

PUBLIC ECONOMY ORGANIZATION AND SERVICE DELIVERY

by

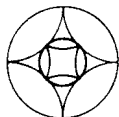
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New York City's recent financial plight dramatizes the problem many cities have in financing the delivery of urban public services. Changes in institutional arrangements that may increase the capacity of large center cities to finance and deliver an efficient and equitable level of public services are being considered.

Some proposals ask the Federal Government to assume a larger proportion of the financing, particularly welfare and other social services. Others recommend that the financial base of center cities be extended through governmental consolidation. Still others propose dramatically different reforms including an increase in government fragmentation by creating small scale units of government within the center city itself.

Consideration of these and many other proposals are particularly important for those concerned about the future of Southeastern Michigan (SEM). Detroit has recently faced considerable financial difficulty. The level of governmental fragmentation is high in the metropolitan area. As of 1972, there were 241 local governmental units in the three-county metropolitan area. Eighty-eight different municipalities served a population of over four million people -- or one general purpose government for each 47,768 residents. However, the variation in size of local governmental units was considerable. Thirty-four of the municipalities serve communities of less than 5,000 residents.

Twenty-five municipalities served communities that ranged from 5,000 to 24,999 residents, and 27 municipalities served communities with over 25,000 residents (1972 Census of Governments, Vol. 1, Table 19).

Decision makers in the Detroit area are faced with the consideration of changing the organization of governmental units as one means of increasing both the efficiency and equity of urban services delivery. However, a key question is whether a decrease (or an increase) in governmental fragmentation will affect financial capability to deliver equitable and efficient urban services.

The question cannot be answered without a well-developed and empirically based theory of institutional analysis and design. For years, conventional theories have been based on untested hypotheses about the relationship between the size and fragmentation of local governmental units on the one hand, and the efficient and equitable delivery of urban services on the other. This has been challenged in the past twenty years by a growing number of economists and political scientists who have made considerable advances both theoretically and empirically. Their work has not yet produced a completed, accepted, and empirically validated theory of institutional analysis and design. The basic elements have, however, been worked out, and considerable empirical investigation supports hypotheses derived from this theoretical tradition.

In this paper we will first provide a basic overview of this developing theory of institutional analysis. Any theory has its own language, and to understand it, one must understand the basic terms. Thus, we shall first define and discuss some elemental concepts that are essential for understanding the approach. Then we will examine some opportunities and problems of complex structures. and, lastly, examine

some implications of this approach for the Southeastern Michigan area.

The Nature of Goods

Within the last two decades an extensive literature has developed on the characteristics that distinguish public or collective goods from private or individual ones. Exclusion and jointness of use are two essential defining characteristics, and our discussion shall use them to distinguish among four types of goods and services.

Exclusion

Exclusion has long been identified as a necessary characteristic for goods and services to be supplied under market conditions. Exclusion occurs when potential consumers can be denied goods or services unless they meet the terms and conditions of a vendor. Conversely, a consumer is at liberty to refuse to do business with any particular vendor, and to enter into transactions with a vendor of his choice. Where exclusion is feasible, a consumer can maintain an arm's length relationship with vendors or producers of private goods and services. If both consumer and vendor agree, goods or services are supplied at a price. A quid pro quo exchange occurs: the consumer acquires the good and the seller acquires the value specified.

Where exclusion is infeasible, anyone can derive benefits from the good as long as nature or the efforts of others supply it. The air we breathe can be viewed as a good supplied by nature where exclusion is infeasible. A view of a building -- whether seen as a good or a bad -- is supplied by the efforts of others and is not subject to exclusion in normal circumstances. Where exclusion is infeasible, a consumer

will not have the option to maintain an arm's length relationship and bears whatever advantage or disadvantage that is associated with events that can be conceived as either goods or bads.

Where exclusion is feasible, consumers face the problems of the market-place. If they have the resources necessary, they may obtain the good in exchange for a price. Moreover, those with few monetary resources are less able to influence production decisions about exclusionary goods than those with greater monetary resources. If tastes are similar, consumers are apt to find goods readily available. Where exclusion is difficult or impossible, private entrepreneurs will usually not supply such goods because they cannot derive revenue from doing so, and consumers must find alternative ways of obtaining them.

Jointness of Use or Consumption

Another attribute of goods or services pertains to what we shall call jointness of use or consumption. It exists when consumption by one person does not preclude the use or consumption of a good by another. But where the use of a good does foreclose its use (or enjoyment) by others, we may say that consumption is completely "subtractible." A piece of bread, for example, when consumed by one person is not available for consumption by another, i.e., it is completely "subtractible."

Yet few, if any, joint-consumption goods are perfectly nonsubtractible. Most joint-consumption goods are instead subject to partial subtractibility. At certain thresholds of supply, the use or consumption of a good by any one subtracts in part from its use and enjoyment by others. With increased demand, and given thresholds of supply, congestion begins to occur. Each further increase impairs the use of that good for each

person in the community of users. Highways, for example, become subject to congestion where the addition of more motorists causes delays and inconveniences. Fire protection, another joint-consumption good, may deteriorate when a finite fire fighting force experiences a high rate of demand.

A Typology Using Exclusion and Jointness of Use

Both exclusion and jointness of use are independent characteristics that vary in degree rather than being all-or-none characteristics. Both characteristics of goods can be arrayed in relation to one another as shown in Figure 1. For purposes of analysis, both characteristics have been arrayed into two classes showing their extreme values. Jointness of consumption is arrayed into individual uses that are highly subtractible and joint uses that are nonsubtractible, or where one person's use interferes with others' use. Exclusion is shown as being either feasible or infeasible. Exclusion is technically infeasible where no practical technique exists for either packaging a good or controlling access by a potential user. Exclusion may also be economically infeasible where the costs of exclusion are too high to justify the effort.

By using these two attributes arrayed in a simple matrix, four types of goods can be described: private goods, toll goods, common-pool resources, and public goods. Market arrangements can be used to deliver either private or toll goods, that is, where exclusion is feasible. In the case of toll goods, a price is charged for access, but the good is used in common. With toll goods, special problems arise from jointness of use, as in a theater, where the conduct of one user may add to or detract from the enjoyment of others. The value of the good depends

both on the quality of the good produced and upon the way it is used by a community of consumers.

Figure 1. Types of Goods

		JOINTNESS OF USE OR CONSUMPTION	
		Individual Use	Joint Use
E X C L U S I O N	Feasible	<u>Private Goods:</u> bread, shoes, automobiles, haircuts, books, etc.	<u>Toll Goods:</u> theaters, nightclubs, telephone service, toll roads, cable TV, library, etc.
	Infeasible	<u>Common Pool Resources:</u> water pumped from a ground water basin, fish taken from an ocean, crude oil extracted from an oil pool.	<u>Public Goods:</u> peace and security of a community, national defense, mosquito abatement, air pollution control, fire protection, weather forecasts, public TV, etc.

In the case of common-pool resources, exclusion may be difficult or infeasible in the sense that many users or consumers cannot be denied access. But use by any one consumer precludes use of that fixed quantity of the good by others. Each pumper in a ground-water basin, for example, consumes water that is alternative to its use by all other pumpers. Each fish or ton of fish taken by any one fisherman precludes any other fisherman from taking those same fish. Yet no basis may exist for excluding

fishermen from access to fish in the ocean. Once appropriated, water can be dealt with as a toll good supplied to those having access to a distribution system, or fish can be dealt with as a private good.

The broad range of services rendered by governmental agencies may cover all different types of goods and services. The food supplied to school children at no charge is an example of a private good. It is potentially subject to exclusion and involves no jointness of use. But its consumption may create consumption externalities that have the characteristics of a public good. Most government services are of the public good, toll good, or common-pool resource variety. Public goods are rarely supplied without access to some instrumentality (such as a government), but this is not necessarily the case for toll goods and common-pool resources. Variations among these different types of goods affect the types of problems consumers face.

Moving from a simple division of private and public goods to a typology involving four types of goods increases our understanding of the range of problems encountered by users. For some analysis, this increase in the complexity of conceptual analysis is all that is necessary to increase our explanatory powers. However, two other attributes of goods are important for understanding some public sector-problems. These are measurement and coproduction.

Measurement

Since most private goods can be packaged, they are usually relatively easy to measure; comparisons and computations are easy to make. However, even some private goods are difficult to measure. The services of a psychiatrist, for example, are usually consumed individually and exclusion

is feasible. However, such services are difficult to measure. Since someone pays a price, we can compute the "value" of the output by adding together the fees so charged, but the product is usually defined in terms of the hours of activity. This measure is like using the total number of hours of labor by a wheat farmer to calculate the value of the product instead of the number of bushels of wheat produced.

While the difficulty of measuring output varies among private goods and services, the problem grows immensely in regard to the other types of goods. Qualitative measures such as road surface condition and traffic delay rates can be used to measure important characteristics of goods subject to joint consumption. Qualitative measures cannot be added in the same way as quantitative measures. One cannot simply add up traffic delay rates for an entire metropolitan area like one can add up total bushels of what produced. One must compute averages and/or measures of dispersion. Averages mask considerable variation in quality. Measures of dispersion provide information about the extent of variation, but do not allow one to get some measure of the total good produced.

Consequently, no simple calculations can be made to measure the output of public goods. One is forced to rely on estimates of total output derived from multiple indicators and proxy measures. By using several indicators for public good output, weak measures of performance can be developed even though direct measurement of output is not feasible. Some of the indicators of performance may relate to units of input (i.e., number of teachers with university degrees, teacher-pupil ratios, number of hours devoted to particular tasks, etc.). Such indicators can be controlled by those who allocate resource input. Relying upon any single indicator of performance that is a measure of input, means that

consumers are totally dependent for measures of performance on actions that producers can control. If the input is not directly related to desired output, the performance rating could be high, but the "real" quality of the product may be very low.

Coproduction

The dominant model of the production process is a factory where input factors are combined to produce output. Only the production firm is involved in making goods. Hence, output occurs without efforts on the part of consumers. This model is appropriate for thinking about producing a wide variety of goods. However, it is not an appropriate model for thinking about the production of many services, particularly those in the public sector. Many services require high levels of coproduction. Coproduction may be defined as the inputs and activities of citizens that affect the quality of services delivered. Without the participation of children and their parents, schools cannot educate. Fire prevention requires that citizens adopt strategies in their everyday life that reduce the danger of fire, report fires when they occur, and attempt to reduce loss by taking the right actions at the time of a fire. Crime prevention depends as much on citizen actions as it does on police actions. Little can be done about crime or suspicious circumstances if they are not reported.

Transferring the factory model to the production of services in the public sector adversely affects the level of coproduced services. Thus when individuals believe that fire or police departments are solely responsible for fire or crime, then consumers make less investment in their own activities and pay a disproportionately high cost as a

consequence. Institutional arrangements that decrease individual sense of responsibility for what occurs also reduce the level of coproduction undertaken by consumers (Newman, 1972). As we will discuss in a later section, many consumer problems in the public sector stem from a failure to recognize the importance of coproduction.

Attributes of Goods and Their Consequences

Goods that 1) are subject to joint use or consumption, 2) are not amenable to exclusion, 3) are difficult to measure, and 4) require large elements of coproduction pose serious problems in human organization. If a pure public good is supplied by nature or the efforts of others, all are free to take advantage of the good since no one can be excluded from its enjoyment. A cost-minimizing individual is motivated to take advantage of whatever is freely available and will not contribute a proportionate share of the effort to supply a pure public good. So long as the rules are strictly voluntary, some individuals will hold out or act as free riders, and if some are successful, others will follow suit. Voluntary efforts will fail in the supply of public goods. In small groups, individuals may account for each other's efforts and apply social coercion so that each person assumes a share of the burden. But large groups are less successful in coping with the provision of public goods shared by a whole community. Each person's share of the total cost may seem so insignificant that each can hold out with greater impunity. Thus, recourse to coercion by levying taxes to prevent hold-outs is more important in larger groups than in smaller, face-to-face ones.

Coercive sanctions are necessary for the operation of a public economy if it is to produce and deliver a wide variety of goods and services. But coercion and governmental organization do not guarantee the delivery of optimal amounts of public goods and services. Instruments of coercion can be used to deprive those not in power and make them worse-off rather than better-off. Governmental institutions permit majorities to impose decisions on those in the minority. Majority decisions can at times represent significant costs to the minority. And, at times, well organized minorities can dominate governmental decisions and impose costs on the majority. Governmental institutions can become instruments of tyranny where the powerful dominate the allocation of goods in a society to the detriment of others.

The Organization of Public Economies in Metropolitan Areas

Nonexclusion and joint consumption, when coupled with difficulty of measurement and the need for coproduction, pose substantial problems for organizing public economies in metropolitan areas. Given the wide diversity of preferences of different individuals living in metropolitan areas as well as the variety of different goods, it is not an easy task to devise patterns of organization to surmount the difficulties discussed above.

The most important difficulty occurs in organizing the consumption side related to public goods. Governments, like households, are consumers of public goods and should be viewed generally as collective-consumption units. We will first discuss the problems of organizing effective collective-consumption units. Next we will turn to a

discussion of ways of organizing production units including both governmental and private agencies. A particular governmental unit may simultaneously be both a collective-consumption unit and a production unit. Or, alternatively, a particular government may operate only as a collective-consumption unit and contract with private firms or other governments to produce public goods for its citizens.

Collective-Consumption Units

In the organization of collective-consumption units, arrangements need to be made for levying assessments, taxes, or user charges on beneficiaries in order to supply funds for jointly used goods or services and to avoid the problem of the holdout refusing to pay for benefits received. For example, some forms of private organizations have the authority to levy compulsory assessments on their members. Home owners' improvement associations, condominiums, and some cooperatives are often organized so that anyone buying a house in a subdivision or a unit in an apartment complex is required in their deed to become and remain members so long as they own the house or apartment. The bylaws of home owners' improvement associations or condominiums provide for the election of officers to act on behalf of members. These bylaws usually authorize the levy of assessments as an equivalent of a tax to provide joint services and facilities used in common by the residents.

Each person acquiring property in the subdivision or condominium voluntarily agrees to pay assessments and be bound by the terms of the bylaws as a part of the purchase contract. All other purchasers are required to do so as well. With unanimity about the appropriateness of bylaws and their assessing authority assured, no single resident can

hold out and derive benefits from joint endeavors without paying a proportionate share of the costs. When effectively organized, home owners' improvement associations, housing cooperatives, and condominiums can provide police protection, recreation services, public works, and other benefits for their member-consumers.

Where property rights have already been vested, and a group desires to procure services for their benefit, the problem of dealing with potential holdouts usually requires some form of governmental organization, such as a municipal corporation or a special public service district, as a substitute for the unanimous consent of property owners or residents. A large number of special districts have been organized in SEM including the Huron-Clinton Metropolitan Authority, the South-eastern Michigan Transportation Authority, a number of hospital, water, sanitation and soil conservation districts. An alternative might be the creation of a special assessment or improvement district within an established unit of government to finance a special service for a particular neighborhood or community of potential beneficiaries. Each of these public instrumentalities has the authority, under the terms of its charter, to tax and employ criminal sanctions to enforce its rules and regulations.

The problems of measuring public goods must also be considered. Where the income received for selling a private good conveys information about the demand for that good, taxes collected under the threat of coercion say little about the demand for a public good or service. It indicates only that taxpayers would rather pay taxes than go to jail. Obviously an alternative mechanism must be created; something that will articulate and aggregate consumer demands into collective choices that

reflect their preferences for a quantity and/or quality of public goods or services.

An appropriately constituted collective-consumption unit would include within its jurisdiction most of the relevant beneficiaries who share a common interest in the joint good or service, and would exclude those who do not. The collective-consumption unit would be empowered to make decisions without requiring unanimity, in order to eliminate holdouts. It would hold a limited monopoly on the consumption side.

Decisions about how to organize collective-consumption units may best be thought of as constitutional decisions. While we frequently think of constitutional decisions involving only nation-states and occurring infrequently, constitutional decision making about collective-consumption units in metropolitan areas is an ongoing process. Charter revision committees and state legislatures frequently make constitutional level decisions about the voting rules to be used, the form of representation, allowable taxes, and tax rates. Such rules provide the mechanisms for articulating demand when market mechanisms are not available for translating individual demands into decisions about the level of services to be provided.

All constitutional decision making involves some level of conflict. Since individual preferences differ, it is impossible to design collective-consumption units that can operate without generating conflict. In fact, a collective decision-making unit with procedural rules that enable conflict to be easily articulated will probably operate more effectively in the long run than one that suppresses it. Citizen-consumers gain a voice through conflict. Markets can operate with much articulated conflict because of the alternatives available to consumers. Collective-consumption

units make decisions that jointly affect all those within the unit. Unless all happen to agree in their preferences for services, some will be disappointed by the decisions made.

Production Units

Production units put together the factors of production yielding goods and services. Production units require a manager to assume entrepreneurial responsibility to bring together factors of production, organize them, and monitor the performance of a production team.

Organizing consumption in a public economy can be distinguished from organizing the production. We refer to the one as "provision;" the other as "production" (Ostrom, Tiebout, and Warren, 1961). Some general characteristics of collective-consumption units and production units are summarized in Figure 2.

Figure 2. Collective-Consumption Units and Producer Units
in a Public Economy

Collective-Consumption Unit	Producer Unit
Generally, a government that aggregates and articulates the demands of its constituents	May be a unit of government, a private, profit-making firm, a not-for-profit institution, or a voluntary association
Has coercive power to obtain funds to pay for public services and to regulate consumption patterns	Aggregates factors of production and produces goods to the specification of a collective-consumption unit
Pays producers for delivering public goods	Receives payment from collective-consumption unit for delivering public goods
Receives complaints and monitors performance of production unit	Supplies information to collective-consumption unit about costs and production possibilities

A collective-consumption unit may supply a public good or service through its own production unit. In this case, the collective-consumption and production unit would serve the same population. Yet the constitution of the two units is essentially separable. The chief executive or city council representing the collective-consumption unit bargains with managers of production units (i.e., police chiefs, bureau heads, etc.) to secure an appropriate supply of public goods and services. Newspapers are filled with accounts of such negotiations. They frequently stress the conflict of interest between production units and those who represent the interests of citizens as consumers. Nevertheless, this is a common occurrence, typified by a municipality with its own police, fire, or street-maintenance department.

As an alternative to organizing its own production unit, a collective-consumption unit might contract with a private vendor. In that case, public officials would translate decisions about the quantity or quality of public goods or services into specifications. These would then be used to secure bids from potential vendors, state the terms and conditions for contractual arrangements, and establish standards for assessing performance. The collective-consumption unit would also need to employ its own manager as a purchasing agent. He would receive information about costs and production possibilities from potential vendors, negotiate and contract with vendors, receive service complaints from consumers, and monitor vendors' performance in delivering services. The collective-consumption unit would operate as a "provider" or "buyer" of the service; and the private vendor as the "producer" or "supplier." A variety of municipal services in the United States, including street sweeping, snow removal, solid waste collection and disposal, fire and police protection,

engineering services, planning services, and construction of public works, among many others, are supplied by private vendors.

A third option is to establish standards of service that apply to all residents of a community and let each household decide which private vendor should supply the service. A number of vendors may be franchised, or anyone who wished to do business under the terms and conditions specified by the collective-consumption unit might be allowed to conduct a business. Solid waste collection is a good example. These services are highly individualized and possess only a limited degree of joint consumption, readily taken care of by applying common standards to all households and vendors.

Voucher systems represent a fourth option. By collecting taxes, one assures that each contributes his proportionate share of the burden, A voucher is then made available to each household so that it can decide among alternative producers and service packages. If applied to educational services, for example, a voucher would be issued for each eligible person. Decisions about the type of school and curriculum would be left to the family rather than to school authorities alone. Services amenable to voucher arrangements have characteristics associated with private and toll goods where others are also benefited by individual consumption. Community contributions to each individual's education is justified by this broader benefit. Vouchers have been used for housing (rent-supplement vouchers), health services (Medicaid can be considered a form of health voucher), and for food (food stamps). These services, while usually considered a private good, are like education in that others may benefit from consumption externalities.

As a fifth possibility, a collective-consumption unit could also contract with a production unit, organized by a different unit of government. Many municipalities, acting as collective-consumption units, contract with other municipalities -- or some other unit of government -- to supply, for example, police services, fire services, water storage and transmission services, specialized educational services, and library services. Over two-thirds of the citizens served in the Detroit Metro Water Department in 1977, for example, lived in communities that have chosen not to produce their own water and contract with the Water Board. (The pricing policies of the Detroit Water Department are discussed in detail in Andrea Long's chapter in this volume.)

A sixth way of organizing production occurs when a collective-consumption unit relies upon its own production unit or bureau to supply some components of a service, but relies upon other consumption and production units for others. Its own production unit may draw on other producers to supply it with factors of production, serve as a purchasing agent to procure and monitor the delivery of supplemental services, or function as a joint producer supplying a mix of services rendered by the joint effort of multiple production teams.

Options for obtaining public services are summarized in Figure 3.

Figure 3. Options for Obtaining Public Services

A government that serves as a collective-consumption unit may obtain the desired public goods by:

1. Operating its own production unit

Example: A city with its own fire or police department

2. Contracting with a private firm

Example: A city that contracts with a private firm for snow removal, street repair, or traffic-light maintenance

3. Establishing standards of service and letting each consumer select a private vendor and purchase service

Example: A city that licenses taxis or refuse collection firms

4. Issuing vouchers to families and permitting them to purchase service from any authorized supplier

Example: A jurisdiction that issues food stamps, rent vouchers, or education vouchers, or operates a Medicaid program

5. Contracts with another government unit

Example: A city that purchases tax assessment and collection services from a county government unit, sewage treatment from a special sanitary district, and special vocational education services from a school board in an adjacent city

6. Produces some services with its own unit, and procures other services from other overlapping jurisdictions and from private firms

Example: A city with its own police patrol force that purchases laboratory services from the county sheriff, joins with several adjacent communities to pay for a joint dispatching service, and pays a private ambulance firm to provide emergency medical transportation.

Public-Service Industries

As we consider the options for organizing collective-consumption and production units, a number of possibilities become apparent. Each citizen-consumer is not served by "the government," but, rather, by a variety of public-service industries, each composed of collective-consumption units serving as providers. Production units serve as suppliers for some types of closely related public goods or services, jointly consumed by people in a community.

Such a system may have many autonomous units of government that overlap substantially among multiple levels of government. Several private enterprises and voluntary associations may function as integral parts of public-service industries. Each citizen-consumer participates in multiple consumption units organized around diverse communities of interest through overlapping levels of government, and is served by an array of different public and private producing units supplying any particular bundle of public goods or services.

We can then think of the public sector being composed of many public service industries including police, education, water, fire-protection, welfare, health-service, transportation, etc. The government component in some industries (the police, for example), are proportionately larger than others, such as health-services or transportation. But most public-service industries have important private components.

Each industry is characterized by distinctive production technologies and types of services rendered. These permit operational arrangements to be coordinated within an industry, and allow for substantial independence between industries. The water industry, for example, is based on technologies that facilitate collaboration among many agencies operating at different levels of government and among both public and private interests. The technologies in the water industry are easily distinguishable from the police or the education industry. A water industry serving any particular area normally includes large-scale water production agencies like the U. S. Corps of Engineers, which operate dams and large water-storage facilities, intermediate producers like metropolitan water districts and county water authorities, which operate large aqueducts and intermediate storage facilities, and municipal water departments,

water service districts, mutual water companies or private water utility companies that operate terminal storage facilities and retail distribution systems. The quality and cost of water delivered at the tap, as well as the facilities available for recreation, navigation, flood control, and related uses will depend on the joint operation of many different governments, agencies, and firms functioning in a water industry.

Some Opportunities of a Complex Structure

Conventional wisdom alleges that overlapping jurisdiction leads to wasteful and inefficient duplication of functions. Thus, presumably, efficiency can be increased by eliminating overlapping government jurisdictions. Yet we know that efficiency can be realized in a market economy only if a number of firms serve the same market; overlapping service areas and duplicate facilities are necessary for the maintenance of competitive forces.

Can similar forces operate in a public economy? If they can, they would need to be coordinated through patterns of interorganizational arrangements rather than patterns of hierarchical control alone. The structure of interorganizational arrangements may create important economic opportunities and have elements of self-regulation. We will discuss some of these opportunities before turning to a discussion of some of the problems involved in complex structures.

Obtaining the Advantage of Diverse Scales for Consumption and Production

In a world where goods subject to joint consumption vary from household size to global proportions, it is necessary to provide collective-

consumption and production units of different sizes, thus realizing what is called "diverse economies-of-scale."¹ Tastes for public goods, like those for private goods, vary considerably. Some people like to live in neighborhoods where the streets are constantly filled with activity. Others prefer to relatively quiet streets devoted only to low density residential use. Some wish to invest heavily in sidewalks and streets. Others desire to live in areas without sidewalks and minimal investment in local roads. Some like brightly lit streets, while others do not. For diverse preferences to be achieved, radically different production strategies of local public goods are required. The creation of a very large city that attempts to provide a uniform set of local public goods or services throughout its domain imposes high deprivation costs on all those whose preferences do not match the "uniform standard" applied.

Where heterogeneous preferences for public services exist, advantage can be gained by having relatively small collective-consumption units. As long as the unit can articulate preferences for its own constituency and has access to a reasonably equitable distribution of income, it can specify the mix of services preferred, procure an appropriate supply, and pay for them. In this case a small collective-consumption unit might contract with large production units to obtain those goods that are more economically produced by larger units. Smaller production units could provide other goods more efficiently produced at a small scale. Each takes advantage of diverse scale considerations in both the consumption and production of a public good or service.

Another circumstance may exist where the relevant collective-consumption unit is large but efficient production is realized on a smaller scale. The appropriate consumption unit for users of interstate highways in the United States, for example, is probably a national unit. This national unit functions as a provisioner by developing appropriate specifications and financial arrangements for procuring interstate highway services. However, varying climatic and geographic conditions over a large continental area are such that the production and maintenance services can be more efficiently supplied by smaller organizations. Thus, the U. S. Department of Transportation acts as a buyer of interstate highway services from state highway departments and private contractors that act as the principal production units.

The proportioning of diverse consumption and production possibilities in a complex public economy will not occur automatically. It requires a conscious pursuit of relative advantages by those affected. An awareness that bigger or smaller isn't necessarily better must precede a search for the combinations that generate the highest user satisfaction for given expenditures of efforts. Substantial improvements can be made in most metropolitan areas to take advantage of the diverse scale of consumption and production units already available, as well as to create new enterprises of varying scales to fulfill currently unmet levels of demand.

Competition, Bargaining, and Cooperative Efforts

If each collective-consumption unit has potential access to several production units and is prepared to consider alternative options in arranging for the supply of a public good or service, the relation-

ships between collective-consumption units and production units will take on the characteristics of a bargaining relationship. The bargaining in this case is not between producers and individual consumers. Such efforts will usually fail. The opportunity for bargaining, instead, arises in the relationships among collective-consumption units and production units.

If potential producers include an array of private vendors and public agencies, an opportunity exists for bargaining to procure public goods or services at lowered costs. The opportunity for bargaining among collective-consumption units and production units also creates incentives on the part of the parties involved to increase levels of information and to develop indicators of performance.

Bargaining may also occur in a noncompetitive situation where multiple production units may be able to gain a joint benefit by coordinating their actions with one another. Various police agencies may, for example, have mutual aid or joint operating agreements to provide back-up service whenever emergencies arise and all personnel are otherwise committed. Peak-load capabilities may be maintained by drawing on reserves in other departments rather than requiring all departments to meet peak-load demands from their own reserves. Without competitive pressures, bargaining among public producers may involve collusion against the general public.

These joint efforts may be extended to organizing supplemental public or private enterprises to supply a variety of indirect services such as crime laboratories, police training academies, and joint dispatching services. Where high levels of interdependency have developed through cooperative arrangements, collective-consumption and

production units can be expected to develop routine organizational arrangements to reduce bargaining costs. These arrangements often take the form of a voluntary association with regularly scheduled meetings, with officials to set meeting agendas and to arrange for the organization and presentation of pertinent information. Many of these voluntary associations of collective-consumption and production units may be formally organized with bylaws and membership fees, or assessments to cover the cost of a small permanent secretariat that organizes information, implements decisions, and engages in entrepreneurial activities on behalf of the association.

Some Problems Affecting Relationships Among Collective-Consumption
Units and Production Units in Public-Service Industries

The special characteristics of public goods generate a number of difficulties that affect relationships within public-service industries, especially in the relationship between collective-consumption and production units. Market arrangements characteristically involve financial transactions. Consumers pay directly for what they get. This is not usually the case in the public sector, and the result, quite often, is service delivery without satisfactory information about demand or user preference. Inequitable service delivery is always a further possibility. Where jointness of consumption is accompanied by partial subtractibility, special problems may also arise in regulating patterns of use among diverse consumers. One use may, in the absence of regulation, seriously impair the value of the good or service for another. Moreover, many of the agreements among collective-consumption and production units in a public sector are based on unanimity. But any one unit may adopt a

holdout strategy, resulting in considerable conflict among unit., Each of these problems -- 1) financing, 2) equitable service delivery, 3) regulating patterns of use, and 4) conflict and conflict resolution -- pose difficulties in the relationships between collective-consumption and production units. Satisfactory performance in public service industries will depend on finding constructive resolutions to these problems.

Finance

In market relationships, the decision to buy any particular good or service automatically entails a consideration of foregone opportunities. The price expressed in money terms is the equivalent of all other goods and services that could be purchased with the same amount of money. A decision to buy a particular good or service reflects a willingness to forego all other opportunities for which that money could have been used. In a market system, an expression of demand always includes reference to what is foregone as well as what is purchased.

In the public sector, the articulation of preferences often fails to take account of foregone opportunities. The service is, after all, simply available for the taking. We might think that taxes could indicate user preference. But the mode of taxation may have little or no relationships to the service being supplied. Furthermore, individuals may function in many different communities of users. Neighborhood residents who commute elsewhere to work may have different demands for police services than those who do not commute. Commuters are interested in the level of policing both where they live and where they work. Unless collective-consumption units are properly constituted to give

voice to user preferences, much essential information may be lost.

Because most public goods and services are financed through a process of taxation involving no choice, optimal levels of expenditure are difficult to establish. The provision of public goods can be easily over- or underfinanced. Public officials and professionals may have higher preferences for some public goods than the citizens they serve. Thus they may allocate more tax monies to these services than would the citizens being served had they a voice in the process. Underfinancing can occur where many of the beneficiaries of a public good are not included in the collective-consumption units financing the good, even though they might be willing to help pay their fair share. Financing any particular public good or service may thus require contributions from more than one collective-consumption unit.

Public education, for example, is of primary benefit to the families whose children are being educated. However, substantial benefits to others located within the same state and within the nation may result from having a good educational system in each locality. Thus, financing education may best be achieved through a combination of resources from local, state, and national sources. However funding a school system directly from several tax sources may make the school system less sensitive to the diverse interests of the different families who directly receive educational services. The use of a voucher system to finance at least a major portion of public education would increase the relative voice of the family units choosing the school or schools that educate their children.

Working out financial arrangements between collective-consumption units and production units is one of the most difficult problems faced

by entrepreneurs in the public economy. Without market prices and market transactions, the act of paying for a good generally occurs at a time and place far from the act of consuming the good; individual costs are widely separated from individual benefits. Yet a principle of fiscal equivalence -- that those receiving the benefits from a service pay the costs for that service -- should apply in the public economy just as it applies in a market economy. Costs must be proportioned to benefits if people are to have any sense of economic reality. Otherwise beneficiaries may assume that public goods are free, that money in the public treasury is "the government's" money, and that no opportunities are foregone in spending that money. When this happens the foundations of a democratic society are threatened. The alternative is to adhere as closely as possible to the principle of fiscal equivalence and to proportion taxes as closely as possible to benefits received.

Where charges can be appropriately levied on individual beneficiaries, user charges or use taxes can substantially alleviate the problems associated with rationing the use of a joint good when partial subtractibility results in potential congestion costs. Highway construction and maintenance services, highway police patrols, and other services for motorists could, for example, be charged against gasoline taxes rather than other forms of general taxation. User charges or use taxes lead beneficiaries to calculate the cost of a service against the value of a marginal use. Criminal sanctions need not be the principal means to regulate the use of a public good or service that is freely available to all users, if user charges can more appropriately proportion use to supply.

Equitable Service Delivery

Designing institutions to equitably deliver goods and services that are difficult to measure and jointly consumed by individuals having little choice regarding their consumption is an extraordinarily difficult task. Further, considerable disagreement exists on a definition for equity; many are used in common discourse, and even involve contradictory approaches to the concept. What one person calls equitable, another classifies as inequitable. When one comes to put terms used in different definitions into operation in a local public economy, the possibility for serious disagreement grows still larger. Attempts to measure the unmeasurable cannot help but produce considerable discord over the indicators used.

Those concerned with the relationship between the way local government units are structured and equitable services are delivered have focused on several key issues. One is related to the division of metropolitan areas into a large number of separate taxing zones. By allowing more than a single governmental jurisdiction within a metropolitan area, the wealthy may be able to escape to jurisdictions that operate primarily as tax shelters, and may avoid contributing tax funds to the center city. Many feel that this is unjust, for the wealthy themselves use center city facilities and have some obligation to pay for them.

To the extent that the facilities used by most individuals in a metropolitan area are financed only by the tax base of the center city, fragmentation allows both corporate and personal wealth to flee center city tax rates. In a complex urban public economy, including overlapping units of various sizes, it is possible to design arrangements that reduce

the number of free riders. The costs of building and maintaining facilities serving an entire metropolitan area should be borne by collective-consumption units encompassing as much of that area as possible. County and regional units have been designed in some metropolitan areas to finance sewer and water systems, major transportation networks, air pollution control, cultural facilities located in the center city, airports, and many others. For example, the Wayne County Road Commission operates the Detroit Metropolitan Airport.

In some metropolitan areas, center city residents (as well as residents of incorporated suburbs) help fund the services that primarily benefit residents of unincorporated county territory. The county sheriff's office is usually funded from a general tax assessed on all property in a county. The county is an appropriate unit for financing that aspect of the sheriff's activities related to jail and the court, which benefit residents throughout the county. However, sheriffs frequently provide local police and other urban services in the unincorporated portions of the county. A major part of the costs should be borne by the residents of the unincorporated areas. Assessing a special tax on unincorporated land to support county services delivered primarily to unincorporated parts of the county corrects this inequity. Thus, increasing the number of taxing zones within a metropolitan area may actually reduce the burden on center city taxpayers.

The wealthy, some argue, have a moral obligation to the poor left behind in the center city. But metropolitan areas are too small to be effective units for achieving significant redistribution; and any attempt to do so at this level places that area at a competitive disadvantage. If industry and wealthier individuals do not feel their tax dollars

are yielding sufficient benefits, they can easily move outside the center city. No matter how large the boundaries of a center city become, far more territory exists outside its boundaries. Federal and state governments, however, have the potential for being far more effective in devising and administering progressive taxes on personal and corporate wealth. Policies of redistribution -- to be effective -- must take place at the national level. The costs of exit at this level are substantial, and no area within the nation is placed at a competitive disadvantage.

Reducing the number of individual units within a metropolitan area, it is argued, will lead to a more uniform level of service. Many proposals for large-scale consolidation of governmental units serving metropolitan areas are based on an assumption that increased equity will result by expanding the tax base. This will ensure that the wealthy suburbanites pay for essential services needed by the poor. No evidence is available indicating that this actually happens in large cities. Instead of uniform service delivery to all neighborhoods, large cities are themselves characterized by substantial differences in the quality and quantity of services delivered to different neighborhoods. A study made in Oakland, California found that considerable variation existed in the distribution of schools, streets, and libraries to different neighborhoods. The patterns were not the same for all three services. Nor was it easy to decide whether the distributions were equitable; the standard selected substantially affects how one judges performance. As the authors of the study stated:

Consider two parents looking at current allocations in the Oakland school system. A well-to-do parent might look at the present allocation of funds and suggest that, if anything, it overfavored poor neighborhoods. Student/teacher ratios are lowest in the low-income schools; these schools have specialists and extra supplies purchased with federal funds. By contrast, the richest schools have somewhat larger classes, fewer specialists, and practically no teacher aids Thus, the well-to-do parent concludes that the system is biased in favor of the poor.

A poor, or minority citizen might come to a much different conclusion. He might acknowledge that dollar expenditures per pupil were higher in the poorest schools; yet he might feel that expenditures are a poor measure of outcomes. He could argue that a more appropriate measure of outcomes would be reading ability on standardized tests, that as long as poor children are reading at lower levels than rich children (which is currently true) the allocation of resources favoring the low-income schools is insufficient (Levy, Meltsner, & Wildavsky, 1974: 243).

A study conducted in the Chicago metropolitan area found that the Chicago Police Department, with 14 times the financial resources allocated to three poor, black neighborhoods, was not able to perform any more effectively than two poor, black, and independent city police departments serving small communities in the southern portion of Cook County (E. Ostrom and Whitaker, 1974). Poor neighborhoods receiving "services" that are not tailored to their needs may not be better off when increased resources are allocated. In large collective-consumption units, residents of poor neighborhoods may have even less voice about levels and types of services desired than they do in smaller-sized collective-consumption units. Increasing the size of the smallest collective-consumption unit may not help solve problems of redistribution.

The problem of achieving equitable service delivery in a metropolitan context has been raised in a number of court cases in recent years. In some cases municipalities were required by a court to pave streets and provide other services to a neighborhood in which black residents

predominated and where service levels were grossly maldistributed (Hawkins v. Shaw). However, the effects of court decisions in the field of education may not be as beneficial to the poor and disadvantaged as those who brought the cases had hoped. The school finance cases have been based on two questionable assumptions. First, it has been assumed that the poverty level of the children in a school district is closely correlated with the district's resource base (Rodriguez v. San Antonio Independent School District). Since nearly one-half of the property tax base in most school districts is nonresidential property, whether the school district has a high or low tax base depends largely on the type of commercial, industrial, agricultural, or other land uses in the area. Wealthy residential school districts frequently have a lower tax base than districts with substantial industry and a poor, residential population. Whether school district wealth is related to individual wealth must be determined empirically in each individual setting. While tax resources and personal income were found to be positively correlated at a county level (Harrison, 1974), this is too aggregated a level to undertake the analysis. As the size "of the unit under analysis becomes smaller, the land uses within the units become more specialized. Divergencies between wealth as measured by total taxable property and family income become more predominant" (Bish, 1976: 85). The cost of undertaking research at the school district level is quite high so that few studies have been conducted. However, in California, a study was conducted to examine the association between school district wealth and family income. No such association was found for elementary, secondary, or unified school districts (Cox, 1975). It has also been assumed that education is directly related to levels of

expenditure (Serrano v. Priest). However, most empirical research in the field has not supported this assumption (Averch et al., 1972, but also see Sommers and Wolfe, 1977). The chapter by William Neenan in this volume contains an in-depth discussion of school financial structure in Southeastern Michigan.

Regulating Patterns of Use

The characteristics of partial subtractibility of consumption imply that increased use at any given threshold of supply may impair the value of a good or service for other users. As congestion occurs, as more users take advantage of available facilities, parks or streets decline in value to each user. Where multiple uses occur, one pattern of use may drive out other patterns of use. The use of a waterway to discharge wastes, for example, may exclude its use for recreation. If the costs of opportunities foregone are not taken into account, as some uses drive out others, a serious erosion in the qualities of public life can occur.

Jointness of use under conditions of partial subtractibility may require rules for ordering patterns of use to reduce potential conflict in the community. If rules are to be effective, mechanisms for their enforcement must be available. The delivery of public goods and services under these conditions depends on proportioning supply to demand with rules that account both for the conditions of supply and the patterns of use. Unless those rules account for varying patterns of use and supply conditions in discrete circumstances, they are likely to become serious impediments to joint well-being. Heavy use of city streets for through traffic may, for example, impair their use by local residents

in patronizing local businesses.

These conditions may require an especially close coordination between production and consumption units. The delivery of service by a producer needs to occur where patterns of use are regulated to gain optimal advantage of the available services and facilities. Regulating patterns of use becomes one of the critical consumption tasks performed by collective-consumption units. This is why authority to enforce rules and regulations by recourse to criminal sanctions is usually assigned to governmental instrumentalities responsible for procuring a public good or service. Collective-consumption units must assume primary responsibility for regulating and enforcing patterns of use. Yet those regulations are meaningful only in light of discrete demand and supply conditions. Modifying supply conditions may alter the regulation and enforcement problems.

Even among government agencies, producing a service is frequently separated from regulating and enforcing its patterns of use. Agencies responsible for policing the use of streets and highways, for example, are separate from those responsible for constructing and maintaining them. Nevertheless, producers in a public-service industry must be aware that services subject to joint use involve sensitive problems in proportioning supply to use and in regulating patterns of use. Otherwise, problems of congestion and conflicts among users can erode public services and degrade community life.

Conflict and Resolution

Most arrangements between and among collective-consumption and production units are maintained under a rule of unanimity. A rule of

unanimity can always be threatened by the presence of a holdout. One collectivity may find it advantageous to hold out and enjoy the benefits from the joint actions of others without assuming its proportionate share of the costs. If some collective-consumption or production units hold out successfully, others will follow suit, and cooperative arrangements will fail. An erosion in welfare will occur for everyone concerned. Holding out may lead some units to respond with threats or counter-threats. Unless constrained by the availability of institutions for adjudicating and resolving conflicts, threats and counterthreats can escalate into violence.

A highly fragmented political system without substantial overlap among the many jurisdictions is especially vulnerable to this form of institutional failure frequently called "Balkanization."¹ With overlapping units of government, conflicts among governments at any one level may be resolved by recourse to the decision-making arrangements at a higher level. Such arrangements are inherent in federal systems of government. The critical feature is the availability of legal, political, and constitutional remedies to the parties injured as a consequence of costs generated by governmental action.

Courts have played an especially important role in resolving conflicts among independent agencies and firms operating in a public economy. In California, where contracting for public services has the greatest competitive pressure, county grand juries have assumed a continuing responsibility for monitoring the operation of intergovernmental contracts. Inappropriate use of tax funds by public agencies functioning as contract producers would transfer service costs to the public treasury of the producing agency rather than the treasury of the

benefitting community. Tax funds, inappropriately used, might also subsidize public producers. These subsidies would drive out private enterprises even though they might be more efficient in rendering a comparable quality of public service. Grand juries with jurisdiction to inquire into the discharge of public trust by state and local agencies can maintain the integrity of market-like relationships and encourage competitive pressure in a public economy.

Without appropriate mechanisms for resolving conflicts and monitoring the operation of a public service economy, contracting can be an instrument for political corruption. Contracts with firms that are the chosen instruments of political bosses have long been used in some states to milk public treasuries, supply the coffers of political machines, and create private fortunes.* No system of economic relationships will perform well without appropriate public policies and institutions to enforce these policies.

Conflict arises when someone believes he is being harmed by another's action. Thus, conflict is as important an indicator of potential economic losses as the red ink on a balance sheet. Mechanisms for conflict resolution contribute to economic welfare when they right wrongs and restructure arrangements so that everyone is left better-off or, at least, unharmed.

*The Indiana Department of Motor Vehicles, for example, contracts out its licensing operation to the county chairmen or other party officials of the political party controlling the office of Governor. The party official derives fees from this contract service to finance political operations. In the absence of competitive pressure from other vendors, it is most doubtful that this form of contracting enhances efficiency.

But to maintain a system open to conflict and conflict resolution, the participating parties must have autonomous legal status with authority to sue and be sued, and to take independent decisions that advance a set of interests. If public economies are to gain the advantage of bargaining relationships and voluntary cooperation in producing and consuming public goods, they must maintain arm's-length relationships and must have available to them institutions that can adjudicate conflicts among parties with equal standing in law. Adjudication does not occur in the absence of equal legal standing. Subordinates obey rather than cooperate.

Questions and Implications for the Detroit Metropolitan Area

What does this approach imply for those interested in organizing and financing the delivery of urban public goods and services in the SEM metropolitan area? Since this approach does not prescribe one best way to organize metropolitan areas, one cannot describe an ideal organizational model. We can, however, identify key questions to be asked by policy makers. Answers to these questions may enable them to identify those aspects of current organization that might need reform.

These questions include:

- * Does the current organization of collective-consumption units adequately represent the diverse interests of citizens in the area?
- * Does the current organization of production units include a mix of public and private firms of various scales of production?
- * Are mechanisms available for increasing the direct relationship of financing to goods and services received?

- * Have institutional arrangements that encourage coproduction of services by local residents been developed?
- * What mechanisms exist for effective conflict resolution among different agencies in public service industries?
- * What efforts can be made to get federal and state governments to take on greater responsibility for redistribution policies?

Each of these questions will be discussed below.

Does the Current Organization of Collective-Consumption Units Adequately Represent the Diverse Interests of Citizens in the Area?

Are collective-consumption units in the Detroit area organized to deal with public goods having different scales of effects? What units aggregate citizen preferences for services with widespread effects throughout the area such as air pollution, transportation facilities, industrial location and development, traffic flow on major arteries, and large-scale water and sewage transmission and treatment? Are there sufficient large-scale collective-consumption units to enable citizens throughout the area to have a voice in planning those facilities that jointly affect them? Do they have a share in financing these facilities? (See Andrea Long's discussion in this volume of SEMCOG's rocky history for a partial answer to some of these questions.)

What units aggregate citizen preferences regarding more localized public goods and services such as maintaining playgrounds, street cleaning, trash removal, snow removal, problems of abandoned housing, rodent and insect control, and other localized goods? Do citizens living within the City of Detroit and the other jurisdictions in the SEM metropolitan area have a voice in the supply of localized public goods and services in their neighborhoods?

What capabilities do collective-consumption units have to join forces, to establish and fund enterprises affecting some of them but not the entire region? Can municipalities enter a joint agreement to finance a sewage treatment plant or undertake a watershed management program benefiting a subportion of the metropolitan area bigger than the smallest collective-consumption units? Or, can a particular portion of a county or municipality create a defined "zone of benefit" or an assessment district within its boundaries and establish a governing and financing authority, primarily of benefit to that zone? In California, for example, County Flood Control Districts can create zones of benefit within their boundaries to finance a water conservation project benefiting only a small section of the county. Some relatively sophisticated ground water management plans involving the use of flood waters to replenish ground-water basins have been partially funded with taxes collected through this type of instrumentality.

Does the Current Organization of Production Units Include a Mix of Public and Private Firms of Various Scales of Production?

Is there sufficient potential competition among producers of different public services that collective-consumption units have some bargaining leverage with production units? Or, are collective-consumption units forced to create their own monopolistic government bureaus without options available to them when that bureau delivers inferior services at high costs? As labor unions become a more potent force in delivering local public services, the collective-consumption unit's option of purchasing services from another agency may also increase the bargaining power of production unit managers. It is hard to resist demands for major increases in pension plans and other fringe benefits (whose impact

is delayed) when a service can be produced only by the employees of a particular government bureau. Weakness at the bargaining table may have increased some of the financial strains felt by many major U. S. cities. The external pressure of potential substitute producers is an important force not only in dealing with public service unions, but also in decreasing the general organizational slack that results from any production unit holding a monopoly position.

Are Mechanisms Available for Increasing the Direct Relationship of Financing to Goods and Services Received?

As discussed above, increasing the relationship between financing and service received is always a difficult problem in the public sector. But relying on a limited number of taxes, imposed without attempts to relate tax revenue to services performed, makes all involved think of the local public treasury as one fund subject to raiding. If one group does not raid the treasury for special purposes, others will. A competitive race to see who can get the largest share of a fixed asset is not the type of incentive system that one would consciously design to increase the quality of decisions made about the allocation of joint resources. And yet, this is the type of incentive system that has emerged in many metropolitan areas due to the lack of efforts to tie revenue sources to services received.

But there are other possibilities. Region-wide gasoline taxes can help finance traffic control on major local arteries. Parking decals can be sold to those who regularly commute to work and park in downtown areas. This would help to finance road and street repair in the central business district and other facilities as well. Water and sewage charges should cover the full marginal costs of transmission and

distribution so that property taxes are not supporting an inefficient use of water. If a particular neighborhood petitions to improve their local streets or sidewalks -- and is willing to pay a substantial portion of the costs -- special short-term property taxes could be assessed. Police departments could charge for many of the services they perform such as bank escort service for local businesses, burglar alarms installed at police headquarters, vacation checks for residents, and special details assigned to parades, funerals, and sporting events. It is not necessary to cover all costs fully, but without some charge no one has any incentive to conserve their demands for free public services.

User charges that are higher during peak periods of use would also lead individuals to decrease their demands on those joint facilities subject to congestion. Lower bus fares during off-peak hours, water rates favoring large-scale users who build in-house storage facilities and obtain their water from utilities at off-peak periods, and electricity rates that are lower for off-peak water heating, would all help to reduce problems of peak load, and would assess a higher rate to those contributing to congestion.

Contracting arrangements between local governments and either private or public producers also increase the information available to public decision makers about the cost of particular services. When a producer must justify the cost of the services being provided in a competitive bidding situation, the producer will keep more effective records about costs and activity levels. City managers acting as purchasing agents have an opportunity to tailor contracts reflecting preferred levels of public services.

Have Institutional Arrangements That Encourage Coproduction of Services by Local Residents Been Developed?

The out-of-pocket costs of service delivery are substantially less if citizens are motivated to act as effective coproducers. Do any facilities exist to create general purpose neighborhood organizations throughout the region? Such facilities could provide a forum for information exchange among neighborhood organizations, staff help for organizations in the early stages of formation, facilities for reproducing local newsletters and other forms of communication to members, and recognition of the essential role that these organizations can play in the local public economy of a metropolitan area. The Neighborhood Watch Program, fostered by the National Sheriff's Association, has had a positive impact on the number of suspicious circumstances reported and the general level of cooperation between local citizens and their police agencies. Well organized parent-teacher associations can encourage parents to take a more active role in supervising the type of education made available to their children, and in supplementing the activities of school employees by volunteering their activities in the classroom and at home. Neighborhood clean-up campaigns, organized by citizens with the active help of city agencies, are far more effective than either citizens or agencies undertaking such campaigns on their own. Citizens may themselves clean up vacant lots if they can be assured that their efforts to stop future dumping will be backed up by official governmental activity.

What Mechanisms Exist for Effective Conflict Resolution Among Different Agencies in Public Service Industries?

Do these mechanisms exist, and are they invoked as soon as potential interests are adversely affected so that joint decisions can be taken in light of knowledge about differences in perspectives? Do agencies have sufficient arm's-length relationships that articulated conflict may lead to genuine communication rather than a solution dominated by the most powerful agency involved? Are there judicial remedies available that may enable public and private agencies to work out mutually agreeable solutions in the shadow of the court? Do associations of local government officials such as a regional police chiefs' association, a juvenile officers' association, a city managers' association, a water engineers' association, a town clerks' association, an assessors' association, etc., exist that encourage public officials holding similar positions to know their counterparts in other agencies in the region? While such associations serve largely social and professional interests, they are also the meeting ground to discuss joint problems encountered by members of the same public service industry. Where such groups are active, considerable state and local legislation has been drafted by ad hoc committees to solve joint problems faced by local units of government.

What Efforts Can Be Made to Get Federal and State Government to Take On Greater Responsibility for Redistribution Policies?

Major metropolitan areas need to join forces to make federal and state governments accept primary responsibility for redistribution efforts. Many federal social service programs of the past have been advertised as efforts to achieve redistribution but have not accomplished

their aim. Federal urban renewal programs, originally sold as efforts to provide better housing for the poor, have instead moved the poor out of well established patterns of life to clear valuable inner-city land for commercial and middle- to upper-income housing. The War on Poverty Program did not produce many jobs for the target population.

While state governments are not as effective for redistribution as the federal government, metropolitan areas should at least ensure that state taxes collected in the metropolitan area find their way back in the form of services. An issue of recent concern in Detroit has been the lack of services provided by the Michigan State Highway Patrol. The Highway Patrol provided services primarily in rural areas, while a substantial source of state funds comes from urban areas. Highway patrols in many other states patrol all major freeways crossing metropolitan areas. This frees the local county and municipal forces for duty elsewhere in the metropolitan area.

William Neenan in his chapter in this volume on "Fiscal Relations Between State of Michigan and Southeastern Michigan" analyzes the impact of state and federal grants on local revenues. He concludes that per capita state and federal grants have increased more rapidly in recent years and that the cities with the largest ratio of poor residents -- Detroit and Pontiac -- received the highest percentage increases (p. 17).

Many other questions could, of course, be asked. However, we hope that this preliminary list helps illustrate the usefulness of the approach discussed in this paper. The mere presence of relatively complex governmental arrangements in a metropolitan area does not constitute evidence about the relative efficiency or equity of service delivery. Complex systems possess both opportunities and difficulties in

achieving efficient and equitable local public service delivery. To exploit the opportunities takes self-conscious efforts on the part of local decision makers to increase the bargaining possibilities within the system, to foster coproduction of local services by those served, to increase the correspondence between funds collected and services delivered, and to maintain effective conflict resolution mechanisms in a system of overlapping jurisdictions.

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