the Northway, a total of 178 miles to the Canadian border, only the area close by its southern terminus (Route 20 at Western Avenue) to the Mohawk River was used as the basis of study. This is a distance of nine miles. It is the most commercially developed of any stretch along the road. The road system is shown in Figure 1.

Establishing the current (1995) values of parcels at various distances from the Northway was even easier, as the two major towns involved—Guilderland and Colonie—have both elected to assess real property at full value in the past two years. This data is available from both the towns and from the New York State Office of Real Property Services. A sliver of land running between the two parcels, less than a mile, belongs to the City of Albany which has not had a comprehensive reassessment for over four decades. It is also probable that some of these transactions were not arm's length exchanges, and for both these reasons the few Albany parcels were excluded from the numbers used to establish current value per acre, even though they are used later in the total calculation.

The next step was to average the current land values for all parcels at various distances from the present Northway. Reliance upon new geographic information system (GIS) computer technology makes such tasks simple, and averages were computed for distances of up to ½ mile on either side, then from ½ mile to 1 mile away, and last for distances from 1 mile to 2 miles away. To be sure, the presence of the Northway and other components of the Interstate arterial system has influenced the value of land parcels at distances far greater than two miles—but the actual reach of this impact is ultimately a matter of speculation.[20] The principle of value capture is easily illustrated, however, by identifying values at distances within the two-mile margin.

The last step is to ascertain the actual cost of construction of the Northway in the area being serviced. Using only a section involves trade-offs. Highway construction costs are not equally spread along all sections of a project, nor are the costs of acquiring the right of way corridor the same. Therefore selecting a short intensively developed strip has both advantages

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[19]NYS Real Property Tax Law § 502(3) states that "the assessment roll shall contain a column for the entry with respect to each separately assessed parcel of the assessed valuation of the land exclusive of any improvements,
followed by a column for the entry of the total assessed valuation."

[20] For this reason, the ideal approach to value capture would be to employ a tax on land value not locally but comprehensively, even nationally.

and disadvantages for study. But it should be understood that the southernmost nine miles of the Northway are the most intensely developed, have the most interchanges, and may be atypical in any number of other ways. The costs involved in the area under review are far beyond that of straight open construction in the more rural areas.

Findings

Calculating the increase in land value in defined areas contiguous to the southernmost nine miles of the Northway is relatively simple. Its economic value relative to that in urban and suburban areas was low since it was essentially farmland. Its also had relatively uniform value because location was not a significant factor in its use for truck farming. Records show that parcels identified for purchase by the State of New York for use by the Department of Transportation were purchased at a value of roughly $3,600 per acre, typical of the price of farmland generally at the time. A total of 307.4 **(check this!)** acres of land were purchased in 1958 from the Route 20 (Western Avenue) southern terminus of the Northway to the point at which a bridge was to be built across the Mohawk River and Erie Canal. Had there been no changes in land use, this land would be worth approximately $18,700 per acre in 1995 dollars.[21] In fact the land is now worth many times that amount. That change in use is due directly to the advent of the Northway and its connecting Interstate network.

To be sure, the Northway's presence alone cannot explain the increase in land values along its borders; it is all the highways taken together that make the area the attractive locus that it is for commerce and industry. That is to say, there is no reason to believe that the Northway's construction had an impact on aggregate land values greater or lesser than the other highways of the region, except by noting the relative proximity of various links in the system. The I-87 Northway has likely contributed as much to the increased land values of the I-90 east-west corridor as the latter has contributed to those of I-87. The strategic value of the site must be understood as a whole, by the fact that interchange is one of the major transportation hubs of Northeast United States.

The influence of the interstate system on land values of course extends far beyond the delimited area of two miles on either side that this study identifies. As a network serving the nation its value is national. But identifying just the adjacent areas demonstrates how much additional land value the highway's presence has brought about. The land values most proximate to the corridors themselves, more at the entry/exit points, and most of all at the junctures of different routes of course have the greatest value. Identifying just the increase in land values close by one of the major junctions is easily demonstrable.

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[21] A standard inflation factor was applied to arrive at this figure. Admittedly, using a standard price deflator to calculate changes in land value raises other problems, and no one factor is likely to apply in all regions of the country. Using 1982 as the base 1.00, the 1958 rate is 0.2481, and 1995 is 1.2879. Because real estate prices in the New York Capital Region have increased less than in the nation as a whole, using the national GDP price deflator makes for a conservative estimate.

The lands bordering on the Northway from the Western Avenue terminus to the Mohawk River, have been separately identified for their land value on either side for the first ½ mile, for from ½ to one mile, and from one to two miles. Figure 2 is a map of the three land areas and Table 1 shows the number of acres involved in each. The data show that the land closest to the Northway has an average value almost twice that of the land between one and two miles distance, and over 40 percent higher than the land in areas just the next ½ to one mile away.

Page reserved for Figure 2: GIS map of land-value areas

Table 1
Added Increment of Land Value Due to Northway Construction
in Albany County

| Distance | Acres | '50s $acre adj to *$3,603 to $18,605* | '95 Total | '95 *$/ acre* | % | $ Diff or $Gain |
|---|---|---|---|---|---|---|
| < 1/2 mile | 6,235 | $116,625,675 | $1,315,632,9 | $211,00 | 1128% | $1,199,007,237 |
| 1/2-1 mile | 7,206 | $134,788,230 | $1,066,851,1 | $148,05 | 792% | $932,062,894 |
| 1-2 miles | 17,382 | $325,130,310 | $1,862,169,3 | $107,13 | 573% | $1,537,039,086 |
| Total | 30,823 | $576,544,215 | $4,244,653,4 | $137,71 | 736% | $3,668,109,217 |

The most compelling number of all is that which shows that the 30,823 acres of land that lie within two miles on each side of the first nine miles of the Northway's corridor has a value today of $4.245 billion, representing an increase of $3.668 billion (using 1995 constant dollars) over what the land would have been worth had the Northway not been built. This figure does not include the value of any improvements; only the land value. This simple study does not include the added value that arose on feeder roads beyond the two-mile distance to the Northway which has also increased.[22]

Discussion

Land value is a function of the social and economic traffic that it generates. Excluding resources that a parcel of land may contain (lumber, minerals, water, fish and game, etc.), it has value solely by virtue of its location. It is not what any individual alone does that makes a parcel of land valuable; it is rather through joint community effort that it acquires worth. This is the logic on which value capture rests. Traffic volume, whether by foot, bicycle, bus, rail, or car, all make for increases in land value, and that variable is social in nature. Because that value derives from social effort, society has a principled right to its claim. Yet what happens more often than not is that private individuals secure for themselves what should be rightfully a social gain. All the increases in land value that resulted from the social resources invested to build the Northway were left for private parties to enrich themselves, at least $3.668 billion just within the small area under study.

On the other hand, government acting in the name of society undertook to secure bonds to finance the development of this costly infrastructure without any recognition of the fact that wealth available to be recaptured was there to be tapped under the right system of finance. Value capture raises the taxes on impacted lands, thereby doing two things: 1) removing the invitation of title holders to speculate, and 2) raising the holding costs high enough that there is immediate reason for titleholders to seek a return on their investments. This facilitates more robust economic activity in the very region where the public has placed its investment. It fosters more

[22]Value capture studies can sometimes be exceedingly sophisticated. Indeed one major study was so complex that it required a Cray computer to do the analysis. See *Transit Access and Land Value: Modeling the Relationship in the New York Metropolitan Area*, U.S. Department of Transportation, Federal Transit Administration, (FTA-NY-06-0152-93-1), September, 1993.

concentrated development in contrast to the sprawling and slow-developing ventures that typically characterize land configurations using conventional policies.[23]

Concentrated private infrastructure development in the right context can evolve in response to public ventures and enhances social life. When factors are not present to distort natural tendencies, people will respond to plans of "human scale,"[24] that are "walkable communities" allowing social interaction. Motor vehicle transportation precludes this. The attraction of shopping malls is that people can circulate personally without reliance upon their cars; they have become the "new downtowns" for a reason. There is a spontaneity and safety in being able to walk around where there are also many other people. Shopping malls managers know that, besides their scientific calculations of square foot shelf space and dollar turnover, they must also allow room for social interaction. It is also no accident also that some of the most successful public spaces in America are Baltimore's Inner Harbor, Boston's Quincy Market, New York's South Street Seaport, Denver's LoDo, and San Francisco's Haight-Ashbury. Most of these successes stem from the insight of developer James Rouse: that people like to be where other people are. There was a time when most people drove cars for pleasure; today people resent their having to drive so much and often see driving as a constraint.[25]

Urban environments have been largely taken away from people and become dominated by motorized traffic because urban and transportation planners have confused two core concepts: accessibility and mobility. These are explained particularly well in a recent text, *The Geography of Urban Transportation*:

> *Accessibility* refers to the number of opportunities, also called activity sites, available within a certain distance or travel time. *Mobility* refers to the ability to move between different activity sites (e.g., from home to a grocery store).[26]

Planners accept the premise that people should be free to make their own locational decisions, that these decisions are rational, and that they should be accommodated in devising transportation services. To this extent they often respect the market. But they typically fail to realize that market decisions grow out of a context and are premised largely upon perception of economic

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[23]Nowhere is the ex-urban development resulting from automobile dependency better described than Joel Garreau's *Edge City: Life on the New Frontier*, New York: Doubleday, 1991.

[24]For a provocative discussion of this concept, see Kirkpatrick Sale, *Human Scale* (New York: Coward, McCann & Geoghegan, 1980), especially Chapter 9.

[25]In a study done by the *Washington Post* in the early 1990s, 25 percent of Americans are "road haters" who don't enjoy driving. Another 15 percent consider cars a necessary evil but take little interest in style, color or upkeep. Forty percent of drivers may be disenchanged, but except for those living in cities with good public transportation ,driving remains the only reasonable way to get around. Cited in Steve Nadis and James J. McKenzie, *Car Trouble* (Boston: Beacon Press, 1993), p. ix.

[26] *The Geography of Urban Transportation*, Second Edition, Susan Hanson, Editor, New York: Guilford Press, 1995, p. 5.

costs. Since it is through public policies that land and transportation use is priced, people are not aware of how much those prices are distorted by economic theory.

Paul Samuelson, professor of economics and Nobel laureate, was recently quoted saying, "I don't care who writes a nation's laws . . . if I can write its economics textbooks."[27] He and his school of economics has succeeded mightily, and should be held primarily accountable for our urban and transportation problems.[28] If land values and transportation costs were not skewed by the economic assumptions today used by public policy makers, used in ways that fostered the urban configurations that we now lament, there would be less preoccupation with mobility and more attention to accessibility.[29] Author Kirkpatrick Sale shows a keen appreciation of this when he argues that

> Cities are meant to stop traffic. That is their point. That is why they are there. That is why traders put outposts there, merchants put shops there, hostelers erect inns there. That is why factories locate there, why warehouses, assembly plants, and distribution centers are established there. That is why people settle and cultural institutions grow there. No one wants to operate in a place that people are just passing through; everyone wants to settle where people will stop, and rest, and look around, and talk, and buy, and share.[30]

Certainly it is important to be able to move people easily, safely and efficiently. But the preoccupation of planners and engineers has been with moving vehicles more than people, and they have forgotten to balance access and mobility. Transportation planners know that public transit typically takes a density of at least 8-10 households per acre in order for it to be economically viable.[31] Because public policies have been instituted that effectively and

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[27] *The Economist*, August 16-23, 1997.

[28] For a further discussion of this, see H. William Batt, "How the Railroads Got us on the Wrong Economic Track," *The Torch Magazine*, forthcoming, 1997. This essay, originally presented as a speech, spells out the thesis of a recent book that recounts how powerful interests at the end of the 19th century captured the nascent economics profession and persuaded it to change criticial definitions that have resulted in our current distortion of the factors of production, most of all,land. See Mason Gaffney and Fred Harrison, *The Corruption of Economics* (London: Shepheard-Walwyn), 1994. It is hinted at Thomas Prugh, et al., *Natural Capital and Human Economic Survival* (Solomons, MD: ISEE Press, 1995), Ch. 1.

[29] One is reminded of the story of the man at the lunch counter who seemed to have an unquenchable thirst for coffee. After his fifth cup, the waitress said, "My sir, you certainly must like coffee!"
"I certainly do," he replied. "Otherwise I wouldn't be drinking all this water just to get a little."

[30] *Human Scale*, p. 256.

[31] Peter Calthorpe, *The Next American Metropolis: Ecology, Community and the American Dream*. New York: Princeton Architectural Press, 1993; and Jeffrey Zupan and Boris Pushkarev, *Public Transportation and Land Use Policy*. Bloomington: Indiana University Press, 1977.

deliberately foster low density suburban sprawl, society has become dependent upon motor vehicle transportation rather than transit service. Had taxes been imposed more heavily or solely upon land value, just the opposite would have occurred: development would have been most intensive on high land-value parcels, right where transit services made the land most valuable, thereby making our society less dependent upon motor vehicles.

Further, we have created even greater hardship by our practice of zoning. Had zoning policies not been instituted that insist that people live in different places than where they work, and insisted also that residential lot sizes be established at ¼, ½ and even one whole acre each, there would have evolved less automobile dependency and more "walkability."[32] What we have done by our insistence upon zoning by function is to foster the growth of

> *two* cities, one large one for daytime use when everyone would congregate, the other a web of small ones for nighttime use when everyone would disperse; each would be left more or less vacant while the other ws used, each would have to create its own lighting, sewage, road, telephone, police, education, medical, and political systems. And that meant again that the workers who were now way out *there* had to get to the jobs that were either still in *here* (particularly service jobs in commercial centers) or else all the way over on the *other side* of the city—hence the ever-growing networks of freeways and beltways and superhighways.[33]

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[32]The economics profession, in fairness, ought not to shoulder the complete blame for the fact that our cities are unlivable. The federal government as long ago as the 1930s stipulated that lots sizes had to be of sufficient size to qualify for FHA-insured mortgages. This fed right into the pattern of post-war tract housing in the suburbs. The Code of Federal Regulations, First Edition (1938), Section 501.20 reads as follows:

> A loan, advance of credit, or purchase of an obligation representing a loan or advance of credit, not in excess of $2,500 . . . will be eligible for insurance if it is made to finance the building of a new structure. If such new structure is intended for use in whole or in part for residential purposes, the following conditions must be complied with. . . .
>
> (c) Minimum land area for any one dwelling:
>
> (1) minimum land area for any one dwelling shall be 4,000 square feet where public water supply and sewer are available. . . .
>
> (2) Minimum area shall be 7,500 square feet where public water supply is available and private sewage disposal system (cesspool or septic tank) is used. This area may be reduced when the installation of the private sewage disposal system is in conformity with State regulations, and is approved by the local health officer, but, in no event, shall such area be less than 4,000 square feet.
>
> (3) Minimum area shall be 20,000 square feet where neither public sewer nor public water supply is available. This area may be reduced . . . , but in no even shall such area be less than 5,000 square feet.

For further discussion of the role of the FHA in fostering suburban development, see Kenneth Jackson, *Crabgrass Frontier: The Suburbanization of The United States*, New York: Oxford University Press, 1985, especially Ch. 11, "Federal Subsidy and the Suburban Dream: How Washington Changed the American Housing Market."

[33]*Human Scale*, pp. 257-258.

America faces a far greater problem on account of the way its landscape is configured than most people today realize. One must first understand that an estimated 90 million Americans have been disenfranchised by not being able to drive and therefore lack the essential mobility which this society requires for full participation.[34] For many people, reliable cars are prohibitively expensive, and yet they are subject to the viccisitudes of auto dependability.[35] One 1993 study concludes that "when the full range of costs of transportation are tallied, passenger ground transportation costs the American public a total of $1.2 to $1.6 trillion each year. This is equal to about one-quarter of the annual GNP and is greater than our total national annual expenditure on either education or health."[36] Conventional American land use configurations and the automobile dependent lifestyle that goes with it sap our resources and what effort could be used for other ventures and activities. Since so much of this activity is consumption and not production, it weakens America's world economic position and precludes reinvestment in more productive areas. Because of the way in which we have encouraged development, people who need jobs are frequently too poor to own the cars necessary to get to them.[37]

Enormous environmental externalities also result from our over-dependence upon cars, especially in air pollution and in the emission of greenhouse gases. The consequences of $SO_2$, $CO_2$, and ozone are no longer a matter of debate; they are scientific fact. Despite frequent headlines about replacing the internal combustion engine, all the realistic substitutes also ultimately rely upon fossil fuel power; no one is talking seriously about solar powered cars. Even were this problem to be solved, there would still be the concern over costs of highway crashes. Public pleas for people to drive safely are not likely to change the reality that people are fallible, and that every person driving his or her own car simply multiplies the probabilities of accidents. Just the costs of crashes—nothing else—represents a figure equal to 8 percent of the American

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[34]Extrapolating from the latest US Department of Transportation data, there are approximately 90 million Americans who don't have motor vehicle licenses, and many more don't own cars. Reflecting its automobile bias,
however, the Department chooses to count the opposite way, the number who do have licenses and those who have one, two, and three cars. *Highway Statistics, 1995.*

[35]The American Automobile Association's latest figures show that the average motorist pays $6,723 annually for the privilege of driving. American Automobile Association, *Your Driving Costs*, 1997 Edition.

[36]Peter Miller and John Moffet, *The Price of Mobility: Uncovering the Hidden Costs of Transportation* (New York: Natural Resources Defense Council, October, 1993) p. ii. Japan, by way of comparison, spends an estimated 10.4% to satisfy all its transportation requirements, although the figure might be somewhat low because not all externalities are included in the calculation. See Walter Hook, *Counting on Cars, Counting out People*, New York: Institute for Transportation Development Policy Paper (Winter, 1994), p. 28. See also *Road Kill: How Solo Driving Runs Down the Economy*, Boston: The Conservation Law Foundation (May, 1994); and James J. MacKenzie, et al., *The Going Rate: What it Really Costs to Drive*, Washington: World Resources Institute, 1992.

[37]This was put well in a recent op-ed piece by John Norquist, Mayor of Milwaukee: "From Welfare to Work, Without a Car," *New York Times*, November 23, 1996.

Gross Domestic Product.[38]

Because our society is characterized by suburban sprawl and is therefore motor vehicle dependent, community is destroyed and our very democracy is threatened. This is more empirically documented in a recent article entitled "Bowling Alone," which David Broder of the *Washington Post* considered the most important academic article of 1995. The author of that piece, Harvard Professor Robert Putnam, shows that our communal relationships are declining, and that an ever smaller proportion of the population is involved in social activities of a cooperative and communal nature.[39] As Tocqueville noted, this used to be the unique strength of American society; we're now losing it.[40] Suburban sprawl and the automobile play a large part in this. And these land-use configurations can be traced directly to our property tax policies, to our zoning policies, and to our subsidies to motor vehicle transportation. Saying hello to your neighbors, if indeed you know them, means tooting your horn meeting them coming and going.

There have been a plethora of suggestions offered in the course of ongoing dialogue about what to do to revive cities and make them "livable." Many of the ideas are "gimmicky:" The number of cities with "First Night" New Year's Eve activities has grown to be almost universal. Cities sponsor park festivals, special shopping days with tax-free blandishments, and car-free Saturdays. All these attempts to revive what the Greeks knew as the forum are contrived uphill efforts because people must return to their suburban homes at the end of the experience. Ultimately, it comes down to the fact that automobiles isolate people from one another; even if

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[38]In 1988, a study by the Urban Institute calculated that $71 billion were borne in out-of-pocket costs, another $46 billion in lost wages and household production, and $217 billion in pain, suffering and lost quality of life. Translated into vernacular, the total of $334 billion in lost property, worktime, and injuries and deaths. T. Miller, et al, *The Costs of Highway Crashes*, The Urban Institute, Washington, D.C., October, 1991.

[39]Robert D. Putnam, "Bowling Alone: America's Declining Social Capital," *Journal of Democracy*, Vol. 6 (January, 1995), pp.65-78. Extensive coverage of this article and Putnam's other work was given in *The Chronicle of Higher Education*, March 1, 1996, pp. A10-A12. This theme has been expressed by other social scientists as well, particularly among the communitarians. See, for example, Amitai Etzioni (ed.), *New Communitarian Thinking: Persons, Virtues, Institutions, and Communities*, University of Virginia Press, 1995. Studies show that there is an inverse correlation between the ability of a street to move—and to park—cars and trucks, and the amount of social interaction between neighbors on that street. One such study compared three similar residential streets, with different levels of traffic volumes, in San Francisco. "Residents on the different streets were asked to indicate on the base maps of their streets where friends and acquaintances lived. Those living on streets with the least traffic volume had three times as many friends and twice as many acquaintances as those living on the streets with heavy traffic volumes." Arcata CA: *Auto-Free Times*, Issue #IX (August-October, 1996), pp. 18-19. One who has expounded eloquently on the implications of this for democracy is Jean Bethke Elshtain, *Democracy on Trial*, New York: Basic Books, 1995.

[40]See, for example, the suggestive articles of Charles Leroux and Ron Grossman, "[Low Turnout] Numbers Reflect Growing Loss of Community," *Chicago Ttibune*, November 17, 1996; Ellen Goodman, "Lack of Civility, Backbone Plagues America," *Boston Globe*, September 8, 1996; and Fox Butterfield, "Values Guard Against Violence, Study Finds," *New York Times*, August 17, 1997.

they would like to have it otherwise, they are dependent upon their cars while it limits their capacity for spontaneous interaction and must command their unalterable concentration to avoid accidents. Taking the long view of society, George Kennen summed it up well in one of his books that

> The railway. . . was capable of accepting and disgorging its loads, whether of passengers or freight, only at fixed points. This being the case, it tended to gather together, and to concentrate around its urban terminus and railhead, all activity that was in any way related to movements of freight or passengers into or out of the city. It was in this quality that it had made major and in some ways decisive contributions to the development not only of the great railway metropolises of the Victorian age—particularly of such inland cities as Moscow, Berlin, Paris, and Chicago—but even certain of the great maritime turnover ports, such as London and New York.
>
> The automobile, on the other hand, had precisely the opposite qualities. Incapable, in view of its own cumbersomeness and requirements for space, of accepting or releasing large loads at any concentrated points anywhere, but peculiarly capable of accepting and releasing them at multitudes of unconcentrated points anywhere else, the automobile tended to disintegrate and to explode all that the railway had brought together. It was, in fact, the enemy of the concentrated city. Thus it was destined to destroy the great densely populated urban centers of the nineteenth century, with all the glories of economic and cultural life that had flowed from their very unity and compactness.[41]

Public transit restored to its rightful place would have the effect of not only relieving dependence upon motor vehicle transportation but also do much to restore the health of society and democracy. Fostering dense development with a focus directly on light rail or bus stations, for example, would have the power to generate private attractions of a business and public nature and with the consequent allure that these would have to draw people. This is the vision of those who have developed the model of the "pedestrian pocket."[42]

Pedestrian pockets are defined as spaces of typically no more than 100 acres, housing approximately 5,000 people with jobs for 3,000. The four key concepts are a) low-rise, high-density housing, b) mixed-use "Main Street," c) light-rail transit, or other convenient/amenable transit service connecting the pedestrian pocket nodes, and d) either a regional shopping center

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[41]George Kennen, *Around the Cragged Hill: A Personal and Political Philosophy* (New York: Norton, 1993), pp. 160-161.

[42]Douglas Kelbaugh (ed), *The Pedestrian Pocket Book: A New Suburban Design Strategy*, New York: Princeton Architectural Press, 1989; and Sim Van der Ryn and Peter Calthorpe, *Sustainable Communities: A New Design Synthesis for Cities, Suburbs and Towns*, San Francisco: Sierra Club Books, 1986.

or computerized "back office."[43] The limited size of the arrangements puts everything within walking distance (at most 1/4 mile), and offers people safe and attractive pedestrian settings in which to interact. Unlike most communities created in contemporary America, "the town center in a pedestrian pocket is the rail station"[44] or perhaps alternatively a bus station. Moreover, clusters of housing units are oriented to a central park and other public facilities to "unify the neighborhood." Ironically this appealing model is called "traditional oriented development." Actually the development patterns of the past, still largely intact in most urban areas, are now called neotraditionalism and support walking, bicycling and transit if the needed facilities are provided. Cities and towns that were laid out prior to the age of the automobile still have the capacity to revive by capitalizing upon this model. Most are the older communities in the northeast, and although at present many are destitute, they have not been spoiled and swallowed up by an endless suburbia. If they can take advantage of a professional class of people able to work at distances from large metropolises, there is great promise to be found here. One popular book lists *The 50 Healthiest Places to Live and Retire in the United States,*[45] and finds that

> it has been our experience that any city that is recognized as being bicycle-friendly or which advertises itself as bike friendly, especially if it has a full-time bicycle coordinator, is likely to offer an exceptionally high quality of life and livability. We have found that being bicycle friendly is a more dependable indication of a city's healthfulness than almost any other guideline or statistic.[46]

Small towns, not prone to the dangers of speeding traffic, are still walkable and bikeable. When necessary, transit systems are available. The pedestrian pocket transit station—either bus or rail—is important because it allows access to other communities that together can provide as many as 18,000 jobs within three stops of the transit service in either direction (10-15 minutes). The availability of jobs along with the proximity of land uses allows people to forego the use of their cars for many typical short trips. Because transportation is central to community configuration, land use takes on a very different character, and leads to greater economies in energy and other resource use. Lastly, and of prime importance to many, pocket communities offer the opportunity for a very different kind of lifestyle, where closeness to land, nature and other people is restored to a central place. The isolation that results from motor vehicle dependence is reduced. The communities offer a more balanced transportation system: motor vehicles are available, but so are transit, walking, and bikeways. There is greater choice in travel mode, improved environmental quality (and hence of quality of life), along with reduced transportation and associated costs, even with improved mobility.

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[43]Kelbaugh, preface.

[44]Kelbaugh, p. 46.

[45]Norman D. Ford, *The 50 Healthiest Places to Live and Retire in the United States,* New York: Ballantine Books, 1991.

[46]*50 Healthiest Places*, pp. 28-29.

Three legal changes to current zoning would necessary to make pedestrian pockets possible in most contemporary contexts: 1) multi-purpose zoning, which allows residential, commercial and industrial structures to be built in close proximity; 2) higher density activity so that walking is feasible and transit services are economically viable; and 3) safe, non-threatening environments so that people are willing to forego their motor vehicles in favor of alternative modes.

Zoning ordinances in contemporary municipal law typically separate land use by function, making residential areas distinct from commercial and/or light and heavy industrial areas. At a time when heavy industry was unattractive and even destructive, one could argue that it made good sense to separate land uses. More recently land use decisions have been governed more by motor vehicle transportation considerations than any other factor. In considering new development proposals, traffic usually becomes the primary issue of contention before local planning and town boards. If zoning is warranted at all, it should be to protect environmentally sensitive areas or else to foster good design, not function. Other equally important factors are often ignored.

Rethinking land-use planning to reduce the need for vehicle travel leads to very different ranges of choice. Pedestrian pockets allow mixed-use land areas that actually foster trip making and add opportunities while relieving the strain on the highway system. Although some communities have on occasion taken steps that allow cluster development, few recognize the advantages of mixed use (as well as mixed density) which pedestrian pockets provide. A comprehensive re-evaluation of zoning regulations seems called for.

Because development outside the context of contemporary cities and villages is typically scattered and low-density, it is all but impossible to travel without the use of motor vehicles. Ironically the low density development which was frequently intended to avoid traffic congestion has actually fostered it. High density development, in contrast, makes it possible for people to walk or rely upon transit services, and allows greater freedom of activity with reduced time and expense.

No less important are the economies that result from higher density development. There are economies to be had not only in private infrastructure investment and the services directly attending to them, but in the public sector as well. To the extent which they are easily accessible, public amenities—whether they be swimming pools, tennis courts, libraries, museums, or any other— receive greater use, thereby lowering cost per patron. This is equally true for public transportation, providing at least it has reliability, accessibility, safety, comfort, and other attributes equal to that provided by private motor vehicle transportation. In addition to the cost savings that can be measured, one should not discount the savings in time, mental state, and general quality of life that often obtain from being relieved of automobile dependence.

The third dimension wherein pedestrian communities offer advantages over conventional suburban designs is in providing safer and more enjoyable ways of non-automobile travel. By making possible sidewalks, walking and bike trails, and open areas of activity, people are

encouraged to walk. Subjectively as well as sometimes actually, properly designed space offers an invitation to use it in safe and enjoyable ways which auto travel frequently precludes.

The dangers of motor vehicle travel are seldom a salient consideration when people elect to travel. Despite the fact that over 47,000 people are killed each year in automobile accidents and about 2 million are injured badly enough to visit a hospital, the feeling of safety that comes from being inside a vehicle is more reassuring to people. It is reassuring to people to have proper design of space, proper lighting, and the feeling of being close to others. Sound planning can go far toward providing this sense of assurance, both in the immediate environment of mass transportation and in context where people function on their own.

The "New Urbanist" school of architects[47] which are in part the originators of pedestrian pockets called such spatial configurations "tradition-oriented development" and "transit-oriented development." The problem with its approach, however, is that employs tools that are unnatural to the development of communities, and for the most part unrealistic. Most of their members draft ambitious developments—small relative to a community, but large for one developer to undertake—that require assemblages of several land parcels and substantial capital risk. For all their imagination and understanding of community settings, they are typically the scheme of one planner. They are static imprint rather than organic in their ability to grow and change. They approach their tasks with the autocratic and imperious hand of one would impose a template on spatial settings that may or may not be in accord with natural pace and direction of development. And because they must work within the framework of economics that devalues land, this too works against them. It is no accident that most of the visions of the New Urbanists proposals exist only on paper. Far better to set systems of pricing that will allow choices to take place at an individual and personal level, responding spontaneously to the subtleties of market forces and at a pace that is suitable to space and time. Far better also to allow decisions with less need for government control and intervention where it is possible to do so. The merits of contrasting approaches to such micro-urban settings using transportation nodes as the fulcrums of development should be clear to those who have been exposed to both patterns.

## Conclusion

Policy makers have two modes of leverage by which to implement public will: 1) so-called "command and control" approaches that are typically enforced by what state and federal constitutions group under "police powers" and 2) fiscal approaches that typically involve a variety of taxes, fees, fines, and other charges that derive constitutionally from either "police powers" or "tax powers." When governments administer either of these powers they are legitimate and authoritative. Fiscal measures available to governments can come from either ground. They

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[47] A number of people, mainly architects, some mentioned above are identified with the New Urbanist movement, several of whom are noted above. The network has recently incorporated as an corporation, called the Congress for the New Urbanism. One of the most ardent apologists for the movement is James Howard Kunstler, *The Geography of Nowhere* (New York: Simon and Schuster, 1993), and *Home from Nowhere: Remaking our World for the 21st Century* (New York: Simon & Schuster), 1996.

differ from charges that the private sector usually imposes which usually respond to market forces. Prices which are established by government, however, are not responsive to market forces, nor are they intended to be. Rather they are set in order to accomplish certain public policy goals.[48]

Governments face the challenge of knowing which of the tools at their disposal—"command and control" approaches versus "pricing" approaches—will satisfactorily serve effective and efficient completion of public policies. Only in recent years, however, has there been a renewed interest in fiscal levers to achieve goals which policy makers seek to achieve. There is particular interest among students of welfare economics in incorporating costs earlier regarded as externalities. Moreover, use of pricing approaches to recover costs of government services which have a high level of private good about them can bring about more attractive and achievable goals than reliance upon conventional police power approaches. Thus it is that the work of early 20th century economist A.C. Pigou has come into such favor.[49] User fees, environmental fees, and other such fiscal tools have become more fascinating—at least to students of public policy—than conventional taxes.

Because public fiscal policy today involves much more than collecting revenue to support the purposes of government, it is important to evaluate various alternatives in the light of the principles of sound tax theory that were enumerated early on. At times it is important that a revenue source be totally neutral—that is, it should be designed to distort the economic behavior of parties as little as possible. In other cases, since it is the behavior itself that has a social cost to the larger society—in Pigou's terms again, an externality, it is important that government impose a charge on such behavior that will recover its cost and/or correct the behavior. Transportation policy has evolved in ways that distort our economic choices in a highly destructive and costly manner. So have the methods that we have chosen to pay for such services. Value capture is an approach consistent with sound economic and tax principles, provides a means by which the ill effects of past decisions can begin to be corrected, and uses relatively painless methods to support the next generation of transportation services.

Recovering the added value that results from public investment in land reconciles a number of otherwise contradictory tendencies to be found in the implementation of capital projects. Value capture can be shown to have the following virtues:

- It reconciles the ability-to-pay principle with the benefit principle.
- It is neutral with respect to economic choices: it favors neither capital nor

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[48]For an expansive discussion of the means by which social decisions are mediated, see Robert Dahl and Charles Lindblom, *Politics, Economics and Welfare.* Originally published in 1953 by University of Chicago Press, this classic has been reissued with a new introduction by the authors in 1992, published by Transaction Publishers-Rutgers, 1992.

[49] ***British economist Arthur C. Pigou, in his classic The Economics of Welfare (1911) was the first to explore the notion of externalities.***

labor, production nor consumption.

- It offers a simple and easily administered solution that can be accomplished at a decentralized level of government.
- It allows for planning without the heavy hand of static and autocratic ordinances; reliance upon zoning to assure rational land use can be reduced.
- It allows for and is compatible with the application of user fees, and environmental fees in financing of transportation services.
- It can raise all the revenue needed for social investment purposes.
- It facilitates growth in ways that are rational to both the individual and society because it is no disincentive to business.
- It offers a means by which local and regional governments can compete successfully with other regions for economic development and for jobs.
- It discourages absentee ownership and speculation in real property.
- It facilitates spatial configurations that are economical and efficient, and consistent with the public interest.
- It fosters urban designs that are compatible with, and even promote social and democratic participation.
- It is environmentally benign in its consumption of land and energy resources.

At a time when conventional approaches to highway transportation like federal revenue distribution formulas to various states, the balance between highway and transit sharing, and the need to address problems resulting in the production of greenhouse gases are growing public concerns, value capture represents an attractive, and even proven method by which to help transportation policies return to a sound footing and get "on track" for the 21st century.

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