Practical Implementation of Innovative Financing in Rural Mobility Programs

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ABSTRACT

The majority of rural areas in the United States have no available public transportation. Fear on the part of local elected officials that such a mobility program may overstrain local budgets, and the failure of state and federal funding to provide an infrastructure for developing, planning, and implementing such programs on behalf of rural areas may account for the vast imbalance in per capita expenditures for transit between urban and rural areas. This paper contains data on exceptional cases: examples in which local initiative has succeeded in installing at least a modest level of stable long-term mobility for rural residents. The following questions are considered: (a) What level of service is financially viable in low density areas in the long run?; (b) What are the sources of support, and how stable are they?; (c) Are the "success" stories replicable, or are they the result of unique situations of state support, unusual rural economic conditions, or other nonreproducible conditions?; and (c) What are the roles of state and federal government in financing and regulating the promotion of innovative financing arrangements for rural public transportation?

It is a truism that rural mobility programs cannot exist on a long-term basis unless the total revenues from fares, sales, and subsidies exceeds the sum of operating and capital costs. Because the accounting for financial inflows and outflows is done annually, deferred costs or temporary deficits (delayed payments to suppliers) can obscure the basic formula:

$$C(X)_t \leq R(X_t) + S_t \quad (1)$$

where

- $C(X)_t$ = dollar value of costs (both capital and operating) of producing transportation service X during time period t, including the implicit dollar value equivalent of in-kind contributions;
- $R(X)_t$ = revenues other than subsidies, that are generally a function of the service given (e.g., fares, sales of advertising space, payments for contract or charter service, payments for subscription service, etc.); and
- S_t = subsidies or funds received from public sources, private donations, or implicit support from creditors in a deficit; also, the dollar value of in-kind contributions.

For simplicity, the relationship may be summarized as revenues plus subsidies must be greater than or equal to the costs of operating and replacement of used equipment.

The average rural community has no public transportation because: (a) the costs of setting up and implementing such a program are prohibitive--the organizational, administrative, and operating costs are approximately $0.30-0.50 per vehicle mile and average trip lengths are 10 miles round-trip from origin to destination; (b) revenues are insufficient to cover start-up costs--in many cases, long-term ridership would be so low that the farebox revenue would cover only a small portion of the operating costs; and (c) subsidies are not available--many states have no program to provide operating assistance to rural areas, and federal Section 18 funds only average about $2 million per state; consequently, they cannot be expected to serve the majority of rural communities.

FINANCIAL APPROACHES

It is interesting to note that some exceptions to these generalizations do exist. A growing number of rural systems has achieved a long-term balance between inflow and outflow by using the following approaches.

Type 1. Reduction of Cash Costs by Use of Volunteers and Other In-Kind Donations

In this approach, subsidies come from private, in-kind donations, such as service providers who offer their time, vehicles, and gasoline to operate a program of rural mobility. In this case, cash costs are very low. Revenues, however, are also likely to be low or nonexistent.

An excellent example of this type of funding is ELDERBUS. In 1973, a surgeon in Southbridge, Massachusetts, secured $2,500 from the Lions Club to lease a station wagon. He used his office's answering service to collect requests for service and recruited volunteer drivers from among the town residents. In time, the program became well-enough established to derive support from state and federal funding sources (1,p.17).

Type 2. Private Sector Solutions where the Level of Service is Determined by the User's Willingness to Pay Full Cost

In a 1976 survey of 1,000 randomly selected small communities, North Carolina Agricultural and Techni-

cal State University's Transportation Institute found that approximately one-third of the rural communities interviewed had some (low) level of service provided by taxi companies on a pay-as-you-go basis. In these cases, rural residents had to pay very high per-mile rates that compensated for the high cost of providing service to low-population areas. For the most part, subsidies did not exist here, and the revenues equalled the operating costs. The system's long-term viability depended on the taxi company's ability to generate sufficient revenues from rural or urban service to facilitate needed capital replacement when necessary.

Type 3. Social Service Agency Provides Outreach to Rural Areas as Part of General Operating Budget

In this approach, a single social service agency, which is independent of transit or other social service agencies, provides some kind of service to rural areas such that revenues plus external and internal subsidies from the operating budget cover the full value of the costs of service operation. This is expressed as

$$C(X)_t \leq R(X)_t + [S_{agency}]_t + S_t \qquad (2)$$

The key to long-term stability is the continuation of subsidy for the agency's basic purpose; when changes occur in the operating budget of the agency, the transportation activities may fall an early victim to budget cuts.

Type 4. Coordination of Service Delivery and Financing Among Several Social Service Agencies

In this case,

$$R(X)_t + [S_i]_t \geq C(X)_t \qquad (3)$$

where R represents revenues including payments from one agency to another for clients from a coordinated or integrated transportation program offered by one or more members of the social service agencies group serving a rural area; and S represents a subsidy that may include the combination of in-kind services (i) from a variety of agencies.

The social service agencies may also derive subsidy from programs such as the Urban Mass Transportation Administration (U.S. Department of Transportation) 16(b)2 program that covers much of the cost of buying new vehicles, or from state support for regional transportation program operating costs.

Type 5. Joint Urban/Rural Transportation Authority Operation of Programs

In these cases, the distinction between urban and rural systems is blurred. Rural transportation authorities operate in a fashion similar to urban ones, offering long-term service built around high levels of point-to-point demand (such as commuter service to an industrial park from a limited number of communities), or are service extensions of high-demand urban systems.

Here, subsidies from the state frequently result in the long-term survival of the system independent of its revenue generation. Subsidies support the whole system, in the urban/rural context, and the cross-subsidy from the high-density service to the low-density service may be quite high, but hidden in the total budget of the whole organization.

Type 6. Rural Public Transportation Programs Operating under Authority of Local Political Jurisdictions

Some rural areas (a remarkably small number) have been able to achieve positive votes for long-term local subsidies of transportation service that operate within a designated political jurisdiction or combination of such jurisdictions. In this case, the rural area(s) have an agency that acts as a counterpart to the urban transit agency in providing service to the general public. The long-term financing for this project comes from the assurance of local support, and from the ability to attract state and federal funding on the same terms as urban transportation authorities.

APPROACHES TO FINANCING

The preceding typology does not exhaust the list of ways in which long-term rural mobility programs are supported, but reflects the most generalizable examples. Other examples are indeed unique such as Native American programs of community transportation that draw funds from the Bureau of Indian Affairs; experiments with statewide rural systems, such as the Delaware Authority for Special Transportation; and programs sponsored by individual employers, such as the Pilot Life bus program in High Point, North Carolina.

Volunteer Systems

In a number of rural towns in Central Massachusetts (e.g., Bolton, Boylston, and Harvard) local volunteer groups called "Friends of Elders" have formed. These volunteers work with programs for the elderly (e.g., councils on aging, senior citizen groups) by providing transport by private automobile on request. One volunteer takes charge of telephone contact work using a residential phone; other volunteers work on a schedule to provide service as needed. The financial burden is borne by the individual volunteers, without compensation. Tax deductions are available for these expenses, however, because the in-kind services are provided through a charitable organization.

This type of program has two advantages: (a) it is flexible enough to meet changing needs without the cumbersome task of obtaining altered external funding or doing long-range planning; and (b) the system places no burden on the taxpayers, who have shown by their support of legislated tax ceilings that they will not tolerate additional social service programs.

The drawbacks of such a system are equally obvious: (a) The program is not visible to the general public--therefore, it cannot be relied on as a source of mobility for nonresidents; (b) The program is self-limiting--the availability of volunteers limits the time, distance, and other dimensions of the service offered. The program is most useful in support of organizational activities (bringing people to nutrition programs or medical facilities), rather than as a source of personal mobility for the average rural resident; and (c) The program serves only a subset of the transportation-disadvantaged individuals in rural areas: the elderly whose travel demands match the service levels offered by the volunteers.

For-Profit, Private Sector Solutions

Both taxi and privately operated bus services have decreased in rural areas. Deregulation has enabled

major carriers to withdraw intercity service from a significant number of rural communities; what is not known is how many smaller, local operators have assumed responsibility for short-line service. In a June 1984 conversation with Edward Ramsdell of the Transportation Systems Center, the author was informed that recent research by the Center suggested that the abandoned service was not important in terms of lost mobility because the stops that were dropped were not heavily used.

Many rural communities have taxi service only as an occasional run from a more urban community some distance away. There may be a delay of several hours on calls for service where pickup is required. The service is costly to the users, as the per mile rates must cover the costs of both front haul and (empty) backhaul.

This service could be subsidized and coordinated with social service transportation needs, but this rarely occurs. The network of contacts of the private operators appears not to overlap with that of the social service agencies. Federal regulations require that UMTA Section 16(b)(2) recipients who request funding must notify taxi companies of their intent to offer service. It would be interesting to study whether such a procedure results in more use of private sector solutions for rural social service mobility programs.

One innovative method that has been found to link the rural transportation-dependent individual with private transportation operators is the use of a brokerage agency. The Central Vermont Transportation Association, for example, takes calls from would-be riders and refers them to existing trip-makers (taxis, school buses, commuters, etc.) But where do the funds come from for even this basic overhead? The answer is a series of special demonstration grants supported by the U.S. Department of Transportation. Under Section 4(i) of UMTA funding, and, previously, a Federal Highway Administration Transportation Systems Management (TSM) grant, the program initiators derived financial support to initiate the brokerage program. But what happens after the termination of federal funding? It is hoped that the program will be converted into a regional transit district under the statutes of the state of Vermont. Under those circumstances, it would become a "type 6" system, fully eligible for state and federal operating and capital assistance. Time will determine whether this strategy is successful. The system currently derives funds from social service budgets, following the "type 4" model description that follows.

> The City of Chico (California) was the first community in Butte County to establish [a transportation service for the elderly and handicapped.] Chico, the largest city in Butte County with a population of about 50,000, is an agribusiness center...Financing the Chico elderly and handicapped system was no problem, as abundant TDA (state sales tax) funds were available. However, ... staff who were responsible for designing the elderly and handicapped system were under pressure to develop the most cost-effective service possible...The El Cajon shared ride taxi service appeared to be a noteworthy success, and it was decided to emulate its features as much as feasible. The two most important aspects of system organization which were copied from El Cajon were shared ride operations and compensation of the DRT provider on a consumed service basis. The latter was accomplished by paying the provider a fixed fee per ticket collected from the riders, the fee being determined by competetive bidding...These features of the system's organization were most compatible with operation by a local taxi company. Not surprisingly, the Chico taxi and ambulance company was the winning bidder with a bid of $1.95 per ticket collected (up to three can ride on one ticket.) (2,pp.8-9).

Social Service, Single Agency Approach

An excellent example of this kind of rural outreach transportation program is provided in New York State by the Associations for Retarded Children (ARCs). By using state funds, the ARCs pick up the participating children in rural counties and transport them, usually by car, to their respective special schools. This type of service is very expensive, with the per capita cost frequently more than $4,000 per year. However, the service is deemed necessary, because there are not alternative transportation providers.

Stability of funding rests with the continuation of state support for the entire activity. Fluctuations in social service agency funding can lead to changes in the mobility components of such programs. An example of this variation may be found in the demise of the human resource development programs. Transportation expenses were frequently subsidized by CETA funding; with its termination, however, the transportation to training programs ceased.

Many rural areas currently have service on a limited basis from these types of programs. Following is a list previously researched by the author, which gives the variety of funding sources used in rural systems and includes the social service agencies likely to offer service to rural areas:

- Associations for Retarded Children
- Councils on Aging
- Community Block Grant programs to former OEO programs, now typically a social support, local agency
- Community Mental Health Programs
- Community Mental Retardation Programs
- Easter Seal Programs
- Private Industry Councils (inheritors of the employment and training programs)
- Visiting Nurse Associations
- Vocational Rehabilitation Programs (frequently state-operated)

The typical pattern is to use overhead funds to design, plan, and implement the program (staff time of management, typically), and later to use portions of the general operating budget of the agency to cover the costs of gas, oil, and so forth. Volunteer drivers are frequently used or agency personnel are called in to provide driver services. Thus, the costs of the transportation program are hidden in the general budget, which becomes a source of substantial subsidy funding for the mobility program.

The advantage of this funding base is that it does not depend on political decision making over the level of transit support (frequently a political football in state legislatures), but is derived principally from decisions at the federal level to fund broad-based social service programs or from private donations to local charitable organizations that are likely to continue over time.

The difficulty is that these mobility programs are not community-wide, but focus on a subset of the mobility needs of only the client population. This type of program does not serve the personal transportation needs of transit-dependent individuals for shopping, recreational, or social purposes, because

the trips are typically limited to bringing clients to participate in the agency's programs.

Multiagency, Coordinated Transportation for Rural Areas

Madison County in New York State has designed a plan for a multiagency transportation program that is coordinated by the county government. It links the following transportation resources: (a) UMTA Section 16(b)(2) vehicles from social service agencies, (b) vehicle maintenance from the vocational education program, and (c) operating support from the Council on Aging.

The program has demonstrated that single agency programs operating independently within the county frequently have vehicles going empty in one direction. Matching up route patterns can have the effect of eliminating empty backhauls. Sharing of operating costs reduces the burden on any one agency.

A serious handicap to the growth of this program into a regional transportation service is the decision on the part of the New York State Department of Transportation to interpret UMTA guidelines as precluding the use of Section 18 funds for programs built out of UMTA Section 16(b)2 vehicles with a social service thrust. This dilemma has been skirted in other states that have permitted such pooling of resources.

Perhaps the most well-known of the coordinated systems is OATS (formerly the Older Americans Transportation System) operating in 88 counties of rural Missouri (3,pp.14-15). The agency, originally set up with a $30,000 grant from the Office on Aging, now enjoys purchase of service contracts with eight area agencies on aging, and receives funds from social service block grants and the Older Americans Act. Other revenues come from the state Department of Mental Health. Rider donations and outright gifts from local groups make up about 15 percent of the budget.

Another example of successful merging of funding from different sources is the previously described Central Vermont Transportation Association (CVTA). The CVTA also serves as an intermediary between funding sources and transportation providers, and has drawn funds simultaneously from the United Way, Medicaid, UMTA Section 16(b)2, vocational rehabilitation, and funding for programs on aging. They expect to be eligible to receive UMTA Section 18 funding after they have achieved transit authority status.

Rural Systems as Extension of Urban Systems

In the Delaware Valley, the LANTA transit agency not only serves the major cities of Easton, Allentown, and Bethlehem, Pennsylvania, but also runs service to outlying areas such as Forks Township. In Albany, New York, the Central District Transit Authority (CDTA) uses state and federal funds given to the agency as a whole to provide rural service into Rensselaer and other low density areas. In Massachusetts, the Worcester Regional Transit program includes twice-a-day runs through rural communities to Clinton, Massachusetts. These cases are examples in which the cost of operating a fixed-route service to rural areas is cross-subsidized by the general subsidies going to the entire urban-based transportation system. Section 18 federal funds for rural areas are frequently used to cover the marginal costs of these low-density area programs. This is true in the case of Worcester, Massachusetts, for example. Start-up costs are reduced because planning and vehicle acquisition can be performed by an urban system that has considerable local-service experience.

Unfortunately, these fixed-route links between rural and urban areas are likely to be set up to facilitate the needs for vehicles in the cities, and do not reflect the origin and destination needs or the trip time requirements of rural residents. A person in Clinton taking the bus to Worcester for a doctor's appointment will have to wait in Worcester until the end of the day to return on the second bus trip.

These programs have the advantages of visibility. They are open to the general public. They do serve some of the needs of the general population of transportation-disadvantaged individuals. For instance, they facilitate the movement of transients between urban and rural areas and are occasionally used by the rural poor and elderly for shopping and medical trips.

These programs do not come close to meeting the mobility needs of rural populations, however. For example, (a) they do not provide service between neighboring communities, (b) they do not deliver clients to social service agency programs, and (c) the routes do not necessarily match the needs of the poor to get to welfare offices, employment offices, or food stamp programs.

The federal Section 18 program funds are more likely to go to this kind of program, because the urban transit authorities have close negotiational links with the state departments of transportation through which the federal rural funding must pass. Also, the urban agencies have the professional capacity to participate in the planning process, and through the metropolitan planning organizations are set up to conceive their mission on a regional basis. What these groups lack is familiarity with the trip-making patterns of local, rural residents. They frequently have no information on the location of the transit-dependent individuals in these areas, nor of their travel demand patterns. The urban planners are likely to assume that the principal demand is for service to the adjacent large metropolitan area. As services redeploy to more attractive, near-rural areas, the trip patterns of rural residents are reoriented more toward nearby rural towns and suburbs, than to the core of the urban center.

One of the most innovative responses to this dilemma can be found in Kingston, New York, where the local transit authority receives Section 18 funding through the state. The transit authority provides an extensive network of trips on a route-deviation basis with advance reservation for rural residents throughout a wide rural area. Through careful planning, trip generators such as the local community college, medical centers, rural shopping centers, and other likely destinations are linked with outlying rural residents. Trips are planned to serve one quadrant of the area one day and another quadrant the next. The county planner provides an in-kind donation of professional services in planning and managing the system. Use of agency vehicles acquired from former programs spreads the resources. Some adjustments of basic routes have been required by funding cutbacks, but other users (such as students) help to generate new revenues.

Rural Community Government-Sponsored Transportation Programs

The type of agency most likely to design service to meet the needs of the rural transportation-dependent individual is a locally supported, public trasportation program operated or contracted for by a local

government. The most prevalent example of this is the rural school busing programs, organized and paid for by local school boards.

Why do we not find many examples of rural transportation authorities? Because rural elected officials fear the specter of high transit deficits that follow the fate of some urban transit programs. Nevertheless, where state or federal funding has assisted with pioneering demonstration projects, some examples of rurally voted transportation subsidies can be found. A number of rural Michigan communities dedicated portions of the local property tax to support dial-a-ride programs initiated in the 1970s.

Residents who have voted for state revenues to be specifically allocated to support rural transportation programs (New York and California are the most notable examples) are most likely to see the rise of rural transportation programs. For example, California uses an earmarking of sales tax revenue to support nonurban transit. Such a state-level initiative provides an opportunity for long-range planning and implementation of a regional, rural-oriented transit. It would be useful to have a survey of a random sample of California rural communities to determine what difference such funding availability makes to the level of service delivered in the "average" community. Clearly, the availability of Transportation Development Act (TDA) funds was an element in the success of the Chico taxi-based system described earlier.

LONG-RUN VIABILITY OF SERVICE LEVELS IN RURAL COMMUNITIES

There is no one "optimal" service level that is cost-effective for rural areas. The existing systems show a wide array of service levels. The matter is up to the local communities. Heavy investment in service, such as in Kingston, New York, pays off with increased accessibility ot colleges, hospitals, and shopping centers to the rural transit-dependent individual. Alternatively, low levels of service are provided very cost-effectively by all-volunteer systems.

It is clear that where resources are marshalled to provide a high level of service, it is possible that resources can be wasted. In Plattsburgh, New York, for example, a fairly high level of state support to that rural system permitted it to run an experimental bus route to an outlying area for 3 months without a single rider! Such examples demonstrate the futility of applying urban-oriented, fixed route, large bus solutions to low density areas. Much more likely to generate ridership is the demand-responsive, or at a minimum, the route-deviation approach, such as is used in Kingston, New York.

STABILITY OF FUNDING IN NONURBANIZED AREAS

Fear of the long-range uncertainty of the continuation of Section 18 funding reduces the utility of federal sources in stimulating new programs. Other funding sources (medicaid, community block grants, mental health, for example) appear to be a steadier source of financial support to mobility programs reaching low density areas. Even these programs are subject to political overhauls, however, and are not immune to budget pairing. How this affects the transportation components depends on how the bureaucracy views the role of mobility in service delivery.

Volunteer systems also experience ups and downs in resource availability. Because they are less visible to the general public and the press, their inability to provide a continuing service may not be as blatant as when a social service program closes or when an intercity bus route is abandoned.

Instability is rooted in the current financing system which takes decisions outside the hands of local decision makers. Whether or not a given rural community has a particular level of service is the result of financing decisions made by social service agencies, state legislators, UMTA officials, and many others not resident in the rural community. Because there is no dedicated funding automatically open to a rural community that elects to match funds on an equal basis, for example, local elected officials do not usually debate the value of adding a public transportation program to local social service initiatives. They fear that they may soon be left with 100 percent of the financial responsibility for operating and renewing the service.

CAN CURRENT RURAL SYSTEMS SERVE AS ROLE MODELS FOR LONG-RUN ECONOMICALLY VIABLE PROGRAMS?

Unfortunately, the existing examples of rural mobility systems that have lasted more than 5 years frequently appear to have special circumstances surrounding their birth, growth, and current financial success. Short-term federal initiation grants (such as the Section 147 program) got some programs off to an unusually high level of initial funding. In many cases, ridership was neither large nor wealthy enough to sustain that level of funding, and the proximity of rural areas to the planning expertise of an urban system (as in the case of Rensselaer County and Albany) has resulted in a level of service that cannot be duplicated in a more isolated rural county, such as Madison County, New York.

"Type 4" systems appear to be easier to replicate elsewhere. The overhead costs of setting up a coordinated system can be met by the determination of a social service agency manager to devote staff time to the purpose. A recent Massachusetts conference on rural transportation demonstrated that such initiatives could come from a variety of sources: community action organizations, health care providers, councils on aging, church groups, employers, and many other groups with flexibility in work assignments to paid managers (4).

Other funds can occasionally be found for start-up of coordinated, interagency systems. For instance, demonstration project funding from the U.S. Department of Transportation is offered on a competitive and recurring basis; state funds are available through Offices of Aging (where the state decides this is a priority); and in one case, seed money came from the U.S. Department of Agriculture as a feasibility experiment on rural transportation cooperatives. Alert local staffers can keep abreast of these external funding opportunities by reviewing the Federal Register and other publications listing available grant opportunities.

Type 4 systems appear to have a good success rate in maintaining funding. Where funds from several social service agencies are pooled, as was the case in OATS, cutbacks in one source can be made up by applications to newer opportunities. Skill in grantsmanship and perseverance are obvious requirements.

Nevertheless, administrative entanglements can cause financial difficulties in coordinated systems. A recent Department of Health and Human Services study noted (5,pp.28-29):

> ...financing difficulties were encountered across the (HDS coordination experiment)

> projects. The major problems tended to fall into one of four categories: cash-flow problems with service purchasers, the nature of the coordination savings, finding stable sources of operating assistance, and capital replacement...

The report goes on to note that although there are cost savings from coordination, these tend to be expended in increased service levels and higher costs of management and administration rather than in a total cost reduction for the combined system.

ROLE OF STATE AND FEDERAL FINANCING AND REGULATIONS

State financing opportunities are currently much more important than federal initiatives in determining which rural programs can be started. For the most part, UMTA Section 18 funds have already been deployed to sustain existing rural programs, and frequently serve to add a rural link to existing urban programs. Few states have uncommitted funds that could be used to underwrite the initiation of new rural service. The case of the Chico, California, taxi-based system shows the advantage of a dependable, state-based transportation funding source that gives a private supplier of service a rationale for long-term private investment of funds in vehicles and service delivery.

State regulations, or interpretations of UMTA guidelines, are very important in creating conditions that encourage or discourage the development of innovative local rural financing. A recent statement by a New York legislative commission on rural resources cites an example where state DOT regulations have impeded development of locally initiated coordination programs (6,p.8):

> ...state administrative oversight (of Section 18 programs) has attempted to fit local planning efforts into an urban criterion. New York State implementation of Section 18 serves to frustrate coordinated usage of 16(b)(2) vehicles and Section 18 funds as intended by Congress and consistent with local needs. We have found that some New York State localities have been in the 'planning' stages since 1979, in their efforts to set up a rural transportation system under Section 18 guidelines.

This criticism suggests that there is a double-barreled impact of having both federal and state regulations governing the allocation of transit subsidies; each program's rules have an impact, but the interpretation of each other's rules may have a secondary, confusing impact.

CONCLUSIONS

This paper contains a number of illustrations of how the costs of offering rural mobility programs have been met on a continuing basis through a combination of revenue and subsidy sources. The illustrations show that there are many variations in service levels and cost that have evolved from local experimentation with means for improving the mobility of transportation-disadvantaged individuals--some of whom are almost cashless. Others require very high levels of state funding. What these illustrations have in common is the documentation that needs for passenger service exist and can be met with a variety of innovative financing approaches. The menu is large--it should offer an attractive array to elected officials from the majority of rural communities, which have no mobility programs whatsoever.

The suggestion is made in this paper that state, rather than federal, funding and regulations are becoming the key element in creating the opportunity for local agencies to initiate and develop a coordinated transportation funding mechanism. Change agents are most likely to be found among social service agency managers, who see mobility programs as a means to a wider goal of service delivery. UMTA and state DOTs should investigate means for improving the utilization of these local management resources, especially in localities where urban planning expertise is not readily available.

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