

Final Report

THE POTENTIAL APPLICATION OF
TRAFFIC RESTRAINT IN CONNECTICUT

by

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INTRODUCTION

New considerations involved with the development and selection of transportation plans are the result of the emergence of such issues as environmental awareness, energy, natural resource conservation, and urbanization. It is now recognized that traditional measures of the success of a transportation system must be evaluated with respect to other societal goals. The objective of transportation planning and design, to maximize mobility, must be considered in the light of the range of objectives of an urban area. Currently, there is a trend toward greater emphasis on traffic and transportation management with special emphasis on the development of management policies which are compatible with broader urban development goals.

This emphasis on societal goals has placed a new dimension on traffic and transportation planning which involves the possibility of employing constraints on mobility. In essence, transportation planners are now faced with the prospect of seeking means to reduce demand or control traffic growth in particular areas. New planning methods and techniques must be explored which yield solutions to these types of transportation related problems.

More specifically, there is a concern about the use of the automobile in areas which are already experiencing congestion. An alternative to providing improved facilities is to apply a constraint on the use of the automobile. This is not to be construed as a ban on the automobile, but is a restraint or control on its use. The motives for using traffic restraint are generally associated with the need to alleviate automobile congestion in particular locations, or to discourage the trends towards an increasing number of

automobiles in an area. While the concern of transportation planners has focused on improvements in traffic flow and decreases in delays, the impact of restraint certainly affects other urban-area policies and programs. In fact, the restraint of automobile traffic has been a widely proposed solution to air quality problems. It is important to consider restraint techniques on the basis of compatibility with other urban goals.

There have been relatively few applications of traffic restraint techniques in the United States. Until recently, restraint has been applied only in specific locations in the larger metropolitan areas. Recent energy and environmental considerations, particularly air quality, have brought pressure on transportation planners to consider the constraint of automobile usage over larger areas of metropolitan regions. In addition, traffic restraint techniques are now being considered as part of the planning efforts even in smaller urban areas.

SCOPE AND NATURE OF PROJECT

This project was initiated in the fall of 1974 for the general purpose of exploring the possible application of traffic restraint concepts in the solution of transportation problems which exist in Connecticut. The project was divided into two phases. The first phase was associated with the documentation of the current status of knowledge related to traffic restraint, and the second phase focused on the question of application of restraint concepts in Connecticut. This first portion of the project took the form of a comprehensive literature review, identifying locations where constraints to automobile usage have been applied, the type or form of restraint utilized, and the effects resulting from the control measures. The literature review indicated that, in recent years, traffic restraint concepts are being more

widely considered, particularly in European cities. The conflict between the automobile and urban development issues has been more pronounced in the historic urban centers of Europe, and is only now being realized in the United States. The survey also indicated that in many instances restraint techniques have been used in response to congestion at specific bottlenecks in traffic flow or along specific congested traffic corridors. There are also cases where control of automobile usage is being planned over entire urban areas.

The methods used to effect control on automobile usages have been varied, dependent upon the specific problems in each locality. The first part of the project characterized restraint schemes as being of the following types:

1. parking controls,
2. alterations to the transport network.
3. road pricing, and
4. energy type proposals.

The consequences of implementing each of the various traffic restraint techniques have also been documented in the literature review. The methods used to control automobile usage had different effects on traffic flow, traffic safety, air and noise quality, the local retail economy and public transportation. Constraints on the automobile have been applied in direct response to many diverse problems, and the success of these measures is obviously related to the definition of the problem. The survey indicated the beginnings of a trend toward the inclusion of restraint techniques in comprehensive, land-use/transportation planning efforts.

The purpose of this report is to document the second phase of the study which was to evaluate the possible application of traffic restraint concepts

within the State of Connecticut. A general review of transportation problems in cities throughout the State is included. Information about these problems was obtained through interviews with appropriate professional staffs, and from reports published by the related planning agencies. The intention of the study was not to recommend specific strategies for implementation, but was to discuss the transportation and urban planning issues within the State and their relationship to controlling automobile usage.

The general overview of the feasibility of traffic restraint is

achieved by comparing the knowledge about restraint measures, from the literature review, with situations in Connecticut. Thus, the study considered the automobile related problems of congestion and parking, as well as regional land-use plans, environmental objectives, and public transportation plans.

STUDY LIMITATIONS

It must be recognized that the task of examining the entire State in a study of this type required a generalization of conditions which exist. Also, it was not possible to go into great detail with respect to each of the geographic areas. The staff was required to bring together pieces of information from a variety of sources. In some cases, these sources presented conflicting information or viewpoints. The staff made judgements based on the available information and the best understanding at the time.

It was not the intent to determine specific restraint solutions for each of the areas of the State. Rather, the project focused on determining where restraint might be considered in transportation planning. More important the study was designed to explore the problems and issues in the State

so that planners and decision makers might begin to realistically consider restraint alternatives. Certainly, the application of traffic restraint in a specific area will require in-depth studies before such a plan is implemented.

II

THE AUTOMOBILE AND SOCIETY

Any consideration of the application of traffic restraint must acknowledge the complex interrelationships that exist between the use of the automobile and society as a whole as well as the historical evaluation of these relationships. In the discussion that follows, some of the issues are outlined which must be understood in assessing the current transportation situation. The consideration of these issues is mandatory if reasonable conclusions are to be attained with respect to traffic restraint.

The automobile has undoubtedly been a driving force shaping recent American history. In the early days of its evolution, the auto was hailed as a panacea for contemporary socio-economic problems, and was received with almost immediate and universal acceptance. The rise of the "automobile culture" was interrelated with the then typical set of American cultural values; "virtuous materialism, unlimited economic growth, unbounded faith in technological progress, and the sanctity of consumer needs and consumer democracy".¹ Beginning in the late 1950's, these values were subjected to increasing amounts of criticism; and, the mobility associated with the automobile has since ceased to be a progressive factor in American cultural development. However, the consequences of automobility permeate present-day life and have subsequently become the major issues facing the nation.

Many current political and planning issues have their origin in the assimilation of automobility into American culture. Certainly, automobile congestion is a direct result of the increased number of autos in urban areas.

¹James J. Flink, *The Car Culture*, p. 212.

It was generally acknowledged that with the advent of the auto, the central city environment would be improved by the elimination of congestion. Yet, the modern-day commuter faces more wide-spread and often times more intense congestion than his predecessor. Congestion has always been a problem associated with the automobile.

The acceptance of the automobile in the United States was rapid, as evidenced by historic increases in car ownership. Population growth coupled with increased car ownership has placed greater demands on the highway system. ~~Trends in travel behavior indicate other reasons for automobile congestion.~~

The increased mobility afforded by the auto has been reflected in an increase in the number of trips and in the length of trips. Americans are becoming used to using the auto for even short trips and are spending more of their time traveling longer distances. Peak load conditions have also been affected by changes in land use patterns. The dispersal of urban functions from central locations has resulted in the diversification of origin and destination patterns. The trend has been toward a decreased number of central business district oriented trips. In general, the great majority of trips using central highway corridors are only passing through the central city during commuter peaks. There are certainly severe transportation service limitations in the continued migration of residences, shopping centers, and industry to suburban locations. The spatial separations between all trip ends requires an extremely flexible mode of transport; and, at the same time, if trends continue, congestion appears inevitable.

There are no apparent reasons to believe that these trends in travel behavior will continue indefinitely. In fact, many of the historic exponential growth rates are showing signs of leveling off, e.g., population growth, and car ownership. There are also other constraints affecting travel behavior, most notably, energy limitations.

In order to alleviate congestion, highway planners and engineers have undertaken the process of building new highways and improving existing highways to meet the ever increasing demand for highway service. However, the interrelations between the trends in highway utilization and the provision of highway services should be recognized. Historically highway facilities have been developed in response to a user travel demand which dictated the need for a new or improved roadway. The development of a new or improved highway provided a better level of service to the user and potential increases in travel opportunities. Over a period of time, the improved mobility and accessibility which is provided by the new highway facility affects decisions regarding land use development and the location of housing, business, and industry. The demand for transportation is influenced by these decisions; thus travel demand is partially a function of the level of service provided. Highway officials, therefore, have inadvertently fostered increased travel and travel demands through programs which were designed to reduce congestion. At the same time, it must be recognized that these same officials were faced with seeking solutions to congestion even though few controls were placed on development which generated the traffic demand. In essence, true comprehensive planning was not a reality.

Traditionally, government action in the provision of transportation services has been based on consumer demands for those services. The federal government and, in most cases, the state governments have based expenditures for highway purposes directly on the revenues obtained from road-user taxes. Government has acted to form a quasi/market, supplying highway services which match the demand perceived through special user taxes. Several criticisms have resulted from this format for determining highway need.

First, the demand for highway services varies with time of day, day of week, and week of the year. Due to the large variation in hourly demand, highways are designed for the relatively few instances of peak flows. However, there is currently no difference in the price for highway service based on peak or off-peak usage, with the exception of personal operating costs. Road pricing techniques have been proposed as methods of promoting the more efficient use of highway facilities, and of directly correlating the price with the cost, based on the peak-load operational characteristics

of highways.² It is more rational to base expenditures on demand which does not include the large subsidy presently afforded to peak-flow users. Second, road-user taxes are a private cost associated with the choice of driving an automobile. However, there are other socio-economic costs exacted due to the cumulative effects of these private decisions. These costs are indirect and affect both road users and non-users. The degradation of air, noise, and visual quality of urban areas are examples of the costs inherent in automobility. The substantial amounts of public rights-of-way, and the social disruption to communities are other costs attributable to highway construction. These types of costs are not readily reducible to dollar values, and are only recently being considered in highway planning studies. Environmental impact statements are the current method of evaluating these consequences of automobility. Third, there are other highway costs for physical improvements not directly included in the category of road-user taxes. The construction, maintenance and administrative costs involved in providing local access-type roads are substantial. This function is provided by the town level of government primarily from property taxes. These costs are not directly included in decisions made by higher

²William S. Vickrey, "Pricing in Urban and Suburban Transport," Readings in Urban Economics, ed. Matthew Edel and Jerome Rothenberg, pp. 437-448.

level government concerning construction of major arterials and highways.

Traffic management is a relatively new concept which is gaining increased support. The concept considers optimizing the utilization of existing highway systems. Ramp metering and freeway surveillance projects are examples. Transportation system management is a broader based concept which is concerned with the utilization of all transport modes. Transportation decisions are made on the basis of compatibility with higher-order urban development goals. Within this framework, transport service is selectively provided in order to achieve desired urban goals. The quality of service and the mode of transport provided have significant effects on other urban area policies programs. In general, the idea is to improve, through management, the operational characteristics of the existing transport network and to consider long-range urban planning objectives in the decision process.

The existing transportation system in urban areas certainly represents a substantial expenditure in physical facilities, More importantly, the transport system has developed along with other urban area activities, and has become an important factor determined by the size and location of these activities.

Established locations for public rights of way and the access requirements of adjacent lands have developed simultaneously with the economic use of the land. Drastic changes in the transport system must consider the economic costs of abandoning portions of the existing network, changes in transport service provided to various land pieces and the longer term changes in land use patterns. These costs are built into the system and management policies should consider these costs.

III

COLLECTION OF DATA

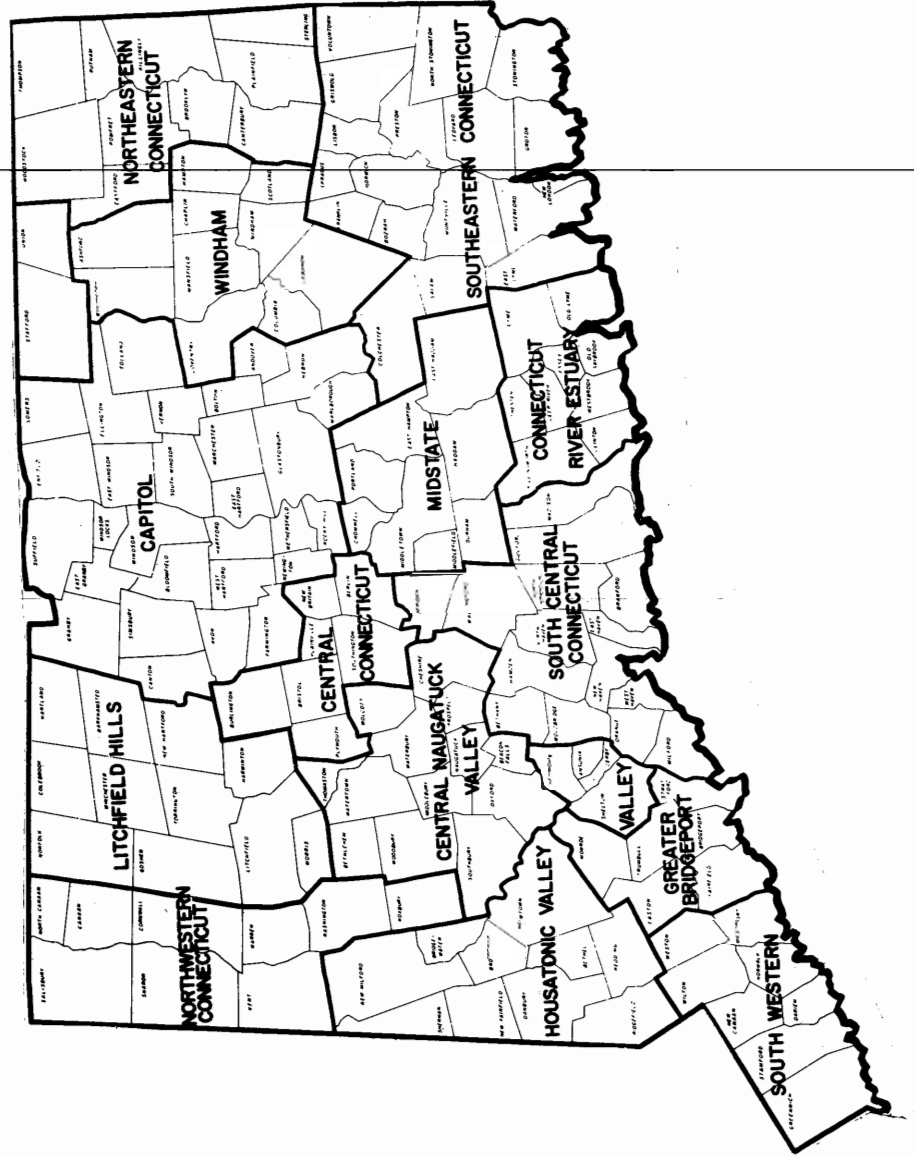
The first step in the assessment of traffic restraint was to gather information relative to the traffic and transportation problems in the various areas of the State. The accomplishment of this task was achieved through interviews with persons who are involved in the development of transportation plans for each of the areas. For the assessment, the State was divided according to fifteen planning regions. A map of these regions is shown in Figure 1.

The regional planning agencies in Connecticut have been performing an increasingly important role in the formulation of transportation plans and policies. These agencies are in the unique position of being directly concerned with the details of specific transportation problems and having to relate these controversies to a multi-town, regional perspective. It was decided early in the project that this level of government would provide the best source of information for a general review of transportation problems and of traffic restraint techniques as potential solutions. Accordingly, the project staff arranged personal interviews with transportation planners from each of the fifteen regional planning agencies in the State. Appropriate published reports were also obtained from these agencies.

The object of the interviews was to obtain the knowledge and insights of the planners about a variety of regional planning issues, and in particular to identify the effects of constraining automobile usage. An informal questionnaire was developed as a guide for the interviews. The questionnaire also

FIGURE 1

CONNECTICUT PLANNING REGIONS



ensured the adequacy of the information obtained from each interview. The questionnaire is reproduced in Appendix A, and the variety of topics included is discussed as follows:

- a) The transportation planners were asked to identify the types of automobile traffic problems in the region, as well as the corresponding solution strategies. The topic of restraining automobile usage was discussed in the light of the specific transportation problems. The regional plans for bikeways and auto-free zones or pedestrian malls were also surveyed.
- b) The urban growth problems experienced in each region were considered along with the relationships between transportation and each of these problems. The regional policies toward urban type development and the methods being used to control growth were identified. The specifics of the land-use plans in each of the regions were discussed, and copies of the long-range, land-use plans were obtained when available.
- c) The type and location of automobile parking problems were identified. The methods used in planning for parking needs were discussed. The transportation planners were also asked to comment on the effectiveness of parking controls, such as reducing supply or increasing cost, in solving the region's transportation problems.
- d) The regional plans for public transportation were described. The planners were specifically asked about priority treatment for public transport vehicles at traffic intersections and about the need for exclusive busways. Given the land-use patterns and travel characteristics

of the regions, the planners commented on the ability of public transport to act as a substitute for the automobile. The land-use plans, accommodating urban development, were also discussed with respect to the service implications for future public transport systems.

e) The transportation planners were asked about the significance of the automobile's contribution to substandard air quality, both at the present time and in the future with the planned development. The

effectiveness of a variety of measures designed to achieve the National Ambient Air Quality Standards were discussed in relation to the specific problems in each region.

The interview format for obtaining information was justified by the obvious professional interest and expertise of the planners included in the survey. These conversations allowed the project staff an insider's view of the methods used in formulating public policy and the relative importance or weight attached to each of the conflicting planning issues which make up that policy. The interviews, supplemented by the published reports, are the basis for the results of the project. It should be recognized that certain types of biases are inherent in this type of study, due to the personal backgrounds and interests of the regional transportation planners. Also, inferences were made by the project staff, introducing another point of view. The object has been to realistically approximate public policy toward the new concept of constraints on automobile usage.

In addition to the persons interviewed at the regional planning agencies, discussions were conducted with other selected individuals associated with

the major cities or with the Connecticut Department of Transportation. A complete list of persons interviewed is given in Appendix B.

As a further source of information, planning documents which had been prepared by the various agencies were reviewed. A list of these documents is given in Appendix C.

IV

INTERVIEW RESULTS

Based on the information that was collected, the project staff prepared a synthesis of the information for each of the planning regions. This synthesis represents a summarization of the transportation issues and conditions in each of the regions. A summary of the regional profiles is presented in tabular form in Table 1.

It must be recognized that the information and discussion relative to each of the regions is the result of the conclusions reached by the staff. Every effort was made to be totally objective regarding the conditions in the regions. This was intended to be an overview on which the assessment of traffic restraint application could be based. While there may be some disagreement with respect to details, the discussion which follows represents an attempt by the staff to formulate an overview for the regions.

Capitol Region

Automobile congestion occurs on surface streets within a five mile radius of the Hartford central business district (CBD). Also, congestion exists in the smaller, suburban centers and at other spot locations, such as shopping malls and industrial parks. This congestion is primarily due to commuter traffic. The expressway system, radiating out from Hartford, is normally congested during the commuter peak hours in close to the CBD. Further out from Hartford, traffic flow is frequently affected by traffic accidents and incidents and by weather conditions.

TABLE I

SUMMARY OF REGIONAL INFORMATION

QUESTIONS	REGIONAL PLANNING AGENCIES														
	CAPITOL	CENTRAL	NAUGATUCK	CONN. RIVER	BRIDGEPORT	HOUSATONIC	LITCHFIELD	MIDSTATE	NORTHEAST	NORTHWEST	SO. CENTRAL	SOUTHEAST	SOUTHWEST	VALLEY	WINDHAM
A. Traffic															
1.a. Congested Areas															
i Expressways (or Planned Expressway)	C*	C	C	S	C	C		S			C	C&S	C	C	
ii Major Arterials	C	C	C	S	C	C	C	C		0	C	C	C	C	C&O
iii CBD (or Village Centers)	C	C	C	C&S	C	C	C	C			C	C&S	C	C	C&O
iv Spot Locations	C	C	C	S	C	C		C			C	C&S	C	C	0
Reasons for Congestion															
i General Lack of Capacity	X				X										
ii Inadequate Street Pattern	X				X							X	X		
iii Inadequate Capacity in Specific Corridors	X	X	X		X	X	X				X	X	X	X	
iv Inadequate Capacity at Special Locations															
(a) Bridge Structures or Railroad	X			X		X		X			X	X		X	
(b) Intersections & Interchanges	X	X	X	X	X	X	X	X			X	X	X	X	X
v Poorly Designed Expressways & Ramps	X		X		X			X			X			X	
vi Construction Activities		X				X						X			
vii Location of Specific Land Use Activities	X		X		X							X	X		X
viii Unusually High Peak Loading (Summer)				X				X				X			X
ix Parking Problems (Shortage & Loc.)	X										X	X	X	X	X

*C - continuous
S - summer
O - occasional

REGIONAL PLANNING AGENCIES	CAPITOL	CENTRAL	NAUGATUCK	CONN. RIVER	BRIDGEPORT	HOUSATONIC	LITCHFIELD	MIDSTATE	NORTHEAST	NORTHWEST	SO. CENTRAL	SOUTHEAST	SOUTHWEST	VALLEY	WINDHAM
QUESTIONS															
1.b Methods of Solution															
i Construction of New Expressways	X	X		X	X	X					X	X	X		X
ii Traffic Signal Improvements	X	X	X	X	X	X		X			X	X	X	X	
iii Reconstruct Major Arterials (Widen)	X	X	X		X			X				X	X	X	X
iv Parking Management Policies															U-CONN
v Improve Public Transport System	X	X	X	X	X		X				X	X	X	X	U-CONN
vi Improve Existing Expressways	X		X		X			X			X			X	
vii Improve Surface Street Pattern		X			X			X							
1.c. Restraint Techniques Considered Applicable within Region	Yes	No	Yes	No	Yes	No	No	No	No	No	Yes	Yes	Yes	No	U-CONN
"Incentives" to Switch Mode to Public Transport Desirable	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
1.d. Are Improved Roadway Facilities the "Best" Solution	Part	Yes	Part	Yes	Part	Yes	No	Yes	Yes	No	Part	Part	No	Part	Yes
2. Areas Where You See Advantage in Controlling Auto Usage?	Yes	Yes	Yes	No	Yes	No	No	No	No	No	No	Yes	Yes	No	U-CONN
Is Control Acceptable?	No	No	No	--	No	--	--	No	--	--	No	No	No	--	Yes

REGIONAL PLANNING AGENCIES	QUESTIONS											WINDHAM			
	CAPITOL	CENTRAL	NAUGATUCK	CONN. RIVER	BRIDGEPORT	HOUSATONIC	LITCHFIELD	MIDSTATE	NORTHEAST	NORTHWEST	SO. CENTRAL	SOUTHEAST	SOUTHWEST	VALLEY	
3. Specific Streets Where You See Advantages in Restricting Autos?	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No	U- CONN
4. Auto-Free Zones Included in Development Plans	No	No	No	No	No	No	No	No	No	No	No	No	No	No	U- CONN
5. Are Bikeways a Serious Alternate to Auto Commuting?	Yes	No	Yes	No	No	No	No	No	No	Yes	No	No	No	No	U- CONN
Or Needed for Recreation?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
B. Urban Growth															
1. Regional Policy Toward Urban Growth															
a. No Growth			X	X	X	X	X	X	X	X	X	X	X	X	X
b. Controlled Growth			X	X	X	X	X	X	X	X	X	X	X	X	X
c. Uncontrolled Growth															
d. Varies By Town (Dispersed)	X	X			X	X		X		X		X			
e. Based on Past Trends	X	X													
2. Methods Used to Control Growth															
a. Zoning and Subdivision Regulations	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
b. Inland and Tidal Wetland Acts	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
c. Indirect Source Regulations	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
d. Coastal Area Management				X	X										
e. Provision of Urban Services				X	X			X	X						
f. Restriction of Transport Services		X		X			X	X	X						

REGIONAL PLANNING AGENCIES	CAPITOL	CENTRAL	NAUGATUCK	CONN. RIVER	BRIDGEPORT	HOUSATONIC	LITCHFIELD	MIDSTATE	NORTHEAST	NORTHWEST	SO. CENTRAL	SOUTHEAST	SOUTHWEST	VALLEY	WINDHAM
QUESTIONS															
6. Form Urban Development Will Take															
a. Strong Central City (or Cities)	X	X	X		X	X	X	X			X	X	X	X	X
b. Village Centers							X		X						
c. Dispersed Urban Pattern	X							X							X
d. Linear Concentration		X				X					X				
C. Parking															
1. Basis for Planning															
Parking Needs															
a. Zoning and Subdivision Regulations	X	X	X	X	X	X	X	X	X		X	X	X	X	X
b. Shopping Malls	X	X	X	X	X	X	X	X			X	X	X	X	X
c. Employer	X	X	X	X	X	X	X	X			X	X	X	X	X
d. Municipal															
i "On" Street (Metered)	X	X	X	X	X	X	X	X	X		X	X	X	X	X
ii "Off" Street Lots (Metered or Ticket)	X	X	X		X	X		X			X	X	X	X	X
iii Garages															
2. Characterization of Parking Situation															
a. Excess Supply		X	X		X	X	X	X							X
b. Cheap Rates		X	X		X	X	X	X							X
c. Shortage of Spaces											X	X	X	X	X
d. Location Problems									X		X	X			
e. Conflicts with Through Traffic	X								X	X					
f. Shortage at Public Transport Interface				X				X					X		
g. Laxity in Enforcing Regulations	X		X		X	X									

QUESTIONS	REGIONAL PLANNING AGENCIES														
	CAPITOL	CENTRAL	NAUGATUCK	CONN. RIVER	BRIDGEPORT	HOUSATONIC	LITCHFIELD	MIDSTATE	NORTHEAST	NORTHWEST	SO. CENTRAL	SOUTHEAST	SOUTHWEST	VALLEY	WINDHAM
3.a. Are Parking Controls an Effective Means of Discouraging Auto Usage?	Yes	Yes	Yes	--	Yes	No	--	Yes	--	--	Yes	Yes	Yes	No	Yes
b. Most Successful Control Measures															
i Reduce Employer Parking	X	X													
ii Reduce "On" Street Parking										X					UCONN
c. Are Parking Controls Politically Feasible?	Yes	No	Yes	No	No	No	No	No	No	No	No	Yes	Yes	No	No
d. Prefer "Incentives to Usage of Public Transportation"	--	--	--	Yes	Yes	Yes	--	Yes	No	No	Yes	Yes	Yes	Yes	--
D. Public Transportation															
1. Regional Plans for Public Transport															
a. Bus															
i Fixed Route															
(a) Radial	X		X		X					X				X	
(b) Circumferential	X				X							X		X	
(c) Linear		X			X			X			X		X		
(d) Intra-Town	X	X	X		X	X		X		X	X	X	X	X	
(e) Inter-Town	X	X	X		X	X		X		X	X	X	X	X	
(f) Inter-Region	X	X	X		X			X	X	X	X	X	X	X	
(g) Inter-State	X	X	X		X			X	X	X	X	X	X	X	
ii Demand Responsive		X	X												
iii Subscription			X	X			X	X							
iv D.O.T. Park and Ride	X	X	X		X	X					X	X	X	X	
v Minibus or Vans for Disadvantaged		X		X			X	X						X	X
vi Priority Movements for Buses					X	X		X		X					X

REGIONAL PLANNING AGENCIES	CAPITOL	CENTRAL	NAUGATUCK	CONN. RIVER	BRIDGEPORT	HOUSATONIC	LITCHFIELD	MIDSTATE	NORTHEAST	NORTHWEST	SO. CENTRAL	SOUTHEAST	SOUTHWEST	VALLEY	WINDHAM
QUESTIONS															
vii Exclusive Buses	X												X		
b. Rail														X	
i Light Rail (Planned)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ii Computer Trains				X	X	X	X	X	X	X	X	X	X	X	X
c. Carpooling															
i D.O.T. Commuter Lots	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ii Employer Programs	X														
d. Transit Districts	X				X	X								X	
5. Are the Service Characteristics of Public Transport Considered in Land-Use Planning?	--	--	Yes	Yes	Yes	--	--	Yes	No	No	Yes	--	Yes	Yes	No
6. Problems in Substituting Public Transport for Automobile															
a. Land-Use Characteristics	X	X	X	X	X		X	X	X	X			X	X	X
b. High Fares on P.T.			X	X		X	X	X			X		X	X	X
c. Lack of P.T. Service	X	X	X	X	X	X	X	X			X	X	X	X	X
d. Less Convenient	X	X	X	X		X	X	X			X	X	X	X	X
e. Second Trips from Work		X												X	
f. Longer Travel Time on P.T.		X				X									
g. Highways Duplicate P.T. Service	X					X					X	X	X		
h. Intra Regional Political Problems					X										
i. Lower Class Stigma Associated with P.T.						X									
j. Inefficient Routing and Scheduling	X				X						X			X	
k. Terminal Facility Problems	X				X						X		X	X	

The region's plans to alleviate congestion rely heavily on the upgrading and widening of the existing expressway system (I-91 north of Hartford and I-86/I-84 east of Hartford). The south-west and north-east quadrants of the I-291 circumferential expressway, I-484 in downtown Hartford and Connecticut Route 5 in East Hartford are additions to the highway system designed to reduce congestion. Public transportation system improvements are also considered an important method of alleviating automobile congestion. The Greater Hartford Transit District is presently studying a wide variety of system improvements.

The increased efficiency of surface streets is actively being sought through improved traffic signal systems and intersection channelization, in the region. These methods are aimed at expanding roadway facilities, rather than reducing the amount of traffic. Efforts to alleviate congestion are based on the politically important concept of encouraging downtown oriented travel.

"Disincentives to automobile use" are viewed as reducing the total number of trips, and are therefore considered undesirable. The region prefers a policy of "incentives" to switching modes to public transportation or to increasing vehicle occupancy.

There are areas in downtown Hartford, however, where distinct advantages in controlling automobile usage are recognized. Restricted street right-of-way widths, pedestrian conflicts with automobiles and off-set street center-lines at intersections are some of the reasons for congestion in the central business district. Pratt Street in Hartford is a trial of converting downtown street space to pedestrian reserved areas. Due to the particulars of this case, the trial has not been too successful because the restriction of the automobile failed to result in increased business and economic activity in that area. Proposals to expand the auto-free zone on Main Street, Church Street and Asylum Street were not received well by the downtown merchants and have

been abandoned.

The region's policy toward urban growth varies with each town. Rather than a unified regional plan of development, the towns appear to be in competition for economic activity. A regional land-use/transportation study has been underway for a long time, without substantial results. The inability of the region to develop a land-use/transportation plan is due, in part, to the political problem of adding another level of government which compromises the interests of each of the towns. Currently, regional planning issues are resolved by a council of the chief elected officials from each of the towns, and long-range planning is based on past development trends and the goals of each of the towns.

There are some serious problems associated with the trends expected in urban growth. The provision of urban services such as water and wastewater treatment are already cause for concern. Fiscal problems are expected with the extension of these services required by the trend toward dispersion of urban activities. There are also land-use conflicts expected with the dispersal of urban functions into water-supply watersheds.

The breakdown of the housing filtering process has been a major concern since the 1960's. The abandonment of inner city residences remains a problem despite federal assistance programs, and there is still a severe housing problem for lower income residents. Efforts to revitalize the commercial and light industrial attractiveness of a downtown Hartford location appear to be successful. In particular, the Hartford Civic Center has done much to increase activity in the central business district. However, the large land areas required for these projects and the attendant parking facilities have been paid for by the reduction of housing at the lower end of the filtering scale.

These inner areas of Hartford are approaching holding capacity. Constraints on further development are due to the excessive building costs in the CBD compared with more removed areas.

The anticipated development in all of the region's towns will have severe implications for transportation system planning. Congestion during commuter peak hours prevails on the expressway system and other major arterials leading into Hartford. The dispersion of urban activities will tend to increase this congestion by increasing travel demands, trip lengths and scattering origins and destinations. The most serious capacity restraints on the expressway system are I-91 north of Hartford and I-84/I-86 east of Hartford. Expansion of these highways designed to meet the anticipated long-range demand are being seriously questioned with regard to air quality, energy and public transportation goals. This dispersion of activities certainly has severe limitations on the type and amount of public transport.

It is also recognized that the existing capacity restraints in the highway network will have effects on the location decisions of all kinds of economic activity. The trend projections do not include directly the effects of capacity limitations in the transport system, but are based on the premise that the transport system will be provided as a service to development wherever it occurs. It is interesting to note that the most recent residential developments have occurred along I-91 south of Hartford in Rocky Hill, Cromwell and Middletown. This portion of I-91 is probably the easiest expressway route into Hartford during the commuter rush hours.

There is evidence that the majority of towns in the region are having fiscal problems in providing urban type services to development. For the larger more-urbanized towns this is primarily due to the increases in cost

per unit of service and to the reduction of commercial and industrial activities as part of the tax base. In the smaller towns in the region, the fiscal problems are more closely related to the high price of extending and expanding urban services.

The methods used to control growth vary in each community. Zoning and subdivision regulations are administered by the towns. Inland wetlands are protected by either town agencies or the State Department of Environmental Protection (DEP). The recently enacted indirect source regulations are also used to control growth. These laws are administered by the State. Development within the flood encroachment lines of the region's major rivers is also controlled by the State and the towns.

Planning automobile parking facilities is a function handled by the various towns in the region. Zoning and subdivision regulations typically specify the minimum number of parking spaces required for each type of new development. Parking facilities provided by the private sector of the economy are important in the region. Shopping malls and industrial parks maintain a large number of parking spaces throughout the region. "Off" street parking provided by employers and hotels in downtown Hartford is crucial to meeting the demand. The City of Hartford is actively pursuing a policy reducing "on" street parking in favor of "off" street parking in garages. This policy is deemed consistent with and supports a strong central city with the automobile as the primary mode of transport. There is ample parking in Hartford with only minor problems in the location of parking facilities.

Parking controls are considered an effective means of restraining automobile usage. In particular, reducing the number of employer maintained

parking spaces is viewed as most effective in constraining peak hour traffic. Controls affecting "on" street parking are viewed as counterproductive, inducing further travel searching for available parking. Minor increases in parking rates are not seen as being effective; while there is some question about the feasibility of major price increases. It appears that certain types of parking controls will be politically acceptable. Pressures from the state and federal governments regarding air quality have somewhat forced this stance. However, parking controls affecting commercial activity are not considered essential. Also, parking controls on a region-wide basis, which do not reduce the advantages of one town benefitting the others, would be most acceptable. The competition for economic activity in the region is an important factor in deciding public policy.

A five-year transit study was being conducted at the time of the interview, under the auspices of the Greater Hartford Transit District. The study was expected to recommend radial bus routes centered on Hartford with a number of circumferential connecting routes. Changes in scheduling and other improvements are also expected. Efforts are being made to reverse the long term decline of public transport in the region. The Conn DOT "Park and Ride" bus service is cited as one of the major steps in revitalizing public transportation. The commuter carpool lots in suburban locations have also been used successfully.

Priority movements and reserved bus lanes are being considered at specific intersections in Hartford, notably the "Isle of Safety." With the exception of Main Street, street right-of-ways are deemed too narrow to effect separate bus lanes. The long-range transportation plans include the possibility of exclusive busways both to the north and east of Hartford, paralleling existing

expressway corridors. The use of existing railroad right-of-way for either buses or light rail public transport has been a recurrent topic of discussion. However, the narrow width of right-of-way in certain places, the large number of at-grade crossings with other streets, and the freight service provided on these lines are major difficulties in effecting this plan.

Zoning and subdivision regulations are the primary means of controlling urban growth. However, the towns are only now considering the service ~~implications for public transportation resulting from future development.~~ Technical transportation planning assistance in this regard is now being furnished by the regional agency to the local planning and zoning commissions. It is recognized that further steps could be taken to insure that public transportation can efficiently serve future development.

There are a significant number of automobile users in the region whose trips are amenable to public transportation. One of the major questions being addressed by the transit development study is to identify these trips and the methods required to induce the modal change. It is expected that a number of scheduling, routing and fare changes will be identified as desirable incentives to substitute public transport for automobile use.

Central Connecticut Region

Automobile congestion in the region is probably the worst along the Connecticut Route 72 (U.S. Route 6) corridor from New Britain through Bristol. This congestion is primarily commuter peak traffic, but also occurs during the weekdays and on the weekends. Congestion is also found on Connecticut Route 229 from Bristol into Southington, on Connecticut Route 66 from I-84

in Southington to Meriden, and on Connecticut Route 10 in Cheshire and Southington. Again, the congestion on these routes is related to the commuter peak-hour traffic. Congestion on the city streets of New Britain occurs during the commuter peaks, and is partially due to highway construction activities presently underway.

Solution strategies to the congestion problem are based on expanding highway facilities. A new expressway, designated as Connecticut Route 72, ~~is under construction in Plainville and New Britain, and is scheduled for~~ construction in Bristol for the early 1980's. There is strong local support for Route 72 in all three towns. The physical widening and geometric design improvements of Route 229 in Southington and Bristol is now underway. The extension of Route 66 expressway through Southington and a new interchange with I-84 is presently being designed and is scheduled for construction in 1976-1978. There is also strong local support for this connection. However, design details have raised environmental problems, particularly the large number and lengths of river relocation and channelization. Congestion on Route 10 is expected to be reduced by the above highway projects and by traffic signal and channelization improvements. The construction activities in New Britain also include a new and improved street system, as well as a more efficient traffic signal system. This combination is expected to alleviate congestion on the streets in New Britain.

Public transportation is viewed as an aid to the primary solution of highway improvements, particularly in the City of New Britain. Methods designed to constrain automobile usage are foreign to public policy in the region. The region has made a commitment to the highway mode, and would not look favorably on measures restricting any auto trips. This is indicated

by the strong support for Route 72 which has required the removal of substantial residences and other major economic activity in New Britain and Plainville and will require the relocation of over 300 residences in Bristol. The economic advantage of good highway access is an important factor in the region's public policy.

The west side of the green in downtown New Britain has been developed as a central bus loading zone. The amount of parking was reduced to effect this change. ~~Downtown merchants were initially opposed to the reduction in~~ parking, and are waiting to see the effects on their business.

A regional bikeway plan was submitted to Conn DOT by the regional planning agency. A small amount of this plan has been included in the State plan. Bikeways are viewed as a recreational feature of the transportation system. The bicycle mode is not expected to have a significant effect on automobile congestion due to the long commuting distances, the need for an auto for second trips for work, the lack of safety features along the planned bikeways, and the frequency of inclement weather.

The policy toward urban growth varies with each town in the region. A regional development plan has been prepared which is a composite of the separately developed zoning and master plans from the towns. In general all of the towns are actively seeking development, particularly industrial and commercial activity. There is a sense of competition for these economic enterprises to relieve fiscal problems. There are a number of instances where major industrial employers have left downtown locations in New Britain and relocated just into neighboring towns.

Local planning and zoning commissions exercise the greatest control on urban growth in the region. Burlington is the only town without zoning ordinances. Inland wetland acts are administered by either special town commissions or the Department of Environmental Protection. The indirect source regulations are also recognized as an important control on urban type development. Transportation system capacities have had a great effect on recent location decisions and are considered a control on growth and the determination of land-use patterns.

There is no formal growth policy in the region. Public policy is determined by each of the towns, subject to the solution of their immediate and long-range problems. The regional planning agency acts as an arbitrator on planning issues along the town boundaries.

Transportation capacity and accessibility have been the major restriction to urban growth. The towns of Bristol and New Britain have been claiming a disadvantage with other Connecticut cities in the competition for industrial and commercial development due to the lack of highway facilities. Bristol is the only urbanized area in the state without expressway service. The lack of expressway service in both towns is viewed as the reason for losing economic activity in the central business districts to strip development further removed from the centers. The construction of Route 72 and of I-291 from Wethersfield to Farmington are crucial to the regional plans.

New Britain and Bristol are having financial difficulties. These fiscal problems are due to an eroding tax base in the towns and to the higher unit costs for urban services. In particular, both towns are faced with problems in meeting higher costs of providing school services without increasing tax rates to home owners.

There have been a number of cases where the competition for economic activity has resulted in the "mislocation" of certain land-uses. The City of New Britain has cleared much of its central area in hopes of attracting new enterprises. However, commercial activity has not been found due to the proximity of the large shopping mall in West Hartford. During an urban renewal project, a number of New Britain's largest employers have built new plants in Berlin and Newington. The result has been that the once active and growing center of New Britain is now not fully utilized with only a slight chance of ever regaining its former status of the "Hardware City" of the world.

Urban growth is expected to occur along the Route 72 corridor from Connecticut Route 15 into the center of Bristol and in Southington. The greatest amount of development is expected in Plainville and Southington, and to a lesser extent in Bristol and New Britain. Land-use patterns are expected to be dispersed concentrations along the transportation corridors, with New Britain and Bristol retaining their status as regional centers.

Automobile parking facilities are planned by town traffic engineers and planners. Zoning and subdivision regulations are used to specify the minimum number of parking spaces required of new developments. The City of Bristol does not operate any "off" street parking. The parking supply consists of "on" street spaces and mall and employer spaces. The City of New Britain operates the region's only two parking garages as well as a number of "off" street lots. Private parking lots and "on" street spaces make up the remainder of the parking supply. "On" street parking in the center of New Britain is restricted in order to provide additional room for moving traffic lanes and for bus stops. No real large scale parking problems exist

in the region. There are some minor location problems in New Britain. In general, parking rates are relatively low or free. There is more than adequate supply of spaces.

Parking controls on employer parking would be the most effective means of restraining automobile usage. However, this would be viewed as a drastic measure and would not be received well by industry in the region. The importance of keeping good relations with industry would make these type methods politically unacceptable.

The region is considering the formation of a transit district. A five-year transit development study is presently underway, under the auspices of the regional planning agency. Expected results from this study are the continuation of fixed route bus service in New Britain and additional fixed routes in Plainville and Bristol. Presently there are three transit operators in New Britain, with the great majority of revenue from school children. Varying amounts of demand responsive bus service is expected in the remaining four towns in the region. Inter-town bus service is also expected between New Britain and Bristol on a fixed schedule. Inter-regional bus service is being considered between Waterbury and Hartford with the possibility of stops in New Britain and/or other locations in the region. Special transit service using small vehicles will be provided to the handicapped and elderly. The transit development study is aimed at determining schedule and route changes which will increase the capabilities of the public transport system. Fare changes will also be considered.

There is no immediate need to give public transport vehicles priority movements at signalized intersections. Exclusive busways or bus lanes are

not considered necessary in the near future. Automobile traffic does not conflict with public transport vehicle movements to a significant degree.

The strip type development along transportation corridors is somewhat conducive to public transport usage. However, regional development plans to explicitly recognize the need to tailor future land-use patterns to the service capabilities of public transportation.

There are a significant number of trips presently using automobiles which are amenable to public transport. However, there are real limits imposed on the extent of modal switch due to the diverse origin and destination patterns in the region. Also, second strips originating from work restrict public transport usage. The region intends to correct problems such as lack of service, longer travel times and less convenience associated with public transport, through the transit development study. The region is committed to expand upon the existing bus system, providing a balance in transportation modes.

Central Naugatuck Valley Region

In general, the accessibility within and to the region is good. Automobile congestion is not considered too bad. Congestion occurs during commuter hours in downtown Waterbury, especially along East Main Street from the CBD east to the shopping mall, and along Connecticut Route 69 into Wolcott. Also during commuter hours, congestion exists in the smaller urban centers of Naugatuck, Watertown (along Route 73), Cheshire (along Route 10) and Thomaston. Traffic flow on I-84, just east of the Route 8 Interchange, breaks down frequently due to reductions in the number of travel lanes and to substandard geometric features.

Expressway improvement projects in the region include the reconstruction of a portion of I-84, east of the Route 8 Interchange, and the section of Route 8 in Naugatuck, Beacon Falls and Seymour. These expressway projects are designed to improve traffic flow and to provide a safer driving environment. The congested areas in the centers of the region's towns will be improved by a combination of two different methods. Urban system type projects, such as traffic signal system refinements, channelization at intersection ~~and widening of intersection approaches, will be incorporated with public~~ transportation system improvements. Methods designed to reduce the amount of automobile traffic are not considered necessary given the above improvements.

The City of Waterbury has considered the possibility of closing a portion of Bank Street, just south of the center green and Main Street. This measure was considered to improve traffic flow. However, the plan was not adopted due to traffic engineering problems with the one-way street pattern in the area and due to the opposition of the local merchants. A number of streets have been closed under the urban renewal project in Waterbury and appropriate adjustments to adjacent streets have been made. There are no areas or streets where an overall reduction in traffic volumes is considered necessary. Except for the large areas for pedestrians provided by the urban renewal project and the center green in Waterbury, there are no auto-free zones or pedestrian malls proposed in the town centers.

Bikeways are viewed as serving a primarily recreational mode of transport, except within urbanized areas where small relief to auto congestion might occur. Concern was expressed over the safety features not included

in the State Bikeway Plan and over the lack of route continuity.

The region has more than adequate developable land for future urban expansion, and it is actively seeking industrial type development. At the same time, public policy can be described as controlling growth, looking for quality developments in desirable locations. Urban growth is controlled by local planning and zoning commissions. Inland wetland acts affect the development process and are controlled by special local commissions or by the DEP. Indirect source regulations under the auspices of DEP are also used to control development. Floodplain zoning is another tool used to control urban growth along the Naugatuck River.

The region has adopted a long-range plan of development through a comprehensive study and with a good deal of citizen participation. The plan is based on Waterbury increasing its role as the major urban center in the region. Further urban type development is expected at the other established growth poles: Naugatuck, Watertown and Cheshire. Industrial development is also expected adjacent to the Oxford Airport in Oxford and Middlebury.

The region expects only small problems with increased development. There have been only minor location problems, indicating the competition between towns within the region. In particular, recently constructed shopping malls have been located just beyond the Waterbury town line. Transportation accessibility is not viewed as a control on the region's plan for development. Land-use plans have, in fact, been developed including the effects of accessibility on location decisions.

The operation and planning of parking facilities are handled through the separate towns. Zoning and subdivision regulations are used to insure

adequate supply of parking spaces in new developments. The larger towns in the region maintain "off" street parking in lots and Waterbury operates a number of parking garages. In general, there is a more than adequate supply of parking spaces. Parking rates are also considered cheap. Control measures such as reducing the supply or increasing the price of parking are considered effective methods of reducing automobile usage. However, there is concern that such controls will affect commercial activities in the urban center in favor of the suburban shopping malls. This competition

between towns will certainly affect the political feasibility of parking controls. The transit development study will address this problem.

Bus service is seen as the primary mode for public transportation. Fixed route bus service is available in Waterbury. Inter-town service exists between Watertown and Waterbury, and is expected between Naugatuck and Waterbury. Demand-responsive bus service is provided to the elderly in Waterbury. Inter-regional bus service to Hartford is considered a likely recommendation from the transit development study. Subscription bus service is now available from Waterbury to Hartford, serving commuters. While inter-regional buses to Bridgeport are less feasible, in general, the bus routes are expected to radiate from the center of Waterbury, with the possibility of circumferential routes in certain cases. The DOT commuter carpool parking lots are also considered an important effort to reduce automobile usage. The continuation of rail service from Bridgeport to Hartford through Waterbury is considered desirable, certainly for freight shipment and possibly for commuter passengers.

Priority movements for transit vehicles are not planned due to the lack of pavement width of CBD streets and to the large headways between buses

expected in the near future. Exclusive busways are not considered to be warranted in the region.

The towns are aware of the desirability of tailoring new developments to the service capabilities of public transport. The regional planning agency is currently providing technical assistance to the local planning and zoning commissions in this regard. Most of the towns have zoning ordinances which include provisions for planned unit developments. This type of residential construction is preferred over conventional subdivisions for service by public transportation.

Efforts to increase ridership on public transport vehicles are faced with the problems of dispersed origin and destination patterns, high transit fares, lack of convenience compared to the automobile, and dispersed land-use patterns. These difficulties are the reasons why public transport is not considered a substitute for the automobile. The transit development study is intended to identify all feasible measures to increase ridership.

Connecticut River Estuary Region

Except for the summer months, automobile congestion is not an important problem. Commuter peak traffic produces slight congestion in the center of Clinton along U.S. Route 1 and in the center of Essex. During the summer period, automobile usage increases drastically on all roads in the region. There is more traffic in the area on summer weekends than on weekdays. Congestion occurs in the vicinity of the Baldwin Bridge on I-95 over the Connecticut River. The shore roads, U.S. Route 1 and Route 156, are also congested during the summer.

Traffic signal system improvements are planned to alleviate congestion in the center of Clinton. A one-way street pattern was recently instituted in the center of Essex and apparently improving traffic flow. A second I-95 river bridge is proposed along with improvements at the Route 156 and Route 9 interchanges. The U.S. Route 1 and Route 154 bridge over the Penn Central Railroad is being replaced and the roadways improved. A transit development study is presently underway to determine the extent that public transport can relieve the highway system. In general, the congestion in the region is due to shore activities in the summer. This traffic is important to the region's economy and is not amenable to public transport or to restraint techniques. Improved roadway facilities are considered the best solution to automobile congestion.

Bikeways are considered as a recreational mode offered to summer residents and visitors. Bikeways have the strongest support in the shoreline towns. Bicycle use would potentially help to reduce automobile congestion in the summer when it is the worst.

There are no "urbanized areas" in the region as delineated by the 1970 Census. The separate town policies toward urban development range from "controlled" growth to strong "no" growth. The region is actively working to preserve the rural, seashore type environment. A regional plan of development has been adopted.

Zoning and subdivision ordinances are used to regulate the type and location of future development. Inland and tidal wetland acts also act as controls on growth. These laws are administered by either a local commissioner or by DEP. Flood plain zoning and indirect source regulations are

other land-use controls. A study is presently being conducted by the regional planning agency to examine all useful controls on development. The provision of urban services, such as water supply and sewerage systems, is viewed as a major public policy control on private development.

Accessibility to and within the region is considered good. While the transportation system has been a factor shaping regional development, the highway network is considered generally adequate and does not restrict growth. Water supply and sewerage facilities have been controls on development. The regional planning agency has also undertaken a study of the future water needs.

The regional land use plans are characterized by the village center concept. Development is expected to occur in the existing village centers, and expanding outward with urban services. The region is not seeking a high density land use but prefers the medium density village-type land-use pattern.

Zoning and subdivision regulations control the minimum number of parking spaces provided in new developments. "On" street parking is provided in the village centers. There is no real parking problem except interference with traffic flow in the village centers. Parking controls are not considered a reasonable method of restraining automobile traffic. Parking restrictions would hinder economic activity particularly during the summer and are politically unrealistic.

The regional planning agency is presently directing a transit development study. The rural type of development is not readily served by public transportation. Demand responsive bus service is expected for the elderly and handicapped. A subscription bus service to Hartford is possible. The "Clam-digger" train service has been reopened. Trains run during the commuter hours

and once during the day between New Haven and New London. Commuter carpool lots along I-95 and Route 9 are used by the region's residents. There is no foreseeable use for exclusive busways or priority movements for transit vehicles in the region.

The village center concept for land use is reasonably amenable to public transportation. Residential densities in the village centers are proposed at about four families per acre. The towns in the region are also considering the inclusion of provisions for planned unit development in the zoning regulations. However, there is difficulty in substituting transit for automobile use due to the lack of transit service, dispersed origins and destinations and the cost-effectiveness of public transport.

Greater Bridgeport Region

Congestion occurs in downtown Bridgeport and the immediate vicinity during the commuter peak hours due in part to the antiquated street pattern. Commuter congestion occurs on I-95 and to a lesser degree on Route 15 (the Merritt Parkway). Congestion frequently occurs on these expressways due to back-up on exit ramps and due to other insufficient geometric features. The region is not as well serviced by the highway system in the north-south directions. Congestion occurs in the Routes 8 and 25 corridors during much of the day.

Strategies to alleviate congestion include urban system type projects in the Bridgeport CBD, construction of expressways for Route 8 and Route 25, and the reconstruction of ramps along I-95 and Route 15. Revisions to the one-way street pattern in Bridgeport are also being contemplated. Methods designed to restrain automobile use are also being considered. In particular, public transportation system improvements are being developed to make transit more attractive for work trips. A transit development study is presently

underway. Expressway construction and improvements, as outlined above, are considered essential for future growth and safety reasons. Public transportation is essential in and around the high density core area.

Main Street in Bridgeport was proposed as a pedestrian mall under the urban renewal project. Opposition from downtown merchants prevented the proposal from being incorporated into the design. It was felt that restricting automobile use in the CBD would be detrimental to the commercial interests, ~~worsening their position in competition with the suburban shopping malls.~~

Some streets in Bridgeport will be closed or made one-way with the urban systems projects. However, the reasons are to improve traffic flow rather than restrict automobile use. It appears that at the present time it is politically unrealistic to consider street system modifications designed to curtail automobile use.

Bikeways are seen as a recreational feature of the region's transportation system. Only small relief to automobile congestion is expected from bicycle use. Better safety features are required to improve bikeway patronage.

The region's policy toward urban growth varies within each of the towns. The major point of dissension within the region occurs over the use of large lot zoning. Policies range from Easton, which has two and three acre zoning regulations, no industrial or commercial development and large amounts of open space, to Bridgeport, which is actively encouraging commercial and industrial activities in order to support the urban services for its residents. The minimum zoning in Bridgeport is two families per acre. The high income residents in the western portion of the region are able to afford large residential lots and are using zoning and subdivision regulations to protect their investment.

A regional plan of development has been completed; however, it is only a composite of the separate town plans. Zoning and subdivision regulations, indirect source regulations, and inland and tidal wetlands acts are used to control urban growth in the region. The DEP also has control over development through its coastal area management regulations.

Development is approaching holding capacity in the core area of Bridgeport, while the large lot zoning prohibits extensive use of the western portion of the region. ~~It should be noted, however, that the western part of region is~~ most useful as watersupply watershed for the coastal development. Urban growth is expected to occur north of Bridgeport along the Route 25 corridor in Trumbull and Monroe. Transportation is viewed as restricting development in this corridor. Construction of the expressway is crucial to the land-use plans. There have been minor location problems due to the competition between towns for commercial and industrial activity. Recent development has shown large shopping malls and industrial parks being located just outside of the Bridgeport town line.

Bridgeport will remain the strong urban center with extended urban development along I-95 and the coastline. A significant portion of future growth is planned along the Route 25 and Route 8 corridors in Trumbull, Stratford and Monroe. The western portion of the region is expected to remain rural in character with large residential lots.

Zoning and subdivision regulations provide for minimum parking facilities in new development. The urban renewal project in Bridgeport has been designed with a number of large parking garages. Shopping mall and industrial park parking facilities are important in the suburban areas in the region.

Parking facilities are numerous, and parking fees are relatively low in Bridgeport. With development approaching holding capacity, the amount of land

devoted to automobile use is critical. Parking garages are preferable to surface lots or "on" street parking; however, projections for automobile use and parking facilities indicate that the streets will be crowded and congestion will occur. The large amounts of land required for parking is viewed by some as counter-productive. The downtown merchants consider low cost parking facilities as essential in making the core area competitive with the suburban commercial centers. A strong transit development program is being considered by the region in lieu of continued reliance on the automobile.

Parking controls are recognized as a very effective method of restraining automobile usage; however, transit improvements are considered the first step in reducing automobile use. Incentives to automobile drivers for switching modes to public transportation are preferred. It is apparently politically unrealistic to consider any reduction in the number of CBD oriented trips. It is interesting to note that the reason for the laxity in enforcing parking regulation is ascribed to the downtown merchants not wanting their customers being ticketed.

A transit development study, under the auspices of the Greater Bridgeport Transit District, is nearing completion. The expected recommendations from the study are for large-scale improvements such as more buses, improved scheduling, more routes, shorter headways, bus shelters, improved maintenance facilities and a multi-modal transportation center at the new railroad station. Fixed route bus service will be restricted to Bridgeport, Fairfield, Stratford and Trumbull. The route revisions are aimed at serving recent suburban development as well as improving service within the CBD. Conn DOT is considering the feasibility of operating a park and ride service similar to the one in the Hartford area. Commuter trains along the shore provide transportation for a large number of commuters to New York City and other employment centers to the south.

Special bus lanes for picking up passengers and for priority treatment at traffic signals in the core area are expected recommendations from the transit study. Currently, there is no expected need for exclusive busways or bus lanes on the expressway system. Special treatment for public transport vehicles is considered part of the solution to the region's transportation problems.

The regional planning agency, in cooperation with the Tri-State Planning Region, has documented the necessary changes in land-use patterns required to support public transport. The documentation considers alternate types of bus service with varying levels-of-service and also examines the fare structure and expected revenues of each case. The land-use controversy divides the region into a dispersed residential area unable to use public transport effectively and a high-density urban area which can support a "quick" fixed route bus program. Transit will be unable to provide a substitute for the automobile in the western part of the region. However, the improvements to the public transport system are expected to offer a reasonable alternate to the auto to a substantial number of residents in the urbanized areas of the region.

Housatonic Valley Region

Automobile congestion occurs in the downtown Danbury area during most of the working day with especially heavy traffic flows during the commuter peaks. In particular, congestion occurs along Main Street, Federal Road and White Street from Main Street into Brookfield, and Newtown Road from White Street into Bethel. In New Milford, congestion occurs at the traffic circle on U.S. Route 202, formerly Route 25, during the commuter peak hours. The

at-grade railroad crossing in this area causes the back-up of traffic on both sides during train movements, mid-morning and early afternoon. Automobile drivers encounter congestion in Newtown along Queen Street during the commuter peak hours. Route 7 from I-84 north into New Milford.

The urban system project in Danbury is expected to alleviate part of the congestion on the surface streets. A portion of the Route 7 expressway in Brookfield is presently under construction. The final portion of this expressway into New Milford is nearing design completion. Construction of this expressway is expected to solve the problem of congestion in the corridor, as well as relieve congestion in the traffic circle and on Bridge Street by providing a bypass to the north of New Milford Center. These highway system improvements are considered the essential portion of solution strategies of the congestion problem. Public transportation is viewed as an auxiliary mode at the present time. Bikeways are viewed as a recreational feature of the transportation system.

Bank Street in New Milford was proposed as a pedestrian mall. The opposition to this proposal from the local merchants caused the idea to be dropped. There are no areas or specific streets where advantages in controlling automobile usage are recognized.

The 1971 version of the regional plan of development is presently being updated in conjunction with the efforts of the Tri-State Planning Region. The region's policy toward future urban growth varies by town, in general being to control development. The region is actively seeking industrial activity, particularly light industry such as corporate headquarters. Zoning and subdivision regulations are used by the towns to regulate the type and location of new development. Inland wetland laws and the indirect source regulations are also used to control urban growth.

There is more than adequate room for the expected urban growth. The region's plans for development indicate that commercial and light industrial activity will occur along the major transportation corridors, Route 7 in Brookfield and New Milford, Route 25 in Newtown, and I-84 in Danbury and Bethel. Danbury is expected to remain the center of urban activity in the region. Increasing the capacity of these major transportation corridors is considered a high priority project for the region. The strip development along existing Route 7 north of Danbury has resulted in congestion. The congestion, in turn has placed a limit on both the density of development along Route 7 and on the extent of development northward. Construction of the expressway Route 7 is essential to the continued growth of New Milford.

Zoning and subdivision regulations provide for the minimum number of parking spaces in new developments. Shopping mall and industrial parking spaces are an important segment of the regional supply. The City of Danbury supervises the planning and operation of municipal parking lots and "on" street spaces. There seems to be a preference for "on" street parking in Danbury. There is a sufficient supply of extremely low cost parking in Danbury and New Milford. There is a shortage of municipal spaces at the railroad station in Danbury. Parking management techniques designed to restrain automobile usage are not considered necessary or desirable.

A transit development study is presently underway. The bus mode is expected to be the primary form of public transportation. The towns of Danbury and Bethel recently formed a transit district which provides intertown service by mini bus. The transit development study is expected to recommend scheduling and route changes designed to increase the sagging bus patronage. Four new

50 passenger buses are planned for use on fixed routes in Danbury. Priority movements for transit vehicles at signalized intersections will be examined in the transit development study. However, due to the large headways between buses priority movements and exclusive lanes are not considered necessary.

The convenience and comfort of the private auto for travel in region makes substitution to public transportation difficult. Trip origins and destinations form a diverse pattern. Public transport is more expensive, at a lower level of service than travel by the auto. It is also felt that an educational process is required to overcome the stigma of public transport associated with the lower classes.

Litchfield Hills Region

During the commuter peak hours, some congestion occurs in downtown Torrington. The congestion is not very widespread and is of a short duration. Congestion also occurs on the major arterials leading to Hartford such as Route 4 and U.S. Route 44. This congestion exists during the commuter peaks and can occur on weekends. In general, automobile congestion is not considered a major problem in the region.

There are no major highway projects planned in the region. Accessibility to and within the region is considered more than adequate with the existing highway system. Measures designed to alleviate the small amount of congestion in the region rely on public transportation. The subscription bus service from Torrington to Hartford will be expanded from two buses daily. Additional subscription buses are expected from Winsted to Hartford and from Torrington to Waterbury. Demand responsive bus service is presently serving the elderly and the handicapped in Torrington. This type of service is being considered

for all Torrington residents. While automobile congestion is not considered to be unreasonable, all of these measures to reduce congestion are aimed at controlling automobile usage rather than expanding roadway facilities. Highway construction is viewed as lowering the property values of adjacent residential land. Continued expansion of the highway system is considered as a detriment to the quality of life in the region and is not supported.

The long range plans for the region indicate that there might be advantages to restraining automobile usage in the center of Torrington and at the community college in Winsted. However, at the present time there is no need to restrict the use of the automobile. Auto-free zones and pedestrian malls are not included in the development plans of the region.

Bikeways are considered a recreational feature of the region's transportation system. With the exception of the community college, bicycle use is not expected to have a substantial effect on automobile congestion. Additional safety features are required for even the recreational purpose.

The region's policy toward development is typified as controlled growth tending toward no growth. The 1970 census indicated that there are no "urbanized" areas in the region. A regional plan of development has been adopted. While some towns do not have zoning or development plans, there is general agreement among the towns as to the type and amount of growth that is acceptable. Inland wetlands acts and indirect source regulations are utilized to control development in the region. The town zoning commissions are looking for quality-type development. The towns do not favor the planned unit development concept for residential lands. Although considered cheaper for the provision of public services, there have been bad experiences with poorly

designed planned unit development. Large lot zoning predominates for the residential land use category.

In general, growth problems are related to the financial aspects of providing and maintaining public services to new developments. Accessibility to and within the region is considered more than adequate. The completion of expressway Route 72 into Bristol is looked at favorably in the region. However, the towns are experiencing fiscal problems in maintaining existing local roads and in building new roads.

The regional land-use plan calls for a stronger Torrington center and for an expansion of the existing village center concept. Winsted is also expected to continue as an important commercial and industrial center in the region.

Zoning and subdivision regulations specify the minimum parking facilities required in new developments. "On" street parking is provided by the municipalities in Torrington, Winsted and the other village centers. Parking facilities are also provided in important shopping malls. There is excessive and low cost parking throughout the region, with the only exception being in the vicinity of the community college in Winsted. Parking controls designed to restrain automobile use are not considered necessary or desirable.

The region's plans for public transportation include extension of the minibus system in Torrington as well as expansion of the interregional subscription bus service. There is no need for exclusive busways or priority movements for public transport vehicles. Public transportation is considered useful to only a small amount of the region's population. The dispersed land use patterns make the automobile more economical and cheaper than transit. Land-use plans are not designed to be amenable to public transport. The

automobile will continue to be the major transport mode.

Midstate Region

Congestion occurs during most of the work day and especially during commuter peak hours on Main Street, Washington Street and on the approaches to the Arrigoni Bridge in Middletown. Route 72 in Middletown is congested during the commuter peaks. Traffic flow becomes saturated on Route 9 in the vicinity of the traffic signals during the commuter peaks and on summer weekends.

Washington Street and Newfield Street in Middletown have been widened and traffic signal system improvements made in an effort to reduce congestion. A loop road around the Middletown CBD is proposed in conjunction with the South Central Urban Renewal Project. This road is expected to relieve congestion on Main Street. Conn DOT is studying alternate designs for Route 9 in Middletown. Alternates which eliminate the at-grade intersections on Route 9, improve access to the Arrigoni Bridge and maintain access to the South Central Urban Renewal Area are being considered. Improvements to the Route 9 expressway are important in alleviating congestion, providing a safe driving environment, and improving access to the urban renewal area. Expanding roadway facilities is the favored approach to reducing congestion. Methods designed to restrain automobile usage are considered politically unrealistic. The region is committed to being served by the automobile, and control measures on its use are viewed as restricting the economic activity and development of the region.

A pedestrian mall was considered in lieu of the angle parking on Main Street. The downtown merchants were violently opposed to this proposal, and the plans were abandoned. With the possible exception of Wesleyan College,

there are no areas where advantages to controlling automobile usage are recognized. The region has no further plans for auto-free zones or pedestrian malls.

Bikeways are considered a recreational feature of the region's transportation system. Wesleyan students might consider the bicycle as an alternate transport mode if reasonable bikeways were established with improved safety features.

Policies toward urban growth vary by town in the region. The City of Middletown is actively seeking light industrial and commercial activity. Most of the other towns tend toward limited growth. Zoning and subdivision regulations, indirect source regulations, inland wetland acts and regulations concerning the Connecticut River basin are all used to control development. A regional plan of development has been prepared but not adopted. Urban growth decisions are made by the separate local authorities.

Accessibility to and within the region is not considered to be a major problem. The highway system is adequate, with the exception of ramp connections from Route 9, south of downtown Middletown, to the urban renewal area.

Middletown and Cromwell are the only two sewered towns. The provision of sewer and water supply facilities is viewed as a control to urban type development.

Development plans call for a strong urban center in Middletown, with urban growth in Cromwell and scattered development throughout the region. Recent construction has provided a variety of housing types in Cromwell. Commercial activity is following the residential development. This housing is used primarily by workers in the capitol area. Congestion is on the increase along Route 72 and Route 3 in this area due to the sudden increase in housing.

Zoning and subdivision regulations are used by the towns to ensure adequate parking spaces in new developments. The Parking Authority in Middletown operates and plans for parking in the city. "On" street parking is allowed on most streets in Middletown. "Off" street parking lots are located around the CBD. A municipal parking garage is planned as part of the South Central Urban Regional Project. Sears presently operates a parking garage in the downtown area. Shopping mall and employer parking is important in the region.

The parking facilities in Middletown are characterized as being low cost and excessive in the number of spaces. The downtown merchants attach considerable importance to these characteristics. These retailers will pay customer parking fees after a purchase in their store. Angle parking on Main Street in Middletown often causes major traffic delays and requires a lot of valuable urban space. However merchants are opposed to its removal. The successful competition with suburban shopping malls is considered contingent on easy auto access and an adequate supply of cheap parking. Parking management policies are recognized as effective method of reducing automobile usage, but are not considered consistent with other regional policies. Incentives to switch modes to public transportation are preferred, i.e., the region is planning improvements in the transit system which are designed to increase ridership. Restraint techniques are viewed as limiting the number of CBD oriented trips.

A transit development study is presently underway. Recommendations are expected for a bus system. Immediate proposals are for the extension of the fixed route bus service in Middletown. The bus routes are to be expanded in separate stages, designed to provide service from residential areas to commercial, medical and employment centers. The bus service will include routes in Portland.

Conn DOT operates a Park and Ride commuter bus from Middletown to Hartford. Buses run daily from Middletown through Cromwell and Rocky Hill to Hartford. Subscription bus service is available from Middletown to the Electric Boat plant in New London. The Middlesex Community Transit Program, operated by Red Cross volunteers, provides transit service to the elderly and handicapped in the region.

Priority movements for transit vehicles at intersections in Middletown are a possible recommendation from the transit development study. Express bus lanes are not considered to be necessary, except as above.

In general, land-use controls are not aimed at directing development toward the service requirements of public transportation. The recent residential construction in Cromwell and northern Middletown is of the cluster type (planned unit development) and might be served by transit. There is difficulty expected in transferring automobile users to public transportation on a regular basis. Land-use patterns and the relative lack of convenience and comfort of transit are recognized problems. Some type of government action is required to effect a large-scale modal change. Rising gasoline prices are seen as having a major potential effect on auto usage.

Northeastern Connecticut Region

Automobile congestion rarely occurs in the region except in the centers of Putnam and Danielson. Main Street in Putnam is too narrow to allow "on" street parking and left turning vehicles along with through traffic. Methods designed to reduce automobile congestion are generally not considered necessary. Measures controlling automobile usage are not amenable with other regional policies. Improved roadway facilities are desirable as providing a safer

driving environment and improving accessibility to and within the region. There are no areas or specific streets where advantages would be gained by restraining auto usage. Auto-free zones and/or pedestrian malls are not included in the region's long-range development plans. Bikeways are considered as a recreational feature of the transportation system and are not expected to significantly affect automobile usage.

The policy toward urban development varies within the region. The towns of Putnam and Killingly are actively seeking industrial and commercial development. Other towns such as Woodstock and Sterling maintain "no" growth attitudes. Urban-type development is controlled primarily by the provision of urban services. The major problem faced by the towns looking for growth is the lack of development pressure. These towns are having problems enticing new economic activity into the region. Six of the ten towns in the region have zoning and subdivision regulations. Inland wetland acts also control the location of new development. The region does not have a formal growth policy.

There have been only minor problems related to specific locations in accepting new development. The major problem is to attract development to Putnam and Danielson. The construction of I-84 from Hartford to Providence through the region is considered important to the economic viability of these towns.

Urban type development is expected in the existing centers of Putnam and Danielson. Otherwise, the land-use plans call for village centers in a rural setting. Zoning and subdivision regulations provide for large lot residences primarily which indicates a consumer preference for large single-family homes.

Minimum parking provisions are included in zoning and subdivision regulations. The town of Putnam operates "on" and "off" street parking facilities; and "on" street parking predominates in Danielson. Parking is considered excessive in supply and rates are cheap. The only problem is that "on" street parking maneuvers interfere with through traffic on narrow streets. Parking controls are not considered necessary or desirable. The region does not want to restrict automobile usage.

The regional planning agency is presently evaluating various types of public transport service in the region. Expected solutions are rural, low-density type solutions, such as demand responsive bus service. Conn DOT commuter carpool lots in the region are receiving substantial patronage. Currently, a private operator is providing commuter bus service from Putnam and Danielson to Pratt & Whitney Aircraft in East Hartford and to Electric Boat in New London. Otherwise, transit is being designed for the elderly and handicapped as the primary beneficiaries. Patronage on public transportation is not expected to require priority treatment for transit vehicles at intersections or exclusive lanes. No steps have been taken to ensure that future development can be efficiently serviced by public transportation. Public transport is being planned as a service to the disadvantaged. The automobile will continue to be the major mode of transport in region.

Northwestern Connecticut Region

Automobile congestion only occurs on weekends related to special events. This congestion occurs on the major arterials and is primarily traffic with origins and destinations outside the region. Otherwise congestion is practically non-existent. Automobile traffic within the region does not

cause congestion and is not the target of restraint measures. Highway safety improvements are being considered to promote a safer driving environment for residents. However, roadway projects which tend to increase external traffic or to induce development in the region are not consistent with other regional policies. Auto-free zones and pedestrian malls are not being considered in the long range transportation plans.

Bikeways are recognized as a lower level priority than the highway safety projects. Over half of the region's labor force is employed in the town of residence. However, second trips from the office within and out of the region prevent a significant amount of bicycle commuting. Highway features in the region require improvements for safer automobile operation. Bicycles intermixed with this auto traffic are considered unsafe by most residents.

All towns in the region have zoning and subdivision regulations. The towns prefer the existing rural character rather than urban development. Most town planning and zoning commissions are actively controlling growth and accepting only well-planned developments. The land-use plans are for the selective expansion of the existing village centers with some dispersed development. Large lot zoning is preferred over planned unit development.

The provision of sewage facilities is being considered in the village centers of Lakeville, Kent, Sharon and North Canaan. The provision of these services is recognized as a control on development of an urban character. Accessibility is not good from the region to the surrounding urban centers. Residents have chosen a location in the region based on the rural character which results from this lack of accessibility. The Route 7 expressway project from Danbury into New Milford is viewed as furthering the potential

for urban type growth in the region and threatening the existing rural life-style. There is apparently universal sentiment against this project in the region.

Zoning and subdivision regulations provide for the minimum parking facilities required in new developments. Automobile parking is not considered a problem anywhere in the region. Parking control measures are not considered necessary or desirable, since the region does not want to restrict internal automobile traffic.

Public transportation is considered only a service to the elderly and handicapped and not as an alternate to automobile commuting. Four vehicles are presently being used to provide transportation to these residents. Land-use patterns make it most difficult to substitute transit for automobile usage. The region's development plans do provide for efficient service by transit. Preferential treatment for transit vehicles is obviously not required in the region.

South Central Connecticut Region

In general, there are two types of congestion recognized in the immediate New Haven area. Congestion is caused by inadequate freeway and ramp design, e.g., the Trumbull Street and Middletown Avenue Exits on I-91, the I-95, I-91 and Route 34 Interchange, and the bridge capacity of I-95 over the Quinnipiac River. Congestion occurs at these locations during the commuter peak hours. Congestion is also caused at intersections by inadequate approach width or improper signalization, e.g., the Route 69 - Route 63 intersection in Woodbridge, the intersection of U.S. Route 1 and Route 122 in West Haven,

and the intersection of Whitney Avenue and Dixwell Avenue in Hamden. Auto traffic delay in the center of New Haven is not considered unreasonable, with the exception of upper Chapel Street and along the Route 34 corridor. Congestion occurs near the at-grade railroad intersections along U.S. Route 5 in North Haven and Wallingford. Commuter congestion occurs along Route 34 from New Haven into Derby, U.S. Route 1 and I-95 in Milford, and I-95 in East Haven.

With the exception of Route 34 in New Haven and West Haven, there are ~~no expressway projects planned in the region. Highway safety improvements~~ are necessary and some will be accomplished. Relief to automobile congestion is expected through a combination of transit and signal system improvements.

Methods designed to reduce the amount of traffic are being considered to alleviate congestion, in that public transportation is offered as an alternate. It is politically unrealistic to speculate on measures which tend to reduce the number of trips. Incentives to switch mode from the automobile to transit are preferred. Improvements to roadway facilities are considered necessary for safety reasons and for better traffic flow characteristics.

There are no areas or specific streets where advantages to restraining automobiles are recognized, except as has been accomplished on the Yale University campus. Auto-free zones or pedestrian malls are not being planned as the result of closing existing streets. However the large town green in New Haven, the pedestrian walkways above streets, the Yale Campus and other town parks are cited as pedestrian areas.

Bikeways are not recommended in the inner city, due to safety problems in mixing pedestrians, autos and bicycles. The provision of bikeways is considered a recreational feature and of little consequence in alleviating

automobile congestion. Physical separation of the bikeways from traffic lanes is suggested even for the recreational purpose.

The policy toward urban growth varies by town within the region. New Haven is actively seeking industrial and commercial growth. Suburban towns, such as Hamden, Wallingford and East Haven, are receptive to light industry and commercial activity. Other smaller towns, such as Bethany, Guilford and Madison, are controlling urban growth and tend towards a "no" growth policy. ~~The 1968 Land Use Plan is currently being re-evaluated in conjunction with~~ efforts in the Tri-State Regional Plan. The regional development plan was adopted by the towns. However, development issues are still resolved at the separate town level of government. Zoning and subdivision regulations, inland and tidal wetland acts, indirect source regulations and coastal area management programs are all methods used to regulate the location and type of development in the region. The large tracts of land controlled by the New Haven Water Company are also recognized as controls on future growth.

The septic capabilities in various locations are becoming a problem to continued development. Both the capability of existing public systems and of the land for on-site disposal are approaching capacity. Physical plant deterioration in New Haven and to a lesser degree in Meriden are cited as problems related to urban growth. Through its tenure, the New Haven Water Company controls a significant amount of developable land. There will be conflicts in deciding between preservation of water supply watershed or the pressures from development. There has been competition between the urban and suburban towns in the region for "attractive" light industry and commercial activities. The major urban towns appear to be losing part of their tax base to suburban towns. Fiscal problems have resulted in the urban towns due

to the eroded tax base and to the higher costs of providing urban services. Transportation accessibility and capacity are not viewed as the major controls to development. The transport system is viewed as being essentially adequate for development plans.

It is interesting to note that a number of location decisions made by agencies in the State government did not give proper regard to local plans. The off track betting parlor was located in the suburbs because the City of New Haven could not economically offer the 800 parking spaces required by the State. A community college was recently located in Branford rather than New Haven due to savings in land costs.

The development plans call for a stronger central city in New Haven, with urban-type development continuing at a lower level in Meriden and Milford. Industrial development is proposed in a linear fashion along U.S. Route 5 and in Branford, near the Guilford townline. A considerable amount of growth is expected to be dispersed throughout the region.

Automobile parking planning is handled by municipal authorities where necessary, and is included in the zoning and subdivision regulations of all the towns. In New Haven, the parking policy is to effect a gradual change from "on" street parking to "off" street parking, preferably in garages. The City's concept of a strong urban center serviced by the automobile justifies the high initial cost of the parking garages. The municipally operated parking facilities are augmented by the Macy's parking garage, the Yale University parking facilities, employer and shopping mall parking lots and many privately owned public parking lots.

Parking problems exist in the major town centers. These are mostly location problems and conflicts between parking vehicles and through traffic.

In general, there is an adequate supply of parking spaces in the region; and parking rates are relatively low. The construction of Route 34 in New Haven will eliminate a large amount of parking spaces presently being used by the Yale-New Haven Hospital. An air-rights garage is planned over the highway, which will be constructed prior to the expressway.

Parking controls are an effective means of restraining automobile usage. However, an alternate mode is necessary and should be established prior to implementation of parking management techniques. Incentives to switch modes to public transport are preferred. The main office of the Southern New England Telephone Company in New Haven has voluntarily reduced the number of employee parking spaces, operates company vans and promotes employee carpooling in an effort to reduce automobile usage.

There are three established transit districts in the region: Meriden-Wallingford, Milford and Greater New Haven. Transit development studies are in various stages of completion. In general, plans are for the extension and improvement of the existing bus systems and the continuation of commuter train service. Transit improvements in New Haven are expected to be a combination of different types of bus service, from fixed route to demand responsive. The fixed route service will be expanded radially out of New Haven with some interconnecting circumferential routes. A regional, multi-modal transportation center has been proposed near the railroad station in New Haven. The major problem is to connect this center with buses to the central business district. Conn DOT operates "Park and Ride" buses from a number of suburban locations to the core area. This commuter service has received substantial patronage. Train service has recently been reactivated from New Haven to New London.

Preferential treatment for transit vehicles at traffic intersections are expected recommendations from the transit development study. The exact location of these priority movements will depend upon bus routings. A large bus loading area is being considered on Chapel Street near the Macy's shopping mall. Reserved bus lanes and special traffic control equipment may be used in this location.

Exclusive busways have been considered in a number of locations in the region. ~~Buses presently have a problem in crossing the Quinnipiac River~~ from the east into New Haven on I-95. A lane reserved for carpool vehicles and buses has been proposed, however, there are difficulties with lane arrangement on either side of the river bridge and with lane continuity. The Canal Railroad line, which runs north from New Haven into Cheshire, was studied as an exclusive busway. There are problems in dealing with the Railroad and in disrupting an established community in the north end of New Haven.

Priority movements for transit vehicles in town and exclusive busways are recognized as being important to public transport in the region. The Conn DOT express bus service and commuter carpool lots have been a significant factor in reducing automobile congestion. Improvements in the express bus service are recognizable. Removing the constraints of running buses only "on" peak and "on" expressways, allowing one-way fares and locating parking lots near small centers rather than interchanges are a number of changes which are considered to increase patronage. The planning agency disagrees with the present fare structure which subsidizes the long distance commuter, i.e., discounts for large numbers of long trips. A similar approach is taken

to the various types of expressway control and ramp metering. These techniques are viewed as paying commuters for living far away from the urban center.

The towns in the region have assumed different postures on the commitment to public transportation. In a number of cases, future development has been planned with the service limitations of public transport in mind. The planned unit development concept is recognized as preferable to large lot zoning for transit service. However, recent experience with this type of development has not been good due to the quality of the design features.

There is a significant number of residents in the region whose trips are amenable to public transportation, particularly commuting to work. Transit is presently lacking in service to certain areas, is less convenient and costs more than automobile commuting. Highway service duplicates all transit routes. Rectifying the inefficiencies in routes and schedules and the provision of more adequate terminal facilities will certainly assist in substituting transit for automobile usage.

Southeastern Connecticut Region

Automobile congestion occurs during the commuter hours in and around the centers of Norwich and New London. Commuter congestion also occurs in the Route 32 and Route 12 corridors, north-south on both sides of the Thames River. I-95 is congested during the peak hours, particularly near the Gold Star Memorial Bridge construction site. Traffic volumes along the shore increase during the summer months. Congestion occurs on summer weekends along Connecticut Route 2, I-95, U.S. Route 1 and Connecticut Route 156.

Highway construction projects aimed at alleviating construction are the reconstruction of I-95 in New London and Groton (the Gold Star Memorial Bridge), the extension of Route 11 to the Connecticut Turnpike, a new river bridge in the center of Norwich (Route 82), and the controversial river bridge in Niantic (Route 156). These projects are designed to increase capacity at recognized bottlenecks in traffic flow. Improvements to the public transportation system are directed at obtaining a better modal balance and therefore at reducing the detrimental effects of automobile congestion.

Transportation management techniques designed to reduce the amount of traffic are acceptable in the region. However, the region prefers incentives to a modal switch and is wary of measures which restrict travel. Improving roadway facilities is not always considered the best approach to transportation problems. There was a proposal to convert the "Captain's Walk" area in New London to a pedestrian mall. This project was abandoned due to the opposition of local merchants. There are no other areas or specific streets in the region where advantages in controlling automobile usage are recognized. Bikeways are considered as a recreational feature of the region's transportation system.

A regional development plan was adopted in 1967 and is presently undergoing a major revision. The policy toward urban development is typified as "controlled growth." The region is not only attempting to control the location and amount of development, but is also concerned with the type of new industry. A good percentage of the industrial activity in the region is directly related to federal spending on defense contracts. The region is actively trying to broaden its economic base with non-defense industry in order not to be totally dependent on the federal defense budget.

Zoning and subdivision regulations administered by local commissions are the primary methods of controlling growth. Inland and tidal wetland acts

and the indirect source regulations are also recognized methods of directing urban development. Flood plain zoning and coastal area management programs are controls on land adjacent to the region's waterways. The provision of urban services and transportation accessibility affect location decisions in the region. There is ample developable land in the region.

Trend projections indicate a doubling of the region's population in the next twenty-five years. The water supply system, watersheds, reservoirs and distribution system, have been overtaxed with the present population.

There are, however, potential reservoir sites which will be able to handle the expected increases in water consumption. The region has had an historical problem with waste water treatment. The continuation of development at high growth rates can only complicate these problems. The transportation system with the programmed improvements, is considered generally adequate, with the exception of a north-south expressway east of the Thames River. Accessibility and highway capacity are recognized as controlling locating decisions in the region.

Urban-type development is being planned for along both sides of the Thames River, with concentrations in New London, Norwich and Groton. This "development core" will include high density housing, the major employment centers and regional commercial activity. Medium density development is expected in the existing village centers and other planned locations, suitable for new development. The New London-Groton and Norwich areas will remain the important centers in the region.

Provisions for automobile parking are included in the town zoning and subdivision regulation. Municipal authorities plan for parking needs in Norwich, New London and Groton. Parking problems in these towns are related

to location, with a shortage of spaces in Norwich. New London is completing the construction of a municipal parking garage in the core area. Employer and shopping mall parking make up a significant portion of the region's parking supply. Parking controls would have a major impact on automobile usage in the region. However, public policy favors transit improvements as an incentive to switch mode of transport, and considers parking controls as drastic measures with possible negative repercussions on the region's economy. The region's plans to attract new industry from elsewhere in the country is dependent upon easy access and no restrictions on transportation.

The region is presently considering the formation of a transit district which will combine the operations of the existing smaller districts in New London-Groton and Norwich. Presently, there is only minimal local service in Norwich, Groton and New London on a fixed route basis. The regional planning agency is presently conducting a transit development study. Expected are improvements to the local bus lines, inter-town commuter oriented bus service from Norwich to New London and to Groton, and possibly the park and ride type bus service on the region's expressway system. Conn DOT operated carpool lots have had substantial patronage in the region, and rail service has re-opened from New London to New Haven. Conn DOT is studying the potential for rail service between New London and Worcester, Mass.

At the present time, there is no apparent need for either exclusive busways or preferential treatment for transit vehicles at traffic intersections. Public transportation operates on only a minimal scale and does not require these special treatments. The present lack of transit service and the relative convenience of highway travel are cited as reasons why public transport patronage is low. Land-use plans were not developed with the service capa-

bilities of public transportation in mind. However, the development plans do indicate an increased potential for bus service in the development core and between the village centers and the core area.

Southwestern Connecticut Region

Generally, constant workday congestion, worsening in the commuter peak hours, occurs in the centers of Greenwich, Stamford and Norwalk. Automobile congestion is also particularly bad along the Route 7 corridor from Norwalk into Wilton and along the U.S. Route 1/I-95 corridor through the region. There are many isolated intersections where congestion normally occurs, such as in the center of Darien, near the low clearance railroad bridge.

Relief from congestion is expected as a result of the Greenwich and Stamford urban systems projects and from highway improvements along U.S. Route 1. The Route 7 expressway is considered as alleviating congestion in that corridor. Improvements to the public transportation system are also recognized as ameliorating the effects of congestion. In fact, there is much concern in the region over the mode of transport in the Route 7 corridor. The expressway planned in the corridor duplicates transport service which could be provided at less cost by improving the rail line. A major decision, rail or highway, is required in this corridor.

Auto-free zones and pedestrian malls are not included in the regional development plan. Planners recognize advantages in controlling automobile usage in the Greenwich and Stamford central business districts. However, opposition from downtown retailers and other economic activities make restraint techniques politically unrealistic in these congested core areas.

There are no other areas or specific streets where constraints on automobile usage are considered advantageous. Bikeways are regarded as being for recreational use, with only small relief to automobile congestion. Additional safety features beyond pavement markings on highway shoulders are necessary for even the recreational purpose.

The region is actively controlling urban type growth. Development policies vary by town in the region. The urbanized towns are receptive to new development of quality design. The rural areas are using the "two-acre minimum" zoning ordinances to obtain their "no growth" policies. Zoning and subdivision regulations are the most important controls on land-use developments in the region. Urban type development is also affected by the state indirect source regulations, inland and tidal wetlands laws and coastal area management programs. A regional plan of development has been adopted.

The development plan calls for strong urban centers in Stamford and Norwalk, with development occurring south of the Merritt Parkway. Urban type development is also expected in the center of New Canaan. The existing linear urban corridor centered around I-95 will be expanded. The recent development of "campus office space" in the vicinity of the Merritt Parkway is considered a problem. These low density activities are viewed as dispersing urban functions within the region, and have serious implications for the provision of urban services, particularly transportation services. Norwalk is attempting to attract these light industrial activities along with commercial activities.

Zoning and subdivision regulations have provisions which specify the minimum parking facilities required in new developments. Municipal authorities plan parking needs within each of the major towns. Employer and shop-

ping mall parking are an important segment of the regional supply. In general, there is a shortage of parking in all the urbanized town centers. There is also a shortage of parking spaces at all the suburban railroad stations and at the Stamford station. Parking management techniques are considered effective methods of restraining automobile usage. However, improvements in public transportation are prerequisite, in order that there be no reduction in the number of trips. Adequate parking facilities are important to the economic viability of commercial activities in downtown areas.

It is interesting to note that a portion of the urban renewal project in Stamford was halted by the indirect source regulations due to the large increase in parking facilities. There is obviously a major conflict in interests which has yet to be resolved.

A regional transit development study is underway. Public transportation is used by a substantial number of commuters in the region, at a relatively high level of service. Commuter trains are available along the shore at comparably short headways. Passenger rail service is also provided from Danbury to Norwalk and from New Canaan to Stamford. Conn DOT has undertaken major efforts to upgrade these railroad services. The third phase of their planned improvements include the complete re-electrification of the Danbury Branch Line and the main line, completion of the signalization modernization, and the addition of 100 new commuter cars.

Local bus and inter-town bus service is available on a fixed route schedule along the high-density linear urban corridor. The transit development study is expected to recommend new feeder routes to the main coastal bus corridor, along with improvements in the mainline, such as scheduling,

amenities and information services. Inter-regional bus service is available to Danbury, Waterbury, New Haven and Bridgeport. The town of Westport has been operating bus service under a demonstration grant from UMTA which includes demand responsive bus service and a new fare structure. Bus service north of the Merritt Parkway is expected to be demand responsive both inter-town and to the main bus corridor. A major decision is required concerning the primary public transportation mode, rail or bus. Rail lines are parallel to the region's highway corridors, and service overlaps. A considerable amount of coordination and additional terminal facilities would do much to improve transit service.

The transit development study is expected to recommend priority movements for transit vehicles at traffic intersections in the major urban centers. Reserved lanes for buses will depend on the headway ~~been~~ made by buses and the amount of delay incurred by the buses. Exclusive busways will be required if the region opts for buses as the major transport mode. Both preferential bus treatments are considered an important part of the region's public transportation plans.

The high density urban corridor along the shore is able to support a high level of public transportation service. North of this corridor, the land-use pattern is dispersed, with only minimal transit service feasible. Residents in this area are more concerned about property values than transit service. While the region presently supports a high level of public transportation, there are difficulties expected in increasing transit patronage. The region prefers incentives to switching modes rather than disincentives to automobile usage.

Valley Region

Automobile congestion occurs during the commuter peak hours on the surface streets of Shelton and Derby. A major reason for this congestion is the capacity restrictions crossing the Housatonic and Naugatuck Rivers. Some congestion occurs on the Route 8 expressway and ramps due to the lack of modern highway design features. The Route 34 corridor leading into New Haven is also congested during the commuter peaks. To a lesser degree, congestion occurs on Route 110 north of the center of Shelton during commuter hours.

Improvements to the existing roadway system are the primary methods being considered to alleviate automobile congestion. Urban systems projects, such as traffic signal improvements, approach widening and channelization, are valued for improving traffic flow as well as for providing a safer driving environment. The expansion of the existing public transportation system is also recognized as a method to relieve automobile congestion. Methods designed to reduce the amount of automobile traffic are acceptable, in that alternate modes of transportation are improved. Traffic restraint techniques which tend to reduce the amount of travel are not acceptable.

There are no areas or specific streets in the region where advantages in controlling automobile usage are recognized. Auto-free zones and pedestrian malls are not included in the region's development plans. The automobile is the primary mode of transport in the region; and, policies restraining its use are not received well. Bikeways are considered a recreational feature of the transportation system. Safety features, beyond pavement markings on highway shoulders, are required for extensive use of the bikeways.

The region's policy toward urban growth is typified as controlling development at a slow rate. There are strong community ties in the region and the valley is somewhat isolated by consumer preference. A large portion of the region was identified in the 1970 Census as being part of the Bridgeport Urbanized Area. A regional plan of development has been adopted by the four towns in the region.

Urban type growth is controlled by zoning and subdivision regulations, inland wetland laws, indirect source regulations and coastal area management programs. The provision of public sewage facilities is considered a control on development. The towns in the region are presently extending the sewer system in selected locations. Developable land in the region is comparatively expensive. Topography and surficial geography conditions limit certain types of development. Accessibility to the region is considered adequate, and will be improved with the construction of Route 8 expressway to the Merritt Parkway. Accessibility within the region is acceptable, with the exception of the lack of river crossings in an east-west direction.

Urban type growth is expected in the existing town centers and along the Naugatuck River. A major new industrial area is planned in Shelton adjacent to the unfinished portion of the Route 8 expressway. Commercial activity is also planned in this area. The regional development plan indicates a stronger urbanized area, in a linear configuration along the Naugatuck River and Route 8. The remainder of the region is proposed for low density residential or open space use.

Zoning and subdivision regulations provide for the minimum parking facilities required in new private sector development. Municipal authorities control

and plan for public parking facilities in all the region's towns. Employer and shopping mall parking make up a significant portion of the regional supply. Conn DOT commuter carpool lots are considered important, in that these lots reduce demand for core area parking in the region as well as in Bridgeport and New Haven. There is a shortage of parking spaces in Derby and location problems in Shelton and Derby. While parking controls might be an effective method of reducing automobile usage in the region, these measures are not politically acceptable. Incentives to switch mode of transport, such as

improvements to transit, are preferred.

A regional transit district has been formed. An UMTA demonstration grant is in the second three year period of assisting the region in providing public transportation. Presently, demand-responsive, fixed-route and subscription bus service is being provided in the region. Inter-region and inter-state bus service is also available. The UMTA is also approving a capital improvement grant for the construction of a multimodal transportation center near Route 8 and the rail line in Ansonia. There have been planning studies considering the revival of the West-end rail commuter service, from Waterbury to Bridgeport through the region.

At the present time, there is no need for preferential treatment for transit vehicles either at traffic intersections or on expressways. There is the possibility that in the long-range future priority movements and exclusive busways will be necessary, dependent upon the revitalization of rail-commuter service.

Residents are primarily auto-oriented. However, the carpooling lots seem to be working well; and, public transportation is providing service to increasing numbers of residents. Efforts to substitute transit for automobile use are considered a function of the relative costs and service. The

UMTA grants have made a significant modal changes. The linear urban corridor proposed in the development plan should be readily serviced by public transportation. Provisions for the use of planned unit developments are included in the town zoning ordinances.

Windham Region

Automobile congestion occurs during commuter hours on Route 195 between Storrs and Willimantic, and on U.S. Route 6 in Windham and Columbia. Congestion also occurs during the day, worsening in the commuter peaks, on the University of Connecticut campus in Storrs. Traffic delays exist on major routes leading to the University during these commuter periods. The University has followed a policy of attempting to remove the automobiles campus core. At the present time, fringe parking lots for students with complementary bus service are being used. Parking management techniques are certainly effective control measures on automobile usage in the University environment. Congestion is not as important a problem as the economic development of the region. Policies designed to alleviate congestion are typified by expanded roadway facilities.

The completion of I-84 from Hartford to Providence is considered essential to the economic viability of Willimantic, and at the same time as reducing congestion on U.S. Route 6. The reconstruction of Route 195 or construction of an alternate by-pass route are viewed as methods of relieving congestion in this area.

With the exception of the University campus, there are no areas or specific streets where advantages are to be gained by restraining automobile usage. In fact accessibility to and within the region are considered major

factors in attracting industry to the area. There are no plans for auto-free zones or pedestrian malls except at the Storrs campus. Bikeways are generally considered a recreational feature of the transportation system, and not a significant relief to automobile congestion.

Policy toward urban type growth varies by town in the region. The City of Willimantic is actively searching for new industry to broaden its economic base. The more rural towns do not want urban development and maintain "no" growth policies. Zoning and subdivision regulations, inland wetlands laws, and indirect source regulations are measures used to control land-use. The towns have not adopted a regional plan of development.

The major planning problem in the region is related to the present high unemployment rates. The region has been losing its major basic industries in recent years, particularly in Willimantic. Inadequate accessibility has been cited by some planners as an important reason for these losses. The completion of I-84 from Hartford to Providence and the intentional diversification of industrial activity are recognizable programs intended to produce more jobs over the long run.

Urban type development is expected to occur in and around the City of Willimantic. According to the 1970 Census there were no "urbanized" areas in the region. Willimantic is expected to remain the center of the region. Medium and low density development is expected along transportation corridors and in the existing town centers.

Zoning and subdivision regulations include provisions for the minimum parking spaces required in new developments. Parking facilities are planned and operated by the large towns in region and by the University of Connecticut.

With the exception of the Storrs campus, parking is generally not a problem throughout the region.

The regional plans for public transportation include the possibility of demand-responsive service on mini-buses to the elderly and handicapped. Taxis are presently providing the only transit operations in Willimantic, except for commuter buses from the region to Pratt and Whitney Aircraft Corp. in East Hartford. The only local bus service in existence or being planned is on the University campus. There is no need for any sort of preferential treatment of transit vehicles except possibly at the University. The region's development plans are not based on the service capabilities of public transportation. The dispersed land-use patterns make it difficult to substitute transit for the automobile.

CONCLUSIONS

Based on the study of the existing situations and conditions in the State of Connecticut, there are a number of conclusions that may be drawn with respect to traffic restraint. It was not the intent of the study to identify specific solutions for the complex transport problems of the State; ~~thus the conclusions reflect considerations that must be made if traffic~~ restraint is being contemplated.

It must be recognized that there is considerable diversity in the nature of the problems of the various regions, and there is no universal solution to these problems. The application of restraint techniques depends upon the specific problem to be solved and the goals or objectives to be achieved.

Obviously, there are areas in the State where greater control on the use of the automobile is desired. Generally, these areas are part of the recognized urban areas where automobile congestion is a major problem. It should also be noted that these same areas along the Stamford - Bridgeport - New Haven - Hartford - Springfield corridor are facing the greatest problems with respect to compliance with air quality requirements. In these areas, there are recommendations which represent the application of traffic restraint. The application of restraint techniques in the State, therefore, is a reality which must be considered in the immediate future.

More specifically, the following conclusions may be drawn:

- a. There is evidence that within each region the separate town governments hold diverse concepts of the problems and potential solutions.

For example, typically the major cities in the State are actively trying to improve their economic base activities. Transportation improvements, particularly highway facilities, are considered essential to this end. At the same time, suburban and exurban towns may consider the increased accessibility and transportation capacity as being contrary to "no growth" or "controlled growth" policies.

b. Long-range, comprehensive planning is impractical without some control over land use. Planning without control over land-use is like treating symptoms rather than the cause. There are various instances where transportation facilities were constructed to service a certain type land-use pattern, only to have this pattern drastically altered in a few years after construction. Attempts to apply restraint without proper land use control could result in undesirable changes in development.

c. Given that long-range, comprehensive planning is desirable. there are many arguments for planning functions being centralized in a regional or metropolitan type of government. Realistically, certain urban services are most efficiently planned for at the regional level. Furthermore there is a need to relate the planning function more closely to implementation. Presently, the regional planning agencies have only advisory powers and can only advocate the regional perspective in policy decisions. Land use issues are resolved by each town in the State.

d. The restraint of automobile traffic should be recognized as a proper function of government when the negative effects of automobile traffic outweigh the benefits. There are many complex relationships between the provision of transportation service and other urban activities. Controlling

automobile usage can be a valuable tool in directing urban growth. Traffic restraint techniques can only be used effectively if higher level development goals have been developed on which to base such transportation decisions.

e. The effects of restraining automobile use, even the modification of highway network in one locality, are viewed as having regional consequences. Therefore, restraint is best considered from the planning perspective of a larger geographical area than town government.

f. Generally, "incentives for transit usage" are favored over "disincentives to automobile usage." The difference at first may appear a matter of words. However, there is a definite attitude against controlling automobile usage.

In the cases where restraint techniques are recognized with some merit, public transportation system improvements are considered essential prior to and duplicating the automobile services controlled. Restraint techniques which tend to reduce travel are considered counterproductive in all the regions.

g. Planning for public transportation has taken on a regional perspective, due to the dispersal of urban functions. The dispersed land-use patterns, in many cases, puts severe limitations on the service capabilities of public transport.

Given the goal of maintaining and improving the public transportation system, traffic restraint techniques may be required to improve the relative costs and convenience of transit over highways. There are cases where different agencies are attempting to improve service for competing modes. It should be recognized that without other pricing changes, the public transport mode requires substantial service advantages in order to attract patrons from the highway mode.

h. The concept of "reducing the demand for highway services," rather than expanding roadway facilities, as a method of alleviating congestion has not been fully embraced. The idea that quick, efficient highway accessibility between all points should be provided still persists.

i. The development of auto-free zones or pedestrian malls in congested downtown areas has received little support in Connecticut. Downtown merchants considered street visibility and surplus parking facilities essential to their competition with suburban retailers.

j. Bikeways are not considered a realistic alternate to automobile commuting, except in a few locations. The high cost of construction and maintenance of separate bike facilities are considered to be more than the benefits.

k. Proposals to increase the price of fuel as a means of discouraging travel were considered favorably by some of the regions. In reality, this is a form of road pricing which is applied on an areawide bases. While such a move might aid in achieving goals associated with fuel or energy conservation, it places penalties on areas which must rely on the automobile for accessibility. Increases in fuel prices cannot be directed to only those locations in which automobile accessibility is to be discouraged.

l. While the relationship between automobile usage and the amount and location of terminal parking facilities was clearly understood, there was widespread disapproval of utilizing parking controls to affect constraint on automobile usage. Concern over the adverse effects on commercial activities were cited. Again, parking controls and supply must be coordinated with overall development goals.

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APPENDIX A

INTERVIEW QUESTIONS

A. Traffic

- 1.a. Are there areas with traffic problems, such as congestion?
- b. What methods are being considered to alleviate congestion?
- c. Would you consider methods designed to reduce the amount of traffic, rather than expansion of roadway facilities?

- d. In your opinion are improved roadway facilities the best solution?
2. Are there areas under your jurisdiction where you see the need to control or restrain the use of the automobile?
If so, where and by what means?
3. Are there specific streets where you see the need to restrict the flow of traffic?
If yes, which streets, and why?
4. Are auto-free zones being considered in the long range development plan?
5. Are bikeways a partial solution to the region's transport problems?

B. Urban Growth

1. What is the region's policy towards future urban growth?
 - a. no growth
 - b. controlled growth
 - c. uncontrolled growth
2. What methods are being used to control growth?
3. Does the region have a formal growth policy?

4.a. What growth problems is the region experiencing at the present time?

b. To what extent is transport a part of these problems?

5. Assuming growth, which locations will be used to accommodate the expansion?

6. Do your plans for the future include a strong central city or a dispersed urban form?

C. Parking

1. What is the basis for planning parking needs within your region?

2. Are there parking problems within the region?

If so, what type, why and where?

3. If you wish to restrict automobile use, do you consider parking controls as an effective means to discourage the use of the automobile?

D. Public Transportation

1. What are the region's plans for public transport?

2. Is there a need to give public transport priority movements?

3. Are there plans for exclusive busways?

4. Do you envision either "busway" or "priority movements" as the solution to the region's public transport problems?

5. What steps have been taken to insure that public transport can effectively serve the future development?

6. Assuming that use of the automobile can be controlled, to what extent could public transport provide a substitute?

E. Environmental

1. Are there areas within the region where the automobile is the major contributor to substandard air quality?
 2. With future development, will there be areas of substandard air quality?
 3. In your opinion, which of the following methods will be the most effective in achieving the NAAQS:
 - a. the federal motor vehicle emission control program
 - b. expansion of the carpool matching program
 - c. employer incentive programs
 - d. bikeways
 - e. transit improvements
 - f. parking management regulations
 - g. heavy-duty vehicle retrofit
 - h. inspection/maintenance
 - i. improved traffic flow
 - j. future land use plans which reduce the need for transportation.
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APPENDIX B

PERSONS INTERVIEWED

Len Tolisano - Transportation Planner - Capitol Region Council of Government

Richard DeLuca - Transportation Planner - Central Connecticut Regional
Planning Agency

Peter Dorpalen - Transportation Planner - Central Naugatuck Valley
Regional Planning Agency

Stanley Grieman - Regional Planner - Connecticut River Estuary Regional
Planning Agency

William E. Minor and Jonathan C. Chew - Regional Planners - Greater Bridge-
port Regional Planning Agency

John J. Olshesky - Transportation Planner - Housatonic Valley Council of
Elected Officials

Philip Smith - Transportation Planner - Litchfield Hills Regional Planning
Agency

Lenard K. Tunderman - Transportation Planner - Midstate Regional Planning
Agency

Charles Boster, Director; Karen Olsen, Transportation Planner - Northeastern
Connecticut Regional Planning Agency

Jay Sarcossa - Regional Planner - Northwestern Connecticut Regional Planning
Agency

Herbert Burstein - Transportation Planner - Regional Planning Agency of
South Central Connecticut

Ben Mallick - Transportation Planner - Southeastern Connecticut Regional
Planning Agency

Peggy Brown - Transportation Planner - Southwestern Connecticut Regional
Planning Agency

Donna Vlasak - Transportation Planner - Valley Regional Planning Agency

Margaret Hemphill - Regional Planner, and David Fatell - Transportation
Planner - Windham Regional Planning Agency

John Cavallero - Director of Traffic and Parking - City of New Haven

Michael Dudeck - Assistant Traffic Engineer - City of Hartford

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John Gove