



U.S. Department of
Transportation

Value Capture Techniques in Transportation

May 1990



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The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be clearly documented, including the date, amount, and purpose of the transaction. This ensures transparency and allows for easy reconciliation of accounts.

In the second section, the author provides a detailed breakdown of the monthly budget. It lists various categories such as housing, utilities, food, and entertainment, with specific dollar amounts allocated to each. This helps in understanding where the money is being spent and identifies areas where savings can be made.

The third section focuses on debt management. It outlines strategies for paying off credit cards and other loans, such as the debt snowball method or the debt avalanche method. The goal is to reduce the overall interest paid and reach a debt-free state as quickly as possible.

Finally, the document concludes with advice on long-term financial planning. It suggests setting specific goals, such as saving for retirement or a major purchase, and recommends investing in a diversified portfolio to grow wealth over time.

Value Capture Techniques in Transportation

Final Report, Phase One
May 1990

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Prepared for
Program of University Research
Office of the Secretary of Transportation
U.S. Department of Transportation
400 Seventh Street SW
Washington, D.C. 20590

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VALUE CAPTURE TECHNIQUES IN TRANSPORTATION

PHASE ONE REPORT

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CHAPTER 1: INTRODUCTION TO VALUE CAPTURE

In recent years the federal government has sharply reduced the amount of funds spent on transportation. At the same time, the need for funds has increased. This increased need for funds arises from several reasons. First, many of the nation's highways and major roads were built during the 1940's and 50's when the federal government was involved in building the major primary and interstate highways for the nation. These roads have aged and are in need of repair. Second, the cost of maintenance alone has increased sharply due to inflation. Funding that would have adequately covered maintenance costs several years ago no longer does so today. Third, the reduction in the use of other modes of transportation, especially rail, has correspondingly led to an increased use of roads, particularly for the purpose of transporting goods. Fourth, in our present society, owning a car has become more affordable, and people have become increasingly willing to travel long distances to work and for pleasure. Thus, not only has the mobility of those who travel increased, but so has the actual number of people who are mobile, causing a strain on the capacity of existing road networks. In other words, our major roads are aging and in need of repair, inflation has driven up the cost of repairs, and greater numbers of goods and people are being transported on our existing road system, causing even more wear and tear and creating a need for even more roads. This combination of factors has led to a greater need for increased dollar amounts to be spent on improvements on roads and other forms of transportation such as public transit (increasing public transit and its usage reduces road congestion and wear and tear).

Yet the major source of funds is drying up. Due to budget cutbacks and the "New Federalism" of the Reagan administration, the federal government has been reducing the amount of money it spends on transportation. The responsibility has fallen to the state and local governments. While states and localities have struggled with various means of financing transportation, both innovative and traditional, value capture techniques deserve particular attention as a means of financing, at least partially, the costs of transportation.

Definitions of Value Capture

Often one party's actions may benefit a second party, although that may not be the intention of the first party. Sometimes, when the first party is the public sector and the second party is a private entity, the benefits received by the private entity from the public sector's action are monetary in nature. Generally, "value capture" is the idea of a locality recovering some of the value added to, or accrued by, private parties from public sector improvements or investments.

The concept is most often applied to land. In such instances, land values may increase in the area surrounding a recent public improvement, such as a sewer line or a new road. The property owner has done nothing to improve the land yet gains a financial benefit. The question is whether the landowner is entitled to all of the increased value that he has received but not earned. Can the public sector take some of that value and apply it to the cost of the improvement which it has made, i.e., putting in the sewer line or road? Arguably, the property owner is not entitled to the full benefit of the increased value. Some of the value should be returned to the public sector which made the initial improvement or

investment. Proponents of value capture strongly advocate taking such actions.

Municipal funds must be spent for a "public purpose." This requirement stems from federal and state constitutions and from state statutes granting municipalities their powers. There are generally two criteria used to determine if public spending meets the "public purpose" requirement. "First, the object to be promoted by the expenditure should be reasonably related to the operation of the municipal government."¹ As regulations and experiences vary from state to state, so will the interpretations of this criterion. "The second criterion is that the expenditure promote the welfare of the community."² Promotion of the community's welfare does not necessarily exclude private benefit, but even if private entities do benefit from public spending, such a result may not be the primary intent of the spending. "An expenditure is held to promote the welfare of the community if the objective is to promote a public end, even if it incidentally serves private ends as well."³

According to value capture advocates, since it is the action of the public sector that leads to the increase in private property value, the public sector is entitled to some of that value to apply to the cost of the initial expenditure. The good of the public is enhanced in both instances; first, by the physical improvement (the sewer line or road) and the second,

¹David R. Godschalk, et al. Constitutional Issues of Growth Management. Washington, DC: Planners Press, American Planners Association, p. 28.

²Godschalk, p. 29.

³Godschalk, p. 29.

by the capture of the value unearned but accrued by the private individual (the increased land prices) and the application of it to the cost of the improvement. The burden of the taxpayers to cover the cost is then reduced. In theory, the second action (capturing the value) is taken to help cover the cost of the first action (the improvement).

In practice, however, the reverse is usually true. The public sector, through various methods, takes private sector money and uses it to pay for the improvement. The money comes first and the improvement follows. In some instances, the public sector recognizes that an improvement that it intends to make will benefit private individuals so it "captures" the anticipated value through some form of assessment that is decided upon prior to the actual construction of the improvement. At other times, the proposed actions of landowners will have such an impact on existing facilities that improvements will be required. Citing the fact that, if not for the landowners' actions, the improvements would otherwise be unnecessary, the public collects at least the partial cost of the improvements from the landowners. In some cases, the landowners may offer land or materials instead of money or even make the improvements themselves.

So, although the concept of "value capture" is used to justify assessing private entities to pay for public improvements, the term "value capture" is actually a misnomer. It is not applied post facto as its definition implies: 1) public facilities are improved, 2) land value of the private sector goes up, 3) public sector takes some of the unearned profit, and 4) applies it to the already completed improvement of the public facilities. Under a narrow definition, a value capture technique is applied after the private sector profits from a public improvement that has already been

made. However, the way it is actually applied is in anticipation of increased private sector value. From the point of view of municipal officials, this is the most sensible and safest approach. It would be financially risky for a municipality or transportation authority to authorize a costly project without a guaranteed means to finance it.

This discrepancy between the theoretical concept of "value capture" on the one hand and the practical techniques offered in this report as means of accomplishing it on the other, causes confusion for some local officials. This confusion necessitates acknowledging the discrepancy yet we continue to use the concept of value capture as a basis for justifying the application of the various techniques rather than using another term. It is a valid justification for a more equitable distribution of the costs, as well as the benefits, of a public improvement. Although not yet attainable in its true sense under existing circumstances, value capture is a laudable goal. It is fair and equitable in that those who benefit financially also carry a larger proportion of the cost than those who benefit in terms of convenience. Yet the improvement is still for the public good and not just the private entities and those whom they serve.

Value capture can be directly applied to transportation and its financing. A local or regional authority may try to regain some value gained by the private sector yet created by transportation or transit improvements. The authority may then use the "captured" value to help finance such improvements. During times of cutbacks of federal funds for transportation projects, states and localities can reduce their dependence on such funds by turning to alternative financing methods such as value capture techniques. The implementation of value capture techniques, rather than other forms of raising revenue such as taxes, also increases the

correlation between the recipients of the benefits of public improvements and the payment of the costs of such improvements. Although the state level of government does not usually become directly involved with the recapturing of value added by public improvements it can actively encourage such means of local and regional authorities to implement value capture techniques.

While value capture techniques have been most often applied in situations where land prices increase as a direct result of a nearby public transportation improvement, they can conceivably be applied in more instances, depending on an accepted concept of "value" and of a fair and equitable means of "capturing" it. The common viewpoint on value is one centering on land and any increase that is added to its price due to the proximity of a transportation system or improvement. The increased value may be on the land itself in its present use or it could be due to a different land use that has suddenly become an optimal alternative because of the nearby public improvement. For example, a piece of property may be zoned for commercial use but there may not be any major roads nearby. If a major road were built that would be used by many potential shoppers, then it may be worthwhile to build a mall, and the commercial activity sparked by the road would increase the monetary value of the land and its use.

However, the concept of value capture can be expanded to include other kinds of assets, besides land, such as profits, reduced costs, and building usage. Profits from sales for a store may increase due to a larger number of customers drawn to the store because a new road provides improved access or because a subway stop is added two blocks away. Conversely, business expenditures may go down because of reduced shipping costs due to improved roads.

Just as a type of land use might increase the value of the land because of a nearby transportation system, so too, will a building's use value increase in relation to an improved or new transportation system. In a commercial area, the number of people attracted to a store, and thereby using a building, is a factor in evaluating the value of the building. The number of trips generated by the commercial activity affects the demand for, and wear on, the existing transportation system and also the value of the use of the building. For example, a department store that sells clothing and household goods is located near the central business district. Its peak business hours are lunchtime and from 5 to 6 pm. The rest of the day, business is very slow. A regional transit authority builds a subway system that connects the downtown to outlying residential district. People who do not have cars or who do not like to drive in the city, such as housewives or retired persons, now have access to the downtown shops and can do their shopping at off peak times when the stores are less crowded. Sales volumes increase for the department store as the number of trips generated by it rise, and the store is busy all day rather than just at certain times.

The improvements in sales and business can be directly related to the subway system which has been provided by the public sector at no additional cost to the department store. Many proponents of value capture techniques would argue that some of the value added to the department store (the increase in customers and sales) by a public improvement (the subway system) could justifiably be recovered to help pay for the public improvement. Furthermore, the subway system helps increase the number of trips generated by the commercial activity. This illustration may be made clearer by describing a comparative building use at the same building site.

Let's say a night club was located in the building instead of the department store. If the club is open until 3 a.m. and the new subway system stops service at 11 pm., the subway may have little or no effect on the profits earned or the number of trips generated by the club.

Proponents of the value capture concept may then have a substantially weaker argument for "capturing" some of the club's profits to finance the cost of the new subway.

Justification for Using Value Capture

The primary advantage of value capture techniques is the reduced burden of cost for the public sector (i.e., the taxpayers) for its provision of a public good. Yet it is by no means the sole or most important benefit of value capture. Properly incorporated into long-range transportation and/or comprehensive land use plans, value capture techniques become tools for pursuing economic and development policies. The techniques are not just innovative ways of financing transportation; they are also innovative ways of solving problems of small, medium, and large sized localities. For this reason all officials with planning and management responsibilities should be aware of value capture techniques, not just transportation officials. All of these officials should work together in the planning stages of any project. For example, land use planning and zoning controls around public transit stations should be considered in the planning stage of the transit. The impact of the transit on the area should be considered and planned for and any changes to land use and zoning regulations should be made before construction begins.⁴

⁴Urban Land Institute. ULI/UMTA Policy Forum on Joint Development
(Footnote Continued)

For instance, a locality named "Growville" has been growing for the past 5 years more rapidly than it is able, or can afford, to handle. Because of its prime location and low property taxes, several corporate centers and light industries, and the services to support them, have moved to Growville. It has been 5 years since the comprehensive plan was reviewed and it is now time to update it. The municipal officials decide that it would be in the best long-term interest of the locality to limit the amount and the locations of future growth and to hold existing and future business, industrial, and commercial establishments responsible for an expansion and improvement of public facilities necessitated by the growth. To further this policy of growth management the revised comprehensive plan contains specific objectives and strategies. Studies are undertaken to determine the population carrying capacity of Growville. Factor such as water and sewer capacity, housing, availability of developable land, open space, schools, fire, police and trash collection services, transit services and the condition and extent of the road network are considered. The result of the studies is the decision by local officials to designate areas that are appropriate for growth. Areas are categorized into zones: built-out, designated growth zones reach the built-out stage.

In the existing built-out zone road improvements are needed on the main corridor for reasons of safety and accessibility. Growville has funds available for maintenance but not for improvements. The officials choose to establish a special assessment district that contains all of the

(Footnote Continued)

of Rail Transit Facilities. Washington, DC: Urban Land Institute, 1987
p. 38.

businesses along the main corridor. The businesses are assessed a fee to cover the costs of the improvements.

In the designated growth zone the roads are secondary and in poor condition. Again, Growville does not have sufficient funds to upgrade the roads. An impact fee regulation is passed which requires developers to pay for or make a portion of the needed improvements according to the size of their proposed developments.

To discourage growth in the reserved and open space zones, it is anticipated that roads in these zones will only be maintained at their present level and will not be upgraded. This policy will remain in effect until the designated growth zones are built-out and development is slated to occur in the reserved zones. Similar maintenance and upgrading schedules and policies are established for all forms of public infrastructure and services. In this way, transportation and its financing are coordinated with long-term development and growth management plans.

Value Capture Techniques

The most common value capture techniques fall into two categories: charges on benefiting properties and joint ventures with the private sector.

"Charges on benefitting properties recognize that there are specific beneficiaries for most any transportation improvement. Techniques within this category attempt to identify these beneficiaries, capture some of the value generated by the improvements, and channel captured revenue into support of the transportation system."⁵

⁵Gary T. Johnson and Lester A. Hoel. "Innovative Financing for
(Footnote Continued)

Proponents of joint ventures with the private sector recognize that "it is frequently mutually advantageous for the public and private sectors to cooperate on transportation projects."⁶

Negotiated investments, impact requirements and special assessment districts are three types of charges on benefitting properties. In a negotiated investment a developer either makes or contributes to a public improvement in exchange for a concession from a public authority, for example for a building permit or zoning change. A negotiated investment that is made voluntarily on the part of the developer is often referred to as a proffer. Impact requirements are similar in that they are mitigating measures and they are required as part of the approval process of a new development, but they are imposed rather than negotiated. The requirements are "charges or other conditions imposed upon developers to mitigate or compensate for the impact of their projects."⁷ In the case of special assessment districts, properties surrounding and benefitting from a public improvement pay a one-time fee or pay over several years. The amount may be a set fee or may be a proportioned amount of the cost determined by a formula.⁸

Two types of joint ventures with the private sector that are value capture techniques are donations and public/private partnerships.

(Footnote Continued)

Transportation: What Are the Options?" article from Innovative Financing for transportation: Practical Solutions and Experiences (Lester A. Hoel, Ed.) Washington, DC: U. S. Department of Transportation, April 1986 p. 1.

⁶Johnson, et al., p. 6.

⁷Johnson, et. al., p.6.

⁸Johnson, et. al., p. 4.

Donations can be in the form of funds for capital improvements and for the extension of services. Donations may also be in the form of real property for facilities. In a public/private partnership, the private entity is willing to share operating expenses or to contribute to the construction costs of facilities that are interconnected to, or integrated with, their developments.

CHAPTER II: GENERAL GUIDELINES FOR LOCAL DECISION-MAKERS

When considering the use of value capture techniques for transportation, planning and decision-making officials need criteria with which to evaluate each technique. Not every technique is applicable in every situation and locality.

Legal Issues

The first consideration is the availability of the techniques in a given locality. The legality of several of the techniques is questionable in many states. Among the states where they are permitted, the regulations pertaining to them vary greatly. It is not possible to review here the legal status of every technique. Not only do interpretations differ from state to state, but legislation is frequently before various state legislative bodies concerning the permissibility of innovative methods of generating revenue for public facilities. Thus, the legal status of value capture techniques in any one state may be in the midst of change.

At the local level, municipalities derive their power from the state. In a Dillon rule state, municipalities are prohibited from exercising any power not expressly given to them by the state legislature or constitution. Hence, state level enabling legislation is usually necessary before various value capture techniques may be utilized.

In a home rule state the opposite would appear to be true as municipalities are permitted to exercise any power not expressly prohibited by the state legislature or constitution or reserved by the federal Constitution to be a power of the federal government. Therefore, it would seem that a municipality in a home rule state would be free to utilize any of the value capture techniques that the state legislature had not prohibited.

However, that is often not the case. Even though home rule states allow local governments to perform whatever functions are not expressly prohibited in state legislation, localities in home rule states may be reticent to try value capture financing techniques. One reason for this lack of implementation may be that each locality fears becoming a test case in the courtroom. Since value capture techniques have not been used frequently in some states, no one is sure just what the legal limitations and ramifications are of value capture techniques. Even if a locality were to win the case, the cost of winning may be prohibitive and more than the amount saved by the implementation of the value capture technique. Some advocates of innovative financing methods have suggested creating specific enabling legislation, but others oppose it on the grounds that, if the legislature specifies what may be done, it may unintentionally impose unnecessary limitations upon localities. The fear is that stating that a particular means of financing is permissible will be interpreted to mean that only that method is permitted and that all others are prohibited.

Economic Considerations

While not the sole determinant in evaluating whether the implementation of a value capture technique is feasible, the economic conditions of an area are an important consideration. In an area experiencing rapid growth local officials generally have more leverage with developers to negotiate investments or to impose fees. While attempting to extract as much as possible from the private sector, local officials should not push them too far or they may choose to locate elsewhere. However, this may be a desirable effect if the locality is trying to discourage growth.

In areas facing stagnation, joint development may be the most appropriate value capture technique to use to finance transportation

improvements. Officials have little bargaining power in times of economic difficulty since they are more concerned with attracting businesses rather than making them pay for the impact of their establishments. A joint venture could lead to economic revitalization as well as a transportation project or improvement.

Political Considerations

When using value capture techniques to finance improvements and projects, all aspects of transportation should be considered, including long-term and short-time costs and benefits. Land use planning should be evaluated and any changes in land use should be made before construction. This assures the developers that the local government is committed and they will know up front what they will be allowed to do and what will not be permitted.

Local officials should avoid the temptation of getting involved with an extravagant transit project simply because it will "look good."⁹ Generation of ridership and long-term economic and social benefits should remain high priorities. The opportunity to channel and manage growth should also not be overlooked.

Large projects with regional impacts may require active cooperation with other local governments. While sometimes seen as a threat to autonomy, coordination of transportation activities at the regional level may be beneficial in the long run. Transportation needs often cut across jurisdictional borders and a multi-governmental approach can lead to greater efficiency and a reduced duplication of efforts.

⁹ULI/UMTA Policy Forum, p. 6.

Finally, political skill is of great importance. While impact fees are imposed, many of the other kinds of value capture techniques involve some degree of negotiating agreements. Developers must be convinced that the long-term benefits that they will receive will outweigh the initial costs of helping to finance transportation improvements. The public must be convinced that the improvements will benefit the community as a whole and not just the developers.

Private Sector and Community Involvement

Local officials must decide to what extent developers, commercial and business establishments and members of the community should be involved in the decision-making process. Generally, it is more advantageous to involve them as much as possible. The private sector can be influential in generating public support. A business representative from the community may be able to more easily convince his or her business neighbor to donate a right-of-way than could a government official. Public meetings and hearings might generate innovative ideas that public officials had not considered.

The community and businesses are also more likely to support projects and financing methods that they have helped to select and a developer may value the non-economic benefits of involvement in transportation improvements. Public support and acceptance of his development projects are likely to increase and he may be recognized as a community leader. For these reasons, he may wish to be a part of the decision-making process as well as to participate in the financing of the transportation project.

Costs and Other Sources of Funds

Under some circumstances, the value capture techniques may be used to leverage matching transportation funds from the federal and state

governments. Often the potential for additional funding sources serves as the impetus for choosing both the financing mechanism and the actual transportation project. Officials should be cautious with this approach as it could lead to forcing the project "to fit the requirements." Priorities may become inappropriate; one transportation project may be selected over another because additional funds are available rather than because it best serves the community's interest.

All costs should also be considered when evaluating value capture techniques. Will maintenance and operations be covered by the value capture technique under consideration as well as the costs of capital improvements? If not, how will maintenance and operational costs be covered? Perhaps another financing technique should be considered for implementation after construction is completed.

Equity

Perhaps the most important criterion to be considered when evaluating value capture techniques is equity. Much of the literature devotes a substantial amount of discussion to issues of equity, or "the equality in treatment of different groups of landowners and/or residents, including equity between new entrants and established landowners/residents or between residents in special financing districts and all others (called inter-group equity), equity within a given group such as new entrants (intra-group equity), and equity between current participants and future generations (intergenerational equity)."¹⁰

¹⁰ Apogee Research, Inc. Financing Infrastructure: Innovations at the Local Level Washington, DC: National League of Cities, 1987.

Value Capture Techniques

Each of the value capture techniques has its own characteristics, some of them advantageous and some of them not. The following is a brief discussion of each of the techniques, except for impact requirements will be discussed more fully in the next chapter.

Negotiated investments, especially those that are voluntary or "proffered", are more likely to be legal in most states than are impact requirements. The fact that they are negotiated rather than imposed can be both a benefit and a problem. Negotiations can be more flexible and can lead to greater concessions on the part of the developer if he needs to speed the approval process or if he recognizes greater transportation improvements will further enhance his project. However, under negotiated investments, the extent of the contributions may vary from developer to developer. This may be considered an inequitable distribution of responsibility by some developers.¹¹

Special assessment districts "are appropriate when the benefits from an improvement are not sufficiently general to impose the costs on all tax or fee payers in the form of universal tax or fee increases."¹² They are similar to impact fees in that those who benefit from an improvement pay

¹¹C. Michael Walton, Mack A. Euritt, Reginald R. Souleyrette II. "Private Participation in Financing Highway Projects and Providing Property for Highway Improvements" an article from American Association of State Highway and Transportation Officials, Understanding the Highway Finance Evolution/Revolution Washington, DC: American Association of State Highway and Transportation Officials, January 1987 pp. 144-145.

¹²James C. Nicholas. "The Use of Benefit Fees and Assessments in Financing Transportation Improvements," Understanding the Highway Finance Evolution/Revolution Washington, DC: AASHTO, January 1987, p. 100.

for it. Amounts charged in an assessment district may not exceed the cost of the provision of service and the improvements made must directly benefit those paying within the district. However, impact fees are applied only to new development whereas special assessment districts include both existing and new development. Another difference is that while the authority to impose an impact requirement is derived from a locality to create a special assessment district.¹³ Since it is a form of taxation, an assessment district may be opposed by those who have to pay it, but the formation of a district is less likely to incur litigation charges than is the imposition of an impact requirement.¹⁴

Donations come in three forms - money, real property and services.¹⁵

"Donations are most successful as a funding supplement in areas where businesses or private citizens have a strong interest in development."¹⁶

Donations are generally permissible by law¹⁷ but in some cases the agency receiving the donation may not have the authority to accept it. This will depend on the enabling legislation or the charter creating the agency.

However, there is likely to be a related agency that can act as the beneficiary of the donation.

Donations are a way for the private sector to speed the public sector's provision of needed services. This is particularly true when the local

¹³Nicholas, p. 100-101.

¹⁴Nicholas, p. 102.

¹⁵Walton, et al., p. 143.

¹⁶Walton, et al., p. 143.

¹⁷Walton, et al., p. 143.

government is willing to provide the services but a shortage of funds hampers its ability to do so. Donations are, however, oriented usually to specific projects. Thus, while they are beneficial in certain circumstances, it can be difficult to incorporate them into any long-term planning for a locality's needs. It is feasible to incorporate them into long range or comprehensive goals when they are a part of a larger package, as exemplified by the case study from New Haven, Connecticut (see Chapter Four). As part of an arrangement whereby the City of New Haven provided parking facilities to the Yale-New Haven Medical Center, the Medical Center donated to the city a parcel of land zoned for industrial use where the city is encouraging economic redevelopment.

Public/private partnerships have several advantages that are not always prevalent under the use of other techniques. Because they are voluntary agreements, jointly bargained between the developer and the local authority, they are readily acceptable to both the private and public sectors and are not likely to be subjected to legal difficulties. Joint projects are usually well accepted by the broader general public, too; the partnership usually results in a larger, more comprehensive project that serves the public interest better than either the public or private sector could do alone. The cost to taxpayers is reduced and the involvement of the private party often results in social and economic benefits as well as those relating to transportation.¹⁸ The partnerships in Newton, Massachusetts, between the Massachusetts Bay Transportation Authority and a local developer, and in New Haven, Connecticut, between the city and the

¹⁸Walton, et al., p. 155.

hospital, are excellent examples of the multi-benefits generated by public/private partnerships (see Chapter Four).

An important rule for any type of joint venture that involves public transit is that, regardless of what the development project is, it should encourage ridership. This holds true for two major reasons. First, the more frequently riders use the system, the greater the amount of farebox funds that are available to pay the operating costs of the system. Ridership also lends support to the reasons for creating a public transit system. If there are few riders, one wonders whether the existence of a particular station, if not the system itself, is justified. Secondly, increased ridership would make the joint venture more successful. The advantage for a private entity of locating a development adjacent to public transit is accessibility and exposure. Riders who would otherwise not ride the transit or, if they did ride, would not stop at that particular node of the transit system, may be attracted by what the project offers. The more riders attracted to the development the more successful the development will be. Other developers may then be attracted to the area by the success of the first. The public transit benefits by even greater numbers of riders and by revenues from the additional value capture techniques applied to the new development projects.¹⁹

Application Scenarios

It is difficult to develop comparative criteria for selecting a particular value capture technique. Each locality is faced with a unique set of circumstances including different transportation needs and economic,

¹⁹ULI/UMTA Policy Forum

legal, and community factors. However, certain scenarios seem to recommend the use of one or two particular techniques or a combination of them.

Scenario A This community is faced with the combined factors of rapid growth and development pressures and insufficient infrastructure to support it. This created a great impact on the existing transportation system. An increase in tax-based revenue is anticipated but there is a substantial period of lag-time between the creation of the need for improvements and the generation of increased revenue for the locality. In the meantime, the transportation system is overburdened and the pressure has been created mainly by the new development. This situation suggests and justifies the use of impact fees which can be implemented during the rezoning and subdivision approval process. In localities where the legality of impact fees is questionable, negotiated investments and donations may also prove effective.

Scenario B This community has sustained economic stability and continual growth over a longer period of time. There is heavy congestion and outdated facilities and/or roads are in need of upgrading. The need has been created by both recent and older development, particularly in the commercial, retail, or industrial areas, and improvements would benefit both the old and new establishments. Special assessment districts may be most appropriate in this case, particularly if long-term economic stability or growth is projected. A bond could be issued and financed by assessments payable in lump sum or over a period of time.

Scenario C Public/private partnerships can be applied in areas where improvements are needed whether the areas are economically stable or in need of revitalization. A private entrepreneur may be attracted to rehabilitate a station depot in a flourishing commercial, retail, or

residential area, as was the case at Newton Centre. A joint effort by public and private parties to provide offices or amenities as well as transportation could be a combined service center, such as a subway station, bus depot, or road intersection or interchange, that would also be a focal point of economic revitalization in a depressed area.

Obviously any one or more circumstances in these hypothetical scenarios may differ in reality for any locality considering the use of value capture techniques. Local officials may conclude, for example, that impact fees and negotiated investments are the best alternative for political reasons even if their locality is economically depressed. Donations and public/private partnerships that share costs and benefits may be applicable in any situation. There is no one pat formula for determining the best technique to use but perhaps this report on the attributes as well as the drawbacks of value capture techniques may help determine the most appropriate one.

Issues surrounding value capture techniques and their implementation have obviously not been resolved completely. Yet as traditional sources of transportation funds continue to dry up, localities must find more innovative methods of financing the construction and maintenance of their transportation and transit systems. For the future, value capture techniques may be one way for states, localities, and the private sector to jointly finance, and benefit from, transportation.

CHAPTER III: SPECIAL CONSIDERATIONS FOR IMPACT REQUIREMENTS²⁰

Various forms of impact requirements are the most frequently used charges on benefitting property and therefore have received the most scrutiny from public officials, developers, and the legal profession. Originally, developers were only required to provide roads within their subdivisions. As local officials began to realize that the impact of development extended to public roads they also required off site improvements. Developers may contribute to such improvements through monetary payments or by construction of the improvements themselves. Because greater access increases the benefits they receive from their project, developers often choose to do the actual construction. They can often do it cheaper and faster than can the public sector.

The increase in usage of impact requirements is a result of the physical and economic growth and expansion in many localities. While beneficial in many ways, growth is expensive to accommodate. Growth often does not pay its own way for the improvements in physical infrastructure that it necessitates. Impact requirements can not only help finance growth but can also be a tool to manage and lead to better development.²¹

Legal Issues

²⁰ Much of the information in this section was derived from James C. Nicholas' article, "The Use of Benefit Fees and Assessments in Financing Transportation Improvements" in Understanding the Highway Finance Evolution/Revolution Washington, DC: American Association of State Highway and Transportation Officials January 1987 pp. 83-116.

²¹ Nelson, Arthur C. "Introduction to Symposium: Development Impact Fees" Journal of the American Planning Association Winter 1988 Vol. 54 No. 1 p. 3.

Through the exercise of its police powers, a local government can impose impact requirements on new development during the regulatory process that is necessary for the developer to go through to get approval for his proposed project. Approval may be conditioned upon the developer making the required transportation improvements that are necessitated by the impact of his development.

This power stems from the local government's power to regulate land use. Generally, the responsibility to make land use decisions falls to local governments as part of the general police powers granted to them by the states. The extent of those police powers varies from state to state but usually the power of local governments to regulate land use is broader than their power to tax. Limited amounts of revenue can be generated through taxes due to both political and legal reasons. As long as it meets the requirement that it can only exercise its police powers for the purpose of protecting the public health, safety and welfare, a locality may implement impact requirements as a way of regulating land use. The requirements can be imposed to protect the public from the negative effects on traffic and roads that would be caused by new development.

To prevent the local government's abuse of its police powers, the impact requirements must meet the "rational nexus" test. The "rational nexus" test was devised by the courts to determine the validity of impact requirements. There must be a reasonable relationship between the impact requirement and the costs actually incurred by the government to provide the service for which the development will create a need.²² This test was

²² Jordan v. Village of Menomonee Falls, 28 Wisc. 2d 608, 137 N.W. 2d 442 (1965).

furthered developed by later court decisions into the "dual rational nexus" test²³ which added the requirement that the development paying for the impact requirement must also benefit from the use to which it is put. This is to prevent local governments from taking funds collected due to impact on services and using them for other needs as they arise. These needs may be in no way related to the new development and the result may be that the developer subsidized community services. Unrelated needs should be met by general revenue funds or other sources.²⁴

Impact requirements are generally recognized as a legitimate exercise of police powers. In states where the courts and/or the legislatures have not validated the use of police powers for the purpose of impact requirements, negotiated investments or "proffers" may be legitimate alternatives.

In states where impact requirements are permitted the tests applied by courts have evolved into three general rules:

- 1) New development must actually require the expansion of capital facilities.
- 2) The fee required must not exceed the costs incurred by the local government.
- 3) The revenues must be spent only on that expansion for which the fee was collected.²⁵

²³ Jordan v. Village of Menomonee Falls, 28 Wisc. 2d 608, 137 N.W. 2d 442 (1965).

²⁴ For further discussion of the Jordan and Dunedin cases see Nicholas, pp. 96-97.

²⁵ Nicholas, p. 97.

Local officials in these states will still have to verify how strictly or narrowly the state courts will apply these rules.

Feasibility

While impact requirements may initially seem to be a cure-all for financial constraints on transportation improvements, they are not applicable in all situations. A locality needs strong growth to implement impact requirements. The demand for development must be sufficiently high that imposition of fees or requirements will not be a deterrent to development and provide an incentive to developers to build elsewhere. Impact requirements will raise costs, the effect of which is likely to slow down the pace of development. Generally speaking, impact requirements are most useful and applicable in areas with strong growth. While developers often oppose impact requirements, impact requirements have not slowed new development in high growth areas.²⁶ Even if impact requirements are readily available, caution and careful planning must still guide their application. If the monies raised through requirements are used to match state or federal funds, local priorities occasionally become inappropriate. Local officials may choose to build large new projects rather than correct smaller problems that are in greater need of improving.²⁷

²⁶ American Association of State Highway and Transportation Officials. Understanding the Highway Finance Evolution/Revolution Washington, DC: American Association of State Highway and Transportation Officials, January 1987 p. 3.

²⁷ American Association of State Highway and Transportation Officials, p. 3.

Advantages

Impact requirements are often politically acceptable because existing development and residents feel that the newcomers, whether the newcomers are residents or businesses, should pay to cover the costs of the needs in services that they create. Impact requirements allow the community to maintain its level of transportation services without increasing taxes. Factors such as inflation can also be taken into account. As inflation fluctuates, fees can be adjusted accordingly. Impact requirements are also responsive to the growth which they are used to accommodate. As growth increases, so does the revenue generated from impact requirements. Revenue potential is not unlimited, but through an analysis of market trends and an assessment of transportation needs, a determination can be reached of both how much money is needed and how much can be raised. An impact requirement can then be formulated. "The amount of revenue to be derived from impact fees is a direct function of the amount of the fee and quantity of new development."²⁸

Disadvantages

Impact requirements are generally regressive. The requirement for a low-cost (and therefore low-profit) housing development is the same as that for expensive condominiums. The ability to pay is not a consideration in the formulation of impact requirements; creating a more progressive impact requirement runs the risk of having it invalidated as an impact requirement and declared a tax.²⁹ "There is little opportunity to mitigate this problem because impact fees are driven by cost rather than by ability to

²⁸Nicholas, p. 99.

²⁹Nicholas, p. 98.

pay."³⁰ Who pays the increase in cost, the developer or the purchaser, is frequently debated but it is likely that it is determined by the strength of the market.³¹

Impact requirements are also unstable. They are dependent on the amount and kind of new development that occurs in the area that is in need of transportation improvements. This can make long-term planning difficult. Another disadvantage to impact requirements is their administration. Funds generated through requirements must be kept in a separate account and cannot be mixed with the general revenues collected through taxes.³² They often must be spent within a certain time period but may not be used for maintenance purposes.³³

Economic Considerations

Officials should keep in mind the potential impact of impact requirements. Over the long run consumers of development projects - homeowners or residential or nonresidential tenants - will often pay the cost of the impact requirements as it is passed along by the developer.³⁴ Consumers may pay either in the form of higher prices or a lower quality of product.³⁵ Impact requirements can also affect and alter development

³⁰Nicholas, p. 98.

³¹Nicholas, p. 98.

³²Nicholas, p. 99

³³Nicholas, p. 99

³⁴Forrest E. Huffman, Arthur C. Nelson, Marc T. Smith, and Michael A. Stegman "Who Bears the Burden of Development Impact Fees?" Article from "Symposium: Development Impact Fees" Journal of the American Planning Association Winter 1988 Vol. 54 No. 1 p. 49.

³⁵Huffman, et al. p. 50

patterns, availability of affordable housing, and the distribution of fiscal benefits.³⁶

In highly desirable areas, wealthier clients may be willing to pay the higher cost. Developers may then stop producing for the lower income clients if it would reduce his profits. The lower income clients cannot afford the cost of the impact requirements and the upper income clients are willing to pay it. If upper income clients are also unwilling or are unavailable, developers may drop out of the market until demand becomes sufficiently high enough that they can charge prices high enough to include the impact requirements and still regain the profit margin that they desire.³⁷

A possible unintended effect is that comparable developments built before the imposition of impact requirements may also rise in price to equal that of developments built after impact requirements. The owners of the earlier projects stand to make an even greater profit than their competitors.

Impact requirements can also have other unintended or unanticipated effects in areas where a few, but not all, localities impose impact requirements. Impact requirements in one locality forcing up development costs may cause lower cost (or profit) development, particularly housing, to relocate into other localities that are ill-equipped to handle an influx of low and middle income households.³⁸ This may lead to changes in the

³⁶Huffman, et al. p. 49

³⁷Huffman, et al. p. 50

³⁸Huffman, et al. pp. 51-55

socioeconomic make-up of individual localities and in the development patterns of the area as a whole. It may not be realistic to expect developers to adapt to impact requirements in another manner; evidence in Orlando showed that not only did average price increases reflect the cost of impact requirements but also the kind of housing being built, "largely because builders could not appropriately factor sizable fixed development impact fees into production costs unless they catered to more affluent households."³⁹

In turn, the localities imposing impact requirements could receive several other unexpected benefits. As housing prices rise, so does revenue generated by property taxes. And as lower income households are replaced with more affluent ones, the need for the local government to provide a variety of services is reduced. Local sales tax revenue is likely to increase as more affluent residents have greater dispensable incomes.⁴⁰

Overcoming Legal Difficulties⁴¹

There are ways to overcome some of the difficulties surrounding impact requirements. Massachusetts law does not permit traditional impact fees but several localities have found ways to implement variations of impact fees, although their legality is still being questioned. At present a local planning board cannot outright disapprove a proposal if existing zoning regulations would allow it. A primer is being prepared by the Boston Metropolitan Area Planning Council that will serve two functions for

³⁹Huffman, et al. p. 52

⁴⁰Huffman, et. al p. 52

⁴¹Interview with Dan Fortier, Metropolitan Area Planning Council

localities; it will inform them what techniques are available to them now in the way of impact fees and it will also describe what techniques they will be able to use if pending state legislation is passed.

Presently, local impact fees are taking the form of an approval of projects seeking a special permit to exceed a minimum allowable development density. In effect, the community exchanges density for the fee value. One means that the state uses for implementing a form of impact fees is through the Massachusetts Environmental Policy Act (MEPA) process. If it is found that a proposed project will have major impacts on an area, mitigation of such impacts may be required. Massachusetts law requires an environmental impact report to be prepared for any large projects and from this report traffic improvements may be required from developers. The state gets involved in the approval process because the effects of the development may extend beyond the borders of the locality in which the development is located to neighboring communities. Also, if the development is on a state road, the developer must get a certificate approving state driveway permits, etc. MEPA sits down with the developer and state and local officials and discusses the various problems and alternatives so that all the parties involved and affected will be satisfied.

The town planning board must first approve the mitigation plans submitted by the developer. The plans are then submitted to MEPA by way of an environmental notification form which states the size of the project, its impacts on the environment, and how the developer proposes to mitigate such impacts. MEPA then holds a "scoping session", a 30 day review and comment period. Based on MEPA's comments the developer's engineer then prepares a more in-depth study. This becomes the environmental impact report which MEPA and state and local officials have another 30 days to

review after it has been filed. MEPA comments on whether all of the requirements have been met and determines if any further information or action is needed. These comments are returned to the developer who prepares and submits a final report and then there is a final 30 day review period. If for some reason more information is required, the developer files a supplemental report. Depending on how long the developer and the engineer take to prepare their reports, the MEPA process takes a minimum of 90 days up to several years to complete.

In the Boston area MEPA's involvement in the development approval process is frequent because of the proximity and small size of neighboring localities. Large developments almost always affect surrounding communities who have no control over the zoning regulations and requirements of the locality containing the project.

CHAPTER IV: CURRENT PRACTICE

The extent and manner of usage of value capture techniques throughout the United States were assessed for this project in two ways. First, two surveys were conducted. One, a pilot survey, consisted of a questionnaire sent to localities mainly located in Virginia. The second survey was conducted nationally. The same questionnaire that was used in the pilot study was distributed to randomly selected counties in each state. The questionnaire requested information regarding how well known value capture techniques are, the frequency of their implementation and the situations in which they are implemented. The incompleteness of information provided in the questionnaires that were returned indicates that the concept of value capture techniques is neither well known nor frequently utilized in much of the country.

The second method of assessing the current practice of using value capture techniques to finance transportation was through face-to-face interviews with transportation and local government officials. This proved to be a much more useful method of gathering appropriate information. Questions could be asked and statements clarified if one person did not completely understand the meaning of the other during the interview, as was frequently the case. Terminology was the most frequent cause of confusion. Some officials used similar terms such as impact fee, proffer, and exaction interchangeably while others interpreted them to have distinctly different meanings. Often any one term, including "value capture" meant different things to different people.

Face-to-face interviews offered the opportunity to both recognize and clear up any confusion. Officials also seemed more inclined to provide any and all relevant information when personally requested to do so. Form

letters and questionnaires provoked less completely informative responses, both in terms of amount and substance. The rest of this section contains a discussion of the survey results followed by the case studies that were selected after the interviews were conducted.

Summary of Survey Results

In order to ascertain the extent of the knowledge and the use of value capture techniques by local government officials, a national survey was conducted. Two different questionnaires were prepared, one to be completed by officials whose localities have implemented value capture techniques and one to be completed by officials whose localities have not. Both questionnaires were sent together with a cover letter and accompanying instructions. The surveys requested information not only on value capture techniques and the projects in which they were used but also on nearby land uses, local taxes, and political, economic, and legal factors affecting the decision to use or not use value capture techniques.

After discussions with several people who have knowledge of local government decision-making in various states, it appeared that the county was the appropriate level of local government to survey throughout the country, since in many states any lower jurisdiction would be too small to finance transportation. It was felt that while a county may not always be involved in the provision of transportation, its officials would at least be aware of projects within its boundaries and could supply the pertinent information and references.

To test the survey, a pilot study was conducted of localities in Virginia. Chapel Hill, North Carolina; Fort Washington, Pennsylvania; and West Palm Beach, Florida, were also included in the study since persons who were sources of information had identified individual contacts in these

localities. For the national survey, two counties were randomly selected from each state and the surveys were sent to the appropriate planning official or county administrator. In cases where there was no county level department or authority, the city that serves as the county seat was surveyed. A few states were not surveyed because information and addresses could not be obtained from the selected counties. Between the pilot study and the national survey, approximately 100 jurisdictions were sent questionnaires. The total response rate was approximately 25%. Of those that responded, only seven indicated that they have used one or more value capture techniques.

Almost half of the non-respondents were contacted by telephone to request that the surveys be returned. Several said they did not receive the surveys or threw them out, so they were sent a second copy. Others preferred not to take the time to fill them out and just stated either on the survey or over the phone that they do not use value capture techniques.

The response rate was much higher for the pilot study than for the national survey. Of the 22 sets of questionnaires sent out in the pilot study, four localities responded that they had used value capture techniques and six responded that they had not. Only three localities of the 89 surveyed nationally reported use of value capture techniques while fourteen reported that they had not used them.

Case Studies

To obtain more information than that received through the surveys, personal interviews were conducted with local officials in cities, counties and towns in the Northeastern United States. Telephone calls were first made to transportation and planning officials throughout the region to discover if their localities had utilized any innovative means of financing

transportation. Interviews were scheduled with those officials whose projects sounded most promising as examples of value capture techniques. After conducting numerous interviews, transportation projects in several large cities and smaller towns were selected as case studies to be presented in this report. The cases selected were special assessment districts in East Whiteland and Tredyffrin Townships, Pennsylvania; West Whiteland Township, Pennsylvania; and Dennis, Massachusetts; joint ventures with the private sector in New Haven, Connecticut, and Newton, Massachusetts; and negotiated investments and impact requirements in Framingham, Massachusetts, and New York, New York.

Case Studies

Technique: Special Assessment District

Location: East Whiteland and Tredyffrin Townships (Chester County, Pa.)

Players: Townships, Pennsylvania Department of Transportation (PennDOT),
property owners

Background

The project involves the Route 29 corridor and is considered the "flagship project in the state for partnerships." It is the first project in Pennsylvania financed by methods newly permitted by recent state legislation. The Route 29 corridor starts at a T-intersection with Route 30, which runs east and west, winds north past an office/industrial area to a diamond interchange at Route 202 and then extends 1.5 miles beyond the interchange.

All of Chester County is exploding with growth. Much of the growth in East Whiteland and Tredyffrin Townships is due to the rapid expansion of the office/industrial area along Route 29, a state road, which was causing severe traffic problems. In 1983 discussion began concerning the heavy congestion in the area and a traffic study was conducted. The two townships involved, East Whiteland and Tredyffrin, began discussions on a cooperative effort to address the problems because the office/industrial area where most of the congestion was concentrated overlaps both of their boundaries. Businesses in the area suggested that the townships refrain from imposing exactions. The private sector wanted to get involved to help solve the problem and felt that exactions were not the solution. In conjunction with property owners' cooperation, a transportation task force was formed.

After the task force was formed, its members held several meetings to discuss the issues of getting the state involved, getting traffic off the back roads and onto the main roads, and generally encouraging better utilization of Routes 202, 30, and 29. The task force paid for traffic studies and engineering and also suggested recommendations to alleviate traffic conditions. It then applied to the state for funds. At one meeting, members discussed their desire for, and the then existing lack of, a mechanism whereby the state and the private sector could arrange a "partnership" to each pay a portion of road improvements. This resulted in discussions with then state Senator Stauffer who initiated enabling legislation to form a joint authority or "partnership" between the state and the private sector. The legislation passed and became known as Act 47 or the "Transportation Partnership Act." The property owners in the district went into a partnership arrangement with the state and a "Joint Transportation Authority" was created. The authority in turn established the special assessment district. The initiative to improve the area originally came from the public sector, but was quickly supported by the private sector as well. A definite need to reduce congestion was recognized by all parties.

Improvements

The improvements to be made are on Route 29 from Route 30 to the Great Valley Parkway. Swedesford Road, a local connecting road, will also be improved. At the interchange the number of ramps leading on and off of Route 202 will increase from four to eight. Route 29 will be widened to four and five lanes and Swedesford Road will also be widened. No improvements will be made that directly enhance an individual property owner's property and value (eg., deceleration lanes). Rouse and

Associates, a large developer with landholdings in the area, had recognized several years beforehand the changes that were destined to occur and built two of the proposed ramps (Ramps A and B) themselves at a cost of about \$3 million. This was Phase I of the improvement project and has been completed. Phase II construction was supposed to have begun in 1987 but due to engineering difficulties, it did not begin until the fall of 1989.

Technique

A cross-township transportation district was formed in 1985 which includes all businesses on Route 29, businesses with access to the interchange ramps, and those businesses that will be enhanced by the improvements. Therefore the district extends a bit beyond properties immediately adjacent to the improvements. The district overlaps the two townships, East Whiteland and Tredyffrin, but does not include either one completely. It encompasses an area with approximately a two mile diameter around the Route 202 and Route 29 interchange. The district is headed by the Joint Transportation Authority which was formalized January 1, 1986. The Authority has the power to assess the business community within the district. The business community was assessed \$4 million which was used to match the state's \$21.7 million.

There are five members on the Authority, two appointed by each township. The two appointed by each township are from the private sector and the townships are free to choose them as they see fit. The fifth member must work within the district and must live in one or the other township. As the "Business Representative" he must be approved by both townships. The terms for the members vary from 1 to 5 years.

The Authority has its powers granted to it by the Boards of Supervisors of the townships so the Boards have a strong voice in decisions. The

Authority makes decisions independently but the Boards do have the power to override a decision. In this case, there have not been any problems or conflicts. (In this type of situation individuals may play very important roles; much credit goes to Barney Bus, a chief industrial engineer in one of the industries along Route 29 and also the Chairman of the Authority. He is not an elected official.)

According to the partnership agreement between the state and the district, the state contributed \$21.7 million which was matched by the district's business community in the amount of \$4 million, plus Rouse's \$3 million contribution for construction of two ramps. The design costs of the project are covered by PennDOT and the acquisition of right-of-way is being handled by the Authority. In the agreement with PennDOT, if the Authority gets the requisite rights-of-way, then PennDOT will cover any construction cost overruns.

It was very important to have the Authority responsible for acquiring rights-of-way rather than the state government. It is easier to get land donated or sold for a cheap price if fellow business people or community members are the ones asking for it. If the government imposes a special assessment district and then on top of that asks for land, landowners will either demand a high price or refuse to sell it. The land will then have to be condemned which is expensive and time consuming. Acquiring rights-of-way is better conducted neighbor to neighbor, friend to friend. The local entity - the township Supervisors or the District Authority - is not perceived as "Big Brother." There are cost savings in negotiating locally, and condemnations also often receive negative press if conducted by the state. The assessment rate is the same for all property owners, i. e. it does not decrease with increasing distance from Route 29. It is based

on the assessed valuation of property in the district, which information is obtained from the county assessment records. The amount assessed each year is the annual bond costs plus operating and administrative expenses divided proportionally among all the property owners. (Other localities are imitating this form of assessment.) The estimated annual cost for the district is \$460,000. There have been three assessments so far.

Assessments started in 1987 with the intent of starting construction but problems arose with the design configurations. Some of the rights-of-way were acquired through donations and others were paid for. The townships only provided help with minor administrative tasks and funds (meeting rooms, postage, etc.).

Technique: Special Assessment District

Location: West Whiteland Township (Chester County, Pa.)

Players: Township officials, property owners

Background

West Whiteland is a "community that is exploding in terms of growth." "An overwhelming need" existed for the improvements. "Capacity/safety problems are so extreme, so severe that...the business community is saying 'let's do whatever we have to do, because our businesses are hurting. People are shying away from commercial activities because they can't get in and out easily."⁴² It was also recognized that improvements will lead to increased land values.

Although it has never been documented, people believe most of the traffic in West Whiteland is through traffic. The counties surrounding Chester County, Delaware and Montgomery Counties, experienced growth through the 1960s and '70s. Then an expressway, Route 202, was built heading west from Philadelphia to West Chester, the county seat, and became "the outer beltway of Philadelphia." West Whiteland is adjacent to Route 202. The development boom began in the '70s and Chester County was not ready for it. It led to intense development pressure. The major roads through the county, Route 100 which runs north/south and Route 30 which runs east/west, converge in West Whiteland, which is also bordered by Route 202. In a sense, West Whiteland is the center of the county and therefore under intense development pressures. Also, there is a proposal to build an expressway to connect 202 westward to the Downingtown by-pass. There is,

⁴² Interview with Lee Whitmore, Transportation Planner, Chester County, Pennsylvania.

therefore, a great deal of activity occurring in the area in terms of road building and development, both now and proposed for the future.

While a significant portion of the traffic on the main roads is through traffic, state funds are not available to make the necessary improvements. Local officials have had to find other means to finance the improvements. Up until recently the township had negotiated investments with landowners and developers and had implemented impact requirements to pay for road improvements. However, this led to inconsistencies in road improvements since generally only the sections directly in front of, or impacted by, the development were improved. Therefore, a district was set up to supplement these kinds of improvements. It has also led to community awareness of a transportation improvement concept.

Improvement

The improvements to be implemented include a rebuilding of the section of Route 30 that goes through West Whiteland from a three lane cross section to a five lane cross section. Construction was to begin in the fall of 1988 and it will be completed in phases over a three year period.

Technique

A letter was sent out to all the property owners within the proposed district, regardless if they were to be assessed. It was an information letter as required by Act 47, the legislation enabling the creation of a district. The district boundaries were drawn around the entire township and it was named the Transportation Development and Business Improvement District. Enabling legislation from two different acts was utilized in the formation of the district: Act 47 and an older Act, the Business Improvement Act.

The letter was sent to all property owners but only those who own business-zoned property are actually assessed. The proposal had to be approved by 50% of the assessed value of all the property within the district. All of the property in West Whiteland is valued at \$50 million and the district was approved by owners of at least \$25 million in property. Of the \$50 million in real estate, \$20 million of it is business property. So in this case, the owners of residential property had to carry the vote and assess the cost to the businesses.

The letter announced the proposed sale of \$6.7 million in bonds to finance the required road improvements and also described the special assessment district to be formed to service the debt. A public meeting was held, with over 200 people attending, mostly business representatives. Sentiment was initially against the formation of the district because it did not fairly and equitably assess the community. Residential property owners were to also benefit from the improvements but would pay nothing. The result of the meeting was that it was decided that the township would also apply a portion of its general revenue that was collected through local property taxes to complement funds collected through the assessment process in order to finance the annual bond costs (which are estimated to be approximately \$600,000). In this way residential property owners are also responsible for the costs of the road improvements.

Some businesses still protested on the basis that they too pay property tax but otherwise the proposal was generally accepted. Residential properties were paying to some extent thereby reducing the amount the businesses would have to pay without the supplement from the general revenue fund.

Failure to properly sell the concept to the business community forced the Township to postpone formalization of the district. Efforts in mid-1989 are leading to reinstitution of the entire proposal.

Technique: Public/Private Partnership, Donations

Location: New Haven, Connecticut

Players: Yale New Haven Medical Center, City of New Haven, New Haven

Parking Authority, Connecticut Department of Transportation

Background

The Yale New Haven Medical Center (Medical Center) is located on the western edge of downtown New Haven. Over the past few decades, its facilities have been expanded, often over former parking lots, without adequate provision of additional new parking. This led to severe parking problems, especially in the 1970s. The lack of adequate parking led to other problems that are related to an inadequate number of parking facilities or spaces:

- 1) The Medical Center experienced a high employee turnover due to crime. Other than the downtown on its eastern side the Medical Center is surrounded by low income, inner city neighborhoods. The high employee turnover rate also led to abnormally high training costs.
- 2) Employees resorted to parking in the streets and small lots in nearby low income neighborhoods; thereby, taking up the limited parking available to the residents and incurring a personal security risk.
- 3) The Medical Center occasionally had difficulty recruiting new employees because of public reports of crimes and committed against employees.
- 4) The Medical Center had to provide escort service for nurses working late shifts.

The Medical Center decided to look for additional parking space. It commenced planning for an air rights garage located adjacent to its complex, but abandoned the process due to costs. The Medical Center chose an industrial site about a mile away from the center itself for a planned

parking facility would provide approximately 2000 spaces, and the Medical Center would run shuttle buses between the parking facility and the center. The city was concerned about this decision for several reasons:

- 1) It felt that the plan would not work;
- 2) The project would cause more through traffic in nearby neighborhoods; and,
- 3) The city would lose industrially zoned land that it needed for economic reasons. The city had already lost more industry than it wanted to.

To find a better solution, officials from the New Haven Parking Authority spoke with the personnel from the Medical Center. The Parking Authority is an agency established by the state and it is the only agency of the city that can build public parking. They agreed with approval of the City's Mayor, to launch negotiations for a public parking garage that would be adjacent to the Medical Center in the air rights site.

Improvement

The city leased air rights from the state over a highway right-of-way. The state did the grading work necessary to prepare the site for an extension of the highway, in case it decides to build the extension in the future. The state also built columns designed by the city to support the garage. The city issued \$2 - \$3 million in bonds to finance the columns. It then issued bonds to cover the \$23 million needed to build the garage. The foundation and columns were constructed in 1979. The garage was begun in late 1980 and opened in December 1982. It includes 2400 parking spots, 30,000 square feet of commercial space at the street level, and a covered overhead pedestrian bridge that connects directly to the Medical Center.

It is a public facility, owned and operated by the Parking Authority. In 1988, parking was expanded by 350 spaces by utilizing the at-grade highway level.

Technique

The Medical Center agreed to several conditions before the Parking Authority would build the garage and the City backed the bonds:

- 1) the industrial site was turned over to the city;
- 2) the Medical Center guaranteed leasing a certain number of parking spaces each month;
- 3) the city would get the income from all of the Medical Center's surface parking lots; and,
- 4) if at the end of a fiscal year there has not been enough money generated to cover expenses, the Medical Center will absorb an agreed amount of any deficit.

The Parking Authority provides 24 hour security in the garage; it has hired Medical Center security personnel as well as some of its own. The commercial space is leased to Medical Center Realty, Inc. (part of the Medical Center) which, in turn, rents out the space to individual retailers.

Results

The garage is heavily used and reaches capacity daily. So far it has not been necessary to implement the provision in the agreement between the Parking Authority and the Medical Center whereby the Medical Center must help cover end-of-year expenses. Combined bond payments and operating expenses are approximately \$4.2 million annually. Garage usage and the other provisions in the agreement have been enough to cover annual

expenses. A refunding of the bonds at a lower interest rate has helped in achieving this goal.

The garage has been successful for everyone. The Medical Center's employee problems related to inadequate parking improved dramatically and physical assaults of personnel have appreciably declined.

The industrial site turned over to the city contained a building (formerly a plant for a rubber company) that has not been used for 15 to 20 years. It has been converted and rehabilitated to business condominiums and small industries. It is also the temporary location of the city's central library branch while the original is being refurbished.

Comments

Although more parking facilities are still needed, this particular project has been quite successful. It has adequately and creatively addressed several problems simultaneously. The Parking Authority implemented the concept in a similar manner at another medical facility, the Hospital of St. Raphael, in 1974. The Parking Authority built a public garage on hospital property and the cost of financing and operating the garage each year, minus the income generated by usage, is the amount the hospital pays in rent.

Technique: Special Assessment District

Location: Dennis, Massachusetts

Players: Town of Dennis and commercial property owners

Background

The Town of Dennis is located in the middle of Cape Cod. Route 134 is the main road running north and south in Dennis. It intersects with Route 6, a federally funded, state-owned highway. The arterial ramps connecting the two roads were frequently backed up, particularly in the summer tourist season. Several studies were conducted and the final design was approved by the governing state agency. All of the funding was provided by the town.

Improvements

Improvements have been made to Route 134 plus an adjoining road, Theophilus Smith Road, which is the connecting road to the town landfill. The project took two years to design and construct and was completed in the summer of 1987. The improvements included road widening, drainage, curbing, some lighting, and access driveways along a total of approximately one mile of roadway.

Technique

The cost of the project was approximately \$1.5 million. The town considered two ways to fund the project. It could issue a bond which would be serviced by the general revenue derived from local taxes. It could also impose special assessments. It chose to split the payment of the costs by implementing both funding methods. At this point in time, the town has borrowed the money, and issued "betterment assessments."

All abutters to both roads were included in the assessment district. The total cost of the project was divided among the abutters according to a

formula that incorporated factors such as road frontage and acreage. All residential properties were excluded from the assessment. The commercial properties that remained constituted 50% of the properties abutting the designated improved roads and they then were the properties that were assessed. Therefore, the betterment assessment was applied only to commercial land in the district.

Half of the project cost was paid through the portion of the town general revenue that is generated by property taxes. The reasoning of town officials was that while commercial properties abutting the improvements are the major benefiterers, all of the townspeople are likely to make use of the roads and therefore also benefit from the improvements. By paying for 50% of the expenditure the townspeople share the burden for the total cost. There were few complaints about the payment program for the road improvements and what little dissent did arise came from the smaller commercial landowners who were to be included in the assessment district. Generally, the commercial establishments and the townspeople were in agreement on the necessity to complete the improvements.

The bond was issued for a twelve year period. The commercial landowners were sent a bill for their total assessment which they could choose to pay in one lump sum or over a period of up to twenty years. Commercial property is all that which is zoned commercial even if it is not put to such use.

A simple majority approval of those to be assessed and a town meeting approval were required to institute the assessment program. In Massachusetts, the only mechanism to authorize funds is approval by the town meeting. There is no town council or mayor; the town meeting is the legislative body and makes financial decisions. The town meeting of Dennis

authorized the funding of the road improvement project but has little to do with the assessments. The Board of Selectmen is the administrative authority and handles the assessments.

Technique: Public/Private Partnership

Location: Newton, Massachusetts

Players: Massachusetts Bay Transportation Authority, Abruzzi Company, and City of Newton

Background

The Massachusetts Bay Transportation Authority (MBTA) owned a site with an historic building on it that was adjacent to the Newton Centre stop on its Green Line Riverside branch. The building is an old depot designed in 1888 by H.H. Richardson who had designed several other depots along the same line. The MBTA distributed a request for proposal (RFP) in December, 1985, to solicit offers to develop the site. The proposal selected from among eight respondents, was from Mario Boccabella, President of Abruzzi Company and a restaurant entrepreneur.

The RFP had contained several elements that had concerned the staff of the MBTA. Since the original depot was old they wanted an historic rehabilitation. They also wanted all maintenance to become the responsibility of the developer. Because they recognized that the costs for rehabilitation and maintenance could be quite high, the MBTA was willing to accept a straight rent rather than receive a percentage of the annual profit of the project. The MBTA also wanted a transit-related use in the depot to draw upon the existing riders, most of whom walk to the station.

The other respondents had suggested projects that ranged from small-scale retail to commercial and professional offices. However, the MBTA, which was working closely with the City of Newton, decided that such uses would not be appropriate. Newton, located on the western outskirts of Boston, is heavily congested and suffers from a lack of parking. The area

in the immediate vicinity of the Newton Centre station is upscale retail. The other proposed uses would have only added to the congestion and exacerbated the problem.

Boccabella, on the other hand, had proposed a "transit market place (see below)." He is a successful restaurant owner with a vested interest in the area. He already had several restaurants, bakeries and delicatessens at the next stop on the transit line and also owned a small restaurant across the street from the proposed site. The staff at the MBTA felt that his transit market place idea was excellent and granted him the contract.

Improvement and Technique

Previous to completion of the project, riders had to walk around the depot to get to the station. Boccabella opened the building up and put in a new entrance so that riders could walk right through to the station. The new entrance has two benefits; it gives exposure to Boccabella's services and it serves as a shelter for transit patrons during bad weather.

Inside, the depot offers a range of products that are suitable for arriving and departing commuters: gourmet food, sandwiches, and frozen dinners. One can get off the train, grab something to eat, and get back on another outbound train on the line at no extra charge. There are also pushcarts or stalls that sell a variety of goods. MBTA monthly passes can be purchased at the station. Boccabella is also the only station tenant to provide change for passengers. (This is important on the MBTA system; exact change is needed to board the trains.)

The contract is quite beneficial to the MBTA. The rent Boccabella offered in his proposal was twice that of the next higher bidder. He is committed to an extensive maintenance contract, including snow and graffiti removal and trash pickup and removal. Previously the MBTA had spent over

\$2000 per month to maintain the station and the depot, which was empty and had not been a part of the active station since the MBTA took it over. The station had only consisted of a platform. Vandalism, graffiti, and broken windows were frequent problems. Now the MBTA not only collects rent but is no longer obligated to maintain the depot. There is a 35 year lease, starting at \$16,000 per year with an annual increase of 5%. Between the revenue in rent and the savings in maintenance the MBTA is receiving a substantial contribution from the developer.

Boccabella tried to recapture the flavor of an old time railroad station and, according to the MBTA staff, did a beautiful job in renovating the stone structure. Refurbishments included ceiling fans, brass fixtures, stained glass and a glass dormer. Approvals for the renovations were received from the state and local historical commissions and from the federal Department of the Interior. Boccabella is also going to construct and maintain a park adjacent to the station.

The project benefited everybody involved. The City of Newton's concerns about the lack of safety and the vandalism, as well as its lack of parking, were addressed. The MBTA's only expenditure was staff time. The developer spent \$400,000 on building rehabilitation but received an excellent location for his "transit marketplace." "[The developer] has roots and ties to the community so that what helps the community helps him. What helps the MBTA helps him and vice versa."⁴³

⁴³ Interview with Vince Carbona, Public Information Officer, MBTA.

Technique: Impact Fees and Negotiated Investments

Location: Framingham, Massachusetts

Players: Town of Framingham and Leggat McCall Companies

Background

Leggat McCall Companies plans to build the new world headquarters of McCormack & Dodge, a computer software company, in an already congested area of Framingham, a town approximately 30 miles west of Boston. The McCormack & Dodge Corporate Center will consist of approximately 450,000 square feet of office space in three buildings and will employ 1200 people. When fully occupied the Corporate Center will add \$1 million to the real estate tax coffers.

Framingham requires of any major development that mitigation measures be taken to relieve the traffic impact that the development will have. At the time, the town could impose improvements at a cost to the developer of up to 3% of the total cost of the project. (Approval was later granted by the State Attorney General to increase the impact fee in January 1989 to a to minimum of 3% up to a maximum of 6%). These improvements are requisite for any site plan approvals.

The site for the Corporate Center is located at the intersection of Route 30 and Burr Street. Route 30 is a major road with interchange ramps for the Massachusetts Turnpike located near the Corporate Center site. Burr Street connects to Newbury Street, a one-way residential street which in turn connects to another major road, Speen Street. Traffic is very heavy on all of these roads and many people use Newbury as a shortcut access road to avoid some of the congestion on Route 30 and Speen Street.

Technique

Under the town's site approval regulations, Leggat McCall originally devised an access driveway and cul de sac. This would have met the town's requirement for improvements but town officials felt that it would not adequately address the added congestion problems and began negotiating with Leggat McCall for further improvements. After some time, the developer, too, recognized the need for a more comprehensive solution to the traffic problems. After negotiating and planning with local, state and regional officials for two years, Leggat McCall submitted a more extensive plan that was approved at a town meeting in June 1988. Such approval was required because a small portion of the land needed to be rezoned from residential to industrial use (there were no existing residences on that particular parcel of land). The total cost to the developer will be 6-9% of the total development cost of the project.

Improvements

The costs of the land, engineering and construction of the following improvements will all be covered by the developer. The major improvement to be done is a connector road between Route 30 and Speen Street thereby taking most of the traffic off Burr and Newbury Streets. Other office buildings adjacent to the site will be provided access driveways to the connector road and several access driveways on Speen Street will be closed, reducing on and off traffic congestion and hazards. Other road improvements include road widening, traffic signals, turning lanes, sidewalks, raised channelization, landscaping and maintenance for the connector road. Besides donating all of the land that is not already

right-of-way owned by the town, Leggat McCall donated land for future improvements and widening to Speen Street. Leggat McCall also donated \$100,000 for studies for further necessary improvements.

The developer agreed to the prohibition of any further development on the site. The developer will also purchase 2.84 acres of an empty lot that will either be donated to the town or placed in a conservation easement. This land is to act as a buffer between the residentially zoned land and the industrial owned land.

Not only does the town not have to pay for any of these badly needed improvements but it also benefits in other ways. Traffic on Speen Street and Route 30 will be greatly reduced, particularly during rush hour. Traffic will also be removed from Newbury Street, a residential road.

Technique: Negotiated Investments and Impact Requirements

Location: New York City

Players: New York City Planning Commission, Metropolitan Transportation Authority, Transit Authority, and developers

Background

The City of New York has created a private developer station improvement program which utilizes three mechanisms that are derived from the city's zoning regulations. The three mechanisms lead to transit improvements through mitigation measures, mandatory compliance, and floor-area ratio (FAR) bonuses. Improvements created as mitigation measures are required to reduce development-induced impacts on the transportation system. These improvements must be done anywhere in the city where, pursuant to either an environmental impact statement (EIS) that a developer must prepare under certain circumstances or to a special permit, the development project's impact is substantial enough to warrant mitigation. Mandatory improvements are those required by the zoning regulations to be made in certain designated areas by new development. They constitute the relocation of on-street subway entrances to within the developer's building or property line. The relocation must be done at the developer's cost and he will be responsible for all future maintenance.

Under the subway FAR bonus program, the developer may make substantial improvements to the subway adjacent to or under his property in exchange for a FAR density bonus of up to 20% beyond that permitted in the zoning regulations. The bonus program is only operable in certain areas within the city that are designated by the zoning regulations. Improvements acceptable under the program include increased access, circulation, or station improvements.

All three mechanisms - mitigation, mandatory, and bonus - are administered by the city planning commission. The Metropolitan Transportation Authority (MTA) does not administer the zoning regulations and, therefore, does not decide on how much of a bonus should be allotted. The MTA provides technical expertise and, as the parent authority and headquarters of the Transit Authority (TA) which is the operating agency, accepts the improvement as a functioning part of the subway system. It decides if the improvement is a transit improvement, if it is significant in terms of access, and if it is actually buildable and operable. Since it does not regulate, it does not directly approve the proposed improvement. It does do so indirectly; the improvement must be acceptable to the MTA or else it will not be operated.

Transit Improvement Districts

Transit improvement districts are the creation of the city planning commission. They are the areas where mandatory as-of-right improvements must be made and where FAR bonuses can be implemented. The major difference between the two is that under the mandatory mechanism, the developer must make the required improvement simply because he is building in the designated area, while under the bonus program, the developer may build at a higher density than is initially permitted by the zoning regulations in exchange for making a substantial transit improvement. In some instances, the developer may make improvements under both mechanisms.

History

The first year that transportation improvements were constructed by developers as a result of zoning regulations was 1977. The subway FAR bonus program was instituted by an amendment to the regulations in 1984 and has led to more extensive improvements. Since 1977, twelve projects have

been completed and sixteen are under construction at a cost of approximately \$100 million to developers. This amount does not represent the true value of the improvements. The costs would have been substantially higher if the city had had to pay for land acquisition, excavation, demolition of structures, and construction. The \$100 million only represents the developers' construction costs, not their additional operating and maintenance costs. Eighteen projects are presently in the process of being negotiated or approved. If improvements are done to obtain a density bonus, approval must come from the Board of Estimate for the special permit. The special permit contains a provision requiring the proposed improvement.

Parties Involved

The major actors involved in the private developer station improvement program are the Planning Commission, the developer, the MTA, and the Board of Estimate. The Planning Commission is the lead agency; the improvements are done through its regulations. The Planning Commission also reviews and approves the improvement and defines the bonus that may be allowed under the appropriate circumstances. The developer proposes and designs the improvement. The MTA is an independent state authority chartered to provide a coordinated transportation system within the twelve-county region. As the headquarters of the TA, the MTA reviews the proposal and the accompanying engineering drawings to ensure that it meets TA standards. The TA is the agency responsible for building and operating the transit system in New York City. The Board of Estimate is composed of the only elected officials in the process and final approval rests with

them. Its members are the president of each of the five burroughs, the mayor, the controller, and the president of the city council. Each of the burrough presidents gets one vote while the remaining three members each get two votes.

Process

The developer presents the improvement proposal to the MTA, the TA and the Planning Commission who then comment upon it. After any suggested changes have been made, the MTA and the TA give their approval letter to the chairman of the Planning Commission. This is required before the developer can go on to the next step, the public review process, known as the Uniform Land Use Procedure or "ULUP". During a 120 to 150 day period the proposal is reviewed by various public agencies and any local community boards affected by the proposal. The presentation and review must be completed within the 150 days or else the developer must begin the process over again. During this time period, the developer must also provide documentation to the TA so that the TA can give an second letter of approval stating that the developer has provided sufficient information to prove that he can build the improvement. The developer must also reach a contractual agreement with the TA concerning the issuance of the maintenance requirements and a guarantee through easements that the TA and the MTA will have access in perpetuity. Under the bonus program, maintenance by the developer is required for the life of the building. Both the maintenance and access agreements must be obtained after ULUP.

The Planning Commission approval is generally 90 to 120 days after ULUP. By then, the TA has usually received the required agreements. During the next 120 to 150 days that follow, the Board of Estimate approves or disapproves the proposal by simple majority. Before it does so, the TA

must have the signed agreements; otherwise the TA will not give its final approval to the Board of Estimate. The Board may give final approval without the TA's approval of the developer's commitments but it generally does not.

53rd Street Station

The best example of this program is the four phases of improvements at the 53rd Street subway station, between Third Avenue and Lexington Avenue, over a ten year period. The station has a mezzanine at each end with the platform located below. Starting in 1977, new development occurred in phases on each of the four corners of the street intersection where the station is located. Each of the developers made subway improvements under the three zoning mechanisms.

On one corner the Citicorp Center was completed in 1978. The developer created an off-street plaza entrance and refurbished the western mezzanine with floor and wall tiles, lighting, a widened entrance, and a new control booth. In 1980, 875 Third Avenue was completed. The developer of that project refurbished the eastern mezzanine and created a connecting, covered pedestrian space that provides public access to the building. When the leases expire on adjacent buildings that he owns, the developer will rebuild the stairs and escalator at the corner as well as locate a set of stairs within his building.

In 1984 the "Lipstick Building" was completed on the third corner. The developer made transit improvements to get a density bonus to add several floors to the building to adhere to the architectural design for aesthetic purposes. The mandatory and bonus program improvements included the creation of an offstreet entrance, expansion of the mezzanine, and

installation of an escalator. Even if it is sold, the building carries with it the responsibility to maintain and even replace the escalator.

The final corner was developed by Boston Properties which also made substantial improvements to the transit system. A six foot wide sidewalk entrance was relocated to within the property line. The developer built an underground plaza which also serves as a passageway to transfer between the 53rd Street subway station and another one at 52nd Street. The connection was begun by the developer and completed by the TA with federal funds. The developer also constructed an in-building entrance to the subway at 52nd Street equipped for handicapped and elderly access.

Through the city planning and zoning process, the station was virtually rebuilt and refurbished at little or no cost to the MTA or TA. The cost to the developers was approximately \$40 to \$50 million and it would have been much higher if the improvements had been constructed by the TA.

The major components of the private development program are capital construction, ongoing maintenance, and access agreements. Through the program, each of the parties does what it does best. The developer builds buildings, often extraordinary ones. The city process ensures that the developer contributes to the public good, i.e., a transportation improvement; and the MTA contributes its expertise to make sure the developer's contribution is actually an improvement to the transit system.

Through the cooperation among the three parties, public transportation improvements are made.

Observations and Comments

After experiences with value capture techniques, several of the officials interviewed offered observations and comments about the implementation of some of the techniques. The following is a synopsis of remarks along with comments received through the survey:

Special Assessment Districts

If a district is to be run by an Authority composed of volunteer citizens, ideally the Authority should hire a full time director or at least an administrative assistant because the administrative tasks assigned to the Authority, particularly the Chairman, demand attention. For Barney Bus, Chairman of the Joint Transportation Authority of East Whiteland and Tredyffrin Townships, the responsibilities became another full time job. As was previously mentioned in that case study, it is very important to have the Authority responsible for acquiring rights-of-way rather than the state government. Landowners will be more likely to donate land to their neighbors for a common cause than they will to the government.

Special assessment districts more comprehensive and cohesive than impact requirements and other similar financing methods. Districts allow officials to plan long-term projects and anticipate transportation needs rather than addressing needs as they arise in a piecemeal fashion. Special assessment districts also lead to community awareness of a transportation improvement concept.

A criticism of self-formed and self-regulated special assessment districts was that they become a separate political body and their members gain benefits above the average citizenry.

Impact requirements

As might be expected with the issues and complexity surrounding impact requirements, the opinions expressed were varied and even contradictory. Four surveys were returned with responses concerning impact requirements. All chose impact requirements as an equitable means to have new development pay for its impacts. Two respondents felt that the requirements were accepted by the political and private sectors while another acknowledged that questions of equity had been raised. One stated that impact requirements encourage a coordinated maintenance program and another that they can be quickly implemented. Criticisms of impact requirements were that they lead to high administrative costs and that they are not applied to "off-site" impacts. It seems that experience with, and interpretation of, impact requirements vary greatly among different jurisdictions.

Negotiated investments

Officials in New York City were very pleased with their combined system of impact requirements and negotiated investments, particularly the aspects of cooperation that they feel is a major factor in the success of the program - each party does what it does best.

It is generally not possible for a public agency to anticipate the future actions, wishes, and economic situations of individual and independent private entities. Neither the Planning Commission nor the MTA knew what type of development would be proposed at the intersection at the 53rd Street Station over a ten year period by the various landowners and, therefore, could not estimate, without beforehand knowledge, the impact melioration that would be required for the subway station. Nor could they surmise what kind of bonuses the developers would be requesting in return for improving the station. They may have had ideas of what kind of station

amenities would be most desirable but they could not definitely plan on those improvements until one of more developers came along with requests for building bonuses in exchange for transportation improvements.

However, the 53rd Street project shows that the negotiated investment technique is flexible enough to allow the public agencies involved to respond to the developers' proposed projects, to both what the developers wanted and to what they were doing. The public agencies were not committed to preconceived ideas of what should be done but, rather, were open to what each developer brought to the table for discussion. The planners at the city and the MTA were responsive to the needs of the developers as well as the transportation system. This approach and flexibility enabled the agencies to get the most out of the project at a minimum of cost to the public. Rigidity on the part of the public sector only serves to discourage private participation. Very site-specific projects that are designed and detailed prior to any private participation would not allow the flexibility needed to attract the private sector.

Instead, areas can be specified where transportation improvements are needed. Needs should be identified but details can be negotiated to determine what is desirable and feasible from the standpoint of both the public and private sectors. This is the advantage that the flexibility of the City of New York's private development program offers. Input from the developer can sometimes result in greater willingness and larger

contributions from him which may lead to improvements that are better than the public agencies had originally anticipated. The developer's decision as to what he is going to build for himself is the greatest factor influencing the type and extent of transportation improvement that can be garnered. His decision is affected by several variables that are independent of the public agency's control and they include the size and density of the project, his long and short term interests in the market, and market trends. The MTA has found that "the best way to get the most (in the way of transportation improvements) is to be flexible and respond to the developer."⁴⁴

The MTA is often asked by members of community boards if it does any master planning for the individual station locations. "In essence, we can't. We don't know where the developers are going to go next and we don't know how big the development is going to be. We could do some master planning. We could go out and survey all 465 of our stations if we wanted to, but it wouldn't be worth the effort."⁴⁵ the Citicorp project in Long Island City. In 1982, the director of the MTA, Shelley Fialkoff, who was working on a subway improvement in the area, asked the staff of the city planning commission's Queens office what potential existed for a developer to build on the adjacent land. The MTA had been looking for a private party to become involved in building a 15 foot wide passageway in the subway station. The response from the planning office was that no

⁴⁴Shelley Fialkoff, Deputy Director, Metropolitan Transportation Authority (MTA), New York City, New York.

⁴⁵Ed Helenius, Architect, MTA.

development was anticipated in the foreseeable future and that the MTA should not plan on major improvements to the station.

In 1985, Citicorp proposed building 1.2 million square feet of office space at the same site. Because of Citicorp's proposal, the MTA could negotiate improvements that were much grander than they had originally envisioned. Because of its beforehand knowledge of the city's station improvement program, Citicorp essentially designed its building including an atrium around the subway. When completed, it is anticipated that the subway transfer point will be one of the most spectacular in the country.

CHAPTER V: THE DECISION SUPPORT SYSTEM: LOGIC DEVELOPMENT

Introduction

To determine the most appropriate value capture technique under a given set of circumstances, the planner or analyst should have sufficient information in order to make a decision that is economically justifiable and methodologically defensible. The information at the analyst's disposal will take the form of a list of numerical or descriptive values for a large set of variables that are pertinent to the analysis, as well as a set of relationships that define the interactions between or among those variables. The purpose of this chapter is to present the variables selected for the analysis and their attributes, and to establish the relationships between pairs or among groups of these variables.

Variable Identification

For a full and detailed analysis of a value capture technique, one will have to include a very large set of variables, particularly when the determination and inclusion of the technique's full range of impacts is desired. However, the state of the art does not permit the quantification of all impacts and especially those that are indirect or long-term in nature. The set of variables identified and used here consists of 63 entries, not all of which are applicable to all value capture techniques. Generically, each value capture technique attempts to generate private sector funds from a given area or new development in order to pay for a facility that either serves the area or has to be improved because of the development's presence. Because of this, the set of 63 variables can be subdivided into three subsets, with each one of them providing information about the facility under consideration, the area where the value capture technique will be applied, and the new development. Pertinent information

about all 63 variables is presented in the remainder of this section that includes a brief rationale for including the variable, its unit(s) of measurement and abbreviation for inclusion into the model.

Facility Variables

A total of 28 variables constitutes the subset that describes the facility under consideration. The information provided by these variables describes the facility and its operating characteristics before and after a proposed development is built, as well as the associated costs and pertinent financial data needed for the evaluation. The list that follows contains the name of the variable, its abbreviation, whether it is descriptive or numerical, the descriptors or its units of measurement, and a brief discussion of why it is included and what purpose it serves in the analysis.

1. Type of Area (AT) (Descriptive - Urban Developed, Urban Undeveloped, Rural, etc.).

This variable may determine the value capture technique to be used in order to generate revenue in the area where the transportation facility will be built or improved. For example, a tax increment is more appropriate in a developed area, while a connector fee can be used in all areas.

2. Type of Facility. (FT) (Descriptive - Highway Section, Intersection, Interchange, Bridge, Transit Route, Station, Terminal, Parking Lot, etc.).

The knowledge of the facility type under consideration plays the role of an important node in the decision tree. It determines the course that the analysis will take and what subsequent variables (among those numbered 4 to 16) will be chosen and used in the analysis.

3. Type of Construction. (CT) (Descriptive - New or Improvement).

This information affects the choice of value capture technique when it is coupled together with the information provided by the previous variable. For example, toll financing is a technique that is most likely to be used for new highway construction. Furthermore, the type of construction determines in conjunction with the facility type the subsequent variables to be used as indicated in the following table:

<u>Type of Facility</u>	<u>Type of Construction</u>	<u>Variables Used</u>
Highway	New	5,7,8,9,12,16
Highway	Improvement	4,5,6,7,8,9,10,11, 12,15,16
Transit	New	5,7,8,9,12,14,16
Transit	Improvement	4,5,6,7,8,9,10,11,12, 13,14,15,16

4. Existing Volume. (EV) (Numerical - Passengers/Day or Vehicles/Day).

This variable is needed to determine the intensity of current use, the associated service levels, and the current user revenue generating capability of the facility or system.

5. Expected New Volume. (FV) (Numerical - Passengers/Day or Vehicles/Day).

This information determines the overall strain to be placed on a facility or system by additional traffic or passengers to be generated either through normal growth or because of new development. In addition, it is useful in determining the revenue generating capability of value capture technique and the burden it is going to impose on each future user.

6. Existing Peak-Hour Volume. (EPHV) (Numerical - Passenger/Hour or Vehicles/Hour).

This is a refined version of variable #4 and a major determinant of a number of measures of effectiveness or service quality for public transportation as well as highway operations.

7. Expected New Peak-Hour Volume. (FPHV) (Numerical - Passengers/Hour or Vehicles/Hour).

This is a very significant variable for all value capture techniques. It is the primary contributing factor in the determination of improvements to be made.

8. Service Quality Measures. (SQ) (Numerical - Units of the most appropriate Measure of Effectiveness).

This is the most critical variable in all analyses and for all value capture techniques. Its units vary depending on what transportation system component is considered. Generically it represents the Level of Service of a component. In highway applications it may be traffic density for highway segments, speed for arterials, delay for signalized intersections, or unused capacity for unsignalized intersections. In transit applications it could be square feet of space in the transit vehicle per passenger, headways, etc. A Level of Service value may be used to trigger the application of a value capture technique, while another value may be used to determine whether or not improvements are needed.

Variables 4, 5, 6, 7 and 8 describe traffic characteristics. The information they provide is essential in any considerations about building or improving transportation facilities or systems. Furthermore, they are used in some value capture techniques to determine the charges levied on new developments. For example, traffic impact fees are usually determined by peak-hour volumes that new developments generate. The proportion of the total improvement cost to be allocated between existing and future users is also determined by traffic volumes.

9. Capital Cost. (CC) (Numerical - Dollars).

This variable is one of the determinants of the amount to be "captured". It may represent a real or artificial separation of a portion of the total improvement cost, but it is necessary mainly because of budgeting practices and governmental policies on funding.

10. Improvement Cost. (IC) (Numerical - Dollars).

Together with the previous variable, this value determines the total one-time cost of the improvement. It represents the non-capital, if any, cost for the improvement.

11. Existing Maintenance Cost. (EMC) (Numerical - Dollars/Year).

This variable represents the continuous annual cost necessary to keep under existing conditions the system or facility in a state of good repair. Some value capture techniques consider only the one-time cost of improvement (Variables 9 and 10), and as such they generate one-time levies. However, other techniques that are based on annual fees consider all cost components and they have to include the cost of maintenance.

12. New Maintenance Cost. (FMC) (Numerical - Dollars/Year).

The cost of maintenance in the future is needed for value capture techniques that generate annual fees or taxes. This is true whether or not improvements are made. For example, if traffic is increased over a roadway segment the maintenance effort will have to increase also due to the more intensive use of the facility.

13. Existing Operating Cost. (EOC) (Numerical - Dollars/Year).

This is a companion of Variable #11 and is needed for value capture techniques that generate annual fees. The operating cost portion of the overall value to be captured by such a financing technique will be rather small for highway operations, since the maintenance cost is considered separately. It will mostly consist of enforcement and toll collection

expenses. However, for public transportation operations this cost is significant.

14. New Operating Cost. (FOC) (Numerical - Dollars/Year).

The statements made about Variable #12. The future operating cost will generally be higher whether or not improvements are made, and it is needed by techniques that generate annual fees.

Variables 9, 10, 11, 12, 13, and 14 determine the overall cost of a transportation facility or system. The next six variables are associated with all possible revenue sources that can be used to recover that cost.

15. Existing Prices Charged by the System. (EP) (Numerical - Dollars/Passenger of each passenger class or Dollars/Vehicle for each passenger class).

This variable can produce in combination with Variable #4 the contribution to total present cost made by the facility's or system's users.

16. Expected Prices Charged by the System. (FP) (Numerical - Dollars/Passenger of each passenger class or Dollars/Vehicle for each passenger class).

As was the case with the previous variable, future prices can be used to calculate the portion of total cost that future users will bear. In addition the difference between Variables 15 and 16 can provide information on future demand.

17. Federal Financing Amount (FF) (Numerical - Dollars).

If state financing is available, this variable determines the contribution that the state is going to make towards the cost of improvement.

19. Local Government Financing Amount. (LF) (Numerical - Dollars).

This variable determines the local government contribution towards the total cost of improvement.

20. Value to be Captured. (VC) (Numerical - Dollars).

The value of this variable is derived from the values of Variables 9 through 19. Subtracting from the total cost what the users pay and what all levels of government can or will contribute, leaves the amount to be financed through a value capture technique.

21. Interest Rate. (I) (Numerical - Percent).

The interest rate is needed to perform economic analyses such as the annualization of costs and converting dollar amounts to their equivalents in different points in time.

22. Type of Bond. (BT) (Descriptive - Term, Serial, etc.).

When the public sector uses bonds to finance its portion of a project or improvement, or bond proceeds are used as the equivalent of a "bridge" loan until the value capture technique generates its full revenue potential, the type of bond used determines the annual debt service burden.

23. Long-Term Financing Rate. (ILT) (Numerical - Percent).

A long term interest rate is needed to compute costs from long term financing such as mortgages, bonds, and long-term loans.

24. Short-Term Financing Rate. (IST) (Numerical - Percent).

Short-term interest rates are generally lower than long-term rates, and a different rate should be used if short-term financing is used for part or all of the value capture scheme.

In some analyses Variables 21, 23, and 24 may have the same value, if interest rate details are not known, or if the analysis is performed at an approximate level.

25. Depreciation Schedules. (DEP) (Numerical - Formula).

The public sector usually does not use depreciation since it does not pay taxes or generate income statements. However, value capture techniques involve the private sector whose financial decisions are very sensitive to depreciation rates. In addition, the public sector may also wish to include depreciation in its own calculations in order to determine its total cost so that comparable figures can be used while negotiating with the private sector.

26. Amount of Donations. (DON) (Numerical - Dollars).

This variable represents the amount that the private sector donates as a contribution towards a transportation facility or system improvement. It will be present only in cases where such donations are present.

27. Amount of Leasing. (LSE) (Numerical - Dollars).

This variable, like the previous one, will be present only in value capture techniques that involve leasing.

28. Price Elasticity. (EL) (Numerical - Unitless).

This variable is needed to determine future demand after price increases. The prices may be user charges (i.e., fares or tolls) or fees and taxes (i.e., an impact fee or a sales tax).

Area Variables

There are 24 variables in the subset that describe the area in which the new development or the facility under consideration are located. The purpose of these variables is to generate a complete inventory of current conditions, which in turn can be used to assess the ability of the various sectors of economic activity to generate additional transportation-dedicated revenues through the various value capture techniques. The list that follows describes the area variables in the same format that facility variables were described.

29. Area Commercial Property. (ACP) (Numerical - Dollars).

This variable provides information on the value of all property in the area that is used for commercial purposes. It is needed to determine the potential of raising revenue through taxes based on property values.

30. Area Industrial Property. (AIP) (Numerical - Dollars).

This variable serves the same purpose of Variable #29 but it concerns itself with industrial instead of commercial property.

31. Area Residential Property. (ARP) (Numerical - Dollars).

This variable serves the same purpose of Variable #29 but it concerns itself with residential property.

32. Area Recreational Property. (ARCP) (Numerical - Dollars).

This variable serves the same purpose as Variable #29 but it concerns itself with recreational property.

33. Federal Property. (FP) (Numerical - Dollars).

This variable serves the same purpose as Variable #29 but it concerns itself with federal government property.

34. Church Property. (CP) (Numerical - Dollars).

This variable serves the same purpose as Variable #29 but it concerns itself with church or religious property.

Variables 29 through 34 give real property values in the area under consideration by land use type. Some value capture techniques (e.g., special benefit assessments or tax increment districts) are based on the area's property values. Some classes of property (usually federal and church) are exempt from these charges. Sometimes the levy is assessed only on commercial and industrial properties with residential property being excluded. This is the reason why a breakdown of property values by land use type is necessary. Furthermore, since some value capture techniques

may assess fees on a per unit basis (e.g., per dwelling unit, per square foot of space occupied, or per foot of frontage space), the total size of the area's building stock per land use type is also needed and Variables 35 through 42 that follow serve the purpose of providing that inventory.

35. District Commercial Net Footage. (DCF) (Numerical - Feet).

This variable provides information of the total net frontage space in linear feet that commercial properties occupy in the area.

36. District Industrial Net Footage. (DIF) (Numerical - Feet).

This variable serves the same purpose as variable #35 but it concerns itself with industrial properties.

37. District Residential Net Footage. (DRF) (Numerical - Feet).

This variable serves the same purpose as variable #35 but it concerns itself with residential properties.

38. District Recreational Net Footage. (DRCF) (Numerical - Feet).

This variable serves the same purpose as variable #35 but it concerns itself with recreational properties.

39. District Commercial Space Size. (CSS) (Numerical - Square Feet).

This variable provides information on the total square footage that is used for commercial activities in the area under consideration.

40. District Industrial Space Size. (ISS) (Numerical - Square Feet).

This variable serves the same purpose as Variable #39 but it concerns itself with industrial instead of commercial land uses.

41. District Recreational Space Size. (RCSS) (Numerical - Square Feet).

This variable serves the same purpose as Variable #39 but it concerns itself with recreational land uses.

42. Amount of Residential Units. (RU) (Numerical - Number of Units).

Usually fees or taxes on residential property are assessed in terms of its value or simply per unit (dwelling), since there are no significant variations in square footages among different dwelling units. This variable provides information on the total housing stock in the area by housing type (e.g., single family or multifamily dwellings).

43. District Commercial Retail Sales. (CRS) (Numerical - Dollars/Year).

The value of this variable is needed when retail taxes or increments are considered as value capture techniques.

44. District Industrial Employment. (IEM) (Numerical - Persons).

The value of this variable can serve a dual purpose in the analysis. It can provide information on work trips and assess the magnitude of revenue to be generated if a payroll tax or increment is contemplated.

45. Average Wage Rate. (AVWR) (Numerical - Dollars/Hour).

This variable serves a dual purpose also. It can be used to calculate benefits/disbenefits from travel time changes, and it is useful in assessing the affordability of taxes.

46. District Population. (DPU) (Numerical - Persons).

The value of this variable can be used for trip generation purposes as well as for the purpose of estimating revenue from certain taxes.

47. Average Income. (AI) (Numerical - Dollars/Year).

This is the annualized version of Variable #45 and it can be used for the same purposes.

48. Income Distribution (ID) (Numerical - Table of Dollars/Year).

This variable (actually group of variables) is a more detailed version of Variable #47. It is needed for detailed estimates of payroll taxes (if they are graduated), and to perform a tax incidence analysis to assess the taxation's burden.

49. Existing Property Tax Rate. (EPTR) (Numerical - Percentage).

The value of this variable is needed when the value capture technique under consideration involves instituting new or incrementing existing property tax rates.

50. Existing Sales Tax Rate. (ESTR) (Numerical - Percentage).

The value of this variable is needed when the value capture technique under consideration involves instituting new or incrementing existing sales tax rates.

51. Existing Income Tax Rate. (EITR) (Numerical - Percentage).

The value of this variable is needed when the value capture technique under consideration involves instituting new or incrementing existing income tax rates.

52. Tax Credits. (TCR) (Numerical - Percentage).

Local governments may provide special tax benefits to a number of classes of citizens, property or businesses (e.g., real estate tax abatement for new residential unit construction). Information on this type of tax relief is needed in order to assess the total revenue generating potential of some value capture techniques as well as the overall burden of a given tax.

New Development Variables

The subset of variables describing the new development consists of 11 items and they are listed below in the familiar format. They serve the purpose of providing information on the size of the new development, which in turn can determine the impact that the development will have on the existing transportation system, the improvements that may be required, and the potential revenue that can be generated by charging various fees. All variables included in this subset have counterparts in the previous

subsets, since they are providing information about incremental values of quantities that are already existing.

53. New Commercial Property. (NCP) (Numerical - Dollars).

This is the counterpart of Variable #29 and represents the total incremental commercial property value that the new development is going to generate.

54. New Industrial Property. (NIP) (Numerical - Dollars).

This is the counterpart of Variable #30 and represents the total incremental industrial property value that the new development is going to generate.

55. New Recreational Property. (NRCP) (Numerical - Dollars).

This is the counterpart of Variable #32 and represents the total incremental recreational property value that the new development is going to generate.

56. New Residential Property. (NRP) (Numerical - Dollars).

This is the counterpart of Variable #31 and represents the total incremental residential property value that the new development is going to generate.

57. New Commercial Space Size. (NCSS) (Numerical - Square Feet).

This is the counterpart of Variable #39 and represents the total incremental commercial square footage that the new development is going to generate.

58. New Industrial Space Size. (NISS) (Numerical - Square Feet).

This is the counterpart of Variable #40 and represents the total incremental industrial square footage that the new development is going to generate.

59. New Recreational Space Size. (NRCS) (Numerical - Square Feet).

This is the counterpart of Variable #41 and represents the total incremental recreational square footage that the new development is going to generate.

60. New Residential Unit Amount. (NRU) (Numerical - Number of Units).

This is the counterpart of Variable #42 and represents the total incremental residential units by unit type (i.e., single family or multifamily) that the new development is going to generate.

61. New Commercial Retail Sales. (NCRS) (Numerical - Dollars/Year).

This is the counterpart of Variable #43 and represents the total incremental commercial retail sales that the new development is going to generate.

62. New Industrial Employment. (NIEM) (Numerical - Persons).

This is the counterpart of Variable #44 and represents the total incremental industrial employment that the new development is going to generate.

63. New Population (NPU) (Numerical - Persons).

This is the counterpart of Variable #46 and represents the total incremental population that the new development is going to attract into the area.

Table 1 is provided as an easy reference guide. It contains the list of all 63 variables and includes their abbreviations and units of measurement. Obviously not all variables will or can be used for the analysis of a value capture technique under consideration. Table 2 is provided as an indication of what variables are appropriate or useful for a set of ten commonly used value capture techniques which are listed below.

<u>Number</u>	<u>Value Capture Technique</u>
I	Special Benefit Assessment
II	Impact Fees
III	Tax Increment
IV	Taxes
V	Negotiated Investments
VI	Cost Sharing
VII	Tolls
VIII	Connector Fees
IX	Donations
X	Land/Air Rights Leasing

It is obvious from Table 2 that some variables are not needed or cannot be used for the analysis of some value capture techniques (X entries in the table). Some variables are absolutely essential for some or even all techniques (+ entries in the table), while other variables may be needed depending on the situation or the analyst's desire for details.

Relationships and Decision Support System Outline

The vast majority of the variables that were described briefly in the previous section are needed as inputs to the model and as such their values have to be supplied in advance. Some of these values will be "raw" data (e.g., population, current tax rates) that can be obtained from readily available sources such as Bureau of the Census information, local government records, federal tax laws, funding allocation formulae, etc. Values of other variables that are needed as an input to the process will have to be derived, and sometimes through lengthy and detailed procedures. For example, in order to determine the impact that traffic generated by a

Table 1: List of Variables, Abbreviations, and Units

ABBREV.	VARIABLES AND UNITS
Facility Variables	
1. AT	Type of area (developed or undeveloped, etc.)
2. FT	Type of facility (highway or transit route, etc.)
3. CT	Type of construction (new or improvement)
4. EV	Existing volume (pass. or veh./day)
5. FV	Expected new volume (pass. or veh./day)
6. EPHV	Existing peak hour volume (pass. or veh./hr)
7. FPHV	Expected new peak hour volume (pass. or veh./hr)
8. SQ	Service quality measure (LOS, etc.)
9. CC	Capital costs (dollars)
10. IC	Improvement costs (dollars)
11. EMC	Existing maintenance costs (dollars/year)
12. FMC	New maintenance costs (dollars/year)
13. EOC	Existing operation costs (dollars/year)
14. FOC	New operation costs (dollars/year)
15. EP	Existing prices charged (\$/pass. or veh.)
16. FP	Expected prices charged (\$/pass. or veh.)
17. FF	Federal financing amount (dollars)
18. SF	State financing amount (dollars)
19. LF	Local government financing amount (dollars)
20. VC	Value captured (dollars)
21. I	Interest rate (percentage)
22. BT	Type of bond (term or serice)
23. ILT	Long-term financing rate (percentage)
24. IST	Short-term financing rate (percentage)
25. DEP	Depreciation schedules (formula)
26. DON	Amount of donations (dollars)
27. LSE	Amount of leasing (dollars)
28. EL	Price elasticity (percentage)
Area Variables	
29. ACP	Area commercial property (dollars)
30. AIP	Area industrial property (dollars)
31. ARP	Area residential property (dollars)
32. ARCP	Area recreational property (dollars)
33. FP	Federal property (dollars)
34. CP	Church property (dollars)
35. DCF	District commercial net footage (feet)
36. DIF	District industrial net footage (feet)
37. DRF	District residential net footage (feet)
38. DRCF	District recreational net footage (feet)
39. CSS	District commercial space size (sq. ft.)
40. ISS	District industrial space size (sq. ft.)
41. RCSS	District recreational space size (sq. ft.)
42. RU	Amount of residential units (units)
43. CRS	District commercial retail sales (dollars/year)
44. IEM	District industrial employment (persons)
45. AVWR	Average wage rate (dollars/hr)
46. DPU	District population (persons)
47. AI	Average income (dollars/year)
48. ID	Income distribution (table)
49. EPTR	Existing property tax rate (percentage)

- 50. ESTR Existing sale tax rate (percentage)
- 51. EITR Existing income tax rate (percentage)
- 52. TCR Tax credits (percentage)

New Development Variables

- 53. NCP New commercial property (dollars)
- 54. NIP New industrial property (dollars)
- 55. NRCP New recreational property (dollars)
- 56. NRP New residential property (dollars)
- 57. NCSS New commercial space size (sq. ft.)
- 58. NISS New industrial space size (sq. ft.)
- 59. NRCS New recreational space size (sq. ft.)
- 60. NRU New residential unit amount (units)
- 61. NCRS New commercial retail sales (dollars/year)
- 62. NIEM New industrial employment (persons)
- 63. NPU New population (persons)

Table 2: Variable and Value Capture Technique Relations

SR. NO.	VAR.	VALUE CAPTURE TECHNIQUES									
		I	II	III	IV	V	VI	VII	VIII	IX	X
Facility Variables											
1	AT	+	+	+	+	+	+	+	+	+	+
2	FT	+	+	+	+	+	+	+	+	+	+
3	CT	+	+	+	+	+	+	+	+	+	+
4	EV	+	+	X	+	+	X	X	+	+	X
5	FV	*	*	X	*	*	*	X	*	*	X
6	EPHV	+	+	X	X	+	X	X	+	+	X
7	FPHV	*	*	X	X	*	X	X	*	*	X
8	SQ	*	*	*	*	*	*	X	*	*	X
9	CC	+	+	+	+	+	+	+	+	+	+
10	IC	+	+	+	+	+	X	+	+	+	+
11	EMC	+	+	+	+	+	X	+	+	+	+
12	FMC	+	+	+	+	+	+	+	+	+	+
13	EOC	+	+	+	+	+	X	X	+	+	+
14	FOC	+	+	+	+	+	+	X	+	+	+
15	EP	+	+	+	+	+	X	X	X	+	+
16	FP	+	+	+	+	+	+	X	X	+	+
17	FF	+	+	+	+	+	+	+	+	+	+
18	SF	+	+	+	+	+	+	+	+	+	+
19	LF	+	+	+	+	+	+	+	+	+	+
20	VC	+	+	+	+	+	+	+	+	+	+
21	I	+	+	+	+	+	+	+	+	+	+
22	BT	*	X	*	X	X	*	X	X	X	X
23	ILT	*	*	X	X	X	*	X	X	*	X
24	IST	*	*	X	X	X	*	X	X	*	X
25	DEP	X	X	X	X	X	X	X	X	X	X
26	DON	X	X	X	X	X	X	X	*	X	X
27	LSE	X	X	X	X	X	X	X	X	X	X
28	EL	X	*	X	*	X	*	X	X	X	X
Area Variables											
29	ACP	*	X	*	X	X	X	X	X	X	X
30	AIP	*	X	*	X	X	X	X	X	X	X
31	ARP	*	X	*	X	X	X	X	X	X	X
32	ARCP	*	X	*	X	X	X	X	X	X	X
33	FP	*	X	*	X	X	X	X	X	X	X
34	CP	*	X	*	X	X	X	X	X	X	X
35	DCF	*	*	X	X	X	X	X	X	X	X
36	DIF	*	*	X	X	X	X	X	X	X	X
37	DRF	*	*	X	X	X	X	X	X	X	X
38	DRCF	*	*	X	X	X	X	X	X	X	X
39	CSS	*	*	X	X	X	X	X	X	X	X
40	ISS	*	*	X	X	X	X	X	X	X	X
41	RCSS	*	*	X	X	X	X	X	X	X	X
42	RU	*	*	X	X	X	X	X	X	X	X
43	CRS	*	X	*	*	X	X	*	X	X	X
44	IEM	*	*	*	*	X	X	*	X	X	X
45	AVWR	*	*	*	*	X	X	X	X	X	X
46	DPU	*	*	*	X	X	X	X	X	X	X

47	AI	*	*	*	*	X	X	X	X	X	X
48	ID	*	X	*	X	X	X	X	X	X	X
49	EPTR	*	X	*	*	X	X	X	X	X	X
50	ESTR	*	X	*	*	X	X	X	X	X	X
51	EITR	*	X	*	*	X	X	X	X	X	X
52	TCR	*	*	*	*	*	X	*	*	*	*

New Development Variables

53	NCP	*	X	X	X	X	X	X	X	X	X
54	NIP	*	X	X	X	X	X	X	X	X	X
55	NRCP	*	X	X	X	X	X	X	X	X	X
56	NRP	*	X	X	X	X	X	X	X	X	X
57	NCSS	*	*	X	X	X	X	X	X	X	X
58	NISS	*	*	X	X	X	X	X	X	X	X
59	NRCS	*	*	X	X	X	X	X	X	X	X
60	NRU	*	*	X	X	X	X	X	X	X	X
61	NCRS	*	X	X	X	X	X	*	X	X	X
62	NIEM	*	*	X	X	X	X	X	X	X	X
63	NPU	*	*	X	X	X	X	X	X	X	X

+ Definitic relationship
 * Possible relationship
 x No relationship

new development will have on the local road network, one will have to perform an elaborate analysis consisting of all steps of the traditional transportation planning process (i.e., trip generation, modal split, trip distribution and trip assignment). After that, and once the trips or vehicles that will use a particular road segment are determined, the analysis will have to proceed with level of service determination computations according to the techniques contained in the Highway Capacity Manual which require a substantial number of other inputs such as roadway geometry, driver population characteristics, etc. Therefore, in order to obtain a value for the future level of service to use it as an input in this model, the analyst may have to do substantial work and use two other computerized models (one to obtain vehicles per road segment and one to determine level of service).

The purpose of the decision support system outlined here is to develop a model that forces the analyst to consider systematically all factors that may influence the decision on whether or not a value capture technique should be implemented in the first place, and given that the question to that answer is positive, which technique is more desirable, provided that there is a choice. This decision support system is not intended to be a full transportation impact determination and analysis model that can be used as a substitute of existing transportation planning, capacity, noise and air quality models. Table 3 contains a list of all 63 variables, identifies the source from which values can be obtained for those variables that are raw inputs, and indicates which variables have to be either estimated or computed through other methods or models.

Table 3: Variable Sources

SR. NO.	VAR.	SOURCE
Facility Variables		
1	AT	Given, from land use map.
2	FT	Given, from engineering proposal.
3	CT	Given, from engineering proposal.
4	EV	Given, from traffic count.
5	FV	Computed, from trip generation and distri. rates
6	EPHV	Given, from traffic count.
7	FPHV	Computed, from trip generation and distri. rates.
8	SQ	Computed, from HCM Techniques
9	CC	Given, from engineering cost estimation.
10	IC	Given, from engineering cost estimation.
11	EMC	Given, from the operation agency.
12	FMC	Estimated, from engineering proposal.
13	EOC	Given, from the operation agency.
14	FOC	Estimated, from engineering proposal.
15	EP	Estimated/calcu. on basis of needs or projections
16	FP	Given, from engineering proposal.
17	FF	Given, determined by federal policy.
18	SF	Given, determined by state policy.
19	LF	Given, determined by local government.
20	VC	Determined by: [Var.9 - Var.(17+18+19)]
21	I	Given, from financial markets.
22	BT	Given, from financial proposal.
23	ILT	Given, from financial markets.
24	IST	Given, from financial markets.
25	DEP	Given, from tax laws.
26	DON	Determined by negotiation.
27	LSE	Determined by negotiation.
28	EL	Given/determined from historical datas.
Area Variables		
29	ACP	Given, from area land use map.
30	AIP	Given, from area land use map.
31	ARP	Given, from area land use map.
32	ARCP	Given, from area land use map.
33	FP	Given, from area land use map.
34	CP	Given, from area land use map.
35	DCF	Given, from area land use map.
36	DIF	Given, from area land use map.
37	DRF	Given, from area land use map.
38	DRCF	Given, from area land use map.
39	CSS	Given, from area land use map.
40	ISS	Given, from area land use map.
41	RCSS	Given, from area land use map.
42	RU	Given, from area land use map.
43	CRS	Given, from Bureau of Census/Chamb. of Commerce.
44	IEM	Given, from Bureau of Census/Chamb. of Commerce.
45	AVWR	Given, determined by experience.
46	DPU	Given, from tax records/Census/Chamb. of Commerce

47	AI	Given, from tax records/Census/Chamb. of Commerce
48	ID	Given, from tax records/Census/Chamb. of Commerce
49	EPTR	Given, from local government.
50	ESTR	Given, from local government.
51	EITR	Given, from local government.
52	TCR	Given, from tax laws.

New Development Variables

53	NCP	Given, from area development plan.
54	NIP	Given, from area development plan.
55	NRCP	Given, from area development plan.
56	NRP	Given, from area development plan.
57	NCSS	Given, from area development plan.
58	NISS	Given, from area development plan.
59	NRCS	Given, from area development plan.
60	NRU	Given, from area development plan.
61	NCRS	Estimated, from area development plan.
62	NIEM	Estimated, from area development plan.
63	NPU	Estimated, from area development plan.

The degree of relationship that exists between a variable and the value capture technique that the variable is used to analyze has a substantial range of applicability or accuracy. The level of accuracy depends on the variable's own descriptive capabilities, the method by which it was obtained, as well as the analyst's desire or ability to perform an accurate analysis. For example, one may wish to determine traffic impact fees to be charged to a proposed development on the basis of the impact that the development-generated traffic will have on the entire county network, while in another case the impact fee may be levied on the basis of the impact that development-generated traffic will have only on a major arterial that passes in front of the property. Obviously, a much more detailed planning and level of service analysis is needed in the first case. Furthermore, the vast majority of the 63 variables that are associated with existing land uses and economic activity may not be used at all. As another example, the level of analysis required may vary significantly in two cases where negotiated investments are considered. In one instance, the local government may practically use all variables to perform detailed analyses of cost determination and impacts in order to demonstrate to a developer or convince a court about the real magnitude of the impact that a development will have and the developer's obligation to contribute towards the cost of improvement. However, in another case, agreement could be reached after a few hours of discussion and only on the basis of capacity and level of service estimates.

Table 4 is a matrix of all variables and the ten most commonly used value capture techniques that were listed previously. Its purpose is to demonstrate the relative importance of each variable for analyses performed to assess a given value capture technique. This table also contains the

degree of accuracy or strength of relationship that exists between the variable and the value capture technique on a five-level scale (A to D and no relationship).

The decision support system to be developed during the second phase of this project will have to be rather complex, since it will have to be capable of performing analyses at a number of levels of accuracy and sophistication. The flow chart in Appendix 4 is a condensed and simplified version of the procedures that the decision support system will perform. Only the major decision points are shown, and areas where data will be received and manipulated for the analysis of individual value capture techniques are shown as "boxes" with some additional information about them provided separately.

Table 4: Relative Importance/Variables

SR. NO.	VAR.	VALUE CAPTURE TECHNIQUES									
		I	II	III	IV	V	VI	VII	VIII	IX	X
Facility Variables											
1	AT	D	D	D	D	D	D	D	D	D	D
2	FT	D	D	D	D	D	D	D	D	D	D
3	CT	D	D	D	D	D	D	D	D	D	D
4	EV	A	A		A	A			A	A	
5	FV	B	B		B	B	B		B	B	
6	EPHV	A	A		A	A			A	A	
7	FPHV	B	B		B	B			B	B	
8	SQ	C	C	C	C	C	C		C	C	
9	CC	A	A	A	A	A	A	A	A	A	A
10	IC	A	A	A	A	A	A	A	A	A	A
11	EMC	A	A	A	A	A	A	A	A	A	A
12	FMC	A	A	A	A	A	A	A	A	A	A
13	EOC	A	A	A	A	A	A	A	A	A	A
14	FOC	A	A	A	A	A	A	A	A	A	A
15	EP	A	A	A	A	A	A	A	A	A	A
16	FP	A	A	A	A	A	A	A	A	A	A
17	FF	A	A	A	A	A	A	A	A	A	A
18	SF	A	A	A	A	A	A	A	A	A	A
19	LF	A	A	A	A	A	A	A	A	A	A
20	VC	B	B	B	B	B	B	B	B	B	B
21	I	A	A	A	A	A	A	A	A	A	A
22	BT	C	C	C			C				
23	ILT	B	B				B			B	
24	IST	B	B				B			B	
25	DEP										
26	DON								B		
27	LSE										B
28	EL		B		B		B				
Area Variables											
29	ACP	B		B							
30	AIP	B		B							
31	ARP	B		B							
32	ARCP	B		B							
33	FP	B		B							
34	CP	B		B							
35	DCF	B	B								
36	DIF	B	B								
37	DRF	B	B								
38	DRCF	B	B								
39	CSS	B	B								
40	ISS	B	B								
41	RCSS	B	B								
42	RU	B	B								
43	CRS	B		B	B			B			
44	IEM	B	B	B	B			B			
45	AVWR	B	B	B	B						
46	DPU	B	B	B							

47	AI	B	B	B	B						
48	ID	B		B							
49	EPTR	B		B	B						
50	ESTR	B		B	B						
51	EITR	B		B	B						
52	TCR	B	B	B	B	B		B	B	B	B
New Development Variables											
53	NCP	B									
54	NIP	B									
55	NRCP	B									
56	NRP	B									
57	NCSS	B	B								
58	NISS	B	B								
59	NRCS	B	B								
60	NRU	B	B								
61	NCRS	B						B			
62	NIEM	B	B								
63	NPU	B	B								

A: Very precise economic relationship
B: Quantifiable economic impact relationship
C: Qualitative impact relationship
D: Suggestions of possible impacts
Blank: No relationship

CHAPTER VI: SUMMARY

The previous chapters of this report have explored the concept and meaning of the term Value Capture, examined various legal and institutional factors affecting its utilization and reviewed actual usages of value capture techniques. Additionally, the beginning work for computerization of these techniques was presented.

A very basic finding presented above is that there is no single meaning of the term value capture and, if there was, the term does not/would not accurately describe the concept as it is actually practiced. The core meaning of the term, regardless of any nuances which might be added, is the reclaiming from the private sector of revenues (value) which exist because of a public sector expenditure, normally a capital infrastructure expenditure. Thus, if the new office building obtains higher rents because of a subway connection or a expressway interchange, the public sector reclaims some or all of those additional rents by means of a special fee or tax. The proceeds of which are, in theory, to be used to off set the public sector expenditure in whole or in part. While the method(s) of computing the dollar amount of the increased value and the geographic area(s) of enhanced value impact are certainly a matter of some debate, as noted previously, the concept is rather straight forward and simple.

It is a simple linear process: public expenditures enhance private sector values; special reclamation devices are levied and the public sector receives funds which off set already made expenditures. That's value capture.

Unfortunately, it rarely works that way in practice as the case studies reported above illustrate. As local and state governmental units providing the public sector enhancement frequently lack the up front funds to make

the improvement, value capture, in practice, becomes "enhanced value anticipation capture" where the public sector claims a share of the anticipated increase in private sector value prior to the implementation of the public sector improvement. What this process lacks in elegance, it makes up for in practicality.

Naturally, the practical ability to apply value capture techniques varies by locality depending upon their specific growth characteristics. The stronger and more rapid the growth, the more readily acceptable are value capture techniques for infrastructure improvements. In slower growth areas, businesses are likely to be more resistant to these financing approaches unless the desirability of the infrastructure improvement is clear and has broad based community support.

The legality of value capture techniques varies by locality; however, they are generally considered to be a legitimate extension of local government's power to regulate land use. The body of case law has evolved three general rules for judging the legitimacy of any given value capture application. While reviewed above in detail, these requirements entail that the public infrastructure improvement actually be required to accommodate growth, that the revenues generated not exceed the actual costs of the improvement and that the revenues only be spent for the purpose raised.

While these are logical and fair requirements, they can present some practical difficulties for some communities. For example, if a community has a pressing need for a transportation improvement and a value capture technique is not yet in place, the community may not wish to divert funds from an alternative use with the anticipation of replenishing those funds from value capture revenues, to do so could invalidate the technique in a

subsequent court challenge. Hence, value capture should not be viewed as a "quick fix," but one that requires advance planning from both a project construction and a project cash flow perspective.

Since value capture embraces a variety of revenue generating techniques, some care must be taken in the selection of the appropriate form of value capture utilized under any given circumstances. Special Benefit Assessment Districts are appropriate for both new public construction and improvements to existing public facilities. This approach defines the area from which revenues are to be raised in terms of proximity to the public sector investment; thereby, embracing both new and existing private facilities.

Impact Fees, on the other hand, take the perspective of judging and monetizing the additional burden placed on existing facilities by new private construction. Thus, it begins by taking the public sector investment as given and judges the marginal costs of additions to its carrying capacity deriving from new private construction.

Tax Increment financing must also define a geographic area of impact; but measures the available additional value from increases in property tax measures. Again, proximity to the public sector investment is important.

Negotiated Investments are most appropriate for new private sector construction and may be used in connection with existing, new or improved public sector investments. As there are, in fact, negotiated settlements, the bargaining power and ability of the local governmental unit is of critical importance.

Connector Fees are similar to the above and are more appropriate for existing public investments. However, they may also be utilized with new public construction. Improvements to existing public sector infrastructure

offer only limited opportunities for this value capture technique unless linked with new private sector development.

Land/Air Rights Leasing is appropriate for new or existing public infrastructure projects. However, the "good" which the public sector brings to the bargaining table will vary depending upon the transportation mode involved and whether the public investment is new or existing. For example, air rights over a subway station provides access to the proposed private construction project, while air rights over an existing freeway, in the absence of a nearby interchange, provides buildable space only.

Thus, each value capture technique must be reviewed for its particular characteristics which make it more or less applicable in any given specific situation. The guidelines, case examples and other information provided in this report should provide the means to select an appropriate technique or a limited number of techniques for any given situation. Once a technique(s) has been selected, the computer modeling information, when finalized, will provide an appropriate array of variables to consider when developing revenue generation projections by technique and situation. Together these two stages of technique selection should provide the local decision maker with the most desirable technique from a technical perspective.

While only the local decision maker can judge the political acceptability of any given approach, some general guidelines in this regard have also been provided in previous chapters. This acknowledges that the value capture utilization decision is both a technical and a political decision. Both aspects must be given appropriate weight in any actual decision made.

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Appendix 2: Survey Results

Value Capture Financing Techniques in Transportation

Name of Technique: *Negotiated Investment

In the above space, please identify the value capture technique that has been used to finance a transportation project in your jurisdiction. (Please refer to the techniques that you have listed in question (1a) of the white questionnaire; use a separate copy of this questionnaire for each technique.)

1) Briefly describe the transportation project which was financed using the value capture technique, including project type and size, when the project was started and completed, and number of users of the transportation system.

2 Road Widening

2 Traffic signals

1 Road Construction

2 Right-of-Way dedication

2 Sidewalks, bike facilities, and maintenance

Please check the appropriate answers to the following questions. More than one answer may be checked if applicable. (NA means not applicable.)

2) For what part of the financing was the value capture technique used?

4 initial investment
4 capital costs of construction
2 improvements
1 maintenance
 operation costs
 debt service of bond issues
 other (Please describe)

* Respondents also referred to the techniques as cost sharing and special assessment but according to their descriptions, the techniques more appropriately fit in the category of negotiated investments.

3) What portion of the project was financed by the value capture technique?

- 1 50% 1 less than 5%
- 1 86%
- 2 up to 100%

4) If a financing district was established, what was its political status?

- 5 independent 1 dependent (administered by the local government)
- 5 NA

5) Which type of payment schedule was arranged?

- 4 one time payment 1 on-going payments
- 1 NA 1 other (Please describe)
- Developer established letter of credit for city to draw upon as construction costs are incurred

6) How were the amounts paid by the private sector decided?

- 5 negotiation 1 imposed 1 NA

7) Which members of the private sector made payments? (Choose all that apply.)

- 6 developers
- 1 commercial establishments
- 1 residents
- 1 other (Please identify _____)
- 1 NA

8) Please describe any payments or donations made in land or services rather than money.

4 Dedication of right-of-way

2 Road construction

9) What kinds of taxes exist within your jurisdiction? (Check all that apply.)

6 property

5 sales

3 income

2 other (Please explain) wheel, excise, personal property

restaurant/meals

10) If any portion of the project is/was funded through local taxes please describe how this was accomplished. (Eg., general revenue, additional sales tax, local fuel tax, etc.)

2 funded through local taxes

1 funded from city capital project funds (derived from sale of general obligation bonds)

11) In which type of area was the project located? (Check all that apply.)

4 urban

4 suburban

1 rural

1 other (Please explain)

12) What are the land uses in the areas surrounding the project?

5 commercial

3 industrial

4 residential

1 agricultural

 other (Please describe)

13) How developed is the area containing the funded project?

1 undeveloped
6 partially developed
3 fully developed
3 redeveloping

14) What factors influenced choosing the value capture technique to finance the project? (Factors might include project type, private sector interest and cooperation, economic growth/stability/decline in the area, legal or political issues, etc.)

3 legal, political, and zoning issues and acceptability
2 public safety
1 lack of available funds
5 interest/willingness of developer
1 equitable financing mechanism

15) What have you found to be the advantages of the value capture technique chosen to finance the project?

- 2 land cannot be developed until terms of rezoning are met
- 2 party creating the need, and standing to receive benefits, paid most of the cost
- 1 flexibility to negotiate

16) What have you found to be the disadvantages of the value capture technique chosen to finance the project?

- 1 difficult to determine actual distribution of cost between parties
- 2 depends on developer's cooperation
- 1 inconsistent results depending on parties' abilities to negotiate and cooperate
- 1 developers do not know upfront what is expected of them
- 1 does not always adequately mitigate for development impacts
- 2 none

Value Capture Financing Techniques in Transportation

Name of Technique: Impact Requirements

In the above space, please identify the value capture technique that has been used to finance a transportation project in your jurisdiction. (Please refer to the techniques that you have listed in question (1a) of the white questionnaire; use a separate copy of this questionnaire for each technique.)

1) Briefly describe the transportation project which was financed using the value capture technique, including project type and size, when the project was started and completed, and number of users of the transportation system.

- 3 roadway expansion
- 3 signal improvements
- 1 sidewalk, curb and gutter construction and maintenance

Please check the appropriate answers to the following questions. More than one answer may be checked if applicable. (NA means not applicable.)

2) For what part of the financing was the value capture technique used?

- 3 initial investment
 - 4 capital costs of construction
 - 3 improvements
 - 2 maintenance
 - 1 operation costs
 - 1 debt service of bond issues
 - 1 other (Please describe)
- costs of materials only

8) Please describe any payments or donations made in land or services rather than money.

2 land donated for right-of-way

1 road improvements done by developer

9) What kinds of taxes exist within your jurisdiction? (Check all that apply.)

4 property
4 sales
2 income
3 other (Please explain) personal property.
wheel, excise

10) If any portion of the project is/was funded through local taxes please describe how this was accomplished. (Eg., general revenue, additional sales tax, local fuel tax, etc.)

1 general revenue

11) In which type of area was the project located? (Check all that apply.)

4 urban
2 suburban
2 rural
 other (Please explain)

12) What are the land uses in the areas surrounding the project?

3 commercial
2 industrial
4 residential
1 agricultural
 other (Please describe)

13) How developed is the area containing the funded project?

1 undeveloped
3 partially developed
3 fully developed
3 redeveloping

14) What factors influenced choosing the value capture technique to finance the project? (Factors might include project type, private sector interest and cooperation, economic growth/stability/decline in the area, legal or political issues, etc.)

2 desire to have new development help defray some portion of the impacts of their projects

1 desire to have the primary beneficiary pay a greater share than the tax structure

2 equitable financing mechanism

15) What have you found to be the advantages of the value capture technique chosen to finance the project?

- 1 quick implementation
- 1 encourages residential and commercial property improvements
- 1 encourages coordinated maintenance program
- 2 political and private sector acceptance

16) What have you found to be the disadvantages of the value capture technique chosen to finance the project?

- 1 questions of equity were raised
- 1 administrative cost
- 1 results in less sidewalk, curb and gutter construction than if program were free
- 1 not applied to "off-site" impacts

Use this space or additional sheets to elaborate upon any of the above questions or to add any comments. Additional sheets may also be used.

We greatly appreciate the time that you have taken to complete this questionnaire. Please include any other descriptive materials, including site illustrations that you feel may further help us in our research when you return this questionnaire to:

Lester Hoel, Chairman
Department of Civil Engineering
Thornton Hall, Room B207
University of Virginia
Charlottesville, VA 22901

Value Capture Financing Techniques in Transportation

Name of Technique: Joint Venture with the private sector

In the above space, please identify the value capture technique that has been used to finance a transportation project in your jurisdiction. (Please refer to the techniques that you have listed in question (1a) of the white questionnaire; use a separate copy of this questionnaire for each technique.)

1) Briefly describe the transportation project which was financed using the value capture technique, including project type and size, when the project was started and completed, and number of users of the transportation system.

1 trolley bus system partially financed by a private developer

Please check the appropriate answers to the following questions. More than one answer may be checked if applicable. (NA means not applicable.)

2) For what part of the financing was the value capture technique used?

- initial investment
- capital costs of construction
- improvements
- maintenance
- operation costs
- debt service of bond issues
- other (Please describe)

Contractual services by developer for \$40,000

3) What portion of the project was financed by the value capture technique?

20 %

4) If a financing district was established, what was its political status?

 independent dependent (administered by the local government)
 1 NA

5) Which type of payment schedule was arranged?

 1 one time payment on-going payments
 NA other (Please describe)

6) How were the amounts paid by the private sector decided?

 1 negotiation imposed NA

7) Which members of the private sector made payments? (Choose all that apply.)

 1 developers
 1 commercial establishments
 residents
 other (Please identify _____)
 NA

8) Please describe any payments or donations made in land or services rather than money.

The developer designed 30,000 information brochures distributed to the public.

9) What kinds of taxes exist within your jurisdiction? (Check all that apply.)

 1 property
 1 sales
 1 income
 1 other (Please explain) personal property
 tax on cars

10) If any portion of the project is/was funded through local taxes please describe how this was accomplished. (Eg., general revenue, additional sales tax, local fuel tax, etc.)

80% funded by the county and the state

11) In which type of area was the project located? (Check all that apply.)

 1 urban
 suburban
 rural
 other (Please explain)

12) What are the land uses in the areas surrounding the project?

 1 commercial
 industrial
 1 residential
 agricultural
 other (Please describe)

13) How developed is the area containing the funded project?

- undeveloped
- partially developed
- fully developed
- redeveloping

14) What factors influenced choosing the value capture technique to finance the project? (Factors might include project type, private sector interest and cooperation, economic growth/stability/decline in the area, legal or political issues, etc.)

project type, developer interest, economic growth in county

15) What have you found to be the advantages of the value capture technique chosen to finance the project?

less money needed from local government, offsetting public costs
public and private sectors worked together to insure success and patronage of the project

16) What have you found to be the disadvantages of the value capture technique chosen to finance the project?

no guarantee of continued private sector support

contract between public and private sectors needs to be renegotiated periodically

Use this space or additional sheets to elaborate upon any of the above questions or to add any comments. Additional sheets may also be used.

This county will not pursue similar projects unless there is a guarantee that the private sector will cover the operating costs

We greatly appreciate the time that you have taken to complete this questionnaire. Please include any other descriptive materials, including site illustrations that you feel may further help us in our research when you return this questionnaire to:

Lester Hoel, Chairman
Department of Civil Engineering
Thornton Hall, Room B207
University of Virginia
Charlottesville, VA 22901

Value Capture Financing Techniques in Transportation

Please complete the following questions to the best of your knowledge.

1) Are officials in your jurisdiction aware of the existence of value capture techniques?

10 yes 3 no 6 don't know

1a) If yes, which ones?

4 impact fees 2 special assessments

2) Does the Dillon rule or home rule apply to localities in your state?

7 Dillon rule 5 home rule
7 don't know ___ other (Please explain)

3) Does your state have enabling legislation permitting the use of any value capture techniques?

10 yes 4 no 5 don't know

4) Does your state's legislation limit the use of value capture techniques?

5 yes 2 no 11 don't know

5) Do the regulations of your jurisdiction permit the use of any value capture techniques?

9 yes 4 no 6 don't know

6) Do the regulations of your jurisdiction limit the use of value capture techniques?

6 yes 4 no 8 don't know

7) Have officials ever considered value capture techniques to finance transportation projects?

1 yes 13 no 5 don't know

7a) If yes, what factors influenced the decision not to use value capture techniques? (Factors might include project type and size, lack of private sector cooperation and interest, economic growth/stability/decline in the area, legal or political issues, etc.)

- 1 municipality is too small and does not involve itself in transportation
- 1 no public transportation - decline in economy negates any need
- 1 state previously paid for all needs
- 2 in the process of considering alternative financing methods (no previous need to do so)

Thank you for taking the time to complete this questionnaire; your response will be very helpful in the compilation of research on value capture techniques. Please return this questionnaire to:

Lester Hoel, Chairman
 Department of Civil Engineering
 Thornton Hall, Room B207
 University of Virginia
 Charlottesville, Va. 22901

* One respondent returned but did not complete the survey indicating that the survey did not apply to the county level of government in that state

Appendix 3: Persons Interviewed

Persons Interviewed

Chester County Planning Commission, Chester County, Pa.
Lee Whitmore - Transportation Planner

West Whiteland Township, Pa.
Stephen Ross, Township Manager

East Whiteland and Tredyffrin Townships, Pa.
Barney Bus, Chairman, Joint Transportation Authority

Metropolitan Transportation Authority, New York, NY
Shelley Fialkoff, Deputy Director
Ed Helenius, Architect
Donald Blumfield, Attorney and Engineer

Department of Traffic and Parking, New Haven, Conn.
John P. Cavallero, Jr., Director

Metropolitan Area Planning Council, Boston, Ma.
Dan Fortier

Boston Planning Department, Boston, Ma.
Andy McClurg, Planner

Massachusetts Bay Transportation Authority, Boston, Ma.
Arthur Shea, Treasurer
Vince Carbona, Public Information Officer
Ann Koffman, Real Estate Development
Mike Fenlon, Real Estate Development
Peter Scholnick, Real Estate Development

Town of Framingham, Ma.
John Stasik, Planning Board Member

Town of Dennis, Ma.
Bill Hinchey, Executive Secretary

Places Surveyed¹

Chapel Hill, NC
Fort Washington, PA
Charlottesville, VA
Alexandria, VA
Arlington, VA
Danville, VA
Fairfax, VA
Falls Church, VA
Fredericksburg, VA
Herndon, VA
Leesburg, VA
Middleburg, VA
Newport News, VA
Norfolk, VA
Petersburg, VA
Richmond, VA
Roanoke, VA
Vienna, VA
Virginia Beach, VA
Warrenton, VA
Williamsburg, VA
West Palm Beach, FL
Caribou, ME
Bath, ME
Essex Junction, VT
Brattleboro, VT
Laconia, NH
Keene, NH
Taunton, MA
Northampton, MA
Newton, NJ
Hackensack, NJ
Batavia, NY
Cortland, NY
Milford, PA
Indiana, PA
Mio, Michigan
Newark, OH
Elyria, OH
Vevay, Indiana
Evansville, Indiana

¹Responses received from those places in boldface

Black River Falls, Wisconsin
Medford, Wisconsin
Belleville, Illinois
Sycamore, Illinois
Ada, Oklahoma
Duncan, Oklahoma
Morriston, Arkansas
Camden, Arkansas
Franklinton, Louisiana
Minden, Louisiana
Burnet, TX
Paint Rock, TX
Libby, Montana
Forsyth, Montana
Anaconda, Montana
Jackson, Wyoming
Torrington, Wyoming
Salida, Colorado
Colorado Springs, Colorado
Socorro, NM
Clayton, NM
McVill, ND
Steele, ND
Gwinner, ND
Clark, SD
Hamill, SD
Parsons, Kansas
Danvers, Minnesota
Glencue, Minnesota
Waukon, Iowa
Ida Grove, Iowa
Chappell, Nebraska
Kimball, Nebraska
Crab Orchard, Nebraska
Clay Center, Nebraska
Liberal, Kansas
Wapello, Iowa
Carson City, Nevada
Othello, WA
Colusa, CA
San Andreas, CA
Naknek, Alaska
Juneau, Alaska
Haines, Alaska
Palmer, Alaska
Honolulu, Hawaii
Lihue, Hawaii
Salyersville, Kentucky
Mount Vernon, Kentucky
Maryville, Tennessee
Clarkville, Tennessee
Marion, Alabama

Forest, Mississippi
Philadelphia, Mississippi
Beckley, WV
Hagerstown, MD
Westminster, MD
Newark, DE
Georgetown, DE
Washington, DC
Farmville, VA
Saluda, SC
Columbia, SC
Cairo, Georgia
Decatur, Georgia
Gainesville, FL
New Part Richey, FL
Madison, Wisconsin

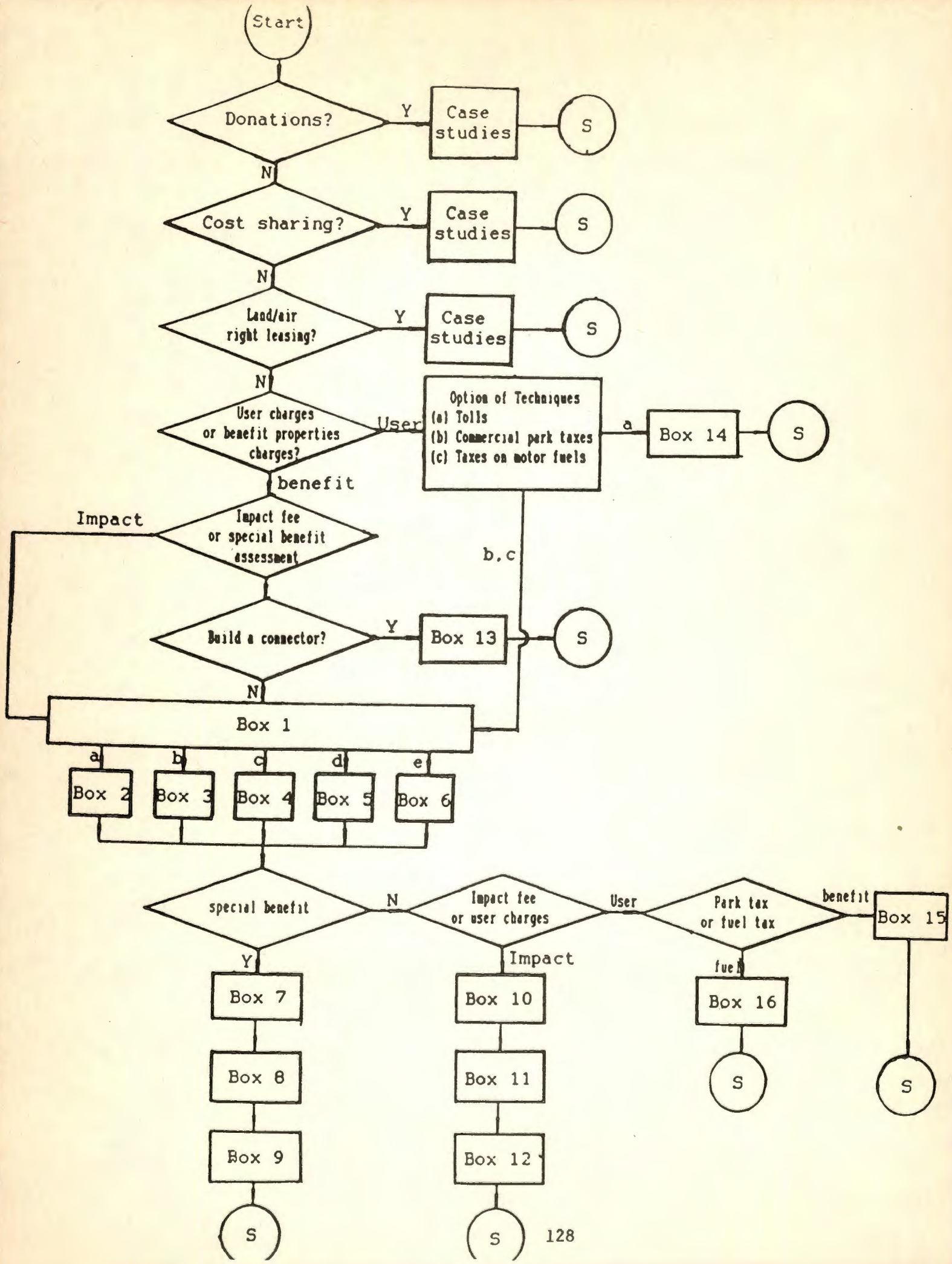
APPENDIX 4

FLOW CHART

OUTLINE

OF THE

DECISION SUPPORT SYSTEM



BOX 1
Input Transportation Facility Type
(1) Build Highway Facility
(2) Improve Highway Facility
(3) Establish a Transit Route
(4) Expand a Transit Service
(5) Build a Transit Station or Terminal

BOX 2
Input Transportation System Variables (New Highway Facility)
(1) Vehicle Volume
(2) Total Capital Cost
(3) Federal Financing Amount
(4) State Financing Amount
(5) Local Government Financing Amount
(6) Value to be Captured

BOX 3
Input Transportation System Variables (Improve Highway Facility)
(1) Existing Vehicle Volumes
(2) Level of Service
(3) Expected Vehicle Volumes
(4) Total Improvement Costs
(5) Federal Financing Amount
(6) State Financing Amount
(7) Local Government Financing Amount
(8) Value to be Captured

BOX 4
Input Transportation System Variables
(Establish a Transit Route)

- (1) Expected Number of Passengers
- (2) Capital Cost
- (3) Operating and Maintenance Cost
- (4) Prices to be Charged by the System
- (5) Federal Subsidies
- (6) State Subsidies
- (7) Local Subsidies
- (8) Value to be Captured

BOX 5
Input Transportation System Variables
(Expand a Transit Service)

- (1) Existing Number of Passengers
- (2) New Passengers
- (3) Existing Operating and Maintenance Costs
- (4) Capital Cost of Expansion
- (5) Expected Operating and Maintenance Costs
- (6) Prices Charged by the System
- (7) Federal Subsidies
- (8) State Subsidies
- (9) Local Subsidies
- (10) Value to be Captured

BOX 6
Input Transportation System Variables
(Build a Transit Station or Terminal)

- (1) Total Capital Cost
- (2) Federal Financing Amount
- (3) State Financing Amount
- (4) Local Government Financing Amount
- (5) Value to be Captured

BOX 7
Input District Conditions
(1) District Property Values by Land Use Type
(2) District Population
(3) District Economic Activity (Sales, Employment, etc)
(4) Income Distribution
(5) Existing Tax Rates (Property, Sales, Income)

BOX 8
Bond Financing Inputs
(1) Bond Issue Type
(2) Interest Rate(s)

BOX 9
Revenue Generation Determination
(1) Levy on Properties
(2) Tax Increment
(3) Payroll Tax

BOX 10
Input Area Conditions
(1) Total size of Each Land Use Type
(2) Area Population
(3) Area Economic Activity

BOX 11
Use Trip Generation
and
Trip Distribution Techniques

BOX 12
Impact Fee Determination

- (1) Peak-Hour Vehicle or Passenger Trips
- (2) Fee per Square-Foot or Development Unit

BOX 13
Connector Fee Computation Variables

- (1) Construction Cost of Connector
- (2) Current Annual Sales
- (3) Number of Annual Customers
- (4) Number of Annual Passengers
- (5) Expected Increase in Sales
- (6) Connector Fee Required

BOX 14
Toll Determination Variables

- (1) Existing Traffic Volume
- (2) Expected Traffic Volume
- (3) Capital Costs
- (4) Toll Rate Required

BOX 15
Parking Tax Variables

- (1) Annual Number of Parking Vehicles
- (2) Price Elasticity
- (3) Parking Tax Rate Determination

BOX 16
Fuel Tax Variables

- (1) Gallons of Motor Fuels Sold Annually
- (2) Price Elasticity
- (3) Motor Fuel Tax Rate Determination