

FREEWAY CONTROVERSIES AND THEIR IMPLICATIONS  
FOR TRANSPORTATION PLANNING: CEDAR RAPIDS,  
IOWA A CASE STUDY IN A SMALL  
METROPOLITAN AREA

by

Robert M. Donnelly

July, 1975

Technical Report #48

Center for Urban Transportation Studies  
Institute of Urban and Regional Research  
University of Iowa

This report was produced as part of a program of Research and Training in Urban Transportation sponsored by the Urban Mass Transportation Administration of the Department of Transportation.

The results and views expressed are the independent products of university research and are not necessarily concurred in by the Urban Mass Transportation Administration of the Department of Transportation.

STATE LIBRARY COMMISSION OF IOWA  
Historical Building  
DES MOINES, IOWA 50319



## INTRODUCTION

Highway controversies and anti-highway coalitions have emerged in the 1960's and 1970's to inhibit the powerful institutional forces of highway construction in America. The Federal Aid to Highway Act of 1956 established the \$27 billion highway trust fund to finance some 40,000 miles of construction as part of the national system of interstate and defense highways. Only twenty-four members of the House of Representatives voted against the measure. Auto manufacturers, truckers, oil producers, steel manufacturers, and cement makers had effectively committed the federal government to spend \$5 billion annually on the construction of new roads.<sup>1</sup> Planning and construction of these facilities was to be carried out by the states and their subdivisions under rigid guidelines established by the Bureau of Public Roads (now the Federal Highway Administration).

By 1961, one-third of the total interstate funds had been expended or authorized and nearly two-thirds of the system's mileage had been constructed.<sup>2</sup> This rapid rate of construction had been achieved by concentration on those sections of the system easiest to design and build — namely, rural, inter-urban links. However, as early as 1959, the problems of intraurban freeway design and location already could be foreseen. For example, the San Francisco Embarcadero Freeway was by then embroiled in controversy over its waterfront link between the Oakland Bay and Golden Gate Bridges. The conflict ultimately resulted in the City of San Francisco rejecting \$280 million in Federal highway funds. During the mid 'sixties, freeway controversies grew in number and voracity. The list included: Interstate 5 in Sacramento, the Riverfront Expressway in New Orleans, the North-Central Expressway in Washington, D.C. and the Lower Manhattan Expressway in New York City. By 1966, journalists observing this series of major public controversies declared the existence of a "freeway revolt."<sup>3</sup> In the following year, twenty-six freeway controversies frustrated highway builders accustomed to local acquiescence.<sup>4</sup>



Five years later, in 1972, history caught up with Cedar Rapids, Iowa — the case study selected for this discussion. Here, a cross-town freeway which had been a central element of the recently adopted Regional Transportation Plan, was in serious trouble. In many respects the controversy followed the model freeway conflict and brought the transportation planning process to a new level of public visibility within the community and raised the fundamental question of its viability in the local public policy-making process.

#### CASE STUDY: CEDAR RAPIDS, IOWA

##### Background to the Freeway Controversy

In January, 1971, the Linn County Regional Planning Commission (LCRPC) adopted a regional transportation plan, Horizon Year 1990, for the Cedar Rapids-Marion metropolitan area.<sup>5</sup> The plan, as approved, had been the result of an intensive and costly study of more than six years. It had been prepared by the staff of LCRPC and its consultant in cooperation with the Iowa State Highway Commission (ISHC). This plan identified the "general" location of existing and future major roads — freeways, arterials, collectors — as required by the Federal Highway Act of 1962 in order to assure federal assistance for road construction in the area. Both ISHC and the Federal Highway Administration (FHWA) had approved the plan.

The plan featured two intra-city freeways. At the time of plan adoption, one of these, the intra-urban link of the north-south interstate 380, was already "committed" in the sense that the final design process was well underway and state and federal funds had been appropriated for various sections of the facility. The second freeway, an east-west cross-town facility within Cedar Rapids, and a bypass facility serving the adjacent smaller community of Marion had not been incorporated in the preliminary plan submitted initially to FHWA. The LCRPC did include the 549 freeway in the final plan when it became clear that FHWA was concerned about



forecasted overloadings of I-380, based on assigned 1990 traffic and that this Interstate link was attracting users from the congested east-west corridor within the metro area. In the final plan, the Marion bypass section was proposed for construction by 1975 and the Cedar Rapids sections were staged for construction by 1980.

Within one year of plan adoption by the LCRPC, the Highway Commission undertook a corridor location study to determine the best of several alternate general alignments for the proposed cross-town freeway using the same consultant firm that LCRPC had used for the development of the plan. The study design included measurement and analysis of a set of anticipated economic, social, environmental, and user impacts of alternate locations. The study was relatively comprehensive. Ranking of alternatives, including the "do nothing alternative" was accomplished by a "community value scale" derived from a sample of local officials' preferences as revealed in a paired comparison exercise involving anticipated impacts. The outcome of the study, as presented at a public hearing in Cedar Rapids in May, 1972, was the recommendation to the Highway Commission to proceed with a detailed design of the facility for the highest ranked freeway corridor.

At the public hearing, a total of twenty statements were received from public officials, citizen groups, and individuals; only one of these (that of the Mayor of Marion) could be interpreted as supporting the recommendation of the ISHC staff and consultant for any of the Cedar Rapids sections of the freeway. The Mayor of Cedar Rapids, a State Senator, a district State Representative, four civic-business groups, six citizen action groups, and numerous individuals presented statements strongly opposed to the freeway concept. The LCRPC, the local public body which had developed the 1990 Plan and originally approved the freeway, developed a new stance at the hearing in the midst of the storm of controversy which emerged during the corridor study. In a somewhat embarrassed



manner, the Chairperson of LCRPC read the resolution of the Commission which found as part of its Circular A-95 review responsibilities, that:

the subject corridors are in general accord with the Regional Transportation Plan . . . and that the Highway Commission (should) study and report in more detail concerning the potential environmental effect of the subject facility upon the area traversed, with particular emphasis on its impact on adjoining properties and methods proposed to minimize any potential adverse environmental effects.<sup>6</sup>

The cautious approval of the freeway given by the LCRPC did not save the plan. The outcome of the public controversy was the indefinite postponement of the design and funding allocation for the 549 cross-town freeway in Cedar Rapids, Iowa.

#### Analysis within the Framework of the Model Freeway Controversy

The cross-town freeway conflict in Cedar Rapids serves to illustrate the model "intra-urban highway controversy" as well as to demonstrate directions of deviation from the typical pattern of events. The "model," as drawn by Kenneth Geiser, is based on the point of view that the typical freeway controversy may be "conceived of as a continuing interplay between protest activities and government response performed against a backdrop of the highway planning process."<sup>7</sup> Within this perspective, a typology of patterns reoccurring in freeway controversies tends to highlight the political nature of such conflicts. This typology consists of six major situational factors which shape the model freeway controversy and which serve as points of comparison and contrast among such conflicts. These are: 1) single vs. series event conflicts, 2) character of area to be traversed, 3) character of protest groups, 4) legal framework, 5) structure of the transportation planning process, and 6) content and sequence of issues raised in the conflict.

The Cedar Rapids case was essentially a single event controversy, although opposition to the cross-town facility became linked to other community



transportation issues. This is somewhat in contrast to the typical freeway controversy in the larger metropolitan area, where opposition forces to one proposed highway usually may find a cause in subsequent, if not directly related, highway proposals. While opposition to the 549 proposal generated energies that were somewhat transferable to various street widening projects in Cedar Rapids, perhaps the overwhelming success of the protest groups which had coalesced around the 549 conflict undermined their cohesion and ability to identify and confront subsequent transportation proposals threatening to their interests.

The freeway conflict is fundamentally shaped by the character, or in its broadest sense, the land use of the area threatened by the proposed intra-urban highway. Clearly, a suburban area will generate a different mix of issues, strategies, and parties to the conflict than an inner city area will. The socio-economic and ethnic composition of the population residing in an area, the presence of historic places and buildings, the quantity and quality of open space within an area, and the existing structure of public service delivery systems are basic areal factors operating in freeway controversies. Given their linear geometrics, highway facilities have the potential of affecting a wide variety of such factors as they are spatially distributed within an urban area. Thus, in the model conflict a protest coalition of poor inner city residents, affluent suburbanites, parents of school children, conservationists, and local historical groups may be possible. The Cedar Rapids case had all these potentials; however, it was clearly the fact that all alternate freeway corridors inescapably penetrated the most affluent areas of the community which generated the intensity and degree of ad hoc organizational effectiveness of the anti-freeway forces.

The character of protest groups in freeway controversies is a key variable which determines the effectiveness of the anti-freeway forces. Such coalitions may vary in terms of the political access resources of their members, ad hoc vs. permanent organizational structure, and single vs.



multi-purpose objectives. The organized opposition to the Cedar Rapids crosstown freeway proposal was a fairly wide cross section of the community, but one which was significantly skewed in the direction of the most influential, affluent, and professional. A nucleus of country club, college, church, and chamber of commerce members jointly perceived and reacted to the threat posed by all alternatives to the "charm" of Cedar Rapids.

The legal framework in which freeway controversies occur is broad and far-reaching. Between 1959, when San Francisco rejected in \$280 million dollars of federal funds, and 1972, when Cedar Rapids, Iowa said "no" to its cross-town freeway, the complexion of such controversies had changed significantly. First, greater flexibility had been afforded the local decision makers in transportation investment with such new programs as the T.O.P.I.C.S. and Federal Aid to Metropolitan Systems legislation. Secondly, the requirement of the 1968 federal highway legislation for two public hearings permitted the public greater involvement in the location and design of urban highway facilities.<sup>8</sup> Third, recent Supreme Court interpretation of the National Environmental Protection Act (NEPA) provided substantial opportunities for citizens to effectively challenge the procedural adequacies of decisions to locate federal highways in problematic urban environments.<sup>9</sup>

The structure of the transportation planning process and its relationship to local governmental decisionmaking, as well as the flexibility of the public policy making mechanism to the dynamics of the conflict, largely determines the nature of the highway proposal which initiates the controversy. The puzzling aspects of the Cedar Rapids conflict fall in the gap which existed between the values of the "planners" and those of the "community" as expressed in the May public hearing. What is the explanation for the LCRPC's ubiquitous position, how do we explain the initial adoption, its subsequent passive role in the corridor study, and finally its ambiguous statement of support concerning the proposal at the public hearing?



The Regional Transportation Plan was clearly not the result of a model collective choice process — one in which technician, planner, politician, and citizen were required to interact and adjust their differently valued ends. It was, on the other hand, the output of the local planning agency and its consultants, both dedicated to producing a plan acceptable to state and federal transportation bureaucracies. The requirement to produce a "1990 Plan", complete with a map of all future facilities, forecasted traffic volumes and design capacities, was clearly the primary agency goal, rather than providing a rational response to the complex set of "community values" that any particular plan would impact. In this institutional setting, leaving the planning process to the planners guaranteed an acceptable "paper plan."

#### IMPLICATIONS FOR TRANSPORTATION PLANNING

The Cedar Rapids case, like similar freeway controversies, clearly indicated that the conventional metropolitan transportation planning process had failed. This conclusion is inescapable regardless of one's perspective: On the one hand, the process failed to mobilize support for the cross-town freeway facility once the "need" had been established; on the other, only the energies of self-organized citizen groups could stalemate the extended, costly process by which the auto-highway forces nearly made an unacceptable freeway plan reality in Cedar Rapids.

The general inadequacy of the metropolitan transportation planning process standardized in the 'fifties and 'sixties is now widely recognized. It seems clear that the failures of the process have resulted from a lack of perception of transportation planning as but one sectoral component of a broader community planning/policy-making process. Historically, the transportation planning element of comprehensive planning has led and dominated the development planning programs of most metropolitan areas. Unfortunately, at the time when engineers and neophyte planners were called upon to develop what is now the conventional approach to transportation planning, no general theory of planning existed to guide the process. While



today, consensus on the outlines of such a general theory may still be distant, the experience of past failures and achievements may provide an opportunity for shaping less naive and more value sensitive transportation planning.

The following discussion of the deficiencies of the conventional transportation planning process and their implications for new approaches is intended to point toward a general integrative conceptualization of transportation planning as but one style and component of policy-making in a modern democratic society. Within this perspective, a typology of issues is offered that has emerged from an examination of the major problem areas of conventional transportation planning and the basic dimensions of the public decision-making process. The scheme summarized in Figure 1 is certainly not intended to be exhaustive, but only suggestive of central concerns for new directions.

Three major problem areas for conventional metropolitan transportation planners are: 1) an over-reliance on the "rational" model of planning, 2) a myopic denial of the politics of public decision-making; and 3) an over-allocation of planning energies within too narrow a technical analysis. These deficiencies have inhibited metropolitan transportation planning along three dimensions of the public choice-making act — process, structure, and scope.

### Process

Transportation planning has been drawn from the rational model of planning and decision-making. This paradigm concept of the planning process consists of the familiar sequence: the establishment of goals and objectives, the formulation of alternatives, the estimation of outcomes, and the selection of that course of action which maximizes the objectives and statistics to constraints or standards selected.

The role of values in this conceptualization of decision-making is assigned to the process of formulating goals and objectives. The process,



FIGURE 1: A Typology of Transportation/Public Choice-Making Issues

	RATIONAL MODEL	POLITICS AND ORGANIZATION	TECHNICAL ANALYSIS
PROCESS	<p>General and Sectoral Goal Formulation</p> <p>Objective Knowledge and Community Welfare Function, Single Public Interest</p>	<p>Creation and Distribution of Social Goods</p> <p>Conflict of Groups and Agitation of Values</p> <p>Change in Ethic (Allocative to Innovative)</p>	<p>Sequence and Logic of Analysis</p> <p>Informational Interface with Decision-Making Process</p> <p>Analytic Framework</p>
STRUCTURE	<p>Institutional Factoring of Problems</p> <p>Coordination of Implementing Tasks</p>	<p>Participation -Official Rep. -Citizen</p> <p>Planning/Programming Linkage</p> <p>Jurisdictional Mix</p>	<p>Relation of Technical Team to Client/Organization</p> <p>Operations Research (eg. PPBS)</p>
SCOPE	<p>Unique "Best" Solution</p> <p>Single End, Means-Effective Problem</p>	<p>Evaluation of Alternate Courses of Action</p> <p>Range and Diversity of Socio-Economic Issues and Impacts</p>	<p>Identification and Characterization of Alternatives</p> <p>Level of Aggregation</p> <p>Time Frame</p> <p>Trans-Sectoral Comprehensiveness</p>



thus, neatly confines the subjective elements of policy-making to the initial phase of the chain of activities leading up to a decision. Once the objectives and standards have been established, the process may then yield to an "objective," cost-effective searching for the optimal solution. The following is typical of this notion of planning and the primary importance it assigns to the establishment of goals a priori:

In a large part, planning is tied back to the goal setting process that must go on in every community. The establishment of sound goals for a community makes the preparation of comprehensive plan almost an anti-climax.<sup>10</sup>

It is recognized that the conventional metropolitan transportation planning process frequently failed initially at the goal-setting stage. Gakenheimer et al have pointed out the vagueness and conflicting nature of the goals framed to guide the metropolitan transportation studies of the 'fifties and 'sixties; they typically indicated the "need for increased access to all parts of the region with greater safety, in a context of greater compatibility with land uses, and increased efficiency in the use of public funds."<sup>11</sup>

Perhaps the fundamental obstacle confronting the rational decision-making paradigm has been the economist's inability to demonstrate the viability of the "community welfare function" concept upon which this choice-making model rests.<sup>12</sup> Beyond the problems of measuring individual preferences, Arrow's "impossibility theorem" implies that such an aggregate expression of differentially valued social goods is not deriveable.<sup>13</sup> Thus in the absence of adequate goal statements emerging from an open political process, the policy analyst is unable to objectively evaluate alternate project characteristics.

Beyond the problem of goal definition, lies the equally difficult obstacle of "objective knowledge" under conditions of uncertainty. The estimation of outcomes is at best an imperfect science:



Since most decision analysis relates to nonrepetative situations, the prediction of consequences and, for that matter, of external circumstances, involves probability judgements that are essentially subjective.<sup>14</sup>

Regardless of the level of sophistication, all transportation planning models are simplifications of reality, and are constrained by observation of prior experience.

Given the adoption of the rational decision-making model, the transportation planning process has naively denied the politics of community policy-making. Here politics is used in the sense of the term that Banfield has applied to the analysis of urban decision-making — the open agitation of groups to secure resultants of public choice which satisfy their respective values.<sup>15</sup> It seems clear that the goal definition stage of the rational decision-making sequence is an inadequate arena for the intensity of political interaction required and the complexity of issues involved in transportation facility and service provision. The politics of the public choice process cannot be expected realistically to end here. Political interaction is an inevitable concomitant of transportation decisions and planners are increasingly acknowledging "that the questions under review are basically political questions, having to do with resource allocation, cost and benefit trade-offs, and distribution among different groups in society."<sup>16</sup>

The technical aspects of the conventional metropolitan transportation planning process consists of an orderly set of procedures that are directed toward producing a single area plan. The assumption is that once the objectives have been established, the process may be turned over to the experts and the computers in order to identify the socially optimal solution. In reality, transportation investment decisions like all major, complex public decisions are not made in this manner, but actually "evolve gradually with the accretion of commitment to a particular course of action."<sup>17</sup> The failure to confront this fact of public decision-making generates a methodology



that is not responsive to the continuing, incremental requirements of community choice-making. The metropolitan transportation planning process has relied on technical models and procedures that are simply too time consuming to be useful to decision-makers.<sup>18</sup>

Perhaps, the critical technical process oriented issue for transportation planning relates to the interface between technical analysis and the decision-making activities that occur in a pluralistic society. The conventional closed-shop planning approach is clearly inappropriate to a public choice-making process where the various social, economic, environmental, and access impacts of transportation decisions will effect a diversity of population groups differentially.<sup>19</sup> The transportation planning process must then attempt to avoid, where possible, and in all instances make visible the subjective judgements of the technical analyst. The technical challenge then is not to produce the tightly packaged recommendation of the expert, but rather to "generate alternatives and expose their characteristics (the facts) to the broadly varying points of view of the participants."<sup>20</sup>

The final process related issue for metropolitan transportation planning is a change in ethic surrounding the planning process, i.e., the societal expectations of its role. Given the general level of affluence and productivity of post-industrial American society, a greater emphasis is to be given to "innovative" as contrasted to the more traditional "allocative" planning.<sup>21</sup> In large part, this transition is related to a new concern for equity considerations and a growing willingness of planners to include institutional factors in the examination of alternative courses of action. The era is over when transportation "was the natural non-controversial sector for the expenditure of large amounts of money in visible infrastructure believed to be beneficial to all, . . . and considered to be ironically — both the foremost problem of the cities and the foremost accomplishment of the nation."<sup>22</sup>



Technical analysis of the transportation problem within the allocative ethic thrust drew heavily on the economic framework of demand and supply to answer the question: what and how much should the public sector produce, and where? However, demand was constrained only by "exogeneously" determined future land activity patterns. Despite the elaborateness of the technical procedures, the principal focus of the analysis was simply: "Where will people want to drive in the target year? How should we plan the highways to get them there?"<sup>23</sup>

As the traditional process broke down with the eruption of the 549 freeway conflict, the citizen and official members of the LCRPC found themselves cast into the unfamiliar arena of public policy making — one in which they did not feel particularly comfortable or adept. The new found notoriety created a new situation for the participants in the planning process.

Until the ISHC cross-town freeway location study was undertaken, the transportation planning process had attracted little public attention or analysis from the local media. Commission representatives thus had been relatively unconstrained in dealings with the state and federal transportation agencies.<sup>24</sup> During the early stages of the planning process this group had failed to clearly define "regional goals and objectives." Nor were the major implications of the final plan examined or debated at the time of Plan approval. Rather, the commission had comfortably relied on the technical procedures and recommendations of the staff and consultant, reviewing them in a perfunctory manner. When the planning process erupted into open controversy, the game was clearly dysfunctional and the commission opted for a passive role characteristic of Steinbrunner's "uncommitted syndrome."<sup>25</sup>

Directly flowing from the five situational factors of freeway conflicts discussed above, is the content and sequence of issues raised. Geiser has identified an escalation of issues in the model conflict — from immediate



consumption and production related impact issues to more fundamental process oriented issues. Characteristic of those issues initially raised by protest groups are those environmental impact statement — type concerns — direct issues of direct conservation, historic preservation, aesthetic, residential displacement or neighborhood disruption. A second phase in the model freeway conflict occurs when alternative technological solutions are offered by the protest groups to the acknowledge transportation problem. This is typically the "mass transit" solution. A third set of issues may be raised with respect to technical inadequacies of the transportation planning procedures. These are generally elevated to a clearly articulated attack on the community planning process in general and on the elected and appointed officials responsible.

Each of these basic issue types were present and sharply defined in the Cedar Rapids case. Direct impact issues were abundant and raised early during the ISHC location study. Mass transit advocacy was vocal and the public considered it a real alternative to the proposed freeway. Particularly damaging to the proposal was the attack on the technical competence of the Regional Transportation Plan, and in particular, the forecasting methodology which projected a continued rapid rate of population growth for the area. The number and volume of the issues of protest inevitably led to a vocal and articulate attack on the structure and conduct of the local planning process.

Protest has become a natural function of the transportation planning process. It has created an evolution in the planning structure.

### Structure

A great deal of recent transportation literature has addressed the necessity and opportunities of restructuring the transportation planning process — and in particular the institutional rearrangements required for expanded citizen participation. This discussion attempts only to highlight some of the more salient issues which emerge when the transportation



planning process as viewed in the larger perspective of community choice-making.

The structure of the planning process refers to the institutional arrangements which organize the interaction of participants of the decision-making process. The nature of the interaction and the probabilities associated with specific outcomes are largely determined by the financial, legal, jurisdictional, and informational potentials and constraints which structure the process. For transportation planning, there exists a new interest in the structural parameters of the planning process. Experimentation with new structural arrangements is the response to an emerging concept of the decision-making process which is less restrictive than the rational model, a new awareness of politics, and a reassessment of the technical component of the transportation planning process.

The rational model incorporated in the standard metropolitan transportation study assumes an essentially means-effective analysis. Thus, the problem may be factored within the polity by the assignment of specific components of the problem to separate organizational units.<sup>26</sup> The planning agency and its technical advisory group are given the responsibility for recommending that mix and distribution of transportation investment which best satisfies the goals and problem definition determined a priori. Such an approach does not provide channels for substantial interaction among planners, citizens, and official representatives. The semi-autonomous, "above politics," planning commission with its expert staff is the institutional expression of this decision-making model.<sup>27</sup>

Acknowledging the deficiencies of the rational approach and the political nature of the planning process, what is required is the development of new institutional arrangements that assure comprehensiveness of participation and accountability of official representation. Seymour Mann has framed the issue in the following manner:

We are, then really concerned . . . when we talk



about pluralistic planning with the representativeness and with the adequacy of the representation systems in local government. We are concerned that they have not fulfilled their functions in terms of representing that "pluralisticness" in the society that ought to have been fully, or more fully, represented in the policy-making process.<sup>28</sup>

Clearly, the freeway controversies of the 'sixties demonstrated that these concerns had not been structured in the standard metropolitan transportation study.

The structural problem for a new transportation planning lies in the tension between its accountability to the executive and legislative functions of representative government, and its need for innovative interaction with the diversity of the population groups it affects. The issue is problematic in a very fundamental way for democratic society in which both bureaucracy and participation have a high degree of legitimacy. This very real conflict presents obstacles which will not be overcome with piecemeal citizen participation mechanisms:

Bureaucratization implies the insulation of decision-makers from outside influences, by definition not as competent to judge the relevant ranges of facts, nor to balance the objectives desired. Participation implies the right and duty of the public to intervene in the determination of decisions.<sup>29</sup>

The Boston Transportation Planning Review represents a major accomplishment in creatively dealing with this inevitable conflict, providing an innovative structure for a continuing interaction of technical, citizen, and official participants.<sup>30</sup> The Cedar Rapids experience represents the antithesis.

### Scope

Hansen has observed that the fundamental inadequacy of the metropolitan transportation plans that so frequently collapsed at the implementation stage was their limited scope of analysis. He states:

In each instance, examination of the implications of the plans exposed issues far outside the scope



of the original planning process: conflicts in user needs, complex external effects on communities and the environment, and conflicts between long and short-term impacts.<sup>31</sup>

Four major deficiencies of the standard metropolitan transportation planning process that relate to the scope of technical analysis can be identified:

1) range of technological and operational alternatives considered, 2) extent of impacts and trans-sectoral considerations, 3) level of aggregation, and 4) time frame utilized. Key issues associated with each of these areas may be briefly noted.

1) The standard metropolitan transportation planning package is clearly an analytic tool most suitable for determining the location and capacity of new links in a highway network. As such, the modal bias toward the private automobile is an inescapable characteristic of the narrow technical analysis employed. In John Kain's terminology, the process suffers from a "premature imposition of constraints" which limits the opportunity for innovative transport solutions.<sup>32</sup>

2) The failure to incorporate estimation of environmental and social impacts is perhaps the most significant indictment of the conventional metropolitan transportation planning process. Nearly the whole of transportation planning energies were directed toward the simplified problem of minimizing aggregate transport user costs subject to public budget constraint. The complex interdependent relationship between land activity systems and transportation was reduced to a one-way, noninteractive analysis.

3) The level of spatial and demographic aggregation employed in the standard study is problematic because of the statistical shortcomings of the approach and its implications for model reliability. However, more importantly, the gross level of aggregation utilized is directly related to the inability of the analyst to retrieve information concerning the impact of alternatives on various socio-economic groups at the final evaluative stage of the technical analysis.



4) The common twenty to twenty-five year planning horizon of the standard metropolitan plan is appropriate only under the assumptions of extremely rapid rates of urbanization and need for large capital intensive transportation investments. Short-term planning, responsive to current conditions and problems, is seen to be associated with the shift from allocative to innovative planning concerns suggested above.

## CONCLUSION

The freeway controversies of the 'sixties have exposed the inadequacies of the process, structure, and scope of metropolitan transportation planning. Reshaping the process can occur effectively only when transportation planning is viewed in the context of the larger problem — public choice-making in a pluralistic democratic society. The innovative processes required seem to be present in the recent Boston experience. On the other hand, the I-380 and 549 freeway controversy in Cedar Rapids is a classic example of systemic ineptitude. Transportation planners are beginning to get the message. The rise of participatory democracy, at least in the context of highway impacts on citizen interests, has been and will continue to be a bitter lesson for resistant planners.



## FOOTNOTES

1. John Burry, The Great American Motion Sickness; Or Why You Can't Get There from Here (1971), Little, Brown, and Company; p. 92.
2. Kenneth R. Geiser, Urban Transportation Decision Making: Political Processes of Urban Freeway Controversies (1970), Massachusetts Institute of Technology; p. 19.
3. Ibid., p. 7.
4. Priscilla Dunhill, "When Highways and Cities Collide," (July, 1967) City, Vol. 1, pp. 48-54.
5. Linn County Regional Planning Commission, 1990 Regional Transportation Plan (1971).
6. Transcript of Public Hearing (May, 1972) Iowa State Highway Commission.
7. Geiser, op cit., p. 363.
8. Burry, op cit., p. 102.
9. Sierra Club v. Morton, 92 Sup. Ct. 1361 (1972)
10. Norton Long, "The Local Community as an Ecology of Games," in Perspectives on the American Community, ed. by Roland L. Warren (1966) Rand McNally; pp. 54-68.
11. Steinbruner, "Memorandum to the Public Policy Program," (1969) unpublished.
12. Robert L. Williams, "The Planning Role in Urban Decision Making," Emerging Patterns in Urban Administration, ed. by F.G. Brown (Heath Lexington, 1970) p. 128.
13. Ralph Gakenheimer et al., "Regional Transportation Planning Experiences in the United States: A Critical Review of Selected Cases," Perspectives on Regional Transportation Planning, ed. by J.S. DeSalvo (Lexington, 1973), p. 316.



14. W. Edwards, "The Theory of Decision Making," Psychological Bulletin (1954) 51:4 pp 380-417.
15. Kenneth J. Arrow, Social Choice and Individual Values, (John Wiley and Sons, 1951).
16. John Friedmann and Barclay Hudson, "Knowledge and Action: A Guide to Planning Theory," Journal of the American Institute of Planners (January, 1974) 40:1 p. 8.
17. Martin Meyerson and Edward Banfield, Politics, Planning and the Public Interest (New York, 1955) Chapter 12.
18. Walter Hansen, "The Boston Transportation Planning Review," Urban Travel Demand Forecasting: HRB Special Report 143, (Williamsburg, 1973) p. 23.
19. Peter Levin and David Donnison, "People and Planning," Public Administration Review (Winter, 1969) 47: p. 476.
20. Richard J. Bouchard, "The Relevance of Planning Techniques to Decision Making," Urban Travel Demand Forecasting, p. 17.
21. Roger L. Creighton, Transportation and Community Values: HRB Special Report 105, (Warnton, 1969), p. 6.
22. Hansen, p. 22.
23. John Friedmann, Retracking America: A Theory of Transactive Planning (Anchor Press/Doubleday, 1973), Chapter 3.
24. Gakenheimer, p. 332.
25. David R. Miller, "New Challenges, New Institutions," Public Administration Review (May/June, 1973) 33:3, p. 237.
26. Graham T. Allison, The Essence of Decision (1973), Chapter 3.
27. Beverly M. Spatt, A Proposal to Change the Structure of City Planning: Case Study of New York City, (Praeger, 1971), p. 7.
28. Seymour Z. Mann, Opening Remarks, in Proceedings of the National Conference on Advocacy and Pluralistic Planning, (New York, 1969).
29. Robert R. Alford, Bureaucracy and Participation: Political Cultures in Four Wisconsin Cities (Rand McNally, 1969) p. 25.



30. Stephen Lockwood, "The Boston Transportation Planning Review: A Case Study in Community/Technical Interaction," Planners Notebook (August, 1972) 2:4 pp. 1-8. See also Allan K. Sloans, Citizen Participation in Transportation Planning: The Boston Experience, (Bullinger Publishing Company, Cambridge, Mass. 1974).
31. Hansen, p. 20.
32. John F. Kain, "A Re-Appraisal of Metropolitan Transport Planning," The Logistics Review (1969) 5:21, p. 9.



