2. It allows for analysis of projects that are located outside of the original Boston Employee Survey area. The relationships developed on the basis of the survey responses can be extrapolated to test the impact of projects in outlying areas.
3. It requires little new data for the evaluation of a proposed project, and the model inputs are easily prepared.
4. The results are summarized at a level of detail that is useful for general policy analysis.

The advantages make the WRAM system an appropriate planning tool in a variety of settings.

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Implementation of Downtown Automobile-Use Management Projects

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ABSTRACT

Most capital improvement studies deal with feasibility analysis or evaluation of successfully completed projects. Relatively little is known about the many cases in which projects have been attempted but have not been successfully completed. Reported in this paper are the findings of a study that investigated the implementation process of downtown automobile-use management projects. This implementation process was compared with the process encountered in alternative central business district (CBD) revitalization efforts. Information was solicited through mail surveys of city planners in 67 cities about approximately 200 CBD revitalization projects, including 38 automobile-restricted zones that have been considered, initiated, or completed during the past 8 years. Implementation problems were perceived to be related to certain project attributes and the stage that the project had reached. The latter poses interesting questions about the identification and measurement of implementation problems in future research. The study reconfirmed an emerging role for city planners that emphasizes managing, negotiating, and coordinating projects that require public-private partnerships.

Cities are expanding their role of strictly providing services or regulating business. They have shifted away from the expensive urban renewal practices of the 1960s, which involved clearance or capital improvement projects without a firm commitment from the private sector. Their new orientation is toward policies that include ways to influence their economies through the creation of jobs, the coordination of private sector roles, and the facilitation of private development (1).

Central business district (CBD) revitalization has been the dominant strategy for urban economic development. Transportation improvements and automobile-use management projects have been used as means of improving the economic vitality of urban centers. Automobile-use management is the new term used to describe broader transportation policies that manage vehicle use in a large geographic area. Automobile restriction is such a form of management that goes beyond the scope of traditional linear pedestrian

malls and includes supplementary transit services (2). In addition to economic goals, automobile-restricted zones (ARZs) seek to accomplish several other objectives such as improving traffic conditions, encouraging public transit and non-automobile modes of travel, creating a more relaxed and pleasant atmosphere for pedestrians, improving environmental quality, and increasing safety (3,4).

Despite the success of a few malls in the early 1960s, attempts at implementation of automobile-restricted projects have been limited, very modest in scale, and generally confined to a single street and no more than a couple of blocks long (4). According to Knack (5), there are 150 malls constructed in U.S. cities. Although most of them have not failed outright, few have lived up to expectations. During the 1970s the average number of ARZ projects per year doubled, and several major cities such as Baltimore, Boston, Chicago, and Philadelphia implemented large automobile-restricted zone projects.

Evaluation of UMTA's experience with the ARZ demonstration program (6,7), has led to the belief that the technical skills necessary to plan an effective ARZ project are insufficient to successfully undertake and complete the project. The political and managerial problems associated with the coordination of both public and private interests during the process of adopting an agreeable ARZ plan have emerged as formidable. Apparently, unexpected obstacles along the project's "institutional trial" are frequent and, even when circumvented, cause delays that are costly in terms of dollars, momentum, and support (2).

DEFINITION OF IMPLEMENTATION

Plan implementation has been a relatively recent field of investigation. According to Alterman (7) and Alexander (8), there are two basic approaches to defining implementation. The traditional view of putting programs into action (9) has been criticized as not very helpful in understanding the process. The second approach views implementation as a dynamic circular process. According to Barrett and Fudge (10), policy and implementation cannot be divorced from each other, but must be analyzed as one continuous, adaptive policy-action relationship. They suggest a perspective similar to Susskind's (11), that of viewing implementation as a negotiating process.

There is little distinction in the theoretical literature between implementation of policies, programs, and capital projects (12). Most of the case studies in the literature address the implementation of social policy such as education and welfare programs. The discussions of implementing capital improvement projects are limited to only a few cases (13). Such major projects usually take a long time to develop and during this time circumstances change, which implies a need for continuous project redefinition. The definition of implementation success also appears to be unclear. There appears to be confusion in distinguishing between achievement of project goals versus the means by which the goals are achieved (14).

The literature does not provide a ready-to-use, unified conceptual framework of the implementation process; however, it does suggest a set of general categories of variables that influence the outcome of the process. These include characteristics of the community environment, project characteristics, attributes of organization and interorganization relations, and the role that individuals play in influencing events (14-16).

STUDY DESIGN

Most ARZ policy planning studies deal with feasibility analysis or impact evaluation of successfully implemented cases (6,17,18) and pay little attention to the implementation process. There is another body of literature on ARZs that is characterized by its preoccupation with attention to describing physical design features (3,19). Very little is known about the many cities that have attempted to institute ARZs but have not been successful in bringing them to fruition. The findings of a study funded by UMTA to investigate the implementation process for ARZ projects in communities are reported in this paper.

The main goal of the study was to learn more about the implementation process of the ARZ demonstration program. To accomplish this goal it was decided that other CBD revitalization projects should be used as a basis for comparison. It was also decided that not only should successful completed projects be studied but other projects should be studied as well, in different stages of implementation.

The study also sought answers to questions such as: What are the critical socio-political and environmental factors responsible for the success or failure of ARZ and urban development projects in general? What is the role of personal and organizational motives, the timing of decisions, the external factors, preconditions in the environment, and community needs in fostering acceptance and endorsement of automobile-restriction projects?

The dependent variable that was to be explained was called "implementation problems." In building a conceptual understanding of implementation problems, project type was assumed to be a key variable. The project's organizational characteristics were suggested in the organizational behavior literature as explanatory variables as well. Successful implementation is generally viewed as dependent on the structure of organizations responsible for implementing the project, the strength of the mandate for the project, the specificity with which the goals are stated, and the personalities of the individuals involved. Finally, the city characteristics were considered to be the third predictor. The first three variables discussed were project level, whereas the latter is a city level variable. In the second phase of the study, the impact of a variable that related to various events influencing the successful completion of the ARZ projects was analyzed.

The study followed a multi-method approach to information collection that consisted of a combination of survey research, case studies, and the use of secondary sources in three sequentially dependent phases. In the absence of a clear definition of implementation success and with the limited examples afforded in the literature, this study had to adopt a descriptive and exploratory approach and had to rely to a great extent on unstructured, open-ended questionnaires in the design of the surveys.

In the first phase, information was solicited from city planning department directors through a mail survey about CBD projects in major U.S. cities during the past 7 to 8 years. One hundred twelve cities within 99 standard metropolitan statistical areas (SMSAs) were sampled. The sample, though not a random one, is representative of the U.S. population of SMSAs in terms of size and location. Respondents were asked to describe three projects from each city. A total of 67 cities responded (60 percent response rate) to the survey and 176 projects were described. Ten projects were dropped because they were planning studies rather than capital projects leaving 166 projects in the study sample.

In the second phase, the study focused on ARZ

projects. It investigated whether specific problems or events that occurred during the implementation process of an ARZ project might have influenced its success. Two rounds of questionnaires were sent to the 51 cities that, according to information from the first phase, had proposed or constructed downtown ARZs during the past 7 to 8 years. One hundred sixteen individuals, who had been involved in the implementation of the ARZ projects, were contacted in those cities. The return rate was 38 percent for individuals and 58 percent for cities. Because of the low rate of return, only the response from one individual (the city planning director, when possible) from each city was used in the analysis.

In the last phase of the project, a more in-depth case study type of analysis was conducted for the six cities selected by UMTA as ARZ demonstration sites. The information focused on the roles played by organizations and individuals that influenced project development. Results from that phase are described elsewhere (20).

DESCRIPTION OF RESULTS

The values and the classification procedures used in defining the variables are described first and relations between implementation problems and the three predictor variables are subsequently discussed.

City Characteristics

Of the 67 cities responding, 14 are in the northeast, 13 are north central, 25 are in the south, and 15 are in the west. The locational distribution of responding cities does not differ significantly from the distribution of contacted cities. Socioeconomic census data for 1960-1980 were collected for 17 original variables and were summarized into 9 indices. These indices were used to group cities into three clusters using a principal components analysis. The three clusters were named (a) centralized and decaying, (b) decentralized and growing, and (c) small. Of the 67 cities, 29 were classified as centralized and decaying, 16 were classified as decentralized and growing, and the remaining 22 were classified as small.

Types of Projects

A perusal of the 166 CBD revitalization projects in 67 cities led to the identification of 22 different project elements. More than one-fourth of the projects in the sample included an office element, about one-fourth included a retail element, and more than one-eighth included both elements. Approximately 20 percent of the projects included at least one of the following elements: hotel, parking garage, and pedestrian amenities. It is noteworthy that 22 projects had a historic preservation component.

The physical elements and information on funding sources were considered in order to classify projects into eight general project types. the highest frequency of projects is associated with the mixed projects type, which include more than one element from private and public developments. Figure 1 shows the distribution of projects by the eight types.

For the purposes of analyzing the data, the eight categories of project types were further reduced to three categories. The four public improvement types, including street improvements, pedestrian amenities, open space, and ARZ projects were combined accounting for one-half of the projects reported. Such projects play an important role in the overall strategies for downtown development by facilitating private investment. ARZs accounted for 10 percent of all reported projects. Slightly more than one-fifth of the projects included only private development elements, whereas the remaining mixed projects (28 percent) contained both private and public development elements. In general, development projects were planned, funded, and implemented by the private sector, whereas the mixed projects were the result of public-private collaborations, and the public

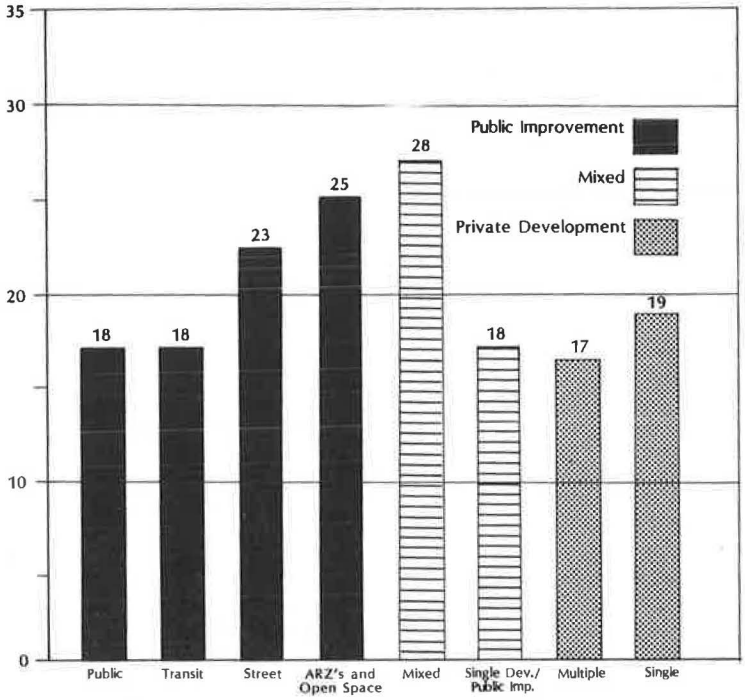

FIGURE 1 Frequency distribution of projects by type.

development projects were either planned, funded, and implemented primarily by the public sector.

Cost, duration, and organization were examined as CBD project characteristics. The average project cost was $42.5 million, ranging from $50,000 to $1.5 billion, with public improvements being the least expensive type of project, averaging about $4.9 million. The average duration of a project before completion was 5.4 years. This length of time was found to be independent of project cost and type. Forty-five percent of the reported projects were completed at the time of the survey. Similar rates were reported in the other phases of the study.

In the second phase, the average cost of ARZ projects was found to be $9.1 million. There were no significant differences in the average cost of completed versus non-completed ARZ projects. In completed ARZ projects for which there were cost overruns (36 percent of completed projects), the overruns were between about 17 and 29 percent of the cost of the project. Although overruns did not occur in the majority of the completed projects, in more than one-third of the projects these overruns had a significant impact on the cost of the project. Sixty-nine percent of the ARZ-completed projects took longer than anticipated; the average time overrun was estimated to be 1.75 times longer than planned. About one-half of the reported projects included a transit component.

Cities in different census groups did not systematically report different project types. An interesting relationship was observed between the project type and the project status variable; mixed projects were less likely to have been completed.

The organizational characteristics of CBD projects were approximated by three variables: responsibility for funding, planning, and implementation. The main funding source was a combination of federal and local public funds, which accounted for 22 percent of the reported projects. Projects funded primarily by the private sector comprised 6 percent of the total. There was some federal contribution in 65 percent of all projects. It is interesting to note that there were no reported cases for which the federal government paid more than one-half of the project cost while the private sector paid for the remaining cost. The project type variable and the organization variable were found to be strongly related. In ARZ-type projects, federal participation (an average of 50 percent) appeared to have little impact on whether the project was completed. Although not statistically significant, completed projects that had local participation in funding were almost twice as frequent as projects with local participation that were not completed.

City departments were most frequently responsible both for planning and for implementing projects. Seventeen percent of the CBD projects were planned by city departments and more than 25 percent were implemented by them. Forty-two percent of the cases reported that the same agencies planned and implemented the project. Sixteen percent of the projects were planned by the public and private sector and more than 12 percent were implemented by the same type of cooperative effort. Finally, 9 percent were privately planned and 11 percent were privately implemented.

Implementation Problems

Fifteen elements of implementation problems were identified in the first phase of the study. More than 70 percent of the CBD projects described in the sample included an implementation problem. The most frequently mentioned element was raising funds, cited in almost one-fifth of the projects. Around 10 percent of the reported implementation problems included at least one of the following elements: (a) acquiring land, (b) agreeing on the plan, (c) coordinating participants, and (d) anticipating economic changes. Frequently occurring combinations of elements were identified to yield seven implementation problems, which were named according to the most frequently occurring element. In addition to the five elements named earlier, categories also centered around the following elements: solving construction problems, minimizing impact of construction, and instigating support. Figure 2 shows the distribution of the implementation problems.

These seven categories of implementation problems were reduced to three on the basis of their structural similarities. Raising funds and acquiring land were combined to form a category believed to represent acquisition problems. Agreeing on the plan and solving construction problems were combined into a category of problems related to the plan, and the remaining three problems--anticipating economic changes, coordinating participants, and instigating support--were combined into a category representing support problems. There were more support problems than either acquisition or plan problems. The interpretation of the term support here is general and refers to political, managerial, and technical support functions.

ANALYSIS OF RESULTS

In this section relationships among the variables that may influence implementation problems of CBD revitalization projects in general are described first, followed by the results from the analysis in the second phase of the study, which deals with ARZ projects in particular. The influence of specific events in the implementation success of ARZ projects is analyzed last.

Implementation Problems of CBD Projects

A significant relationship was identified between CBD project types and implementation problems. Public improvement projects are less likely to report problems than other type projects. The problems on these projects are generally associated with the plan. Mixed development programs are more likely to report support and acquisition problems. When the relationship was conditioned on the city type, it was found that the relationship was no longer statistically significant. That is, data do not indicate that cities in different census groups experience different types of implementation problems.

When the variable of completion status was added to the relationship of project type and implementation problems, significant three-way interaction effects were found with project type, implementation problem, and completion status. In general, this result suggests that the perception of implementation problems depends on the stage that the project is in. That is to say, some phenomena may appear as problems at or near the time they occur; however, with the passage of time, they are not remembered as problems. This is reflected in the data by the higher probability of "no problem" for completed projects than for incomplete CBD projects.

Comparing the problems reported for completed and incomplete CBD projects, the incomplete projects are about twice as likely to be viewed as having support problems as are completed ones. This may mean that support problems appear as being major when they are occurring, but on their presumed resolution, they

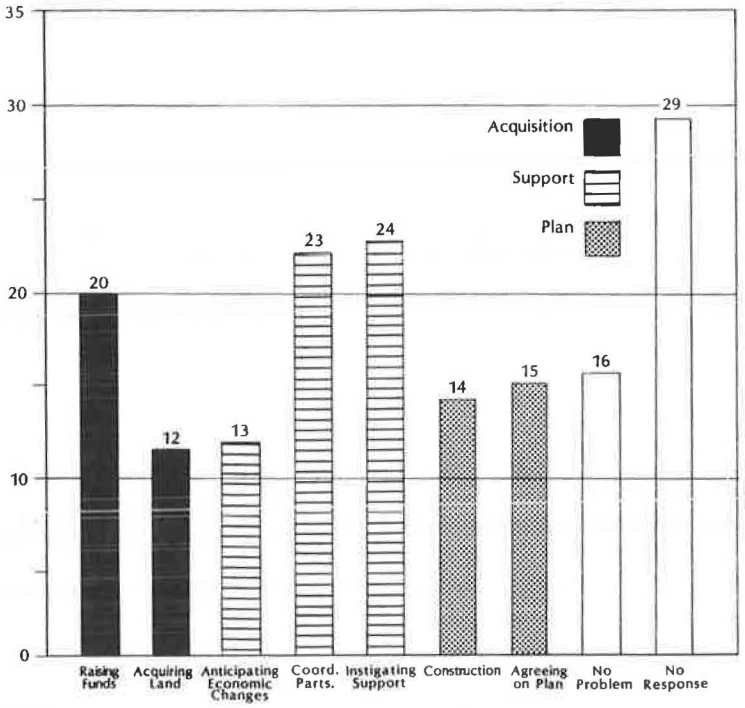

FIGURE 2 Frequencies of implementation problems.

are not recalled as having been major problems. It may also be that support problems, when they have occurred, are always recalled as major problems but when they are not resolved, the project is dropped. Only one dropped project was reported and it was not included in the sample. It is possible that some of the incomplete projects will never be completed.

Completed projects are about twice as likely to be viewed as having had plan problems as are incomplete ones. To some extent, this latter result is an artifact of the definition of plan problems, which include construction problems. Most of the incomplete projects have not yet entered the construction phase. Thus, it is impossible for them to have associated construction problems.

Differences between the project types without regard to completion status are few. Public improvement projects are less likely to have acquisition problems and are more likely to have plan problems than are either development or mixed projects. However, there are several differences within and between the project type and implementation problems for both completed and incomplete projects as shown in Figure 3.

The frequency distribution of implementation problems for complete and incomplete public improvement or mixed projects are not different from each other. However, completed development projects are reported to have had no problems, whereas incomplete projects are reported to have support problems.

Organizational variables were not found to be as highly related to implementation problems as might be suspected from reviewing the literature. Projects implemented by public agencies, however, were more likely to experience problems with the agreeing-on-the-plan problem or solving-construction problem, than projects implemented through a joint public-private effort. There was a tendency for projects planned and implemented by the same agency to be less likely to report a problem and less likely to have a problem with support.

The duration of a project was not related to implementation problems in a statistically signifi-

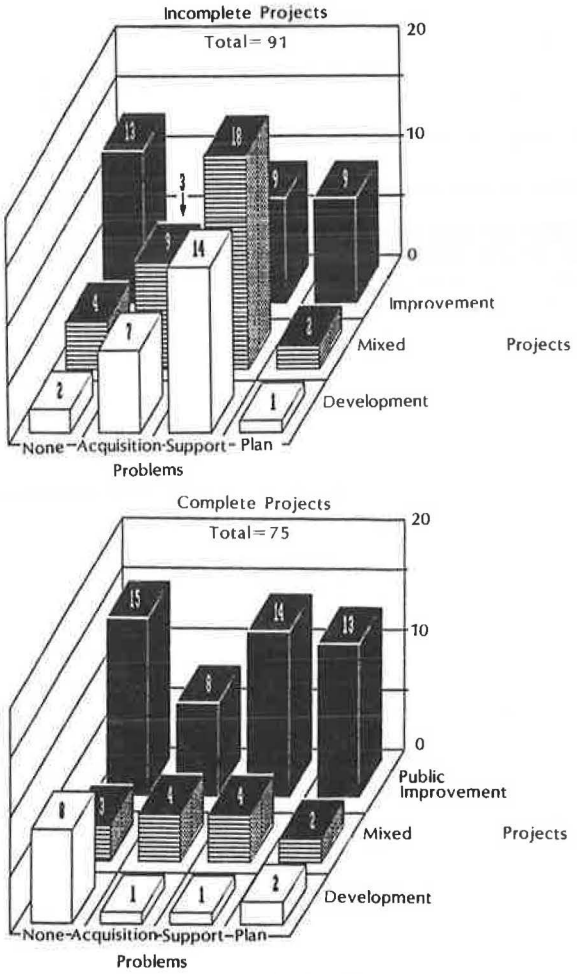

FIGURE 3 Joint frequencies of project type, implementation problems and completion status.

cant way, although such a relationship existed with cost. Smaller projects had a tendency to experience more agreement on plan problems than did larger projects. Smaller projects were also more likely to be public improvement projects. Finally, about one-half of the respondents rated the projects as successful, only 5 percent admitted failure, while about one-third responded that it was too early to evaluate the project.

Implementation Problems of ARZ Projects

Thus far, ARZ projects have been examined as another type of public improvement project. In this section the influence of 33 types of implementation problems on the success of ARZ projects will be analyzed. The second phase of the study found that 4 out of 33 problems yielded a response that indicated the problem was moderate or more severe in more than 50 percent of the sampled cities for responses other than the not applicable or not a problem variety. Raising funds was the only problem to occur in both cases for completed and incomplete projects. However, there were very definite differences between implementation problems occurring at different stages of projects. For completed projects, additional problems included underestimating costs, changing local government, and the project's impact on CBD activity. For incomplete projects, problems involved the organizational aspects of starting the project, the length of time to secure funds, and construction difficulties.

After combining the problems into the seven types similar (but not identical) to the ones defined in the previous section for CBD problems, no significant relationship was found between ARZ problem type and project completion status. It was found that for most problem types the majority of the responses were either not a problem or not applicable. More than 30 percent of the responses indicated that there were moderate or more severe problems with raising funds, solving construction problems, and acquiring land.

For completed projects, all but one problem type (agree on plan elements) elicited more than 25 percent responses. For incomplete projects, only two problem types (anticipating economic changes and coordinating participants) yielded less than 25 percent of the responses. The analysis revealed that small cities were more likely to have problems such as agreeing on plan elements, coordinating participants, and instigating support, if the project had been completed, but centralized and decaying cities had such problems if their project had not been completed.

Another variable analyzed for its relationship to the impact of problems on the success of the project was the existence of a transit component. It was found that completed projects without a transit component were more likely to have encountered problems.

Influence of Events in the Implementation of ARZ Projects

An important finding in the first round of questioning was that the step-wise process of planning an ARZ project was very much the same across most cities. This finding led to the conclusion that it was certain events that occurred during the process that were attributed to the successful implementation of projects and not the planning process itself.

In the second round of questioning, respondents were asked to assess the impact of 17 events on the successful completion of ARZ projects. Input to the development of a list of events was provided from the first two questionnaires. Most cities responded that 14 of 17 events, if they occurred, had a positive effect on the success of the project. Three events did not have a positive or negative effect on success. These were related to changes in government policies, officials, and exogenous events. An interesting result involving the event of having a mayor or a local business association involved in the project is that when this occurred, it had a 20 to 25 percent more positive impact on the success of the completed project than on incomplete projects. This result is similar to that of local participation in the funding of an ARZ project.

After combining the 17 events into 4 general categories, it was found that involvement of individuals, groups, or agencies, and changes occurring during the project yielded a more positive impact for completed ARZs but a more negative impact for ARZs not completed. Organizational or interorganizational events were considered highly positive by most cities regardless of the completion status of the project. A reversal occurs with public relations and exogenous events. For incomplete ARZs, the responses are often more positive than for completed ARZs. In the case of completed ARZ projects in small cities, the influence of individuals and organizations and the commitment of funds had a significantly stronger than expected positive influence on success than for other city types.

In analyzing the effects of the existence of a transit component in an ARZ, findings indicate that involvement of individuals and groups has a positive impact on the success of a project if that completed project does not have a transit component. Thus, it follows that projects that have transit components are less likely to find that events of this type have a positive influence on the project's success. This does not imply, however, that the absence of a transit component would have a negative influence.

DISCUSSION AND CONCLUSIONS

This study has contributed to the development of a classification of implementation problems of CBD revitalization projects and the measurement of the intensity of such problems for ARZ projects specifically. It has also demonstrated how such problems are related to various project attributes and city characteristics. This study has brought to light the need for greater understanding of the implementation process. It has established the importance of improving and expanding research in this area and has provided some information that planners may find useful in coping with a changing environment.

Other study contributions included information about the types of CBD revitalization projects that have occurred during the past 7 or 8 years, the description of ARZ projects, and the comparison of ARZ projects with other CBD revitalization projects. It was found that, since 1975, ARZ projects have received serious consideration as a strategy for downtown revitalization. Three-fourths of the responding cities in the first survey had considered ARZ projects and 27 percent had implemented one. In comparison, 13 percent of all U.S. cities with a population of more than 50,000 had implemented malls before 1977 (19). Public projects that include street improvements, pedestrian amenities, open space, and ARZs accounted for one-half of all reported projects in the first survey. ARZs accounted for 10 percent of all reported projects. An emphasis on reported improvements of urban amenities was noticed, including rehabilitation of historic structures, provision

of cultural facilities, and increased attention to pedestrian needs. One-fifth of all the reported projects included private developments such as offices, retail, hotel, and mixed-use types of developments. The rest were projects resulting from joint public and private collaboration. The average public project costs less than the private developments. There was no evidence of geographic concentration by type of project.

Implementation Problems

Raising funds was the most frequently mentioned problem for CBD revitalization projects. On the other hand, it was interesting to note the number of creative approaches that have been established for financing development. Some of these approaches were tax increment financing, or the application of Community Development Block Grant (CDBG) and Urban Development Action Grant (UDAG) funds as guarantees for loans issued by commercial banks and as leverage for private capital. Implementation problems were found to be related to the type of project. Public improvement projects are less likely to have reported problems than the other two project types. Those problems that are reported are generally associated with agreeing on a plan.

One of the more interesting findings was that the completion status of the project had an effect on the type of problem that respondents perceived. Incomplete projects tended to have support problems, whereas completed projects reported disagreement on plans. One possible interpretation of this result is that planners tend to be more successful in gaining agreement on plans and solving construction problems ("plans" type of problems) on projects that reached the completion stage. These are the types of problems that are considered within the realm of traditional planning. On the other hand, planners tend to be less successful in instigating support, coordinating participants, and anticipating economic changes ("support" type of problems), if projects remained incomplete. The latter type of problems are considered within the scope of the emerging direction of planning.

It was reported that the frequency distribution of implementation problems for private development projects are different with respect to project completion status. Completed private development projects are reported to have had no problems, whereas incomplete ones are reported to have support problems. This finding, consistent in other phases of the study, suggests that the perception of implementation problems depends on the stage that the project is in and poses some interesting questions regarding the definition, identification, and management of implementation problems to be addressed in future research efforts. Here, it may be that development projects that suffer from support problems wind up being dropped. Another explanation is possible. Respondents, who are all members of public planning agencies, probably do not have adequate insight into development projects and there may have been a tendency for them to assume that there were no problems associated with the completed development projects. At the same time, there may have been a tendency for them to report ongoing development projects if they were hotly contested.

In the second survey, respondents were asked to evaluate ARZ implementations. The majority of the cities indicated "no" problems and only problems related to securing funds and lack of support from the private sector were of any significance. The involvement of the mayor or a local business association in the project had a much more positive impact on the success of completed projects than on projects not completed.

The type of city was found to have an important impact. In small cities the involvement of individuals and groups or exogenous events made a difference in the success of the project. Because of the small subsample sizes within each census group, this relationship should be further tested. It is advisable that subsequent research on implementation problems be either limited to a single census group or conducted on a large enough scale.

Finally, in completed projects without a transit component it was more likely that events such as involvement of individuals and groups had a more positive influence on the project success than projects with a transit component. One possible interpretation of this finding may be that ARZ projects with transit components are more difficult to finance and the involvement of individuals and organizations becomes more critical if they are to succeed.

Study Limitations

This study has been exploratory in many ways. It involved extensive surveys and the development of instruments in a field that has limited examples to offer as guidelines. Investigators had to rely to a great extent on intuition and unstructured, open-ended questionnaires in the design of surveys. Although precautions were taken to avoid the typical shortcomings inherent in survey research and case studies, it is important to acknowledge some of the limitations here and to suggest that the study results be interpreted with caution. The response rate in the first survey was considered very good. Subsequent surveys, although yielding similar responses at the city level, had lower rates of return at the individual level, making averaging of multiple views per city and multivariate analysis difficult. Results between the different data collection efforts are not directly comparable because different procedures were used in the data collection. The findings from the surveys can be generalized to opinions of city planners in other SMSAs.

In the question requesting that three CBD revitalization projects be described in each city, respondents were not given specific instructions on what types of projects to describe. However, there is no reason to believe that the list of projects obtained in this way is not representative for the purposes of this project. Because of the format of open-ended questionnaire and the subjective nature of the responses, statements of problems are expressions of perceptions colored by personal and organizational expectations, situational circumstances, and status of project completion.

There was an uneven quality of responses in terms of conceptualizing problems, articulating experiences, and the ability to draw lessons. The respondents' understanding of planning and implementation issues was variable. A review and comparison of multiple responses from the same cities indicated a 25 percent rate of agreement among two respondents regarding the importance of events or severity of problems in the same city and project. This leaves the study open to criticism as to whether some of the results may be artifacts resulting from the type of survey, the sampling procedure, and the respondents' biases. City planning directors or planning staff in charge of CBD planning were considered by the authors to be the most appropriate and informed individuals to provide the needed information. Planners by training and job definition should be able to bridge the gap between the decision makers/administrators and engineers and contractors.

Role of Planners in the Implementation Process

This study reconfirms an emerging role for planners that requires skills beyond those of preparing plans and emphasizes management of support-type problems and plan implementation. Capital improvement projects are not simply decided, drawn up, and implemented, but are continually adapted through a negotiating process. It is difficult to distinguish when project planning ends and action begins or when the project has changed so drastically that it must be considered a new project. The implementation process as a policy-action relationship as defined by Barrett and Fudge (10) proved to be a much more meaningful concept.

The skills of negotiation and coordination become essential when dealing with the private sector. Urban projects increasingly require a higher degree of public and private cooperation, and a redefinition of the role of the public sector is in order. In the past planners rarely played a continuing role throughout implementation. It is during that phase that dissatisfied segments of the community often create obstacles to a project's completion. This is a crucial phase and the planner can play an important role as a mediator in building and maintaining a durable consensus and in resolving disagreements that threaten to impede implementation (8,11).

According to Barrett and Fudge (10), there has been a tendency in the implementation literature to de-politicize the policy-action relationship. The results of the case studies in the last phase of this work confirmed the importance of political and institutional factors in explaining implementation success and problems (20). The influence of local actors, roles, skills, interests and motivation, and determination is paramount in getting things done. As Barrett and Fudge point out, informal organizations may play a more crucial role than traditional structures.

Policy subject matter has been suggested in the literature (10,14) to have an influence on the outcome of the policy-action relationship. This study provides further evidence in support of this view. Automobile-use management and automobile restriction in particular has been an innovative policy that entails trade-offs among categories of users and even discriminates in terms of inconvenience in favor of pedestrians and transit. Altshuler (21) states that "change strategies will vary in political acceptability in accordance with the degree to which they inconvenience powerful institutions and large or well-organized blocks of voters."

The downtown business community is usually a well-organized body that has traditionally regarded automobile restriction as a threat to its livelihood, even though a close look at such experiences has shown that the majority of businesses would not necessarily have been adversely affected and indeed would have benefited from the measure (18,22). Merchants and other members of the business community have been socialized to accept professional and organizational values and behavior, even if such values and behavior do not pertain to particular circumstances. The same accusation can be leveled at professional planners for whom separation of pedestrians from vehicle movements is traditionally associated with good design principles. The last and most important group in the implementation process is the politician whose leadership and commitment is the key if things are to start happening. In most of the cases the study findings indicated that if there is strong local support for a project it has a greater chance of being completed. In cases where there was a lack of evident support from the business community, the political leadership delayed taking the necessary action.

Although it was found that federal participation appeared to have little impact on project success, results from previous research indicate that UMTA's Service and Methods Demonstration program has made a significant contribution to the promotion of experimentation and scientific evaluation of innovative programs and deserves credit, but it only represents a beginning (2,23). It is essential that such efforts involving initial support, systematic monitoring and evaluation, and dissemination of results of experimental projects continue if our understanding is to be improved and generalizable conclusions are to be drawn.

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Internal Circulation Within Major Activity Centers: Issues and Problems

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ABSTRACT

Several different issue or problem categories are outlined in this paper followed by a review of three examples of internal circulation planning for major activity centers. The issue and problem categories include size and geographic dimensions, internal travel volumes, congestion levels, and special-purpose travel features. The examples include Post Oak Center in Houston, Woodlands Metro Center north of Houston, and Las Colinas in Irving, Texas. Potential negative impacts associated with internal circulation needs are described in association with (a) discontinuous or poorly designed facilities for pedestrian flow, and (b) excessive levels of internal automobile traffic. Remedies or solutions for these problems, as advanced in the three case studies, are evaluated; these remedies cover pedestrian improvements, automobile access and parking improvements, surface transit, and automated guideway transit.

IDENTIFICATION OF ISSUES AND PROBLEMS

Four major issues involving internal circulation within major activity centers can readily be identified. These issues reflect the basic land use configuration and geographic dimensions of activity centers themselves, as well as their functional role within an urban area. [Central business districts (CBDs) have not been included, in order to allow more attention to be devoted to the emerging major diversified center (MDC), as well as other types of major activity centers (MAC) in outlying and suburban areas.] The general sequence of issue and problem categories in priority order includes size and geographic dimensions, internal travel volumes, congestion levels, and special-purpose travel features.

Size, Land Use Mix, and Geographic Dimensions

Major activity centers have been defined as concentrations of office, retail, hotel, entertainment, and related land uses that generate daytime popula-