

# STATE CAPITOL AREA PLAZA

A STUDY OF ALTERNATIVE DEVELOPMENT PLANS

A STUDY OF ALTERNATIVE DEVELOPMENT PLANS  
FOR THE STATE CAPITOL AREA PLAZA AT TOPEKA

by

132

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B. Arch., Bangladesh Engineering University, 1971

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## PREFACE

During the summer of 1975, I had the opportunity to visit the State Capitol Area for three months. The distinct features of this area interested me very much. It was at this time that I received exposure to this particular project from the then State Highway Commission of Kansas. I found that this project offered an excellent opportunity to work with the diverse elements of planning and decided to work on it. I believe that this project has brought further exposure in my learning process of the field of planning.

The study was undertaken in two parts. The first part deals with a background study of the project and of the planning process. The second part deals with the development and evaluation of several alternative plans. Some general observations are given at the end.

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## INTRODUCTION

Every site, natural or man-made, is to some degree unique; a web of things and activities. This web imposes limitations, and also contains new possibilities. All forms of planning analyses lead to the crystallization and synthesis of different elements and considerations into a proposed scheme or several alternate schemes. This coalescence of parts and shaping of an end resolution is planning, whether the product is a design for a physical facility or a master plan for a city.

Planning a site is the process of considering separately the diverse elements involved in a particular environment, inter-relating them one with another, determining which will be incorporated, and finally, integrating those into the most reasonable solution for an specified purpose. Site planning has been defined by Kevin Lynch as, "the art of arranging objects on the external physical environment in harmony with each other to support human activities."<sup>1</sup>

Site planning, like any other branch of planning, seeks to achieve a solution to certain existing problem or resolution to new possibilities, either for a single site or for an entire community. A site plan can be considered as one that deals



with normally a particular contiguous area under the control of one agency, and with the use of the land and the physical facilities upon it.

This study deals with the planning of a site which may best be described as the administrative center of the state of Kansas. The site is the State Capitol Area at Topeka and the issue is to undertake a planning study for creating a unified and consolidated administrative complex with the possibility of a centralized 'plaza' or 'square', which would accommodate the needs and demands of physical requirements for providing public services, and in addition, would preserve and emphasize the prestigious impact of this landmark center.

The State Capitol Area at Topeka is one of the few sites which has survived and retained the characteristics of traditional administrative centers of American cities. Such characteristics are elaborated in section 1.5. Today, in the face of some of the common problems of growing cities, the Capitol Area has the unique task of promoting greater focus on the image of this center, in addition to providing for the physical facilities. The Capitol Area Plaza Authority (CAPA), the agency responsible

for administering the planning and development activities for the Capitol Area, have sought solutions along these lines. While attempts have been made in the past and several plans were adopted at various times, none of these could be implemented successfully. Various reasons could be advanced to explain this consequence, but important factors become apparent. First, all the previous plans emphasized the economic and engineering aspects of their solutions. They attempted more to accommodate physical needs, were more concerned with bringing solutions to the problems in existence rather than with lending some new insight into the real need. Secondly, most plans attempted to present one Master Plan, calling it 'the Master Plan' for the Capitol Area. This gave the decision-makers a choice that was really no choice: 1) to implement the plan as proposed, or 2) not to implement it. Obviously, the second happened to be the choice in all cases.

Thus, this study was undertaken, with the problems of the previous plans in mind, as an effort to find solutions which would be free of those problems.

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## HISTORY AND LOCATION

### 1.1

The existence of the present Capitol Area grounds dates to 1862, when the Topeka Town Association designated twenty acres of land in the center of Topeka for a Capitol Square. The first two buildings to be constructed on the site were the Capitol Building in 1866 and the Memorial Building in 1914.<sup>2</sup> Since then more buildings have been added to the site at various times to meet expanding needs for space. The first step of bringing all planning activities into the area was taken in 1955, when a state zoning area was created and the State Office Building Commission was assigned the responsibility of continuous reviewing of the site. In 1965, ground-work for a broad-based Master Plan for the Capitol Area was initiated. Black and Veatch Inc. performed the first planning studies.<sup>3</sup>

On June 8, 1966, a tornado struck the city of Topeka and did much damage to the area. At this stage, new efforts to create a State Capitol Area Plaza were taken. The Capitol Area Planning Commission, created in 1965, started to acquire the site, and in June, 1968, the commission initiated contracts with SUA Inc. of California. (The full name of this company was not available from any source). The original SUA study was completed

in 1968 and the final report contained specific recommendations and detailed statistical analyses of space needs for each division and section of all departments and agencies, projected for five year intervals up to the year 1995.<sup>4</sup>

In 1969, Kansas Architectural and Planning Associates was selected, first to develop conceptual plans of the project, which was completed in late 1969. At this stage, the official name of the commission was changed to Capitol Area Plaza Authority (CAPA). In 1971, Schaefer, Schirmer and Eflin Associates were assigned to update space and utility requirements and to prepare initial architectural plans for the main plaza.<sup>5</sup> Recently, Oblinger Smith Associates of Kansas has been assigned to prepare new conceptual plans for the area. Preliminary plans were completed by this firm, but the future of the plans is unknown.

Although all the plans, as above, were completed and some of them even adopted as the official plan, none of them were implemented successfully. While an elaborate evaluation of the above-mentioned plans was considered to be beyond the scope of this study, a brief review revealed that all the plans had certain individual merits, but few drawbacks were found in common

in all the plans. For example, these plans lacked flexibility, offered little choice for the decision-makers, such as, presenting different alternatives, were not comprehensive in nature etc. It could not be determined if none of the plans were implemented because of any of their drawbacks. The State Architect's Office, which performs the secretarial job for CAPA, would not give any more information in this regard than saying that they were political decisions.

The present location of the Capitol Area in relation to the City of Topeka is shown in Figure 1.1.1. The primary plaza is defined by the following streets:

- Eight Street on the north,
- Jackson Street on the east,
- Topeka Avenue on the west, and
- Twelfth Street on the south.

The twenty three block Capitol Area is defined by the following streets, as shown in Figure 1.1.2:

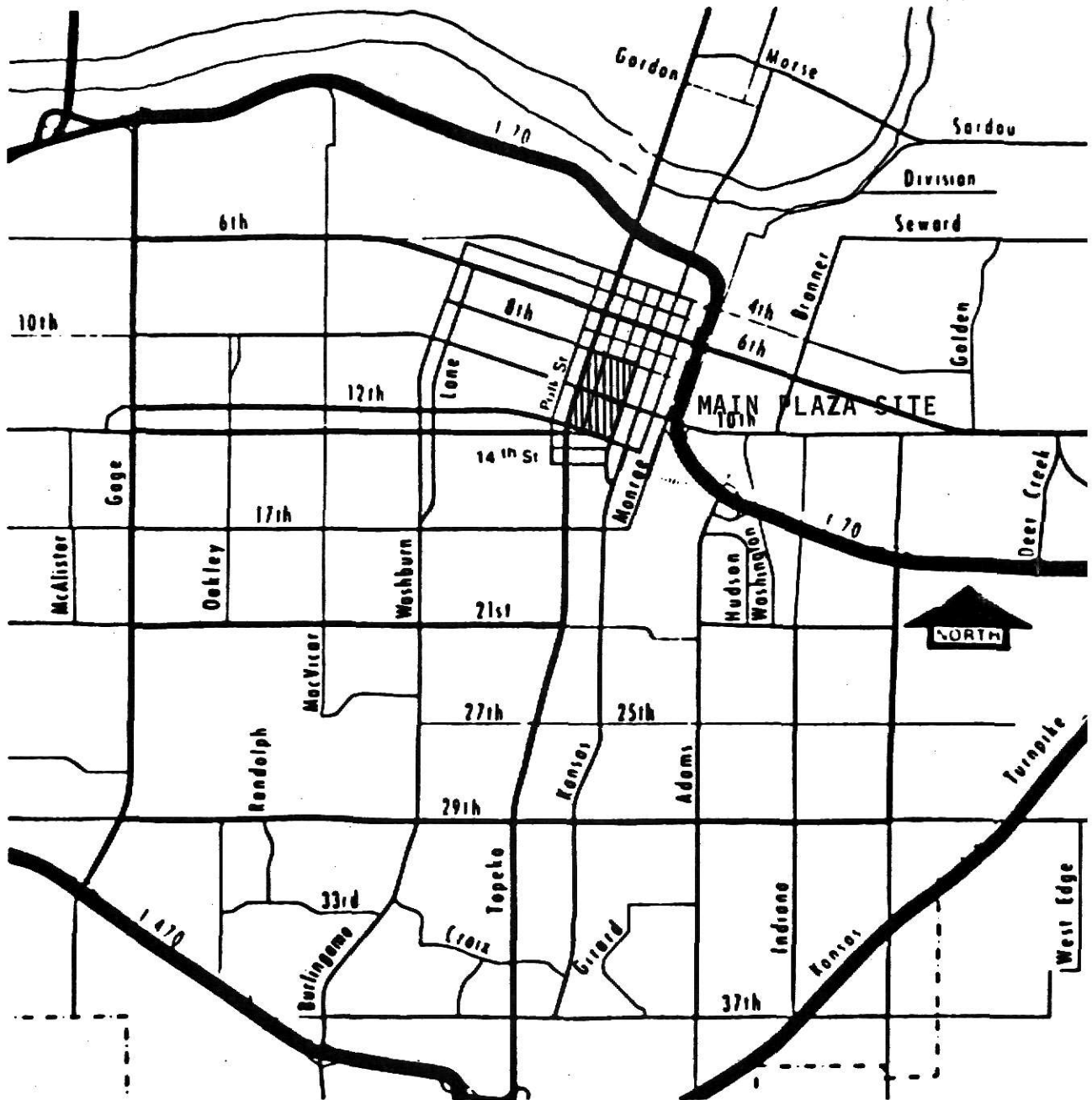
- Seventh Street on the north,
- Kansas Avenue on the east,
- Polk Street on the west, and
- Fourteenth Street on the south.

7

This is a detailed street map of downtown Lowell, Massachusetts. The map features a grid of streets with various labels. Key locations include 'Capitol Plaza' in the center, 'Washburn University' to its south, and the 'Municipal Airport' to the northeast. Major streets shown include 'Lower Silver Lake Rd' at the top, 'Gordon' and 'Sargent' running vertically, and 'Merrill' and 'Mudge' running horizontally. A north arrow is positioned in the bottom left corner. The map uses solid lines for streets and dashed lines for other boundaries or features.



Main Plaza Site of the State Capitol Area





The State Capitol of Kansas and its present grounds at Topeka have traditionally been a source of pride for the citizens of this state because of its sentimental value. The State Legislature, in recognition of this fact, have taken steps from time to time to provide and maintain a Capitol Area, which is adequate, efficient and a genuine center of prestige. The steps taken by the legislature in this respect have been discussed in the previous section.

The state government of Kansas is involved with serving a growing number of citizens and with providing ever increasing kinds of services. These factors and others have led to a consistent need for employment of more people, and this consistent increase in employees and services demands a highly specialized employment center. This involvement of activities in one center inevitably results in complex problems, both administrative and physical. Physical problems involve space, transportation, utilities, etc. Dispersal of service units over various sites, rather than concentrating them at one site, is also possible; but since the authority has desired to consolidate as many units as possible in one unified site,

a comparative study of advantages and disadvantages of the two possibilities was not considered relevant.

Today, the state government is moving ever closer to the development of a unified Capitol Area complex, dedicated to the needs and environments for the future. The Capitol Area Plaza Authority, which is assigned with the responsibility of undertaking this task, is currently in the process of achieving a Development Plan for the area, which would meet the following requirements:

- 1) Would consolidate the area as an administrative complex,
- 2) Would consider the possibility of a centralized 'plaza',
- 3) Would accommodate the needs and demands of physical facilities,
- 4) Would be comprehensive, long-range and flexible enough to meet the changing requirements of the future.

While all the previous plans were directed to meet the abovementioned requirements, a few problems with these attempts were observed. Two problems were important. First, several alternative plans were not presented to give the decision-makers enough choice, and second, the plans were not evaluated to

test their ability to meet the specified requirements or their side effects.

This study was initiated with an attempt to use the case of the Capitol Area Plaza for applying the planning and evaluating process, in the light of the problems of previous plans. Therefore, the purpose of this study may be stated as two-fold:

1. study the planning process for preparing alternative plans, and based on a selected process, prepare several conceptual plans for the site which would meet specified requirements,
2. study the methodology of evaluating alternative plans, and select one methodology to test the several plans for the site.

The final outcome would be to recommend one conceptual plan from the set of plans.

The scope of this study included the following stages:

- 1) Reviewing the literature for selection of process,
- 2) Establishing of a set of criteria with respect to goals,
- 3) Studying the functional and characteristic aspects of 'plaza',
- 4) Analyzing the existing and projected conditions,
- 5) Preparing alternative conceptual plans to meet requirements,
- 6) Testing alternative plans by applying selected methodology.

All goals and objectives stem from basic values that are important to people, and the goals rest heavily on inherent values. Associated with each goal is at least one strongly defined objective and a corresponding criterion. Professor John Dickey of Virginia State University defined a hierarchy of values and corresponding goals and objectives, followed by a set of criteria.<sup>6</sup> According to Prof. Dickey:

"Value is an element of a shared symbolic system, acquired through social learning, which serves as a guide for the selection from among perceived alternatives of orientation. Goal is an articulation of values, formulated in the light of identified issues and problems, toward the attainment of which policies and decisions are directed. Objective is a specific statement denoting a measurable end to be reached or achieved for a particular group of people, usually in a span of time. Criterion is an explicit attribute or characteristic used for the purpose of comparative evaluation."<sup>7</sup>

In order to establish the set of values-goals-objectives-criteria, various reports on legislative actions and current development trends, in addition to several past studies on the planning activities for the site were reviewed, after which the set, as follows, was considered appropriate to reflect the needs. An inter-relation of the components of the set

was established according to the description given by Prof. Dickey, an illustration of which is given in Figure 1.3.1. The value, goal, and objective components of the set are discussed in Appendix 1.3.1. The following is the description of the criterion component of the set. These criteria were used in the evaluation of the alternative plans in section 2.7.

1. Aesthetic:

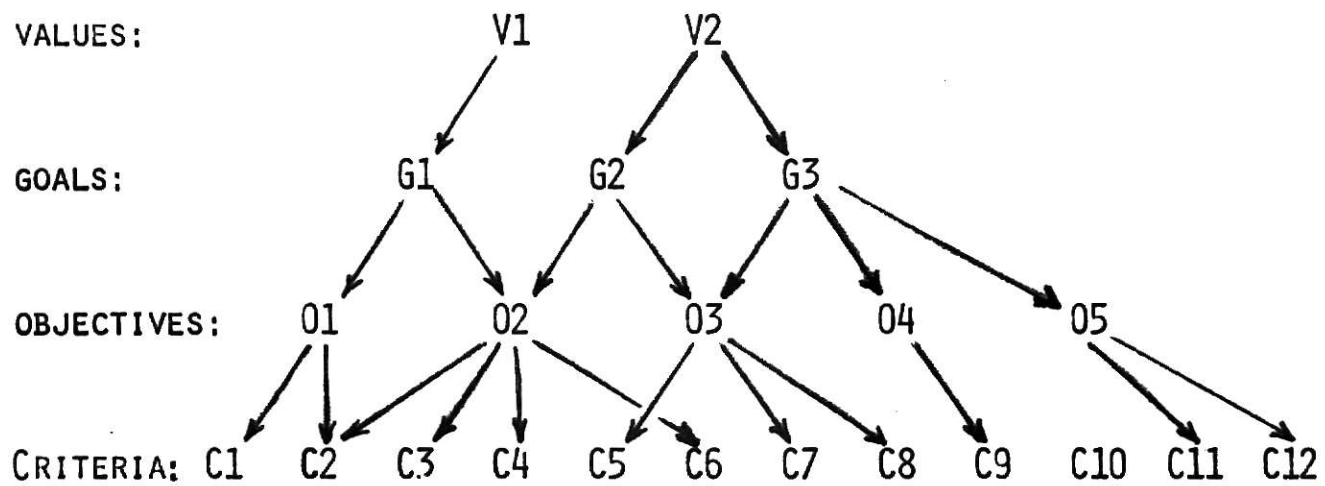
- A. Improve on-site visual impact.
- B. Improve off-site visual impact (urban-scape view from road).
- C. Improve mass-void relation between buildings and spaces.

2. Building Condition:

- A. Preserve buildings of good structural condition and historical significance.
- B. Reduce dislocation of buildings to accommodate other facilities.

3. Environment:

- A. Reduce noise and air-pollution effects from surroundings.
- B. Reduce drainage problem of on-site water.
- C. Reduce vibration of surfaces by vehicle or equipment.

Inter-relation of Values-Goals-Objectives-Criteria

4. Economic:

A. Reduce disruption and displacement of economic activity in surrounding areas.

B. Keep construction and maintenance cost within minimum.

5. Land Use:

A. Improve land use to create a uniform, conforming and congenial area.

B. Reduce major change in land use within minimum.

6. Natural Features:

A. Reduce disruption of existing natural features.

B. Improve surroundings with addition of natural elements.

7. Parking and Transit:

A. Reduce parking problems, both on-site and off-site.

B. Improve transit service facilities to the site.

8. Pedestrian Circulation:

A. Improve pedestrian access to all units on site.

B. Improve pedestrian integration with parking and transit.

C. Create areas to accommodate pedestrian amenities characteristic of 'plaza'.

D. Reduce pedestrian-vehicular conflicts.

9. Traffic Circulation:

- A. Improve on-site vehicular movement.
- B. Reduce through-site traffic disruption.
- C. Reduce potential for traffic congestion at intersections.
- D. Improve access to and from the site.

10. Socio-cultural:

- A. Provide for socio-cultural activities on site.
- B. Reflect the physical character of the state.

11. Space Use:

- A. Improve utilization of existing space.
- B. Provide additional space to meet requirements.
- C. Provide flexibility of space use to meet changing needs.

12. Utility and Services:

- A. Improve utility facilities where upgrading is needed.
- B. Reduce utility disruption and relocation.



It has been mentioned, in section 1.2, that one important issue of this study is to look into the possibility of a centralized plaza with characteristic features typical of a 'plaza' or 'square' which would emphasize the impact of an administrative center. Therefore, it was considered necessary to study the functions and features of a 'plaza'. The following is a brief discussion of the study undertaken.

Administrative centers take many urban forms, but are most often found in what is called a 'Central Courthouse square', which is a square usually centered around a courthouse. In many places, however, squares are developed around a civic center, a public library, city hall or other administrative unit, a historical landmark, etc. The traditional center of many American cities, 'The Square' is described by Dr. Edward Price, Professor of Geography at the University of Oregon as, "a rectangular block surrounded by streets, with the central structure - often the grandest and most ornate building in the community - standing alone in the middle of the square, and the city's leading public and commercial structures enclosing the square symmetrically on all four sides."<sup>8</sup>

Planned squares and plazas appeared as early as fifth century in ancient Greece and are clearly recognized as such by their use, such as a city center plaza, a market square or shopping plaza, a traffic center, a parvis etc. The village green in a small town, the central square of a residential neighborhood, the monumental plaza of a metropolis - all serve the same purpose. Their physical and psychological functions do not depend on size or scale. They resulted directly from the form of the buildings and streets, and served the purpose of humanizing people by mutual contact. In other words, a plaza or a square may be stated as a public space of some sort, representing a gathering place for the people and providing them with a shelter against the tension of rushing through the web of streets.

Paul Zucker, architect and author, designated plaza or square as a three-dimensional expansion of 'space' and defined it as, "a structural organization as a frame for human activities and is based on very definite factors; on the relation between the forms of the surrounding buildings, on their uniformity or variety, on their absolute dimensions and their proportions in

comparision with width and length of the open area, on the angle of the entering streets, and finally, on the location of three-dimensional accents."<sup>9</sup> According to Paul Zucker, the form of a plaza, like its function, may vary and is recognized by three space-confining elements: frame, floor and ceiling - the volumes of surrounding buildings being the frame, the patterns and levels of the surface being the floor and the heights of vertical structures giving the ceiling. The inter-relationship of these elements, combined with the functions offer the characteristics of a plaza.<sup>10</sup>

As a final word, it may be stated that the planning of a plaza involves the planning for pedestrians, the planning aspects of which are those that are inherent in or emanate most directly from the 'physical' man. Planning for pedestrians in urban centers had been badly neglected. Only recently, interest has turned toward this central formative element, because, no matter how people arrive at their place of work, they end up as pedestrians. Since the ultimate limit on the smooth functioning of an activity center is its provision for pedestrian circulation, it is important that high standards of amenities for the safety and convenience of pedestrians be maintained.

Briefly, the process of planning involves a system of inter-relating different elements constituting a particular area, which is derived by a schematic study and is incorporated in preliminary schemes depicting alternative solutions in space along with supporting analysis. From among the representations of these solutions, a preferred solution is selected which will permit working out a new and better scheme. After the adoption of a general solution, two categories of information are considered for final representation. One consists of the usual presentation drawings and relevant specifications which depict the three-dimensional and material characteristics of the proposed development. The other includes a variety of closely related information, analyses and decisions that are presented separately in many different forms such as graphs, charts, reports, tables, etc.

But before the stage of final presentation can be reached, the process of planning an environment is involved with a series of stages concerned with an inherently intricate system composed of many diverse parts. This study was approached with a review of the literature available on the planning and design process

currently in practice in order to achieve an ideal process. Although, for some time to come, it is expected that any fundamental advance is unlikely to evolve which will revolutionize the existing processes; in recent years significant improvements in various aspects of the process have come to practice in the individual or isolated planning efforts of several agencies and organizations. Therefore, this review has served to clarify the overall context of the mechanism. An elaborate discussion of this review is included in Appendix 1.5.1, while a brief summary of it is given in the following discussion.

While all the planning processes reviewed were rational, it was apparent that several of them were formulated to meet the needs of specific projects. However, there was a sense of agreement in the proper sequencing of activities in all the processes. One element present in many proposed processes was the preparation of several alternatives. This seemed to be a predominantly current trend. From this review, the process proposed by Lichfield, Kettle and Whitbred<sup>11</sup> was considered preferable for the purpose of this study, for reasons

such as its direct, comprehensive, less complex and general nature. The different stages of the process are given below, while an illustration of the linkages between the stages is included in Figure 1.5.1.

1. Preliminary Recognition and Definition of Problems

- A. Surveillance and analysis of relevant problems.
- B. Comparison of existing and projected conditions.
- C. Assessment of problem significance.

2. Decision To Act and Definition Of The Planning Task

- A. Decision to investigate the problems and alternative courses of action.
- B. Definition of the purpose of planning task.
- C. Formulation of goals for the plan.
- D. Formulation of approach to the study and to the design and evaluation of alternative plans.

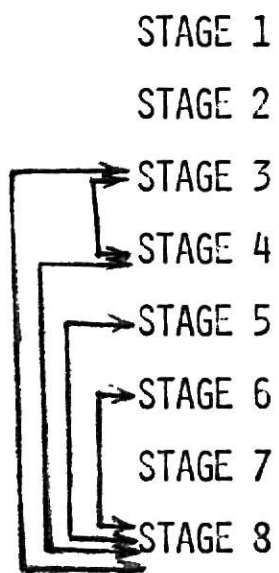
3. Data Collection, Analysis and Forecasting

- A. Collection and analysis of data relevant to the problem.
- B. Forecasting the scope for development.
- C. Determination of evaluation data requirements.

4. Determination of Constraints for design.

Planning Process Proposed by Lichfield, Kettle and  
Whitbred

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Source: Lichfield, Kettle and Wheatbread, Evaluation in the  
Planning Process.

- A. Formulation of constraints.
- B. Determination of measure for the constraints.
- 5. Plan Design
  - A. Selection of one or more design methods.
  - B. Use of design constraints to prepare alternative plans.
- 6. Testing of Alternative Plans
  - A. Testing for internal consistency.
  - B. Assessment of feasibility with respect to constraints.
- 7. Plan Evaluation
  - A. Measurement of levels of achievement of objectives.
  - B. Appraisal of the evidence produced.
  - C. Setting down of findings in a logical framework.
  - D. Making of recommendations to decision-makers.
- 8. Decision Making, Plan Implementation and Constant Reviewing
  - A. Collective choice of the preferred plan.
  - B. Initiation of plan implementation.
  - C. Observation and review of development.



The term 'evaluation' is used to denote the process of analyzing a number of plans or projects with a view to searching out their comparative advantages or disadvantages and the act of setting down the findings of such analyses in a logical framework. The essence of evaluation is the assessment of the comparative merits of different courses of action.

The advantages and disadvantages of plans can only be judged in relation to specific criteria, and thus a good plan is one which performs comparatively well according to the evaluation criteria laid down. Evaluation relates back in the planning process to the problem of generating a range of suitable plans from which the preferred possibility may be selected. The proposed method and criteria by which the plans are to be compared should therefore be used to guide the process of design and so directly influence the nature of the plans produced at the end.

A number of methods for evaluating alternative planning proposals, which either are in current use or have been recently advocated, were surveyed. Although a fully comprehen-

sive coverage of methods were not undertaken, the aim was to deal with those generally regarded as of major importance. This survey of evaluation methodologies revealed that all such methodologies could be categorized into two distinct categories depending on the type of approach they take; 1. Social-oriented methods and 2. Cost-oriented methods. Because of the clarity, for general public and for elected officials in particular, of the application of Social-oriented methods, there is a growing trend of inclining more towards this approach. On the other hand, because of over-emphasis on quantity rather than quality in the Cost-oriented approach and also because of its high technical nature, this approach has faced criticism in recent time. Considering these facts, only the Social-oriented methods were reviewed for making a final selection of a methodology. Under the Social-oriented approach, three methods were found to be in current practice, which are:

- A. Check-list of criteria
- B. Planning Balance Sheet Analysis (PBSA)
- C. Goals-Achievement Matrix (GAM)

An elaborate description of each of these three methodologies is given in Appendix 1.6.1. After a comparative study of these methodologies it was observed that, while each methodology had certain merits, the Goals-Achievement Matrix (GAM) method was more suitable with respect to applicability for this study. The reasons for preferring the GAM method may be summarized as follows:

First, this method enables the decision-makers to be brought into the planning process by allowing them to participate in the weighting of criteria. Also, because of its clarity of application, it is easily understandable to the general public for their review. Second, the attention given to equity consideration and the use of hierarchy of goals are distinguishing features of this method. In the evaluation matrix, areas are grouped according to an assessment of the fairness of the proposals. Third, the criteria are not valued in themselves but for their achievement of certain higher level goals. Conceptually, the criteria are said to be derived from a consideration of postulated ideals. Finally, the criteria employed are said to be multi-dimensional.

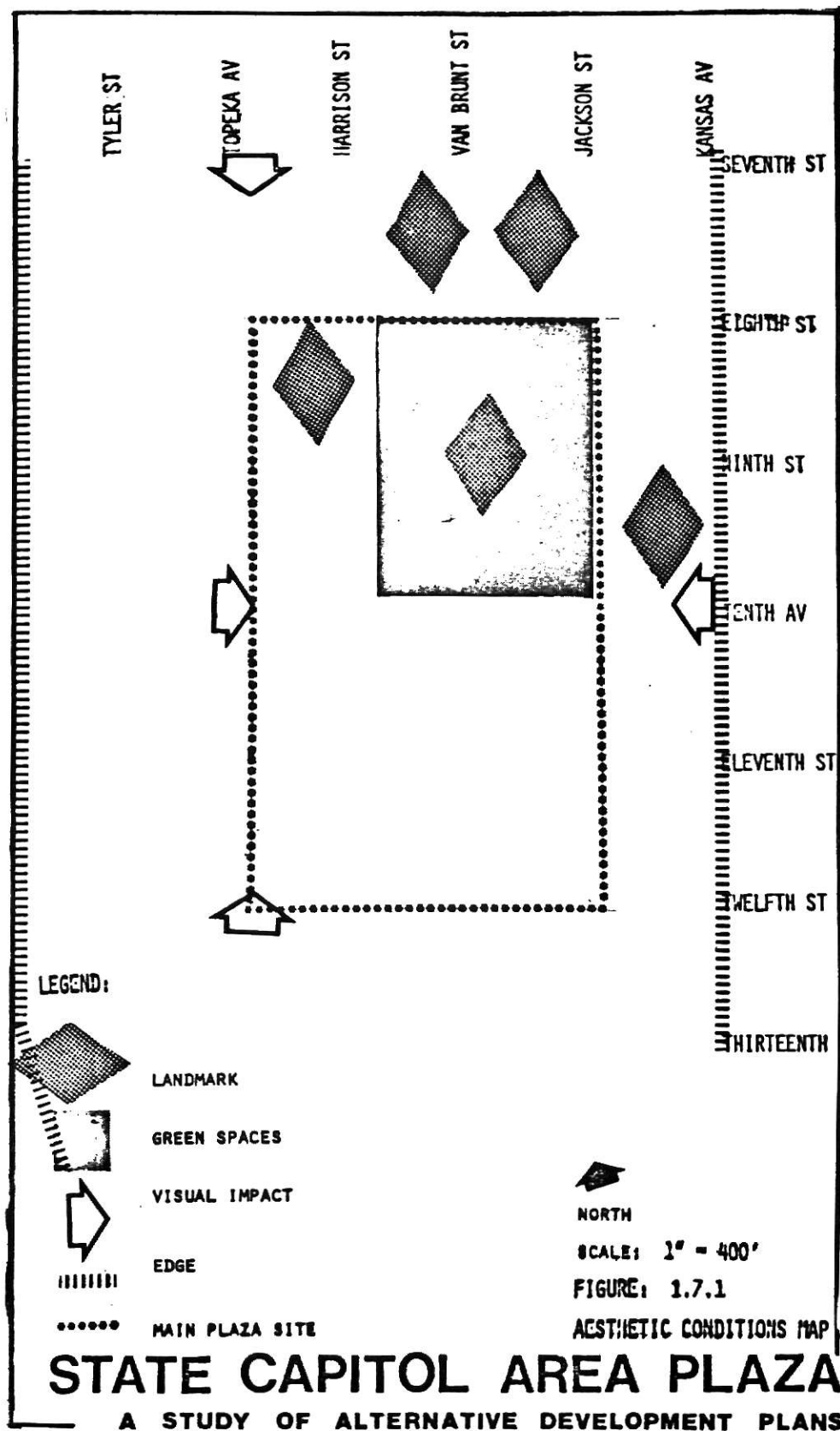
While Appendix 1.6.1 gives a more detailed discussion of the GAM method, the following are some of its important aspects. This method consists basically of attempting to determine the extent to which alternative plans will achieve a predetermined set of objectives. The progress toward or retrogression away from the goals or objectives represent respectively the advantages and disadvantages associated with the alternative plans. This method involves establishment of relative importance of the objectives, usually by a set of numerical values. The plans' level of achievement are estimated for each objective in turn and then weighted by the respective values of the objectives, the result being presented in a matrix. The weighted achievement levels are then summed up to give an overall index of goal achievement for each plan.

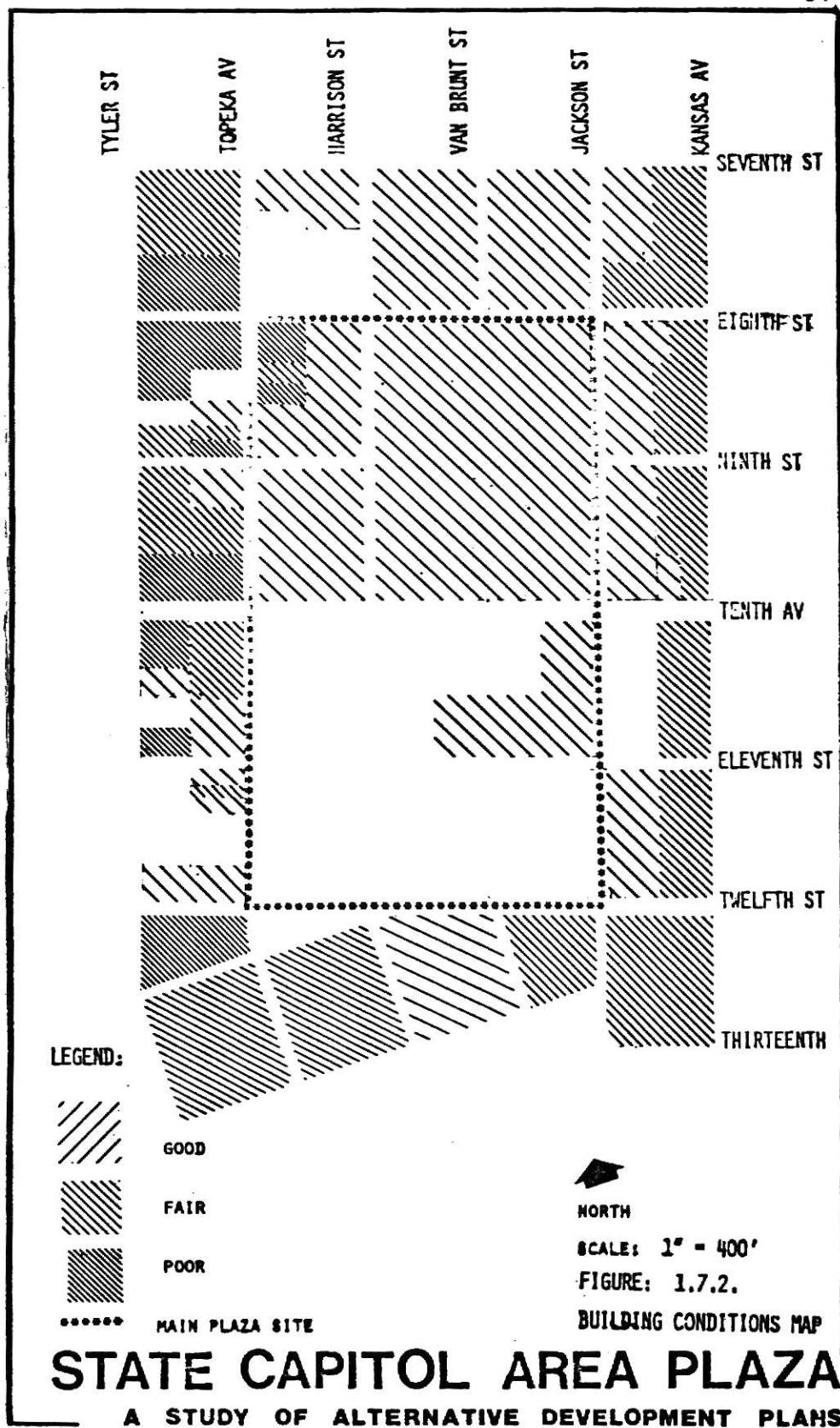
The GAM method has been advocated by Mr. Morris Hill, first in his doctorate dissertation at the University of Pennsylvania<sup>12</sup> and then in two major publications: Journal of the American Institute of Planners (JAIP, Vol. 34, 1968) and Highway Research Record (HRR, No. 180, 1967). This method was first applied in the field of Transportation Engineering and presently accepted in planning practice.

Analysis of existing and projected conditions is an important part of the planning process. This section presents a brief summary of the study of existing and projected conditions, both physical and statistical, for the area. The details of the findings of this study are given in Appendices 1.7.1. through 1.7.12. This study was undertaken using on-site personal investigation, as well as available materials as the sources of information, which are mentioned under appropriate appendices. Relevant illustrations are included in the following discussion, as referred to within the parentheses.

**Aesthetic Condition:** The aesthetic setting of the site is perceived through several sight corridors. These corridors are affected by street signs, billboards and other visual clutter such as utility poles and overhead wires. Future high density build-up should attempt to avoid the blocking of view from the sight corridors. (Figure 1.7.1).

**Buiding Condition:** All the state-owned buildings on the site were found to be in fairly good shape, while a majority of the structures in the adjoining areas were, relatively, in a deteriorating condition which may need major revitalization (Fig.1.7.2).



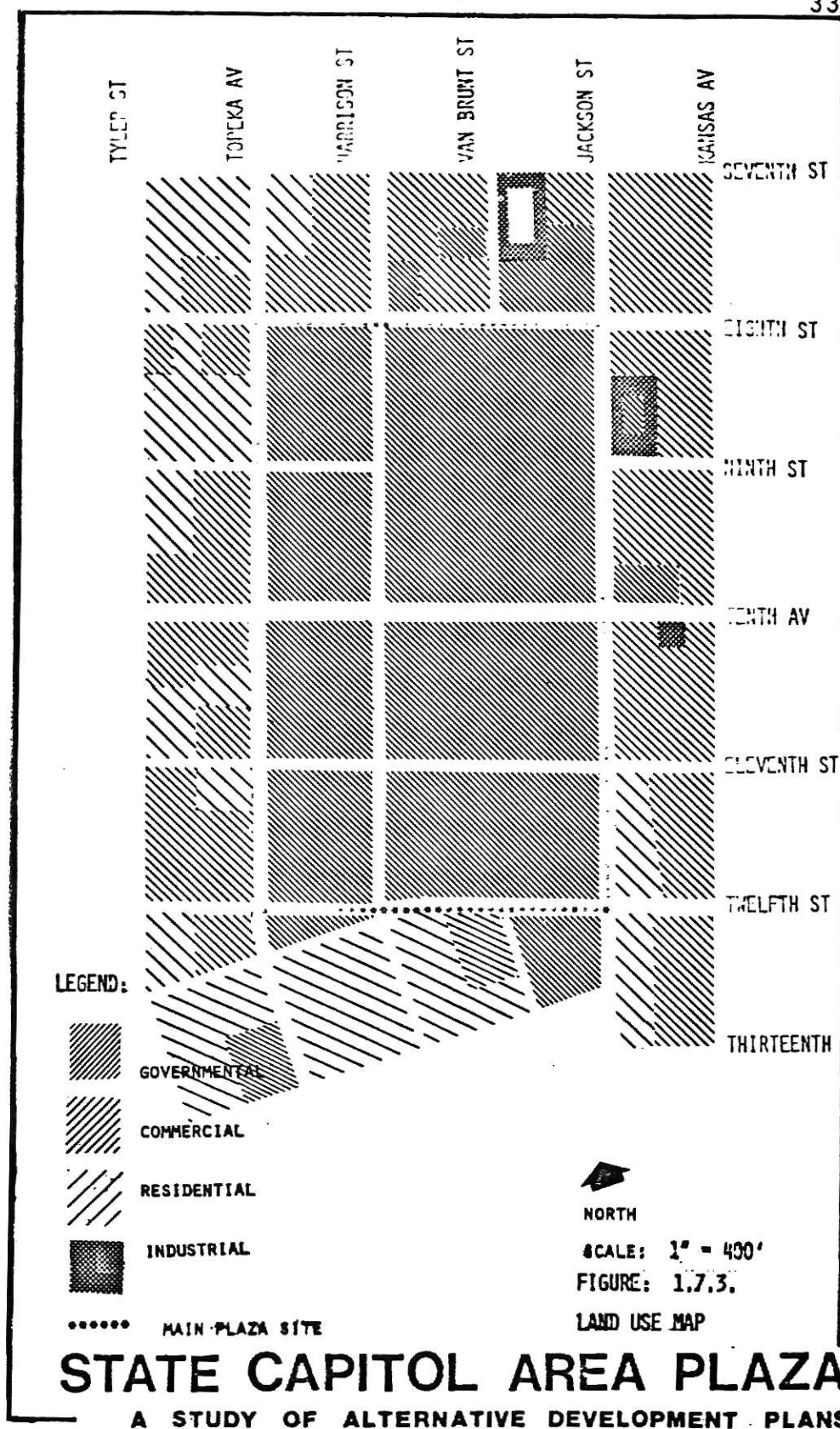


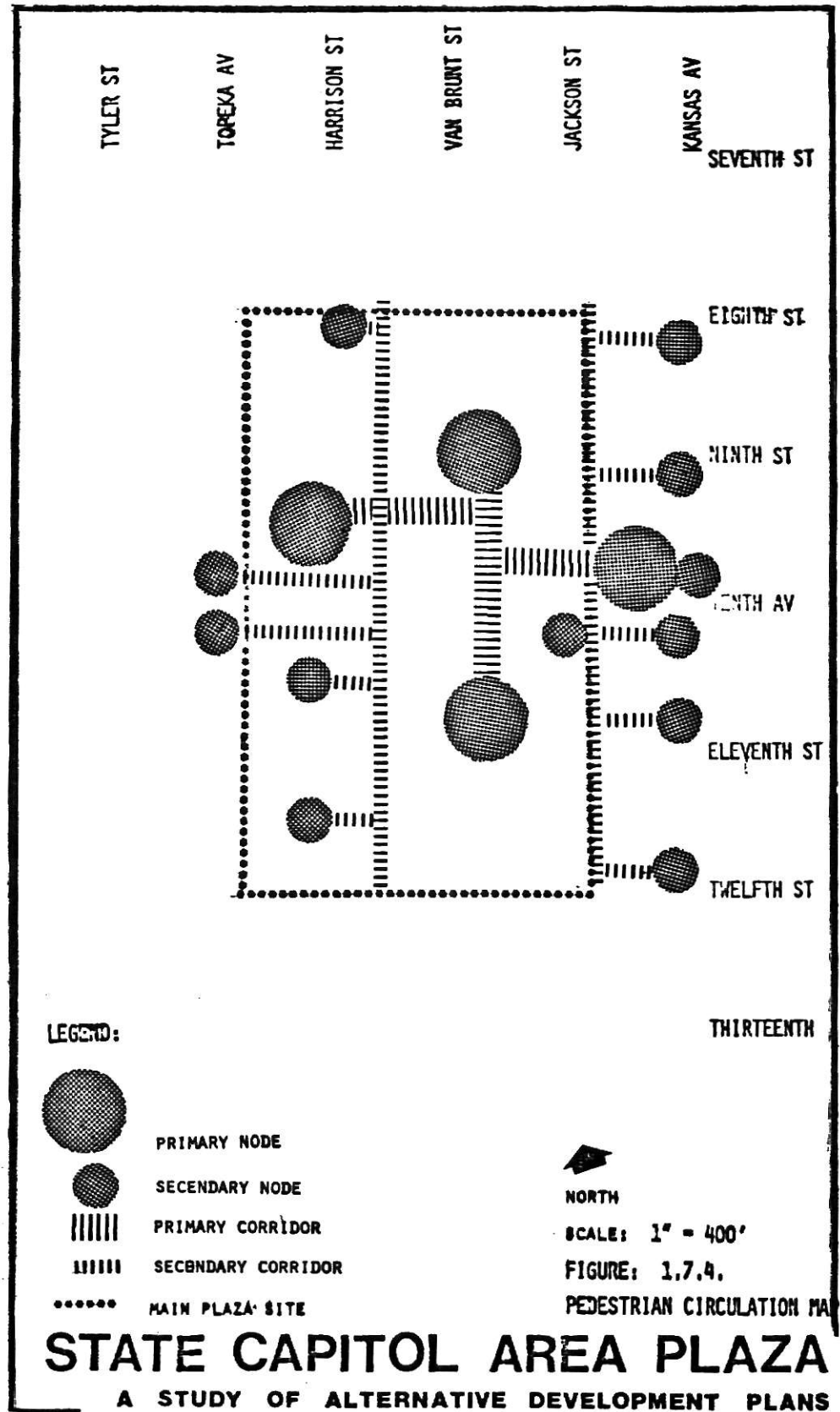
Economic Condition: Two major categories of employment are of importance in the area, that is, of governmental and commercial, having employments of 3,936 and 1,727 respectively in 1970. It has been projected that governmental and commercial employments would be 7,158 and 2,014 respectively in 1995, which indicates the high rate of increase in governmental employment compared to other categories. However, care should be taken to avoid dislocation of any existing business.

Environmental Condition: The present environmental condition of the area seems to pose few problems. There is no adverse air-pollution impact or noise impact within the vicinity of the area. It was considered reasonable to predict that the area will not have any serious environmental problem in the future that would warrant concern.

Land Use: Significant land uses of the area are: public and semi-public covering 26.2 acres in 1970 and projected as 48.7 acres in 1995; and for commercial, 16.7 acres in 1970 and 13.8 acres in 1995. Achievement of a conforming land use throughout the site over period of time is important. (Figure 1.7.3).



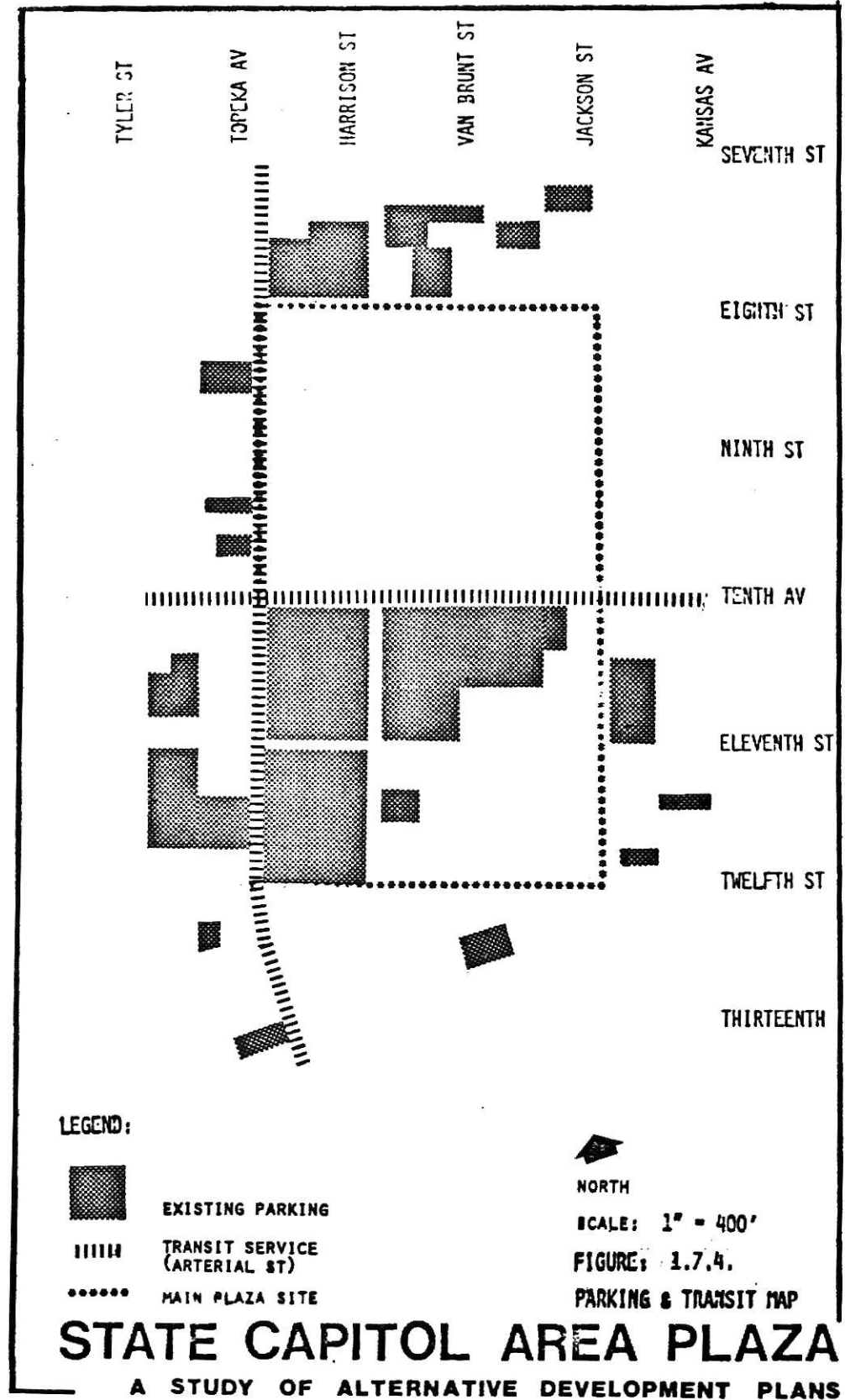


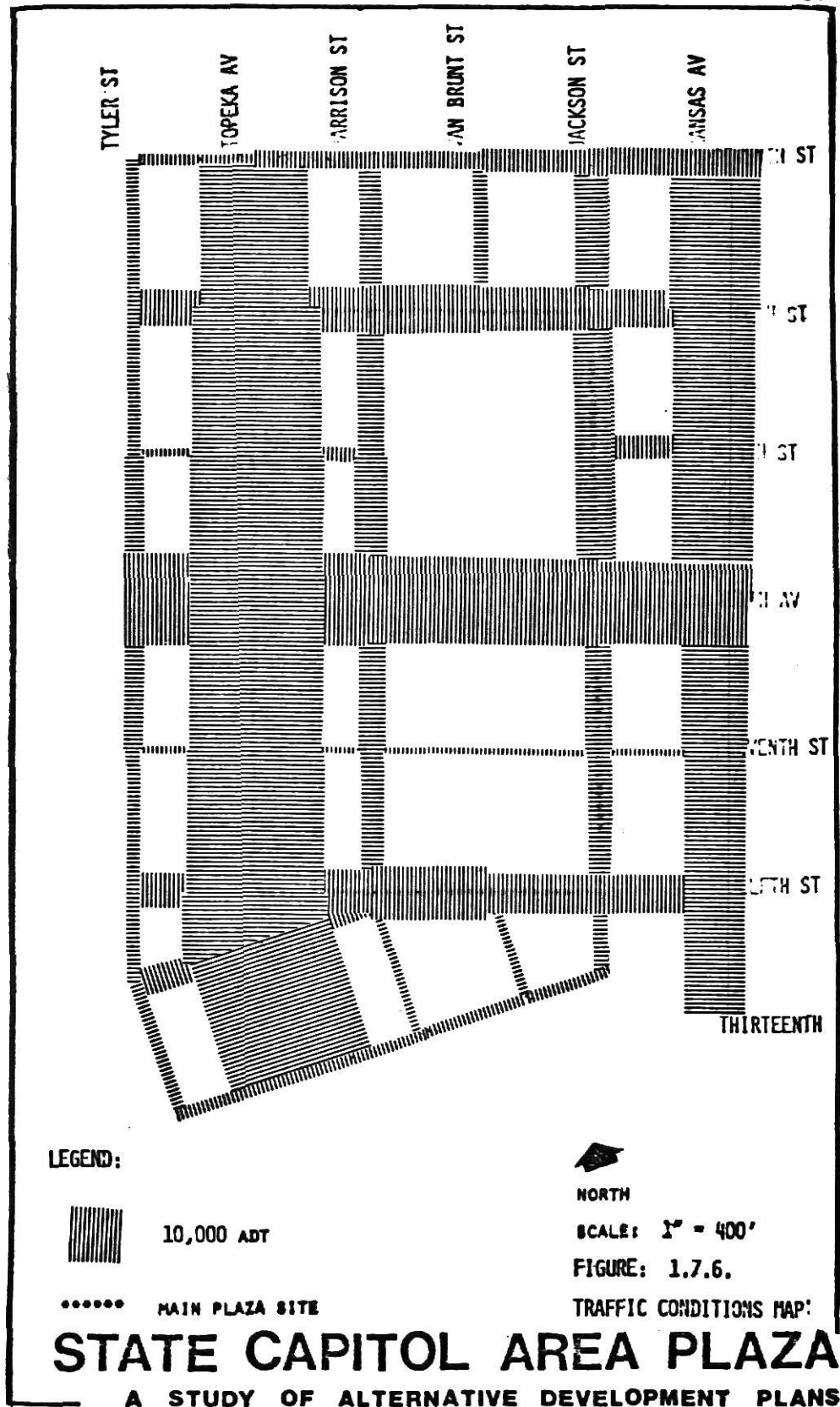


**Natural Features:** Deep excavations to construct massive underground structures would affect the footings of several of the existing structures. Addition of natural elements on surface such as water body, plantations etc. would help create a more congenial surrounding.

**Pedestrian Circulation:** Although it was not possible to estimate the number of pedestrian trips that would be originating and terminating at certain nodes, it was possible to develop a basic pedestrian system and pedestrian corridors could be established with reasonable approximation. While the present pedestrian movement seems to be confined in an east-west direction, it appeared that movement in a north-south direction would be more intense in future. ( Figure 1.7.4 ).

**Parking and Transit:** Presently, there are 1,795 parking spaces available in the area and a need for 4,800 parking spaces are been projected for 1995. Intra-city transit facilities are available at Topeka Ave. and Tenth Ave. Steps to emphasize the use of transit, such as the concept of a Transit Mall, may be considered as an alternative. (Figure 1.7.5).

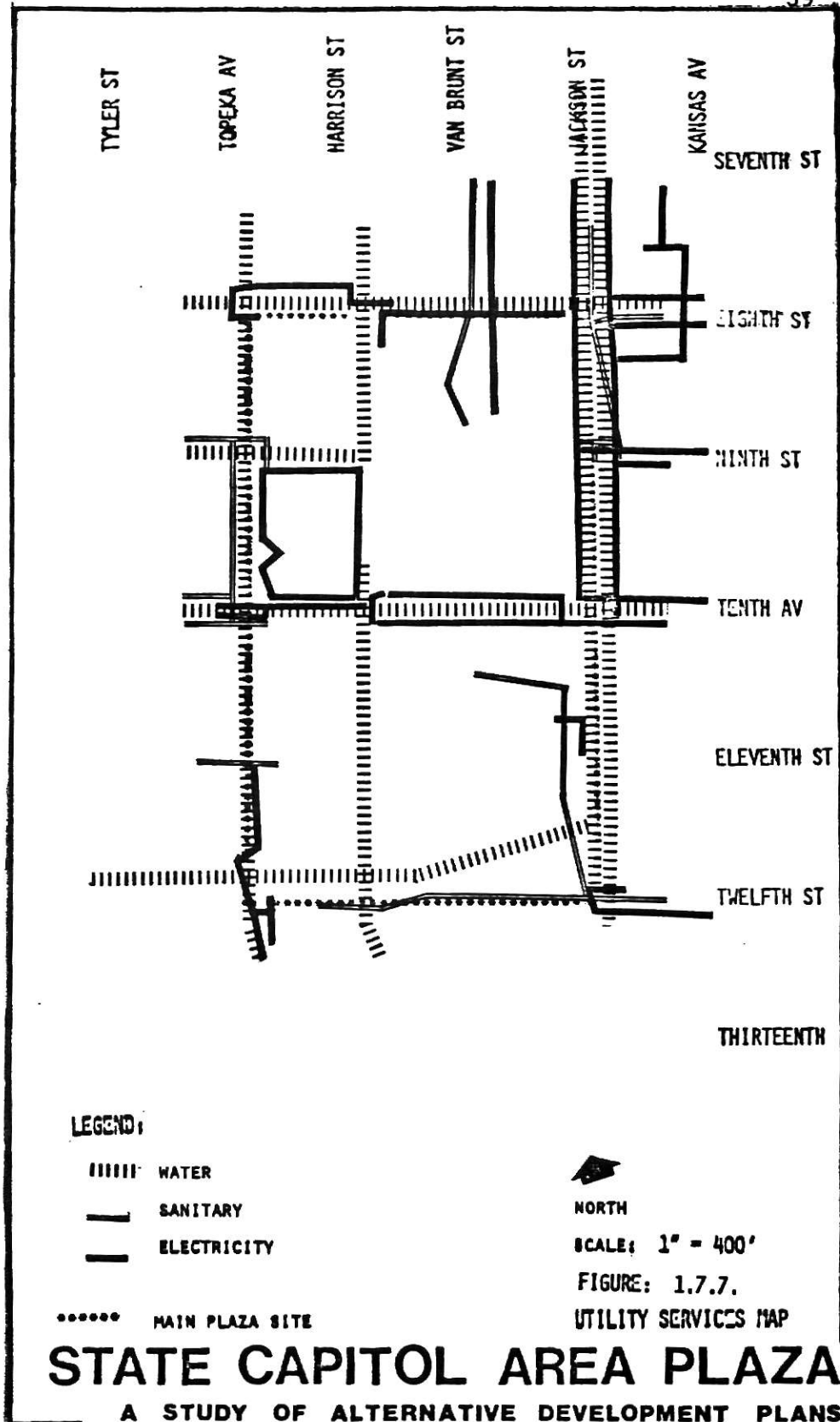


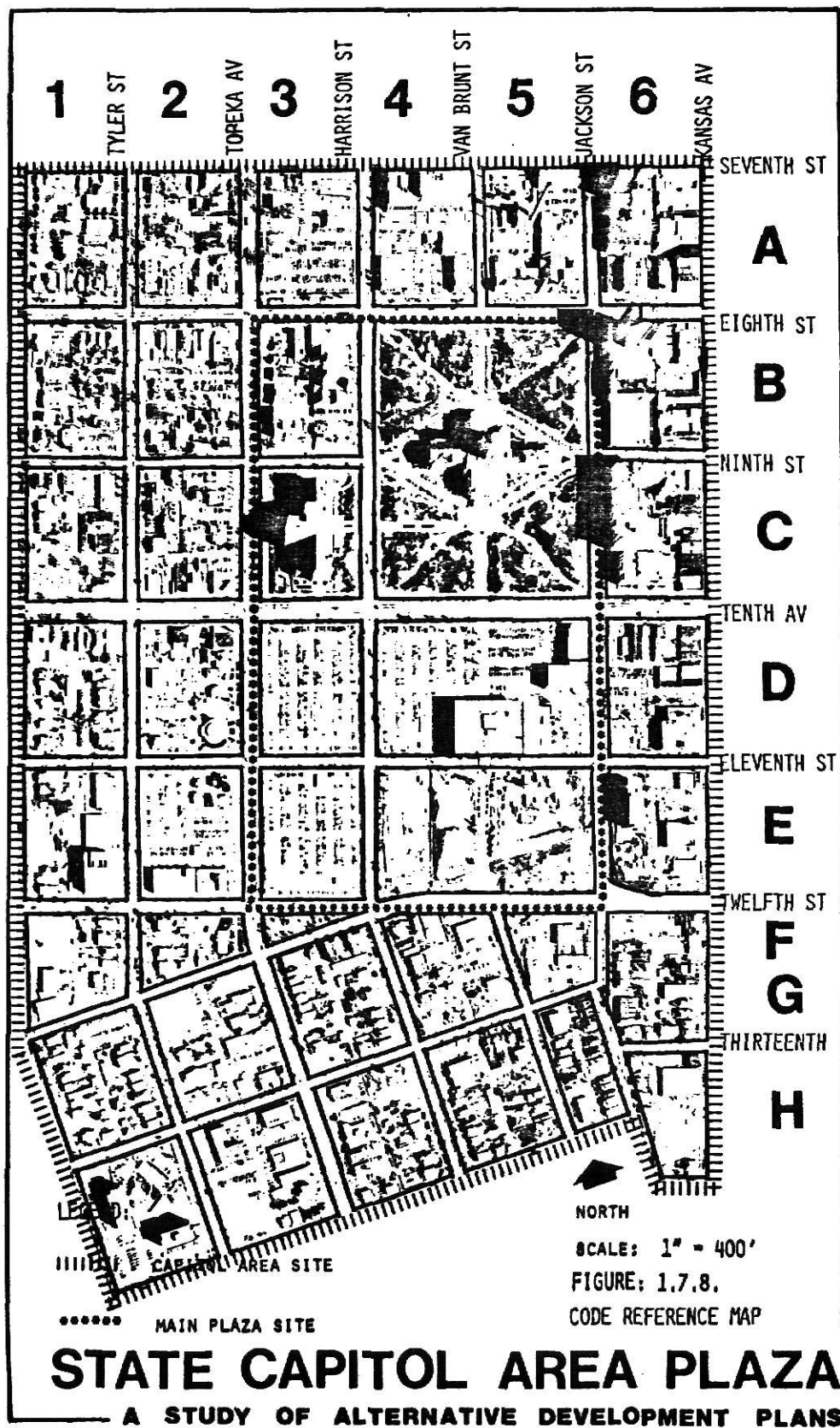


Traffic Circulation: Topeka Ave. and Tenth Ave. are the busiest principal arterial streets in the area with current Average Daily Traffics (ADT) of 25,000 and 14,000 respectively.

It has been projected that Topeka Ave. and Tenth Ave. will have approximately 29,000 ADT and 25,000 ADT in 1995. The intersection of these two streets is already a matter of concern, where turning movements have become a problem. Also, intersections at other cross streets on these two streets may also pose problems, although they do not warrant any concern at present. Since it is unlikely that some other mode of transportation replace vehicular traffic in the near future, it is important that the needs and demands of traffic circulation are well accommodated in the area. (Figure 1.7.6).

Socio-cultural: Presently, the area does not offer any major provision for socio-cultural activities, except for occasional gatherings in front of the Capitol building. Provision for social events on the site by physical design will help attract visitors to the area.







Space Use: Presently, 703,200 GSF of floor-space are in use for governmental offices on the site. A need for 2,646,938 GSF of floor-space has been projected for year 1995. Of this need, provision for 2 million GSF of floor-space on the site has been required.

Utility Services: The area is presently served by gas, water, sewer, telephone and electricity (including air-conditioning) utility systems, which meet the present needs. For future, an integrated utility system through tunnels should be considered to make the service smooth. (Figure 1.7.7).

With the completion of the existing and projected conditions study, the first part of the planning process was complete; after which, the preparation and testing of alternative plans could be undertaken. This is discussed in the next part. In the process of plan development, a series of codes were established for the various blocks. The blocks were identified by these codes for reference purposes. The codes are illustrated in Figure 1.7.8.

STATE CAPITOL AREA PLAZA

A STUDY OF ALTERNATIVE DEVELOPMENT PLANS

### Concept of Plan Development:

The basic concept of this plan has been to make the least disruption of existing facilities, such traffic circulation, surrounding buildings, utility services, etc. Also, this plan was conceived with an attempt to make vertical separation of pedestrian and vehicular traffic in order to reduce pedestrian vehicular conflicts. The concept has been to create an efficient system of pedestrian circulation without making any changes in the present traffic circulation pattern.

The concern, of this plan, was to improve the present traffic circulation system and reduce potentials for traffic congestion by increasing the capacity of streets and improving the geometrics at intersections. Also, a centralized pedestrian system with provision for accessibility to all the buildings, particularly on the plaza, was considered.

Improving the land use by removing certain non-conforming uses was considered. The parking problem was approached with the consideration of parking structures.

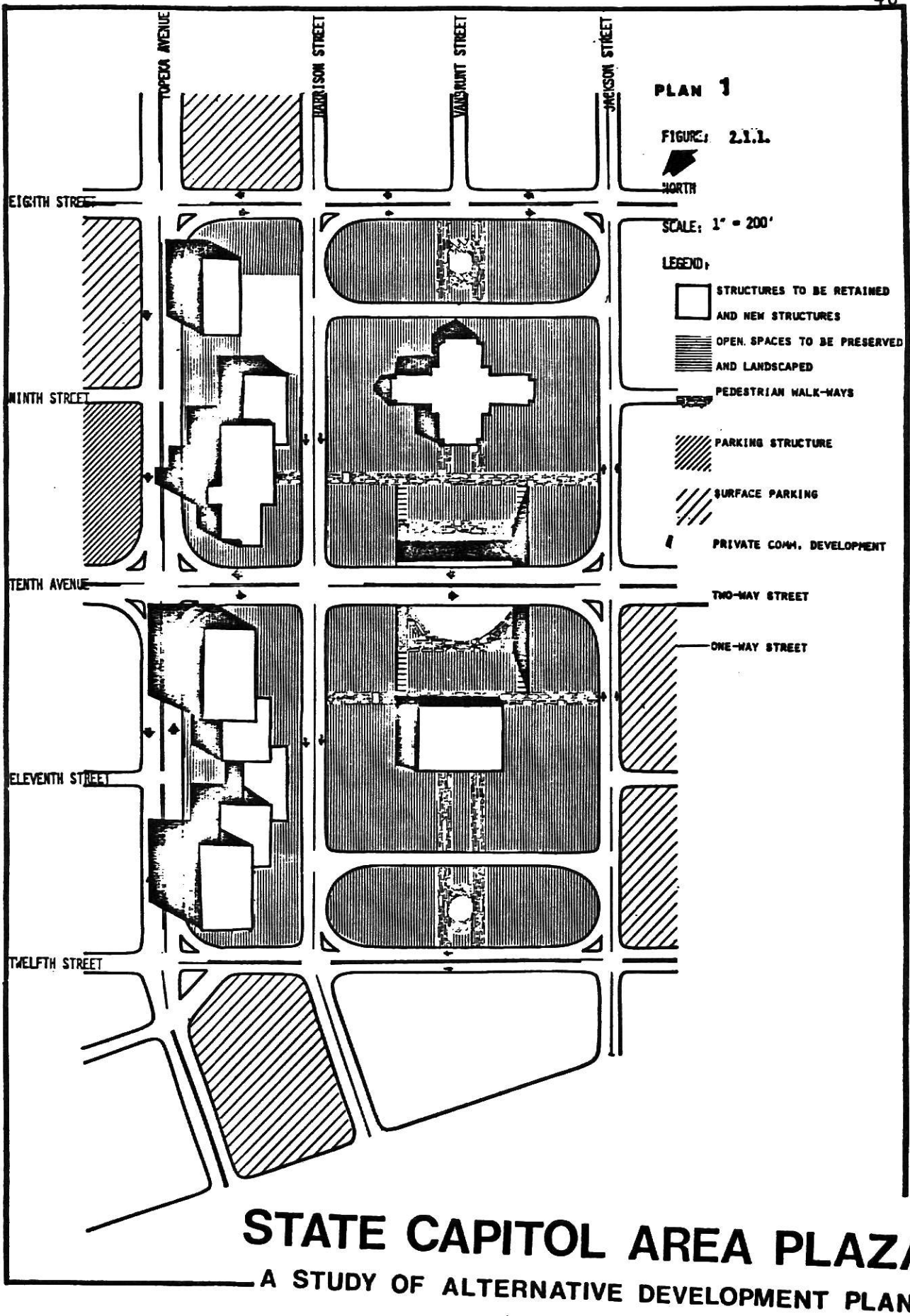
Features of the Plan:

1. On-site aesthetic quality would be maintained by preserving the open spaces in blocks B4 and D4. No new buildings would be added to these two blocks. Also, the open space in block D4 would be expanded by adding area from the adjacent block E4. Off-site view would be improved by the wide vista of arterial streets.
2. While some buildings of historical significance in blocks B3 and A4 would be preserved, this plan required the demolition of buildings in blocks A2, A3, D1, D5, E1 and E5, which are in poor structural condition.
3. Dislocation of some business activity in blocks C2 and B2 would be required.
4. Major surface drainage provisions would be along Topeka Avenue and Tenth Avenue.
5. Some changes in the land use have been proposed in order to make the overall land use of the area more congenial, such as, land uses of blocks D2 and E2 would be converted from multiple family residential to service commercial.

6. Important addition of natural features would be a water tank in the center of the plaza, about 10' below the ground level and several water fountains around the site.
7. Two parking structures have been proposed in this plan, in block C3 and the block on east of it, providing parking spaces for 2000 cars. On surface parking for another 2000 cars would be provided in blocks A2, A3, D1, D5, E1 and E5.
8. A system of pedestrian circulation has been created by depressing the grounds under Tenth Avenue to about 10' below ground level and creating a pedestrian under-pass. The pedestrian system connects to all major structures of the plaza area.
9. Important among the traffic improvements was, increasing the capacity of the two arterial streets from four-lanes to 6-lanes with a median. The geometrics of the major intersection at Topeka Avenue and Tenth Avenue have been improved for smooth traffic flow. Segments of Ninth Street and Eleventh Street between Topeka Avenue and Tenth Avenue would be closed down to provide additional area for new buildings.

10. Three new high-rise structures would be located in blocks B2, D2 and E2, which would accommodate additional offices.
11. The slope of the grounds towards the pedestrian under-pass would facilitate social activities.

The plan is illustrated in Figure 2.1.1.



### Concept of Plan Development:

This plan was conceived with an attempt to emphasize the aspect of unification of the site and that of a consolidated administrative center, at the same time without disrupting the present facilities extensively. The basic concern of this plan was to keep the present traffic pattern on the major arterial street smooth, while making some changes in their grade and in the traffic pattern of some minor streets.

Unification of the Capitol building area and the Supreme Court building area with their respective adjacent blocks was considered. New structures would be located in these expanded areas in a consolidated manner surrounding the Capitol building on three sides.

Also considered was integration of the site by a pedestrian system which would reduce pedestrian-vehicle conflicts as well. Vertical separation of pedestrian-vehicular traffic was attempted again. Provision for parking on the surface was of particular concern in this plan.



Features of the Plan:

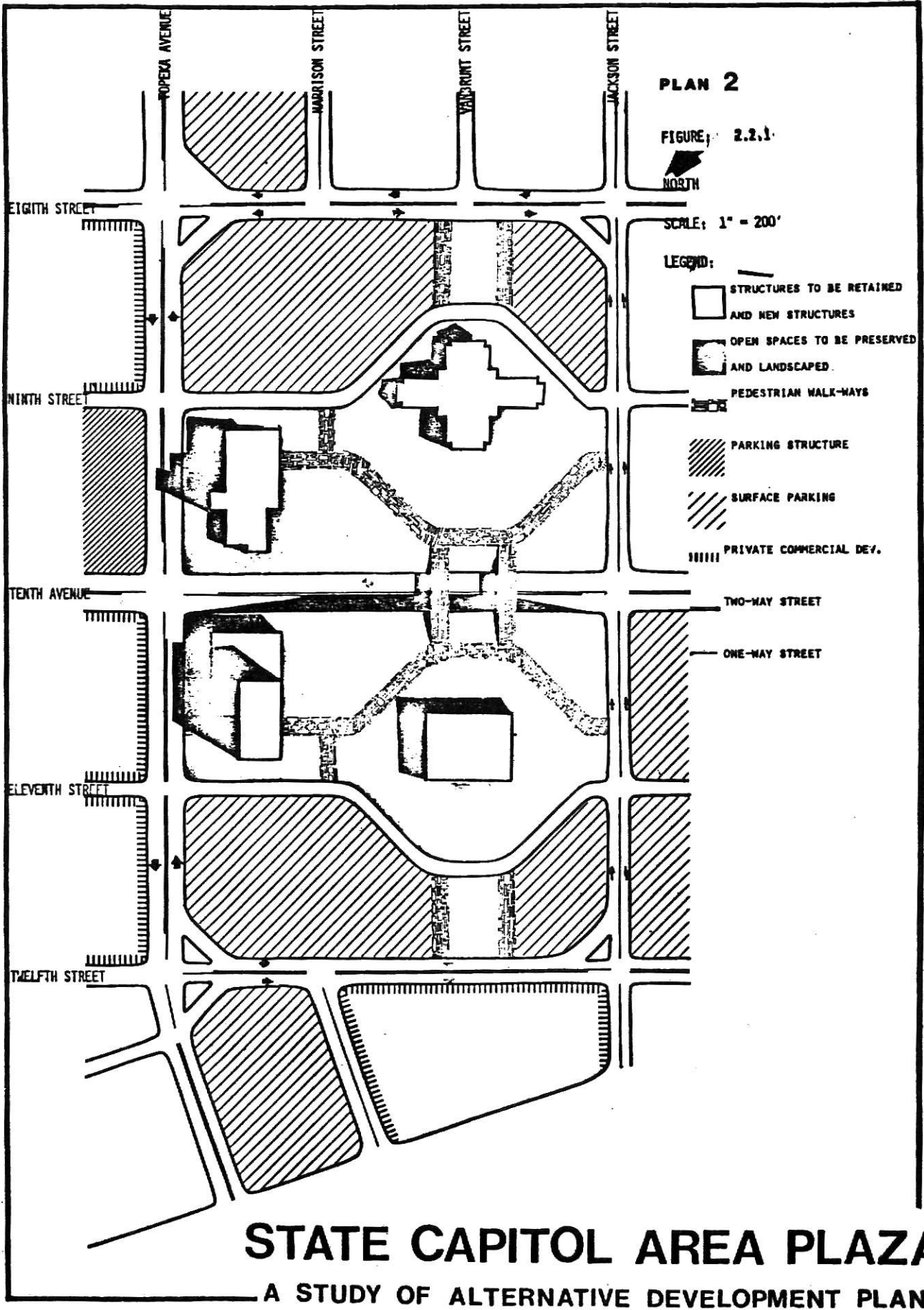
1. The aesthetic quality of the site would be improved by the form of new buildings and their relation to the open spaces, which is reinforced by the changes in ground level.
2. While the buildings in block C2 would be dislocated, the majority of the buildings in the rest of the site would be renovated or preserved. New buildings on the main plaza site would be located in a manner that would add to the form of the site.
3. Economic activity in the area would be increased by service commercial development along Topeka Avenue in blocks B2, D2 and E2.
4. Surface water drainage system would be the same as Plan #1.
5. Important land use changes would be in blocks A2, B2, D2 and E2, which would be converted from multiple-family residential to service commercial. Also, industrial land uses that exist in the site presently, would be changed to commercial.
6. Expanded open spaces would be created for suitable land=

- scaping by combining block C3 with C4 and block D3 with D4.
7. Majority of the parking would be provided on surface lots. Two major parking lots would be located on the northern and southern part of the main plaza, each accommodating approximately 1000 spaces. A new parking structure would be located in block C2, providing for 1000 spaces. Another 1000 spaces would be provided by other lots spread over the site.
  8. A system of pedestrian circulation would be achieved by this plan. Provision for an overhead walkway at 5' above the ground level over Tenth Avenue would be an important aspect of this system. These walkways extend north and south bound to the major parking lots.
  9. Vehicular traffic pattern is essentially the same as Plan #1, except that Tenth Avenue would be depressed by about 10' below ground level along the center of the main plaza. Important among the other changes, Harrison Street would be closed down between Eighth Street and Twelfth Street to yield the unification of the site. Also, turning movements

at the intersection of Topeka Avenue and Tenth Avenue would be restricted.

10. This plan would provide limited scope for social events.
11. The expanded block of D4 would be used for locating a series of new structures which would accommodate the space requirements. These buildings would be essentially high-rise offering approximately 1.5 million GSF of floor space.

The plan is illustrated in Figure 2.2.1.



**Concept of Plan Development:**

This plan was developed with a concept of a Transit Mall in the site that would help relieve some of the congestion problem in the area. This approach involved the closure of certain streets to traffic, but which would remain open for transit use. Thus, the area would offer less congestion and be free of pedestrian-vehicular conflicts. This is a fairly new concept and has been successfully applied in several cities in the U.S., which showed fruitful results in intensive pedestrian oriented areas in particular. While the application of this concept has proved its merit in reducing traffic congestion, it is probable however, that it may involve some disruption of metropolitan traffic.

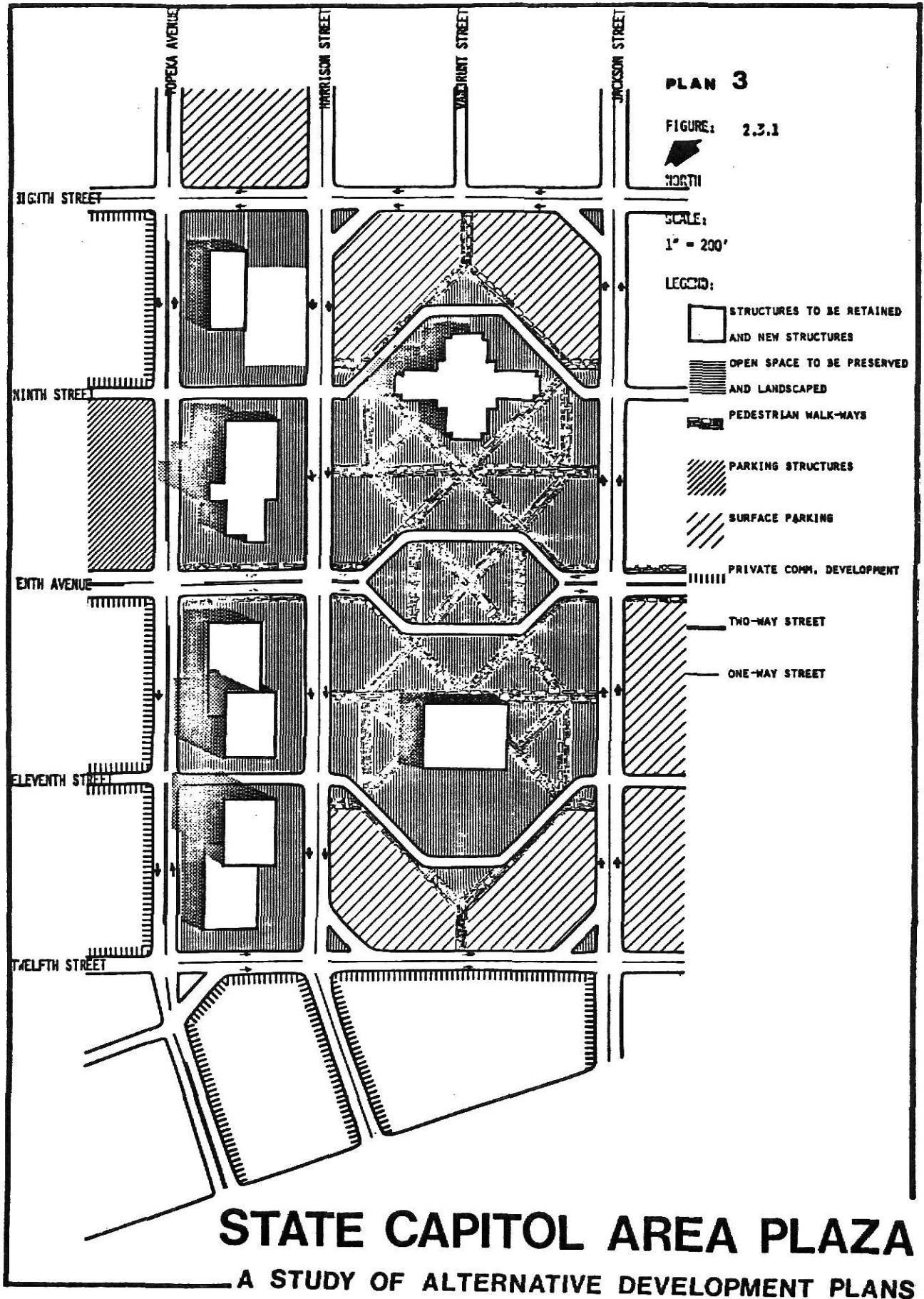
In order to apply the concept of a Transit Mall, the present traffic circulation pattern in the area would be modified so that the traffic flow would be diverted properly. This would involve changing the direction of traffic flow in certain streets. In addition, this plan considered the provision for transit movement in the design of the plaza.

Features of the Plan:

1. This plan would achieve an aesthetic quality by a pattern in the design of transit-pedestrian-mall, which involved cutting the ground surface by a system of diagonal walkways.
2. This plan would involve the dislocation of buildings similar to Plan #2, while preserving the buildings of importance.
3. While economic activity would be disrupted in block C2,  
new economic activity would be enhanced by the commercial development in block B2.
4. Noise and air-pollution would be considerably reduced in the main plaza site by the removal of vehicular traffic.
5. Important land use improvements would be, changing the land use of blocks B2, D2, E2, G3 and G4 from multiple family residential to service commercial.
6. A tract of land would be separated out in the center of the site for proper landscaping and addition of natural elements.
7. Major parking provisions include one parking structure in block C2 accommodating approximately 1000 spaces, and four surface parking lots in four corners of the main plaza each

accommodating 250 spaces. Another 1500 spaces would be provided in surface lots around the site.

8. A system of pedestrian circulation has been proposed by this plan which would integrate the pedestrian movement from all the buildings in the site with the transit facilities, as well as parking facilities.
9. Most important aspect of this plan would be the modification of the present traffic pattern in order to accommodate a transit Mall. Tenth Avenue would be closed to vehicular traffic between Harrison St.- and Jackson Street, but would remain open for transit services only, with its alignment being changed for transit use purpose. To accommodate the volume of traffic on Tenth Avenue, a circular one-way traffic system would be introduced around the plaza, which involved changing of direction on Eighth Street and Twelfth Street from two-way to one-way direction.
10. No new structures would be added to the main plaza site, while three new structures would be located in blocks B3, D3 and E3 to accommodate the space needs.
11. The plan offered no special provision for social events.





**Concept of Plan Development:**

This plan was developed with a concept of achieving a central pedestrian mall focussing the Capitol building and emphasizing the features of a 'plaza'. This would involve the closure of Tenth Avenue and gaining a total unification of the site. Also, the form of the new structures would be used to enhance the design of the plaza.

Important consideration of this plan would to accommodate the volume of traffic on Tenth Avenue and diverting it in a proper manner so that the traffic flow remains as smooth as possible. Changing the alignment of Tenth Avenue for this purpose was an important aspect.

It may be mentioned that a feasibility study was undertaken by Burgwin, Martin and Associates in this respect, at the request of Capitol Area Plaza Authority. The possibility and the impact of closing Tenth Avenue completely was studied and it concluded that the proposal was viable, but would be expensive because new alignment of streets.<sup>13</sup>

#### Features of the Plan:

1. This plan would achieve an aesthetic quality by the inter-relationship of the form of buildings, their heights and open spaces in between, and by pattern of walkways.
2. This plan would involve displacement of existing buildings outside the main plaza, the majority of which are in deteriorating condition, in blocks B2, C1 and C2.
3. Disrupted economic activities in blocks B2 and C2 would be compensated by new commercial development in blocks D2 and E2.
4. High volume of traffic on Eighth Street would result in probable noise and air-pollution impacts.
5. The land use improvements would remain the same as the previous plans.
6. The unification of blocks B3, D4 and E4 into one tract of land would offer wide ground surface for green space and would be landscaped in a proper manner.
7. This plan proposed no parking structure in order to keep the view of the site from sight corridors free. All parking

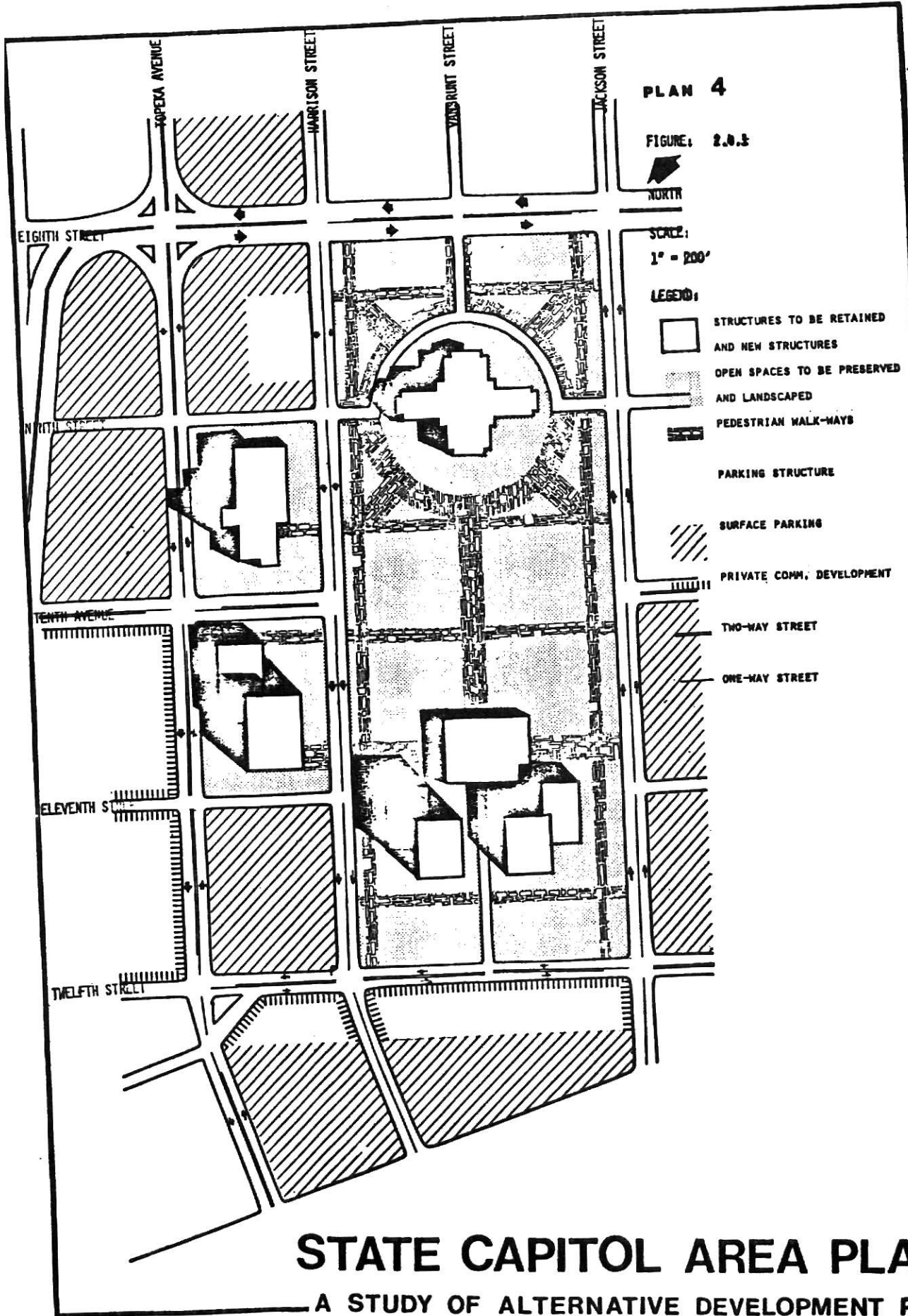
would be provided in surface lots in the blocks A3, B2, C1, C2, D5, E3, E5, G3 and G4.

8. The system of pedestrian circulation would result from a form that would converge toward the Capitol building and connecting other buildings with it. It would also be integrated with the parking facilities.
9. This plan proposed a new alignment of a diagonal connection between Tenth Avenue and Eighth Street over the blocks B1, B2, C1 and C2. This would divert the volume of traffic of Tenth Avenue to Eighth Street and thus enable the closure of Tenth Avenue on the main plaza. Eighth Street would be widened to a maximum capacity of six-lanes in addition to a median lane for turning movements. Intersections at Topeka Avenue and Eighth, and at the two ends of the diagonal connector would be properly designed to handle traffic flow in smooth manner.
10. New buildings would be located in blocks C3, D3 and E4 to accommodate the space needs and would be located in an arch-type form. The buildings would be inter-connected by lower

structures.

11. The levels of the walk-ways in radial pattern would be changed to create a sloping ground surface in front of the Capitol building. This would offer suitable provision for social events.

The plan is illustrated in Figure 2.2.4.



#### Concept of Plan Development:

The basic concept of this plan was to raise the grounds of the plaza, achieve vertical separation of vehicular and pedestrian movement, achieve a surface for free pedestrian circulation connecting all the buildings of the site which at the same time would consolidate the administrative complex.

This plan would provide maximum on-surface parking spaces on the main plaza site. The plan was conceived with an attempt to develop a parking facility in the center of the site. This would require the closure of Tenth Avenue and depressing the grounds in the center about 10' below ground level. A plaza surface would be created at a raised level, about 5' above the ground level, covering the parking facility. This surface would offer provision for free pedestrian circulation.

The direction of traffic flow in several streets would be changed to accommodate the volume of traffic of Tenth Avenue. This would result in disruption of metropolitan traffic flow to a certain extent.

Features of the Plan:

1. The aesthetic quality of the site would be enhanced by the design of the plaza surface above the ground level.
2. This plan would involve little dislocation of existing buildings surrounding the plaza with the exception of block C2, where the buildings would be dislocated.
3. Economic activity would not change significantly.
4. The noise and air-pollution impact would improve considerably by the diversion of traffic from the main plaza.
5. Land use improvements would remain similar to that of the previous plan.
6. While green spaces would be provided on the surface of the plaza, two tracts of land would be preserved as open spaces on the northern and southern part of the main plaza.
7. Pedestrian circulation would be provided by the raised surface of the palza, about 5' above the ground level and directly connected to all the buildings.
8. Major parking facility would be provided in an underground parking lot in the center of the site and about 10' below ground level. This parking facility would provide approxi-

mately 1000 spaces. Another 1000 spaces would be provided in a parking structure in block C2. Other surface parking lots surrounding the site would offer another 1500 spaces.

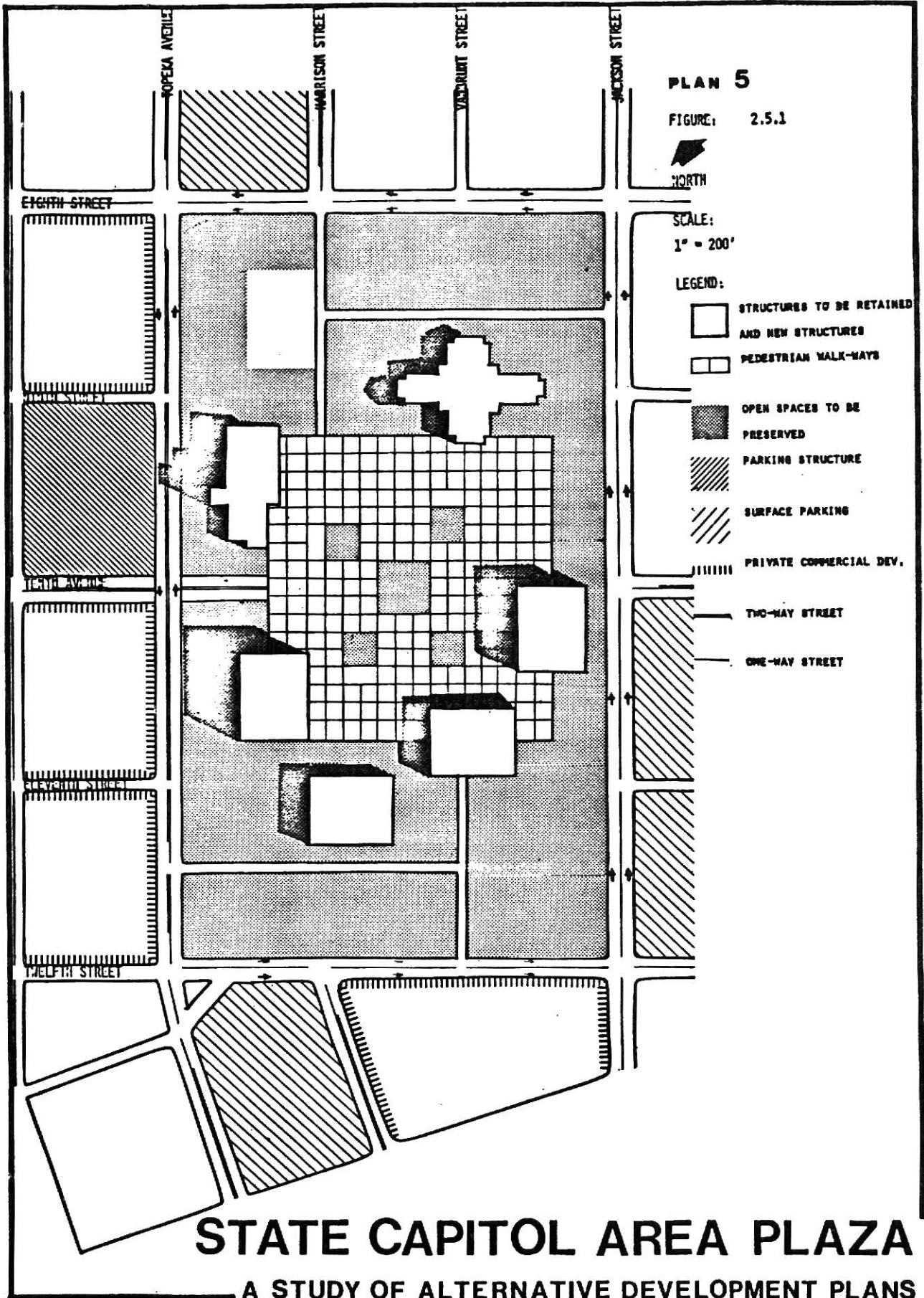
9. As already mentioned, Tenth Avenue would be closed in this plan, the volume of traffic of which would be accommodated by a system of one-way streets along Jackson Street, Eighth Street, Tyler Street and Twelfth Street surrounding the plaza. This system would enable the traffic to flow in a circular manner. These four streets would be widened to a maximum capacity with at least four lanes of free flowing traffic. Internal circulation within the plaza would also be modified to fit the overall plan. Ninth Street and Eleventh Street inside the plaza would be realigned, while part of Harrison Street and Van Brunt Street would be closed down. Access into the central parking lot would be mainly from Tenth Avenue on west side, which would be depressed and reconstructed as an underpass below Topeka Ave.
10. Space would be provided by three major new structures located on the south half of the plaza. The structures in blocks D3 and D4 would be twelve stories high, while the



structure in block E4 would be six stories high.

11. The levels of the plaza surface would be changed slightly, making the central part a little lower than the outer part. This would make provision for social events.

The plan is illustrated in Figure 2.5.1.



**Concept of Plan Development:**

This plan was conceived with an attempt to achieve a compromise between the Physical and Sentimental needs and demands of the site. The primary objective was to improve the physical qualities by involving the least amount of disruption of existing facilities.

Street alignments and traffic patterns would be kept the same as present, while the central part of the main plaza site would be raised to create a plaza surface and thus to avoid conflicts between vehicular and pedestrian movements. Most parking would be provided on surface lots; no new parking structures would be provided. The underlying assumption was that auto-ridership would decrease and transit rider-ship would increase in future as a result of growing concern for energy consumption. This would reduce considerably the projected need for parking spaces.

New structures would be located surrounding the central area creating greater emphasis toward this focal part. New natural elements would be introduced to add to its open space quality.

#### Features of the Plan:

1. The plaza surface would be raised 10' above ground level and designed to enhance the aesthetic quality of the site.
2. The plan would involve no dislocation of existing structures.
3. Economic activity would remain unchanged.
4. Additional site drainage system would be provided to handle the excess water that would accumulate in the depressed streets in the center.
5. Land use improvements would remain similar to that of the previous plan.
6. A belt of green space would be preserved surrounding the plaza surface.
7. Pedestrian circulation would be provided at the plaza surface connected to all the buildings and underground parking facilities in the central part.
8. A strip of surface parking lots would be created on north and south edges of the main plaza site. Additional parking would be provided in underground lots under the plaza surface, about 5' below ground level.

9. As already mentioned, alignment of all streets and the present traffic pattern of the area would remain same. The important change would be that Tenth Avenue between Topeka Avenue and Kansas Avenue would be depressed to about 5' below ground level. Also to be depressed is Harrison Street between Eighth Street and Twelfth Street.
10. Two new high-rise structures would be located on the east and west side of the Supreme Court building to accommodate the future space needs.



The plan is illustrated in Figure 2.6.1.

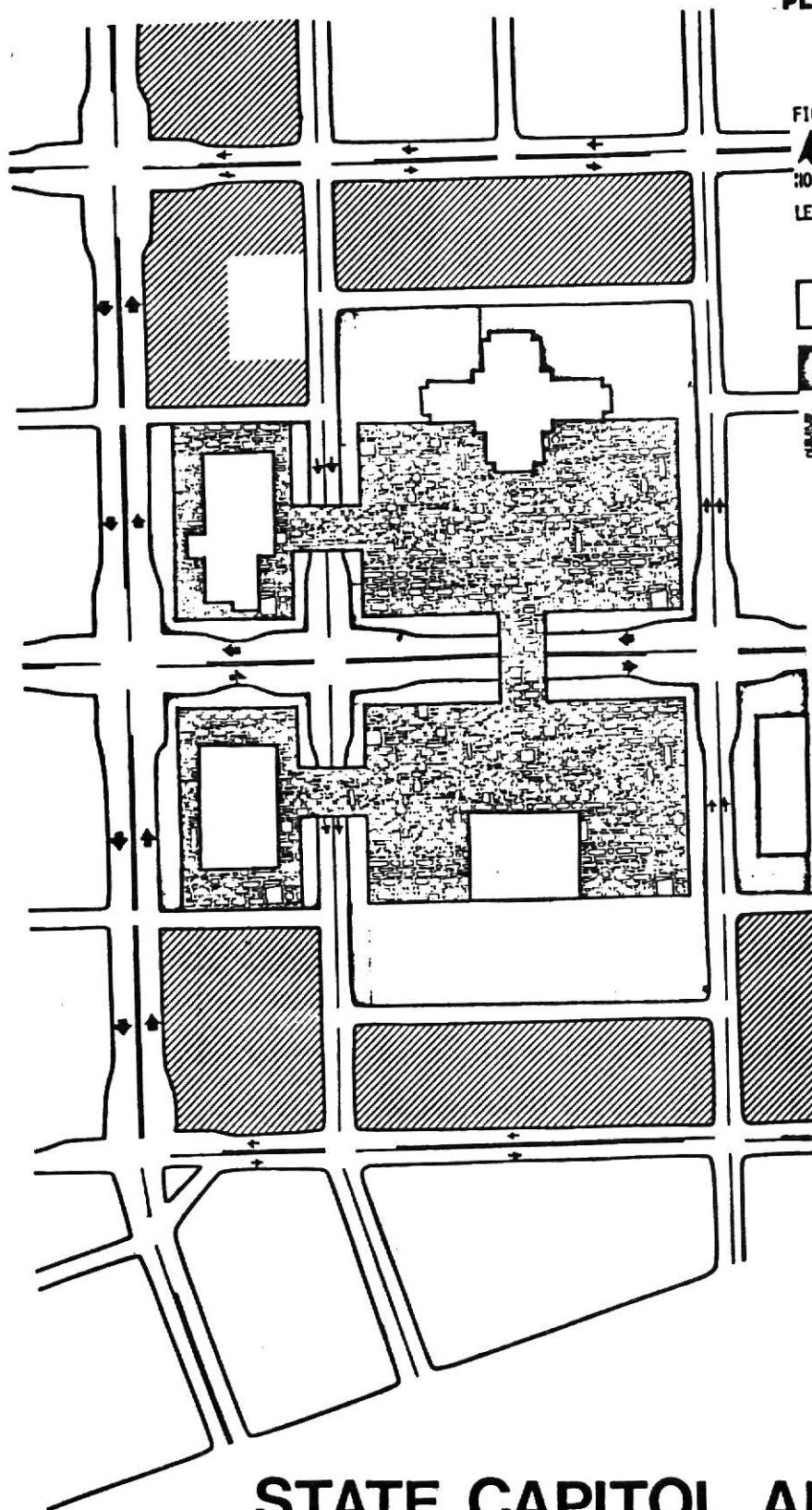
# PLAN 6

FIGURE: 2.5.6.

NORTH

LEGEND:

-  STRUCTURES TO BE RETAINED AND NEW STRUCTURES
-  OPEN SPACE TO BE PRESERVED AND LANDSCAPED
-  RAISED PLAZA SURFACE
-  NEW PARKING SPACE



## STATE CAPITOL AREA PLAZA

A STUDY OF ALTERNATIVE DEVELOPMENT PLANS

Once the preparation of alternative plans was complete, the testing of them was undertaken. The plans were tested against a set of 42 criteria, as was established in Section 1.3. All the plans were tested according to the methodology selected for this purpose, as discussed in Section 1.6. All criteria were classified under two categories, based on their value; that is, Sentimental Value and Physical Value. The criteria were classified according to their hierarchy of goals, as shown in Table 2.6.1.

Now, the most important aspect of the testing procedure was the assigning of weights to the criteria. Until recently, the assigning of weights to criteria was performed by professional planners based on their experience and judgement. While this worked out perfectly in most cases, there had been instances as well when the judgement of planners faced criticism from the general public. Presently, there is a growing trend of involving the elected officials in the task of assigning weights to criteria. The result has proved its advantages, particularly in its role of inviting decision-makers in the actual planning

Classification of criteria by their values

VALUE	CRITERIA
Sentimental	C1
	C6
	C8
	C10
Physical	C2
	C3
	C4
	C5
	C7
	C9
	C11
	C12



process. Also, in doing so, the elected officials would have to take the responsibility of responding to the public, whom they represent.

Therefore, it was considered appropriate that the members of the board of Capitol Area Plaza Authority be contacted for their input into the task of assigning weights to criteria. Steps were taken to do so accordingly, but the outcome was one of disappointment. At this stage, it was found out that the CAPA was a very loosely structured agency with no established office or staff member of its own. The State Architects Office performs some of the paper work for this agency, while the Topeka-Shawnee County Metropolitan Planning Commission handles some of the consulting services occasionally. But the members of the board of CAPA are a group of elected and public officials with little or no knowledge of the project, and who meet very rarely. Because of this situation, the idea of involving the decision-makers was given up.

Since the alternative plans could be tested with various possible weights for the criteria and the results, obviously,

could vary depending on the type of weights given, and since input from proper authority was not available in this regard; it was considered important to undertake an analysis, known as 'Sensitivity Analysis', for the purpose of this testing. According to this analysis, the alternative plans would be tested with more than one set of weights for the criteria. The result of this would give clear explanation of the effects of using various sets of weights, as opposed to using just one set of weights for the criteria.

In order to do so, it was considered reasonable to perform two tests on the alternative plans using two sets of weights for the criteria. For the first test, weights of 2 and 1 were assigned for any criteria with Physical and Sentimental value respectively (hereinafter referred to as Test A). For the second test, for any criteria with Sentimental and Physical value, weights of 3 and 1 were assigned respectively (hereinafter referred to as Test B). It may be noted that for Test A, criteria with Physical value were given higher weights, while for Test B, criteria with Sentimental value were given higher

weights. Also, for Test B, for criteria with Sentimental value a weight of 3, instead of a weight of 2, was assigned. The reason for this was, that the total number of such criteria were less than those with Physical value. Thus, by assigning a weight of 3 for such criteria in Test B, any bias toward criteria with Physical value would be avoided.

For each test, the alternative plans were also tested against their positive or negative impacts on three areas: Local, Metropolitan and Regional. Weights of 3, 2 and 1 were assigned for Local Impact, Metropolitan Impact and Regional Impact respectively. Finally, all values were multiplied by +1, -1 or 0 depending on their positive, negative or no impact. For the purpose of clarification of this approach, an example has been worked out in Appendix 1.6.1.

Now, once the weights for the criteria for respective tests were established, the testing of alternative plans was performed, which are tabulated in Appendices 2.6.1. through 2.6.12, while the results are given in the next section.

Before going into the details of the test results, it is important to note certain characteristic features of the six alternative plans, which may be summarized as follows:

- A. Alternative Plans #1 and #2 emphasized criteria of Physical value, which attempted to meet the physical needs and demands of the area by making little or no disruption of existing conditions.
- B. Alternative Plans #4 and #5 emphasized criteria of Sentimental value, which attempted to meet the physical needs and demands, as well as to uplift the overall image of the area by making some disruption of existing conditions.
- C. Alternative Plans #3 and #6 emphasized criteria of both the values, which attempted to bring in a compromise between the two, while making moderate disruption of existing conditions.

The results of plan testing are given in Tables 2.7.1. and 2.7.2, which show that according to Test A, Plan #1, Plan #2, Plan #3 and Plan #6 gained high scores, while Plan #4 and Plan #5 gained low scores. According Test B, Plan #3, Plan #4,

TABLE 2.7.1.

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Summary of Results of Test A  
(Using higher weights for criteria of Physical value)

<u>Alternative Plan</u>	<u>Score</u>	<u>Note</u>
#1	85	
#2	80	
#3	83	
#4	33	Low score
#5	32	Low score
#6	109	

Summary of Results of Test B  
(Using higher weights for criteria of Sentimental value)

<u>Alternative Plan</u>	<u>Score</u>	<u>Plan</u>
#1	56	Low score
#2	47	Low score
#3	94	
#4	87	
#5	89	
#6	110	

Plan #5 and Plan #6 gained high scores, while Plan #1 and Plan #2 gained low scores.

Based on the results of this testing, it may be observed that Plan #3 and Plan #6 gained higher scores in both the tests. It was also observed from the results that two aspects influenced the scores greatly:

- A. The higher weights in the criteria of respective value, and
- B. Minimum amount of disruption of existing facilities by the alternative plan.

The results show, according to Test A, that because of higher weight on criteria of physical value, Plan #1, Plan #2, Plan #3 and Plan #6 gained high scores, since these plans emphasized physical needs and demands and did not attempt to bring in any new form or system which involved little or no disruption of existing facilities. This caused gains of higher scores for these plans in this test and little loss of scores. On the other hand, Plan #4 and Plan #5 attempted to bring in certain new forms or systems which involved disruption of existing

facilities, to some extent. This resulted in their loss of higher scores, as compared to their gains of scores.

According Test B, which assigned higher weights for criteria of Sentimental value, Plan #3, Plan #4, Plan #5 and Plan #6 gained higher scores because of the sentimental merit of these plans, while Plan #1 and Plan #2 gained lower scores in this test because of their absolute physical emphasis.

The most important outcome of this plan testing has been that Plan #3 and Plan #6 gained higher scores in both the tests. This is significant in the sense that these two plans attempted to bring in a compromise between the criteria of Physical and Sentimental value, rather than emphasizing criteria of either one value. This indicates that any alternative plan giving more emphasis on criteria of only one value would gain higher points in those tests that give higher weights for that value only. But otherwise it would gain lower scores. On the other hand, an alternative plan with emphasis in between would gain higher scores in either test. This outcome also indicates the usefulness of this plan testing.



STATE CAPITOL AREA PLAZA

A STUDY OF ALTERNATIVE DEVELOPMENT PLANS

## CONCLUSION

2.8

The final stage in the process of this planning and testing was to select one alternative plan as acceptable and make recommendations regarding its suitability. Therefore, after a careful consideration of all the plans and their test results, it was considered reasonable to forward alternative Plan #6 as the most acceptable of the proposed plans. Plan #6 gained highest scores in both the tests.

Several factors were considered important in making this recommendation, which may be summarized as follows:

- A. This plan was a compromise between the criteria of Physical and Sentimental value.
- B. This plan brought in a new form into the area without making extensive disruption of existing facilities.
- C. This plan would be flexible enough to fullfil changing needs.

It may be stated that this study offered much insight into the application of planning and evaluation processes. Several things became apparent during the course of this study. Importantly, the role of evaluation in the planning process appeared to be very significant. Preparing plans is not enough, unless they

are evaluated in the overall context. This would help reveal the actual merits and demerits of the plans. The primary justification for undertaking evaluation is that it assists the process of decision-making. A formal comparison of the alternative plans makes the difference between them more explicit and provides information for subsequent debate.

In the process of planning and evaluating, the weighting of criteria played the most important role. Therefore, it would be most appropriate if the elected officials were involved with this responsibility. Since they represent the people, and they have to face the people for the consequences of any development, there is no doubt that they would understand the relative weights of criteria better. Also, it should be entirely up to the decision-makers to make the final selection of plan.

The evaluation methodology applied in this study should be considered as a tool for evaluating alternative plans only. It is not necessary that the plan that turned out to be the most acceptable plan based on this methodology should be the one to be selected for implementation. It is always possible

that the recommended best plan may not be the plan best suited for implementation because of reasons beyond the scope of consideration within the evaluation process. Thus, this methodology would only reveal the relative suitability of the different alternatives.

At this point, it may be important to note that the outcome of each such test would vary depending on the amount of emphasis given by each plan on the types of criteria and the weights assigned on such criteria by the test. The outcome of one test may very well be reverse from that of another test. However, this would depend a great deal on the approach of the plan as well. It has been shown that a plan approached with a compromise between the criteria of different values has performed equally well in both tests irrespective of the weights assigned to criteria. This result also indicated a reflection of the desirable attitude in the current planning process.

From the performance of the alternative plans in this testing, it may be stated that the evaluation methodology has proved to be a useful one and its application to be very fruitful, considering

the limitations of its scope. The most important limitation of this methodology that was felt during its application was the lack of a common scale for measuring the relative performance level of each of the criteria. This method would have been more of a success if its application was limited to one area of planning only, such as Land Use Planning, Transportation Planning etc.; in which case the use of a scale would have been possible without any difficulty. But for its application to Comprehensive Planning, development of a common scale is still to be achieved, without which its application can not be a total success. Thus, this is the area that needs further research and provides room for improvement of the methodology.

One area that was found to be beyond the scope of consideration within this methodology was the cost of benefits and losses. The primary difficulty in considering cost in this methodology was in establishing the cost of sentimental merits and demerits, while the cost of physical merits and demerits could be easily established. While research along this line is in progress, achievement of this is still a long way to come.

It may be concluded by saying that in the endeavour to secure evidence of the advantages and disadvantages of particular plan designs, new insights are obtained which lead to the generation of superior alternatives. The evaluation of some alternatives lead to the searching out of better ones, and the planning process becomes cyclic in form. As such, evaluation becomes an activity which occurs at a number of different points between the decision to proceed to plan and the conclusion of the planning study.

STATE CAPITOL AREA PLAZA

A STUDY OF ALTERNATIVE DEVELOPMENT PLANS

- <sup>1</sup> Kevin Lynch, Site Planning (Cambridge: The M.I.T. Press, 1972), p. 3.
- <sup>2</sup> Oblinger-Smith Corporatio, Capitol Area Preliminary Plan (Topeka: Capitol Area Plaza Authority, 1975), p. I-3.
- <sup>3</sup> Kansas Architectural and Planning Associates, Kansas Capitol Plaza (Topeka: Capitol Area Planning Commission, 1969), p. 2.
- <sup>4</sup> Schaefer, Schirmer and Eflin, Initial Planning for the Capitol Area Plaza Project (Topeka: Capitol Area Planning Commission, 1971), p. 2.
- <sup>5</sup> Ibid., p. 3.
- <sup>6</sup> John Dickey, Metropolitan Transportation Planning (New York: McGraw Hill Book Company, 1975), p.
- <sup>7</sup> Ibid., p.
- <sup>8</sup> Paul Zucker, Towns and Squares, (Cambridge: The M.I.T. Press, 1970), p. 4.
- <sup>9</sup> Ibid., p. 3.
- <sup>10</sup> Ibid., p. 7.



- <sup>11</sup> Nathaniel Lichfield, Peter Kettle and Michael Whitbread, Evaluation in the Planning Process (New York: Pergamon Press, 1975), p. 17.
- <sup>12</sup> Morris Hill, "A Method for the Evaluation of Alternative Plans", Journal of the American Institute of Planners, (Washington: American Institute of Planners, 1968), Vol. 34.

1. Burgwin, Martin and Associates. Capitol Area Plaza Development Traffic Planning and Studies. Topeka: Topeka-Shawnee County Metropolitan Planning Commission, 1971.
2. DeChiara, Joseph and Lee Koppelman Urban Planning and Design Criteria. New York: Van Nostrand Reinhold Company, 1975.
3. Dickey, John. Metropolitan Transportation Planning. New York: McGraw Hill Book Company, 1975.
4. Hill, Morris. "A Method For The Evaluation of Transportation Plans", Highway Research Record, Number 180. Washington: Highway Research Board, 1967.
5. Hill, Morris. "A Method For The Evaluation of Alternative Plans", Journal of the American Institute of Planners, Volume 34. Washington: American Institute of Planners, 1968.
6. Johnson, Brickell and Mulcahy. 1972 Statistics Report. Topeka: Topeka-Shawnee County Metropolitan Planning Commission, 1972.
7. Kansas Architectural and Planning Associates. Kansas Capitol Plaza. Topeka: Capitol Area Planning Commission, 1969.

8. Lichfield, Nathaniel, Peter Kettle and Michael Whitbread, Evaluation in the Planning Process. New York: Pergamon Press, 1975.
9. Lynch, Kevin. Site Planning. Cambridge: The M.I.T. Press, 1972.
10. Metroplan, Study Design for a Comprehensive Development Plan. Kansas City: Metropolitan Planning Commission, 1967.
11. Oblinger-Smith Corporation, Capitol Area Preliminary Plan. Capitol Area Plaza Authority, 1975.
12. Planning Department, Development of the Central City District. San Antonio: City of San Antonio, 1972.
13. Schaefer, Schirmer and Eflin, Initial Planning for the Capitol Area Plaza Project. Topeka: Capitol Area Planning Commission, 1971.
14. Topeka-Shawnee County Metropolitan Planning Commission, Preliminary Report on Capitol Area Plaza Project. Topeka: City of Topeka, 1971.
15. Spreiregen, Paul. The Arcitecture of Towns and Cities. New York: McGraw-Hill Inc., 1965.
16. Pushkarev, Boris. Urban Space for Pedestrians.

Cambridge: The M.I.T. Press, 1975.

17. US Department of Transportation, A Manual for Planning Pedestrian Facilities. Washington: USDOT, 1974.

18. Wolfe, Meyer and R. Shin, Urban Design Within the Comprehensive Planning Process. 1970.

18. Zucker, Paul, Towns and Squares. Cambridge: The M.I.T. Press, 1970.

Report: Description of Values-Goals-Objectives-Criterion

The set of values-goals-objectives-criterion was formulated according to the description given by Prof. John Dickey. The following is a discussion of the value, goal and objective components of the set, while the criterion component has been discussed in section 1.3 of the main report. This discussion is followed by an illustration of the inter-relation of the components. The components are categorized into two values (sentimental and physical), three goals, five objectives and twelve criterias.

**Values:**

1. Sentimental: To have a State Capitol Area which would promote an image of prestige and pride for the state.
2. Physical: To have a State Capitol Area which would offer an adequate and efficient center of public services.

**Goals:**

1. To achieve a centroid of attraction for the citizens of the state as well as outside visitors and to maintain the Capitol Area as a historic and visual landmark.
2. To create a pleasant and convenient working condition for

the employees, the elected officials and public and to improve the environmental qualities of the surrounding.

3. To provide direction for immediate site improvement needs and to provide development alternates for the Capitol Area which would accomodate the long-range needs and demands.

Objectives:

1. To achieve a physical surrounding which would focuss upon the Capitol building and reflect an aesthetic quality characteristic of the state.
2. To reinforce the environmental image of the Capitol Area by considering the possibility of an administrative center with characteristic features of a 'plaza'.
3. To integrate land use, traffic, utility etc. patterns while resolving existing problems and fulfilling the changing needs and demands for facilities.
4. To achieve a consolidated administrative complex by allocating physical space for all major administrative units within the Capitol Area while providing for flexibility.
5. To provide guidelines for a continuous, uniform and orderly

growth for a long-range development of the overall site.

References:

1. Kansas Architectural and Planning Associates. Kansas Capitol Plaza. Topeka: Capitol Area Planning Commission, 1969.
2. Dickey, John. Metropolitan Transportation Planning.

Report: Review of Planning Processes currently in practice

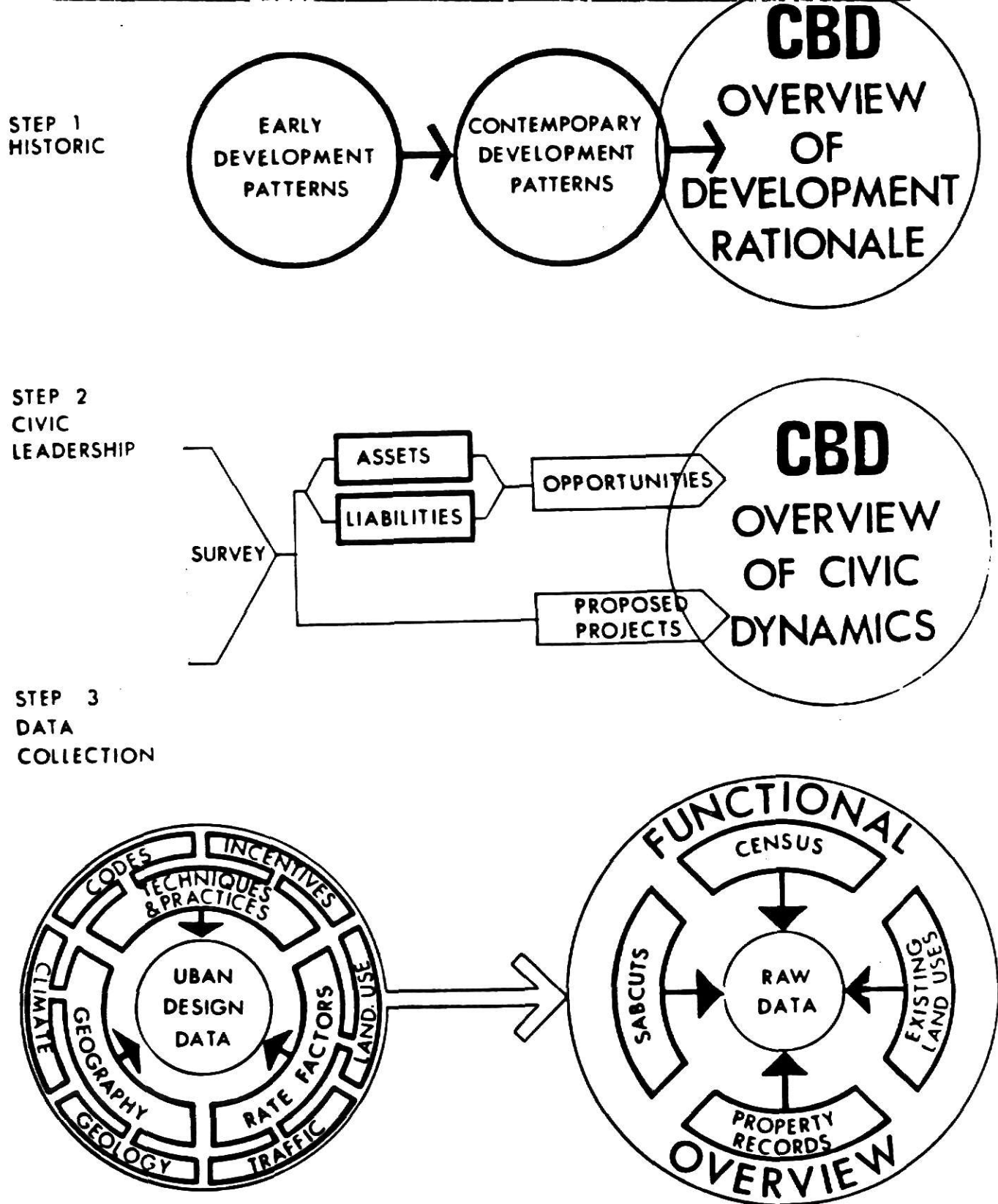
The following is a discussion of the planning processes that have been reviewed in order to adopt a process suitable for the purpose of this study. The planning process that was selected have been elaborately discussed in section 1.5.

In a planning study, the City Planning Department of the City of San Antonio established an urban design process as a means of more effectively dealing with the diverse elements. This process was limited to meet the need of specific project only. The following figure illustrates this concept, which is identified by four inherent stages, as follows:

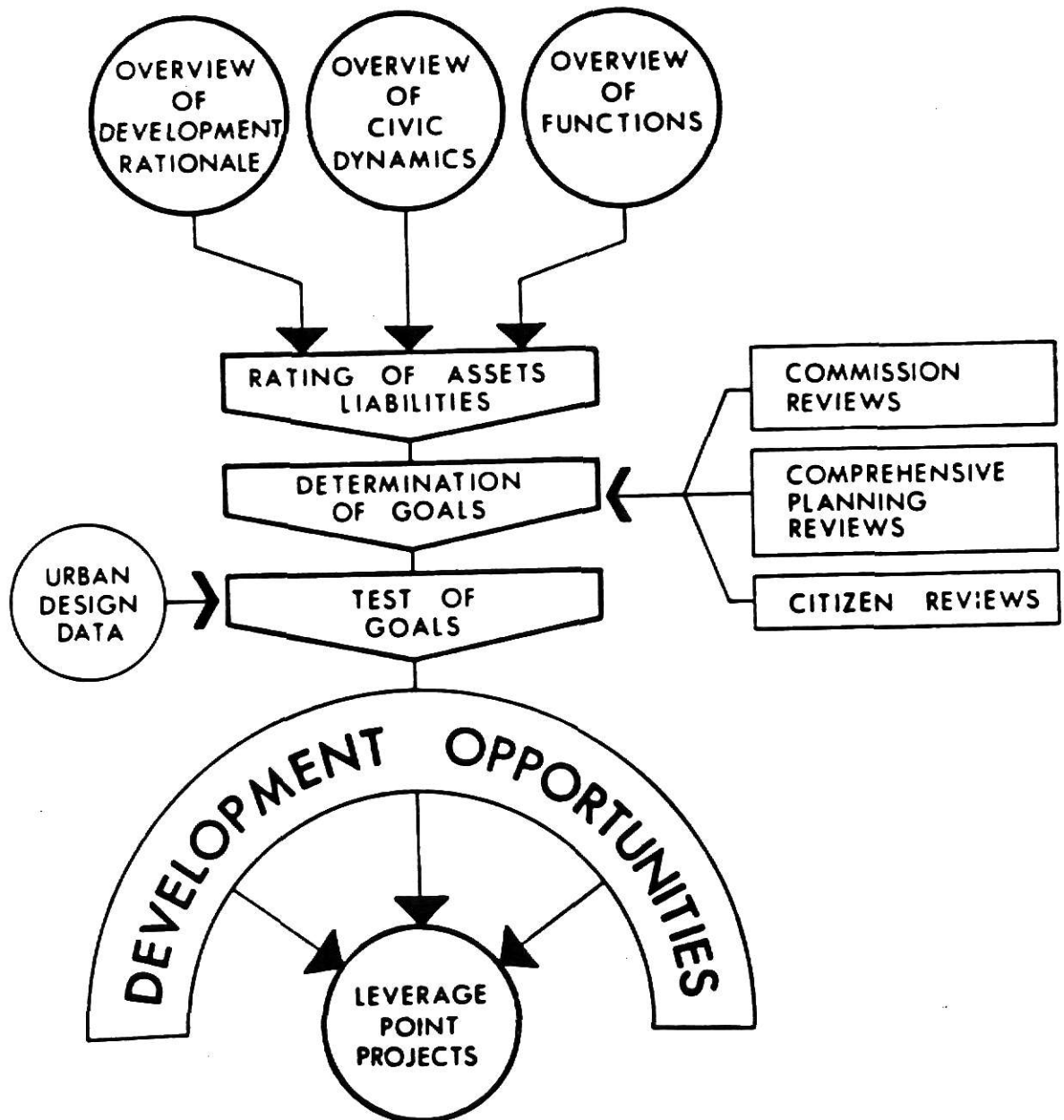
1. Overview of development rationale
2. Overview of civic dynamics
3. Overview of functions
4. Rating of assets liability
5. Determination of Goals
6. Test of Goals
7. Development opportunities.



Figure: Planning process proposed by the City of San Antonio



STEP 4 Figure: Planning Process proposed by the City of San Antonio  
ANALYSIS

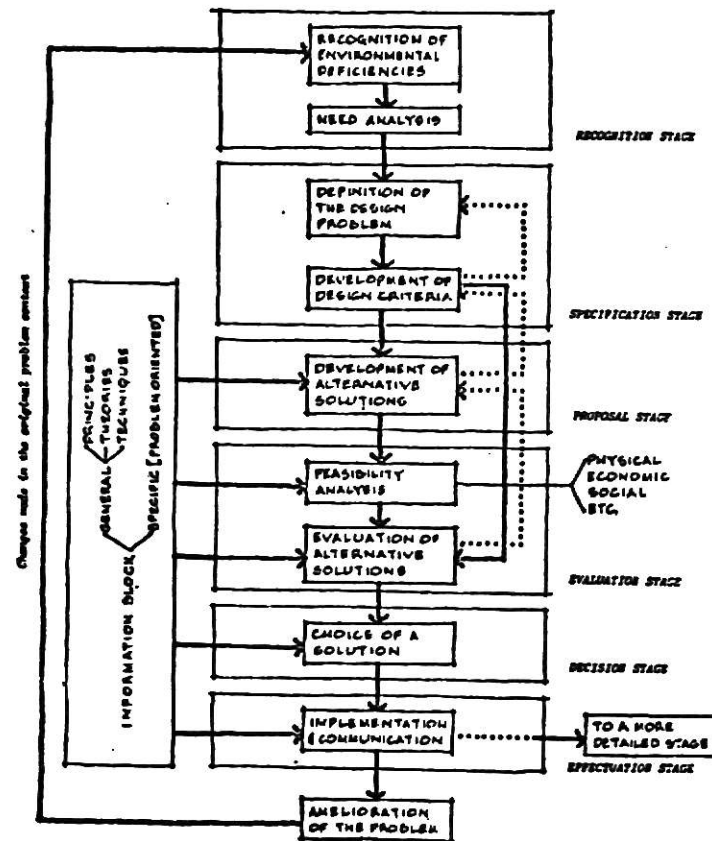


Source: City of San Antonio, Development of the Central  
City District.

Meyer Wolfe and R. Shin of the University of Washington and prominent researchers on the urban planning and design process pinpointed the planning aspects with reflections on operational tasks as they go into the actual field. A work program, prepared by them and applied in real situation, consisted of a series of stages. This process was comprehensive in nature and has been successfully applied by various agencies around the nation. The different stages of the process are given below, while an inter-relation of the stages is illustrated in the following figure.

1. Recognition stage
2. Specification stage
3. Proposal stage
4. Evaluation stage
5. Decision stage
6. Effectuation stage

Figure: Planning Process proposed by Meyer Wolfe and R. Shin

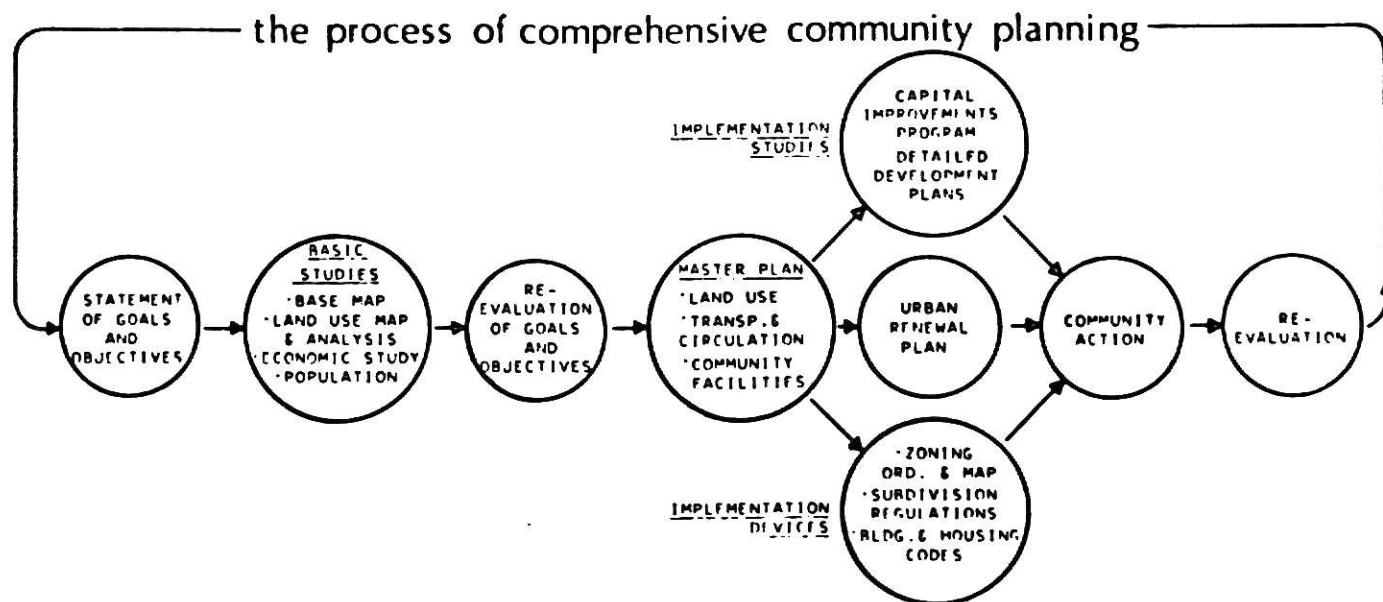


Source: Meyer Wolfe and R. Shin, Urban Design Within the Comprehensive Planning Process.

Joseph DeChiara and Lee Koppelman in a handbook of planning and design have proposed a planning process which encompasses the various fields of planning. This process emphasizes more on the aspect of implementation than the preparation of plans. Also, it proposes preparation of one master plan rather than several alternative plans and does not include the evaluation stage. The process is illustrated in the following figure, the stages are summarized below.

1. Statement of goals and objectives
2. Basic studies
3. Re-evaluation of goals and objectives
4. Master plan preparation
5. Implementation studies
6. Community action

Figure: Planning Process Proposed by Joseph DeChiara



Source: Joseph DeChiara, Urban Planning and Design Criteria.

Lichfield, Kettle and Whitbred proposed a descriptive model of the planning process. This process is more in agreement with the one proposed by Meyer Wolfe and R. Shin. This process is more elaborate and specific. Also, this process emphasizes the stages of preparation of alternative plans and evaluation of the plans. For the purpose of this study, this process has been preferred. While an illustration of the process is given in the following figure, the important aspects of the process are given below.

1. Preliminary recognition and definition of problems
2. Decision to act and definition of the planning task
3. Data collection, analysis and forecasting
4. Determination of constraints
5. Plan Design
6. Testing of alternative plans
7. Plan evaluation
9. Decision making, plan implementation and constant reviewing

## References:

1. Lichfield, Nathaniel, Peter Kettle and Michael Whitbred.  
Evaluation in the Planning Process. New York: Pergamon  
Press, 1975.
2. DeChiara, Joseph and Lee Koppelman, Urban Planning and  
Design Criteria. New York: Van Nostrand Reinhold Co., 1975.
3. City Planning Department. Central City District. San Antonio:  
City of San Antonio, 1972.
4. Wolfe, Meyer and R. Shin, Urban Design Within The Comprehen-  
sive Planning Process.



Report: Discussion of Social-oriented evaluation methodologies

Check List of Criteria: This method is one of the earliest techniques of plan evaluation and is simplistic in nature. This method implies the dubious assumption that the differences between plans for all criteria were equally important. The findings are set out in a summary table with ranks of 1 being best and 5 being worst.

This approach ranks alternative proposals on an ordinal scale in relation to a number of specified criteria (representing the desired attributes of the plan), with a subjective judgement on the alternative preferred according to the criteria employed. In this approach, the alternatives are examined in relation to the criteria using the data as available, and the findings are ranked in the order of 1 to 5 for each criterion. The rank scores are then aggregated leading to direct conclusions. Until recently, this approach to evaluation was most commonly practiced, which was originally developed by land use planners.

Planning Balance Sheet Analysis: In this procedure, the officials responsible for running the the various projects are paired with appropriate groups of individuals who will be benefitted by the projects and are listed vertically in balance sheet forms. Each linked or associated pair is considered to be engaged in a notional transaction. Thus, the balance sheet aims at presenting a comprehensive set of social accounts. This method is also sometimes called as the Social Cost-benefit Analysis (SCBA) method.

This method has been developed for appraising the social worth of public sector projects, particularly those involving the commitment of resources. The use of PBSA in planning studies is now recognized, although much confusion over its principles and scope exists within the planning profession and the public at large. A distinctive feature of the PBSA approach is that assessments of advantages and disadvantages are undertaken according to a clearly defined set of theoretical principles, which most practitioners now agree, are appropriate. Costs and benefits are defined in terms of the quantity of other goods and services which are equivalent in value to the disadvantages

or advantages of the plans being investigated. PBSA has usually been applied to the comparison of alternatives within a single sector, such as, transportation, land use, health etc. although inter-sector comparison are sometimes practicable.

In this procedure, items of cost and benefit for inclusion in the analysis are all the gains and losses of every member of society whose well-being would be affected by the projects or plans if implemented. The benefits and costs are measured on the basis of the preferences of the individuals who are affected. The analysis seeks to establish the value of individuals' costs and benefits on the basis of evidence derived from peoples' behaviour.

Goals-Achievement Matrix (GAM) : In the GAM procedure, the term 'goal' is used as a generic term and defines it as 'an end to which a planned course of action is directed'. The goals of planned action may be categorized on the basis of specificity as ideals, objectives and policies.

An ideal is like a horizon allowing for indefinite progression in its direction but always receding, such as, equality, free-

dom or justice. An objective denotes an attainable goal that has instrumental value in that it is believed to lead to another valued goal rather than having intrinsic value in itself. A qualitatively defined objective is one that, following the execution of a course of action, is either obtained or not in terms of intuitive observations. A quantitatively-defined objective is one that is obtained in varying degree. A policy is the specification in concrete details of ways and means for the attainment of planned objectives.

For the purpose of this methodology, goals should, as far as possible, be defined operationally, that is, they should be expressed as objectives. In this way the degree of achievement of the various objectives can be measured directly from the costs and benefits that have been identified. According to this approach, the combined weight of the objectives and their incidence is assigned to the measures of achievement of the objectives. The weighted indices of goals-achievement are then summed and the preferred plan among the alternatives compared is that with the largest index. This approach requires several assumptions concerning the inter-relationship of the measures of

achievement of the individual objectives. Although this approach may be subject to criticism, it does provide an easily determined summary of the effects of plans on the achievements of objectives that incorporates the relative valuation of the objectives by the community. Since the index is determined in a similar manner for all alternative plans under consideration, it enables a comparison to be made.

The simplest approach, and one that is subject to least criticism, is to treat all objectives as if they have been measured on the least demanding of measurement scales, an ordinal scale. The plan would then be evaluated with respect to each objective to determine whether it increases, decreases or leaves goals-achievement at about the same level for the community as a whole and individuals within it. Similar, but somewhat arbitrary, values would then be assigned, say +1 if goals-achievement is enhanced, -1 if goals-achievement is decreased and 0 if there is no effect on goals-achievement. Then weights of the individual objectives and their incidence would be introduced and an index of goals-achievement would be determined for the entire plan.

An example of the methodology is given below. Let us assume that plans A and B are being compared with respect to their effectiveness. Also, let us assume the relative weights of objectives a and b and their incidence for population groups x and y to be as stated in the table. The advantages and disadvantages of the plans are translated in terms of their achievement of the objectives. The final outcome is recorded at the end.

	Pop. x (Wt: 2)		Pop. y (Wt: 1)	
	Plan A	Plan B	Plan A	Plan B
Obj. a (Wt: 3)	+6	-6 (Wt: 3)	-3	0
Obj. b (Wt: 1)	-2	+2 (Wt: 2)	00	-2
	+4	-4	-3	-2

Result:

Weighted index of goals-achievement,

Plan A: 1, Plan B: -6.

Thus, Plan A is preferable to plan B.

References:

1. Hill, Morris. "A Method for the Evaluation of Alternative Plans", Journal of the American Institute of Planners, Vol. 34, 1968.
2. Lichfield, Nathaniel, Peter Kettle and Michael Whitbred. Evaluation in the Planning Process. New York: Pergamon Press, 1975.

Report: Discussion of aesthetic conditions of the site

In order to obtain information on existing aesthetic condition of the site, a visual survey was undertaken according to the procedure given in the book The Architecture of Towns and cities. The aesthetic setting of the site is perceived through several sight corridors. From the far south, Topeka Avenue sight corridor is enhanced by topographical conditions, that is, the height of the plaza grounds relative to its frame. However, building heights around the plaza remain critical to long-distance view from this corridor. Other shorter, but important, sight corridors are from the intersection of Topeka Avenue and Twelfth Street, and along Ninth Street on east and west of the site. These corridors are affected by street signs, bill-boards and other visual clutter such as utility poles and overhead wires.

The site is easily distinguishable by its character of a separate district, that is, one of an administrative district. The district is characterized by large buildings and open spaces in between. However, the edges of the district can not be



identified by any specific corridor or other dominant element.

The prominent visual features of the site are, in addition to obvious Capitol building, Memorial building, Supreme Court building (presently under construction), and two statues in front of the Capitol building. The State Office building is clearly the most important node of activity on the sight at present. The grounds in front of the Capitol building is also often seen as a place for sitting and mingling by the employees and outside visitors. This area is flat with few pedestrians amenities and natural elements. The results of the visual survey are given in the following illustration.

The area around the Capitol building and the new Supreme Court building is significant in the sense that it is highly suitable for creating visual impact. This area is likely to become the heart of the plaza in future and therefore high density build-up in future should attempt to avoid the blocking of view of this area from the sight corridors.

#### References:

1. Speiregen, Paul. The Architecture of Towns and Cities.

Report: Discussion of building conditions of the site

Information on existing building conditions was also obtained by a visual inspection of the sight. The building conditions and structural heights are dominant factors establishing the setting. While poor structural conditions do exist in a scattered pattern surrounding the site, the majority of these are to the south and south-east side of the plaza. Because of this area's building conditions and also because of proximity to the plaza and CBD, some new redevelopment is occurring around here. All state-owned buildings on the site are in fair to good condition, except for the printing press building and a small office unit. The building conditions of the site are illustrated in the following figure.

While state-owned buildings on the plaza are in fairly good shape, the deteriorating structures around may have an impact on the overall impression of the site. Therefore, these areas may need to be improved or revitalized. Care should be taken to preserve buildings of historical significance. High-density housing may be considered around this area to meet future demands.

Report: Discussion of economic conditions of the area

Information on current employment in the area was available from 1972 Statistics Report. This report designated this area as district number 01. The information is given in the table as follows. In addition to high governmental employment, commercial employment is the next major employment category.

The same report was used to obtain employment information for year 1995. It is apparent that governmental employment will increase at a much higher rate than commercial or industrial. However, it is to be considered that any dislocation of existing business or industry to accomodate future facilities will have definite impact on the employment of this area. The projected employment data is also given in the same table, as follows.

## References:

1. Johnson, Brickell and Malcuhy. 1972 Statistics Report. Topeka Shawnee County Metropolitan Planning Commission, 1972.

Table: Labor Force and Employment Projection

	<u>1970</u>	<u>1995</u>
Government	3,936	7,158
Labor Force	286	212
Commercial	1,727	2,014
Industrial	2,565	2,637
Other	192	255
Total	8,706	12,276

Source: Johnson, Brickell and Mulcahy, 1972 Statistics Report.

Report: Discussion of environmental condition of the area.

Information on environmental condition were available, not from a single source, but in piece form from several reports. The present environmental condition of the site seems to pose few problems. There is no adverse air-pollution impact within the vicinity of the area. The traffic on Topeka Ave and Tenth Ave generates some noise but does not pose any serious problem. No specific data on environmental conditions were available.

The area is located on a ridge line and is therefore naturally drained. Presently, the area has surface drainage to Topeka Avenue and Twelfth Street. There is no elevated street or surface around the site at present and therefore no problem of vibration exist. Finally, it may well be reasonable to predict that this area will not have any serious environmental problem in the future. However, while accomodating new traffic facilities, annoyance of pedestrians by potential traffic noise need to be considered.

Report: Discussion of land use of the area

Statistical information on land use were available from 1972 Statistics Report, while the locations of different land uses were identified by visual inspection. The land use pattern around the area has not significantly changed in the past six years. Within the plaza, all private ownership have been acquired and cleared for the Capitol Plaza. The informations are given in the following illustration and table.

Uses north of Tenth Ave are mostly governmental and semi-public. Adjacent to the plaza along Jackson Street, the land use is predominantly service commercial. There is mixture of office and multi-family dwellings on south of Twelfth Street. Commercial development mixed with office uses is prevalent along Topeka Avenue and Tenth Avenue. Some of these developments are fairly new while others in dilapidated shape. A service station on south of the Memorial building is incompatible with other uses.

A major portion of the area is zoned as multiple-residential (E). Jackson Street frontage is combination of business district (H),

Table: Land Use Projection (In Acres)

	<u>1970</u>	<u>1995</u>
Public	26.20	48.70
Commercial	16.71	13.84
Industrial	0.64	0.46
Residential	17.00	8.79
Total	60.55	71.79

Source: Johnson, Brickell and Mulcahy, 1972 Statistics Report.

light industrial (I) and commercial (G). The projected land use requirement for year 1995 are also given in the following table.

References:

1. Johnson, Brickell and Malcuhy. 1972 Statistics Report.

Topeka-Shawnee County Metropolitan Planning Commission, 1972.



Report: Discussion of natural features of the site

Information on geological condition was available from a Geological Investigation Report for the plaza area, according to which bed-rock limestones are generally found twenty to thirty feet below the surface, while water surfaces vary from a temporary basis on upper soil to a flowing level in the bed-rock units. The area is fortunate to have the beauty of stately old trees in certain part, while wide open spaces are found in other parts of the site. The site offers good potential for beautification through proper landscaping.

The above-mentioned study recommended that massive and deep underground structures, such as, parking garages etc. will require extensive under-ground drainage system, and that any deep across the site construction could block water movement. This would cause a draw-down of water in the area and eventually could affect the footings of existing buildings. The following figure illustrates the topography of the site.

## References:

1. Barnett-Stuart Inc. Geological Investigation Report, 1970.

Report: Discussion of pedestrian circulation in the site

No existing data was available on pedestrian circulation in the area. Therefore, a short study was undertaken based on the procedure given in Manual for planning Pedestrian Facilities. Based on this manual, a basic pedestrian system was developed by determining kinds of trips, purpose of trips, trip generators, primary nodes, secondary nodes, links - both pedestrian-dominant and vehicle-dominant. The findings are illustrated in the following figure.

Although it was not possible to project the number of pedestrian trips that would be originating or terminating at certain nodes, it was possible to identify the probable nodes of trip generation for the future. Thus, pedestrian corridors for the future could be established with reasonable approximation.

## References:

1. Pushkarev, Boris. Urban Space for Pedestrians.
2. U.S. Department of Transportation, Manual for Planning Pedestrian Facilities. Washington, 1975.

Report: Discussion of parking and transit facilities

Parking data was obtained from the Initial Planning Report, according to which there are 1795 off-street parking spaces presently available. Intra-city transit services are available along Topeka Avenue and Tenth Avenue. Also, an inter-city transit terminal is located at Kansas Avenue and Sixth Street, two blocks north from the site.

For year 1995, a need for 4800 parking spaces have been projected. In order to meet this need, construction of parking structure must be considered. The inter-city Transit Authority is of the opinion that less on-site parking facilities will create more transit users and will help transit facilities. They are in favor of some sort of transit malls where a street may be closed down but may remain open for transit facilities only. The concept of a Transit Mall is fairly new and gaining wide acceptance in various cities throughout United States. The following figure illustrates present and prospectiv sites.

## References:

1. Schaefer, Schirmer and Eflin. Initial Planning Report, 1971.

Report: Discussion of traffic circulation in the area

Information on the traffic demands around the Capitol Area and adjacent streets were available from the report Analysis and Projections of Traffic Needs. The area is served by a network of freeways, arterials and collector streets. The Inter-state 70 freeway is accessible via Tenth Avenue and Eighth Street. Highway 75 runs through the Topeka Avenue. Topeka Avenue and Tenth Avenue are two major arterial streets, running in the north-south and east-west directions respectively, and carrying approximately 25,000 ADT and 14,000 ADT respectively.

Of the minor arterial streets, Huntoon-Twelfth pair carries 12,000 ADT and Eighth Street carries 7,000 in the east-west direction and Kansas Avenue carries 13,000 ADT in the north-south direction. Two collector streets, Jackson street and Harrison Street, runs in the north-south direction.

It is obvious that transportation facilities require major consideration in this study. It is unlikely that some other mode of transportation will take the place of vehicular traffic in the near future. This mode will continue to play a very

Table: Traffic Projectiona (ADT)

	1970	1995	1995(10th (10th St. Closed)
Topeka Avenue			
N. of 8th	20,250	23,650	23,670
S. of 8th	23,290	25,110	33,760
N. of 10th	24,770	26,710	35,390
S. of 10th	25,540	29,220	30,960
Kansas Avenue			
N. of 8th	16,130	15,130	15,460
S. of 8th	16,020	18,350	23,800
N. of 10th	15,600	19,000	24,500
S. of 10th	13,020	12,310	12,790
Eighth Street			
W. of Topeka	6,900	8,330	12,220
E. of Topeka	6,780	6,210	25,190
W. of Kansas	8,950	7,110	15,600
E. of Kansas	6,790	6,460	7,100
Tenth Avenue			
W. of Topeka	11,070	13,730	6,140
E. of Toprka	17,980	25,150	-
W. of Kansas	17,010	19,390	16,900
E. of Kansas	13,790	12,700	12,520

Source: Topeka-Shawnee County Metropolitan Planning Commission,  
Preliminary Report on Capitol Area Plaza.

important role in the transportation of people and goods for a long time to come. Therefore, it is essential that the needs and demands for the transportation facilities be accommodated, while suitable solutions to possible side-effects be sought.

Traffic engineers for the City of Topeka have expressed apprehension at several points of ingress and egress to the complex. Large scale street changes and improvements to aid the control and regulation of traffic flow on Tenth Avenue and Topeka Avenue are extremely important. Provision for smooth traffic flow, both within the site and through the site, should be achieved.

The fire department is opposed to closing any streets and is of the opinion that the entire Capitol Area should be barrier free and accessible from all sides. Elevated walkways for pedestrians may be considered. The following figures give the existing and projected traffic demands.

#### References:

1. Burgwin, Martin and Associates. Capitol Area Traffic Planning and Studies. Topeka-Shawnee County Metropolitan Planning Commission, 197].

Report: Discussion of socio-cultural status of the area

Presently, the area does not offer any major provision for any socio-cultural activities, except for occasional gatherings in front of the Capitol building. There are also frequent guided tours offered at the Capitol building.

It may be reasonable to state that provisions for social activities on the site by physical design will help attract visitors to this site and that this should be a prime consideration. Because, today it is an accepted fact that social considerations should go together with physical development in order for any project to be a success.

Report: Discussion of space use on the site

The space utilization data were available from the report Analysis of Space Use. This study reported the present space available and projected the space needs by various agencies of the state government. The needs for the year 1995 totaled 2,646,938 GSF, while at present floor space of 703,200 GSF are in use for governmental services. Of this need, provision for 2 million GSF of floor space on the site has been required.

## References:

1. SUA Inc. Analysis of Space Use. Capitol Area Planning Commission, 1970.



Table: Space Needs Projections (In Sft)

	<u>1970</u>	<u>1995</u>
Legislature	61,607	93,179
Judicial	27,254	44,378
Governor's Office	20,935	28,955
Executive Offices	46,928	70,039
Administration, D/o	87,060	199,288
Transportation, D/o	115,714	151,228
Revenue, D/o	115,759	148,201
Regulatory Agencies	48,569	57,931
Regents, B/o	3,428	4,538
Health, Social	148,388	189,548
Economic Dev., D/o	46,509	57,374
Agriculture, D/o	61,253	78,540
Public Safety, D/o	47,952	65,428
Total	901,356	1,188,627

Sources: Schaefer, Shrrmer and Eflin, Initial Planning Study.

Report: Discussion of utility services in the site

Utility services data were available from the report Initial Planning Report. The Capitol Area presently served by gas, water, storm, sewer, telephone and electricity (including air-conditioning) utility services. The following figure shows the location of present utility lines.

Of concern, the existing water-main is at maximum capacity. Additional major building in the area will necessitate new water-mains. An efficient system of utility services may be achieved through an integrated tunnel system. Also, possible street changes will result in additional street lighting.

## References:

1. Schaefer, Schirmer and Eflin. Initial Planning Report. Capitol Area Planning Commission, 1971.

Table: Test A of Alternative Plan #1

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
1.A.	1	-3	0	0
B.	1	3	0	0
C.	1	0	0	0
2.A.	2	6	0	0
B.	2	-6	0	0
3.A.	2	0	0	0
B.	2	0	0	0
C.	2	-6	0	0
4.A.	2	-6	0	0
B.	2	6	0	0
5.A.	2	6	4	2
B.	2	0	0	0
6.A.	1	-3	0	0
B.	1	3	0	0
7.A.	2	6	4	0
B.	2	0	0	0
8.A.	1	3	0	0
B.	1	3	0	0
C.	1	3	0	0
D.	1	3	0	0
9.A.	2	6	4	2
B.	2	6	4	2
C.	2	6	4	2
D.	2	6	4	2

Criteria #	Criteria Wt.	Local Impact	Metropolitan Impact	Regional Impact
10.A.	1	0	0	0
B.	1	3	0	0
11.A.	2	0	0	0
B.	2	6	0	0
C.	2	6	0	0
12.A.	2	0	0	0
B.	2	-6	0	0
		48	24	10
Total: 48 + 24 + 10 = 85				

Table: Test A of Alternative Plan #2

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
1.A.	1	-3	-2	0
B.	1	3	0	0
C.	1	0	0	0
2.A.	2	6	0	0
B.	2	-6	0	0
3.A.	2	0	0	0
B.	2	-6	0	0
C.	2	0	0	0
4.A.	2	6	0	0
B.	2	-6	0	0
5.A.	2	6	4	2
B.	2	0	0	0
6.A.	1	-3	0	0
B.	1	3	0	0
	2			
7.A.	2	6	4	0
B.	2	0	0	0
8.A.	1	3	0	0
B.	1	0	0	0
C.	1	0	0	0
D.	1	3	2	0
9.A.	2	6	4	0
B.	2	6	4	0
C.	2	6	4	0
D.	2	0	4	2

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
10.A.	1	0	0	0
B.	1	0	0	0
11.A.	2	0	0	0
B.	2	6	0	0
C.	2	6	0	0
12.A.	2	0	0	0
B.	2	-6	0	0
		48	28	4

Total : 48 + 28 + 4 = 80

Table: Test A of Alternative Plan #3

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
1.A.	1	3.	2	0
B.	1	3	2	0
C.	1	0	0	0
2.A.	2	6	0	0
B.	2	-6	0	0
3.A.	2	6	0	0
B.	2	6	0	0
C.	2	6	0	0
4.A.	2	-6	0	0
B.	2	0	0	0
	2			
5.A.	2	6	4	0
B.	2	0	0	0
6.A.	1	3	0	0
B.	1	3	0	0
7.A.	2	6	4	0
B.	2	6	4	0
8.A.	1	3	0	0
B.	1	3	0	0
C.	1	0	0	0
D.	1	3	2	1
9.A.	2	-6	-4	-2
B.	2	-6	-4	-2
C.	2	0	0	0
D.	2	6	4	2

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
10.A.	1	0	0	0
B.	1	0	0	0
11.A.	2	0	0	0
B.	2	6	0	0
C.	2	6	0	0
12.A.	2	6	0	0
B.	2	6	0	0
		69	14	-1

Total:  $69 + 14 + (-1) = 83$



Table: Test A of Alternative Plan #4

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
1.A.	1	3	0	0
B.	1	3	0	0
C.	1	3	0	0
2.A.	2	-6	0	0
B.	2	-6	0	0
3.A.	2	6	0	0
B.	2	6	0	0
C.	2	6	0	0
4.A.	2	-6	-4	0
B.	2	-6	0	0
5.A.	2	6	4	2
B.	2	0	0	0
6.A.	1	0	0	0
B.	1	3	2	0
7.A.	2	6	4	0
B.	2	0	0	0
8.A.	1	3	0	0
B.	1	3	0	0
C.	1	0	0	0
D.	1	3	0	0
9.A.	2	-6	-4	-2
B.	2	-6	-4	-2
C.	2	-6	-4	-2
D.	2	0	0	0

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
10.A.	1	3	0	0
B.	1	3	0	0
11.A.	2	0	0	0
B.	2	6	0	0
C.	2	6	0	0
12.A.	2	6	0	0
B.	2	6	0	0
		45	-6	-6

Total:  $45 + (-6) + (-6) = 33$

Table: Test A of Alternative Plan #5

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
1.A.	1	3	2	0
B.	1	3	2	0
C.	1	0	0	0
2.A.	2	6	0	0
B.	2	-6	0	0
3.A.	2	6	0	0
B.	2	6	0	0
C.	2	6	0	0
4.A.	2	-6	0	0
B.	2	0	0	0
5.A.	2	6	4	0
B.	2	0	0	0
6.A.	1	-3	0	0
B.	1	3	0	0
7.A.	2	6	4	0
B.	2	-6	-4	0
8.A.	1	3	0	0
B.	1	3	0	0
C.	1	3	0	0
D.	1	3	0	2
9.A.	2	-6	-4	-2
B.	2	-6	-4	-2
C.	2	-6	-4	-2
D.	2	0	0	0

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitatn Impact (Wt=2)	Regional Impact (Wt=1)
10.A.	1	3	0	0
B.	1	3	0	0
11.A.	2	0	0	0
B.	2	6	0	0
C.	2	6	0	0
12.A.	2	6	0	0
B.	2	-6	0	0
		36	0	-4

Total:  $36 + 0 + (-4) = 32$

Table: Test A of Alternative Plan #6

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
1.A.	1	3	0	0
B.	1	3	2	0
C.	1	3	0	0
2.A.	2	6	0	0
B.	2	6	0	0
3.A.	2	6	0	0
B.	2	0	0	0
C.	2	0	0	0
4.A.	2	6	4	0
B.	2	-6	0	0
5.A.	2	6	4	0
B.	2	6	0	0
6.A.	1	-3	-2	0
B.	1	3	0	0
7.A.	2	6	4	0
B.	2	0	0	0
8.A.	1	3	0	0
B.	1	3	0	0
C.	1	3	0	0
D.	1	3	0	0
9.A.	2	6	4	2
B.	2	6	4	2
C.	2	6	4	2
D.	2	6	4	2

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
10.A.	1	0	0	0
B.	1	0	0	0
11.A.	2	0	0	0
B.	2	6	0	0
C.	2	6	0	0
12.A.	2	0	0	0
B.	2	-6	-4	0
		81	24	4

Total:  $81 + 24 + 4 = 109$

Table: Test B of Alternative Plan #1

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
1.A.	3	-9	0	0
B.	3	9	0	0
C.	3	0	0	0
2.A.	1	3	0	0
B.	1	-3	0	0
3.A.	1	0	0	0
B.	1	0	0	0
C.	1	-3	0	0
4.A.	1	-3	0	0
B.	1	3	0	0
5.A.	1	3	2	1
B.	1	0	0	0
6.A.	3	-9	0	0
B.	3	9	0	0
7.A.	1	3	2	0
B.	1	0	0	0
8.A.	3	9	0	0
B.	3	0	0	0
C.	3	0	0	0
D.	3	9	0	0
9.A.	1	3	2	1
B.	1	3	2	1
C.	1	3	2	1
D.	1	3	2	1

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitatn Impact (Wt=2)	Regional Impact (Wt=1)
10.A.	3	0	0	0
B.	3	9	0	0
11.A.	1	0	0	0
B.	1	3	0	0
C.	1	3	0	0
12.A	1	0	0	0
B.	1	-3	0	0
		39	12	5

Total: 39 + 12 + 5 = 56



Table: Test B of Alternative Plan #2

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
1.A.	3	-9	-4	0
B.	3	9	0	0
C.	3	0	0	0
2.A.	1	3	0	0
B.	1	-3	0	0
3.A.	1	0	0	0
B.	1	-3	0	0
C.	1	0	0	0
4.A.	1	3	0	0
B.	1	-3	0	0
5.A.	1	3	2	1
B.	1	0	0	0
6.A.	1	-9	0	0
B.	1	9	0	0
7.A.	1	3	2	0
B.	1	0	0	0
8.A.	3	9	0	0
B.	3	0	0	0
C.	3	0	0	0
D.	3	9	4	0
9.A.	1	3	2	0
B.	1	3	2	0
C.	1	3	2	0
D.	1	0	2	1

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
10.A.	3	0	0	0
B.	3	0	0	0
11.A.	1	0	0	0
B.	1	3	0	0
C.	1	3	0	0
12.A.	1	0	0	0
B.	1	-3	0	0
		27	12	2

Total:  $27 + 12 + 2 = 47$

Table: Test B of Alternative Plan #3

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
1.A.	3	9	6	0
B.	3	9	6	0
C.	3	0	0	0
2.A.	1	3	0	0
B.	1	-3	0	0
3.A.	1	3	0	0
B.	1	3	0	0
C.	1	3	0	0
4.A.	1	-3	0	0
B.	1	0	0	0
5.A.	1	3	2	0
B.	1	0	0	0
6.A.	3	9	0	0
B.	3	9	0	0
7.A.	1	3	2	0
B.	1	3	2	0
8.A.	3	9	0	0
B.	3	9	0	0
C.	3	0	0	0
D.	3	9	6	3
9.A.	1	-3	-2	-1
B.	1	-3	-2	-1
C.	1	0	0	0
D.	1	3	2	1

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitatn Impact (Wt=2)	Regional Impact (Wt=1)
10.A.	3	0	0	0
B.	3	0	0	0
11.A.	1	0	0	0
B.	1	3	0	0
C.	1	3	0	0
12.A.	1	3	0	0
B.	1	3	0	0
		87	6	4

Total:  $87 + 6 + 4 = 94$

Table: Test B of Alternative Plan #4

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
1.A.	3	9	0	0
B.	3	9	0	0
C.	3	9	0	0
2.A.	1	-3	0	0
B.	1	-3	0	0
3.A.	1	3	0	0
B.	1	3	0	0
C.	1	3	0	0
4.A.	1	-3	-2	0
B.	1	-3	0	0
5.A.	1	3	2	1
B.	1	0	0	0
6.A.	3	0	0	0
B.	3	9	6	0
7.A.	1	3	2	0
B.	1	0	0	0
8.A.	3	9	0	0
B.	3	9	0	0
C.	3	0	0	0
D.	3	9	0	0
9.A.	1	-3	-2	-1
B.	1	-3	-2	-1
C.	1	-3	-2	-1
D.	1	0	0	0

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Local Impact (Wt=1)
10.A.	3	9	0	0
B.	3	9	0	0
11.A.	1	0	0	0
B.	1	3	0	0
C.	1	3	0	0
12.A.	1	3	0	0
B.	1	3	0	0
		87	2	-2

Total:  $87 + 2 + (-2) = 87$

Table: Test B of Alternative Plan #5

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
1.A.	3	9	6	0
B.	3	9	6	0
C.	3	0	0	0
2.A.	1	3	0	0
B.	1	-3	0	0
3.A.	1	3	0	0
B.	1	3	0	0
C.	1	3	0	0
4.A.	1	-3	0	0
B.	1	0	0	0
5.A.	1	3	2	0
B.	1	0	0	0
6.A.	1	-9	0	0
B.	1	9	0	0
7.A.	1	3	2	0
B.	1	-3	-2	0
8.A.	3	9	0	0
B.	3	9	0	0
C.	3	9	0	0
D.	3	9	0	0
9.A.	1	-3	-2	-1
B.	1	-3	-2	-1
C.	1	3	-2	-1
D.	1	0	0	0

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
10.A.	3	9	0	0
B.	3	9	0	0
11.A.	1	0	0	0
B.	1	3	0	0
C.	1	3	0	0
12.A.	1	3	0	0
B.	1	-3	0	0
		84	8	-3

Total:  $84 + 8 + (-3) = 89$



Table: Test B of Alternative Plan #6

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
1.A.	3	9	0	0
B.	3	9	6	0
C.	3	9	0	0
2.A.	1	3	0	0
B.	1	3	0	0
3.A.	1	3	0	0
B.	1	0	0	0
C.	1	0	0	0
4.A.	1	3	2	0
B.	1	-3	0	0
5.A.	1	3	2	0
B.	1	3	0	0
6.A.	3	-9	-6	0
B.	3	9	0	0
7.A.	1	3	2	0
B.	1	0	0	0
8.A.	3	9	0	0
B.	3	9	0	0
C.	3	9	0	0
D.	3	9	0	0
9.A.	1	3	2	1
B.	1	3	2	1
C.	1	3	2	1
D.	1	3	2	1

Criteria #	Criteria Wt.	Local Impact (Wt=3)	Metropolitan Impact (Wt=2)	Regional Impact (Wt=1)
10.A.	3	0	0	0
B.	3	0	0	0
11.A.	1	0	0	0
B.	1	3	0	0
C.	1	3	0	0
12.A.	1	0	0	0
B.	1	-3	-2	0
		96	10	4

Total:  $96 + 10 + 4 = 110$

# STATE CAPITOL AREA PLAZA

A STUDY OF ALTERNATIVE DEVELOPMENT PLANS

A STUDY OF ALTERNATIVE DEVELOPMENT PLANS  
FOR THE STATE CAPITOL AREA PLAZA AT TOPEKA

by

MOHAMMAD AHSAN

B. Arch., Bangladesh Engineering University, 1971

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AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF REGIONAL AND COMMUNITY PLANNING

Department of Regional and Community Planning

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

1977

## ABSTRACT

This study dealt with the planning of a site, known as the State Capitol Area at Topeka. The study was initiated with an attempt to seek planning solutions for the case of this site, in the light of the problems of its previous plans.

The purpose of this study was two-fold:

- A. Study the application of planning process for preparing alternative plans, and
- B. Study the application of evaluation methodology for testing alternative plans.

The planning process proposed by Lichfield, Kettle and Whitbred and the evaluation methodology proposed by Morris Hill were selected for the purpose of this study. A set of forty-two criteria was established for testing the alternative plans.

Considering the possibility of a central 'plaza' was an important issue in the planning of this site. A plaza is usually an activity center, characterized by features, such as a focal point, pedestrian amenities, distinct forms etc.

A background study was undertaken to assemble facts on existing and projected conditions of the site. Based on these facts, six alternative development plans were prepared.

Plan #1 and Plan #2 were conceived with emphasis on needs and demands relating to physical values. Plan #4 and Plan #5 were conceived with emphasis on needs and demands relating to sentimental values. Plan #3 and Plan #6 were conceived with emphasis on a compromise between the needs and demands relating to both physical and sentimental values.

According to the evaluation methodology, the alternative plans were tested against the set of criteria that were categorized by their physical and sentimental values. A test of Sensitivity Analysis was undertaken, in which two tests were performed using two sets of weights for the criteria. In Test A, higher weights were assigned for criteria of Physical value, and in Test B, higher weights were assigned for criteria of Sentimental value.

The following were the final outcome of the plan testing:

1. Plan #1 and Plan #2 scored high points in Test A,

- 2) Plan #4 and Plan #5 scored high points in Test B, and
- 3) Plan #3 and Plan #6 scored high points in both Test A and Test B.

It was observed from the results of the plan testing that any alternative plan approached with an emphasis on criteria of only one specific value would tend to perform well in those tests that assigned higher weights for that value only. On the other hand, an alternative plan approached with emphasis on a compromise between the criteria of different values would tend to perform equally well in tests irrespective of the weights assigned to criteria. After a careful consideration of several factors, it was considered reasonable to recommend Plan #6 as the more acceptable of the plans.

It was concluded that the results of such testing would depend a great deal on the weights of criteria which should be left up to the decision-makers. While the evaluation methodology was found to be a very useful one, areas such as establishment of common scale, consideration of cost etc. needed further improvement.

STATE CAPITOL AREA PLAZA

A STUDY OF ALTERNATIVE DEVELOPMENT PLANS