Austin

TRANSPORTATION STUDY

OPERATIONS PLAN

PREPARED BY THE STUDY OFFICE WITH THE
COOPERATION AND ASSISTANCE OF THE TECHNICAL
COMMITTEE OF THE AUSTIN TRANSPORTATION STUDY

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1968

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INTRODUCTION

The Transportation Plan is a part of the City's overall development program. The most essential part of this Plan is that it is a functional Plan, with the Austin Transportation Study's continuing operation making every effort to keep abreast of significant changes in growth rates and patterns, land use changes, and traffic volumes and make the necessary adjustments to the proposals set forth in the AUSTIN TRANSPORTATION PLAN, 1962-1982, published in June of 1966.

After review and public hearings, the Austin City Council approved on March 6, 1967, as an amendment to the Austin Development Plan, the Expressway and Major Arterial Plan with, certain modifications and reservations, developed by the Austin Transportation Study.

Continuing transportation planning by the Austin Transportation Study began almost immediately after the publication of Volume II, The Austin Transportation Plan, 1962-1982, and was formalized in an agreement between the City of Austin, Travis County, and the State of Texas on January 25, 1967. This Agreement outlined the conduct of the operation and assigned responsibilities for the surveillance and reappraisal of the various elements affecting the Transportation Planning process. Agreements pledging their support and cooperation were secured with the three incorporated communities abutting the City of Austin, Rollingwood, Sunset Valley, and Westlake Hills.

The continuing phase operation will be based, as was the original study, on ten basic elements most essential to urban transportation planning. These elements are as follows: Economic Factors, Population Studies, Land Use Studies, Transportation Facilities, Terminal and Transfer Facilities, Traffic Engineering Features, Community Controls, Community Value Factors, Financial Resources, and Travel Patterns.

This Operations Plan for the conduct of the Continuing Phase of the Austin Transportation Study was adopted by the Advisory Committee of that Study on December 30, 1968.

SECTION I

ORGANIZATIONAL STRUCTURE

The Agreements mentioned earlier in this paper maintained the organization of this Transportation Study in much the same configuration as that used during the initial phase of the planning process. The Advisory and Technical Committees, expanded to give representation to more jurisdictions, will perform in essentially the same manner as in the past. A Study Coordinator was designated by the Texas Highway Department for the operation of the Transportation Study and a Planning Coordinator was assigned by the City of Austin to work in cooperation with the Study Coordinator. The Planning Coordinator will coordinate the efforts of the various City departments in data acquisition and other endeavors germane to the continuing phase operation.

The Advisory Committee, which has been expanded to include members from additional groups concerned with planning in this area, will continue to guide the Study during the continuing phase operation. A roster of members is included in the appendix hereto. This Committee will examine the adequacy of the continuing planning process at called meetings. It will determine if the current transportation data is in accord with previous projections and recommendations, or if there are discrepancies of a nature that would require significant changes in the plan. A complete review, and if necessary revision of all elements of the plan, shall be made at least once every five years.

The Technical Committee is comprised of professional and technical personnel from the City of Austin's and the Texas Highway Department's staff. It provides advice and assists the study office with the conduct of technical operations when called upon by the Coordinator or the Advisory Committee. In addition to this Committee, personnel from various departments of the governmental agencies involved are available for consultation and assistance.

The Study Coordinator appointed by the Texas Highway Department will serve as chairman of the Advisory Committee, and will be responsible for coordinating the continuing planning process with those parties involved in planning for this urban area. He will maintain data on traffic patterns, request additional traffic assignments as necessary, and aid in the procurement of additional data for zonal traffic forecasts, request additional system assignments and make available to the participating agencies any data developed by the Transportation Study. He will maintain files of all original and updated records, maps, figures, and other data necessary to the Transportation Study. He will recommend to the Advisory Committee, after consultation with the Technical Committee, special studies, revision of the Transportation Plan or renegotiation of the Continuing Phase Agreement if considered appropriate. He will also be responsible for the

preparation and publication of a brief annual report outlining the progress made in the study during the past year.

The Planning Coordinator from the City of Austin will coordinate the efforts of the City Departments in keeping data and records necessary to the Transportation Study. He will also serve as a member of the Advisory Committee and will work in close cooperation with the Study Coordinator in the preparation of the Annual Report.

It has been agreed that the City of Austin will be responsible for the following basic Study elements during the Continuing Phase. These items shall be maintained current or updated as outlined herein.

1. Economic Study
2. Population - Estimates by survey zone annually
3. Land Use - Data by survey zone annually
4. Terminal and Transfer Facilities
5. Transportation Facilities including the following:
   - (a) Street Classification
   - (b) Capacity Studies
   - (c) Traffic Volumes
   - (d) Accidents
   - (e) Public Transit
   - (f) Travel Time
6. Traffic Engineering Features
7. Community Controls
8. Financial Resources
9. Community Value Factors - annual review
10. Annual review and updating of the City's five-year capital improvements program for streets

It is agreed that the State Highway Department will be responsible for the following:

1. Make periodic traffic volume counts as necessary for the review of the Transportation Study.
2. Assess revised forecasts, data, and make additional assignments as deemed necessary or desirable.
3. Maintain a current inventory of all facilities on the State Highway System.
4. Maintain current records of all State and Federal expenditures on highways.
5. Maintain necessary records and make necessary analysis of data for the study area as a whole.

The expense of the Continued Study data gathering, review, and updating the various elements of the plan will be assumed by the participating agencies assigned the responsibilities as specified above, with each agency providing the necessary office space, equipment and personnel necessary for the assigned work.

The City of Austin's newly formed committee on urban arterials will act as an important cog in the everyday operation and implementation of the Transportation Plan. This committee is comprised of members from the various City Departments most concerned with Urban Transportation Planning. It includes representatives from the Department of Planning, the Department of Public Works, the Department of Traffic and Transportation, and Legal Department and Building Officials office. This committee was organized to review and make recommendations regarding land development, street proposals, and building permits which might involve Transportation Plan proposals. This committee works very closely with the local District office of the Texas Highway Department in formulating its recommendations concerning proposals which might affect highway routes through the area.

SECTION II

SURVEILLANCE

The maintenance of sufficient data such as land use, socio-economic data, and transportation system characteristics on a current basis will be provided to properly compare and evaluate the existing conditions in relation to the forecasts made in developing the recommended plans program and to determine if the assumptions made previously are still valid. The identification of the magnitude and location of growth by zone, district, census tract, or other analysis areas will be utilized for transportation system analysis. The remainder of this section will describe the procedures to be used for maintaining surveillance and updating the various study elements in this urban area.

ECONOMIC INDICES

This area will be the responsibility of the City of Austin's Planning Department. An annual summary of the current economic activity and trend will be developed from local sources such as the Economic Development Council, Chamber of Commerce, Bureau of Business Research, Texas Employment Commission and others. The summary of the data obtained from these agencies will be a part of the Annual Report. The following indicators determine the changes in trend in the economy of the area.

1. Total employment (employment distribution to smaller areas when practical)
2. Vehicle registration (smaller areas when practical)
3. Median family income (by smaller areas as practical)
4. Manufacturing employment
5. Effective buying income
6. Retail sales
7. Bank deposits
8. Assessed valuation of taxable property
9. Postal receipts
10. Number and value of building permits
11. Number of new dwelling units

The above indicators along with any other important elements will be analyzed and summarized in the Annual Report.

The frequency and depth of further economic base studies will be determined and authorized by the Advisory Committee.

POPULATION STUDIES

These studies will also be the responsibility of the City of Austin

and a projection of the population of the City and the Study Area will be made annually. The cohort-survival method will be the basic procedure used to estimate the population. The aforementioned method will be supplemented and adjusted or modified, if necessary, when it is analyzed in conjunction with building permits issued, vacancy ratios, densities per unit, and compared with school census data.

New forecasts will be made, if needed, by survey zone, planning area or census tract if this breakdown is necessary for the study.

The Annual Report will contain the latest population estimates and related comments if substantial changes are occurring in any given area.

LAND USE INVENTORY

The land use will be updated each year utilizing the City's administrative records such as subdivision, zoning changes, building permits, school enrollment, utility hookups, etc. Areas of change will be noted and field checked as necessary. Again the primary responsibility for the collection, storage, and analysis of this data will rest with the City of Austin.

The necessary tabulations and analysis by survey zone will be made to properly compare the land use changes with the Transportation Plan. The land use data taken from these comprehensive surveys will be recorded on data processing cards and stored on magnetic tape for quick reference. The City of Austin has a land use code of approximately eighty categories with the following basic breakdown of ten categories.

1. Residential
2. Commercial
3. Wholesale distribution and storage
4. Industrial
5. Transportation
6. Utilities
7. Institutional
8. Agricultural and open land
9. Mixed uses
10. Public uses

At this time a study is underway regarding the utilization of the Standard Land Use Coding Manual published by the Bureau of Public Roads and the Department of Housing and Urban Development.

TRANSPORTATION FACILITIES AND TRAFFIC ENGINEERING FEATURES

This portion of the continuing phase operation shall include the collection and analysis of vital data and the modification of the Phase Facilities, when necessary, to reflect the changing urban conditions. In the continuing phase all major items related to transportation facilities as was done in the original study will be inspected.

It is the intent of this Study to advance the vital data from collection to analysis in a manner worthy of being classified as transportation planning.

The collection of such data as capacity deficiencies; travel time; accidents; transit; traffic engineering features; parking; and rail, air, and motor services, in itself serves very little useful purpose. The collection of such data, when interwoven along major arterial routes, provides the engineer, planner, administrator, and others with a useful and necessary instrument. It is with this purpose that the scope of Austin's continuing phase will be altered from some other studies. While it cannot be accomplished immediately, the procedure to collect and analyze data by itself will be substituted for collection and analysis of all data along arterial streets. This procedure, called Level of Transportation Service, has been modeled after the Bureau of Public Roads' Wisconsin Avenue Study in Washington, D. C. The City of Austin has completed studies of this nature along four complete or partial streets.

The timing for major studies is represented in the "Project Schedule for the Austin Traffic and Transportation Plan". This Project Schedule may be modified as conditions may warrant, and a review of the Project Schedule will be conducted by the Advisory Committee. This schedule is attached as a part of the appendix hereto.

1. STREET USE

A detailed street use survey was conducted during the Austin Urban Transportation Study's initial phase. Prior to the Transportation Study, the City of Austin has developed a street inventory system for utilization in the traffic and maintenance activities on the street network maintained by the City of Austin. It is the purpose of this guide to describe the methods and procedures by which street use information may be maintained during the continuing phase operation.

This work shall include collecting basic operational data of a statistical nature on an annual basis. Detailed study and evaluation of the arterial street network shall be accomplished as necessary and at least at four-year intervals for that area within the Austin Urban Transportation Study.

During February and March of each calendar year, the City of Austin shall, through field surveys, update the street inventory system of all streets maintained by the City. This information shall include:

1. Street name
2. Limits of section
3. Street classification
4. Type of cross section
5. Right-of-way width
6. Date constructed
7. Structural condition
8. Parking (permitted or prohibited)
9. Sidewalks
10. Cross streets
11. Alleys
12. Illumination and type

An inventory of traffic control devices is published annually by the City of Austin which provides the data on traffic operational control characteristics along the streets mentioned above.

2. CAPACITY

The purpose of this guide is to describe the methods and procedures by which this information may be maintained and updated during the continuing phase of study.

This work shall include the collection of basic, statistical, and operational data needed for capacity determinations. This data, both physical and operational, shall be updated as conditions require with a complete inventory and re-evaluation at five-year intervals.

The manner and responsibility for making capacity determinations shall be similar to that used in the initial phase of this study. Capacity determinations for the initial phase utilized the "Highway Capacity Manual", published by the Bureau of Public Roads, dated 1950, and using adjustments, tables and applicable revisions thereto. During the continuing phase, the "Highway Capacity Manual", dated 1965, published by the Highway Research Board, Special Report Number Eighty-seven and applicable revisions thereto will be utilized.

3. TRAFFIC VOLUMES

Data on traffic volumes are essential for determining the present level of service provided by the existing transportation network. Traffic volume data is also needed for planning, designing,

and scheduling of improvement projects. It is also a tool for applying corrective measures for smooth traffic flow. The purpose of this guide is to describe the methods and procedures by which this information may be maintained during the continuing phase of study.

This work shall include collecting data on traffic volumes on all of the major streets and highways in the study area.

The City shall continue to provide traffic volume counts at major intersections within the City. Every year in March and April, traffic counts will be taken at each of the twenty-four key stations at strategic locations. These counts will be utilized to provide annual increases for other locations within the City through the growth factor analysis method. The basic count data will consist of the volumes taken in the previous city-wide traffic count program. As individual intersections are counted, these volumes will be utilized. An up-to-date projected volume count at major intersections will be provided annually.

Volume counts shall be documented and maintained for City and State projects requiring volume counts as a prerequisite to the beginning of planned improvements. This type data shall also be maintained for special traffic studies. The Texas Highway Department, as a part of their regular annual schedule, will provide traffic counts at each of the external stations and screenline counts at bridges crossing the Colorado River, along with other counts from permanent stations along highway routes throughout the area.

At five-year intervals, or more frequently as conditions may warrant, complete traffic counts shall be made on all collector streets, major arterials and expressways in the Study Area by the City of Austin and the Texas Highway Department. These counts shall be made in a manner similar to that used in the initial phase of study and also as subsequently accomplished in the present continuing operation.

4. TRAVEL TIME

The service provided by a transportation system is measured primarily by overall travel time required to move between points of origin and destination. The efficiency of the entire network can be measured in terms of overall travel time. The purpose of this guide is to describe the methods and procedures by which this information may be maintained during the continuing phase of this study.

The scope of this study will be very similar to that used in the initial phase of the Transportation Study. This work shall include collecting and evaluating the data for all major streets and highways within the Study area. This shall be accomplished at a minimum of five-year intervals, but at any time there are major alterations to the system or indications of significant changes of travel time for other reasons.

Travel time studies, by the use of the Floating Car Method, will be conducted over all major streets and highways on the arterial street system. The individual "runs" for these studies will have the intersection of 6th Street and Congress Avenue as the focal point in the Central Business District. The predominent flow of traffic during each peak will be the direction utilized by the vehicle.

Travel time studies shall be made on an annual basis for those facilities which have been reconstructed to a higher design standard, for major streets and highways that have been added to the system, for those facilities where significant changes in traffic volumes have resulted from changes in signal timing, parking regulations, changes in one-way streets and other factors.

5. TRAFFIC ACCIDENT STUDY

A great deal of valuable information concerning traffic accidents was compiled by the Austin Urban Transportation Study during its initial phase. The purpose of this guide is to describe the methods and procedures by which this information may be maintained and evaluated during the continuing phase of the study.

This work shall include those accidents which occur within the limits of the City of Austin which are investigated by the Austin Police Department, and those accidents which occur outside the City limits within the Study area which are investigated by the Texas Department of Public Safety.

Information from each report will be coded for computer tabulation and analyzed according to the format and codes contained in the City of Austin's Collision Coding Manual. These reports will then be filed by location and maintained for a period of three years in an accessible manner.

Traffic Accident data collected and published in the Collision Experience Report will be analyzed annually to provide comparable information. This shall include, but not be limited to:

A. Tabulations of Accident Frequency
   (1) By month, day, and hour
   (2) By type and class of accident
   (3) By cause of accident
   (4) Relating accident severity and type accident

B. Accident Rate Studies
   (1) Intersection accidents
      (a) Number per intersection
      (b) Accidents per 1,000,000 entering vehicles
   (2) Control Section accidents
      (a) Accidents per section
      (b) Accidents per mile
      (c) Accidents per 1,000,000 vehicle miles

Information from the traffic volume surveys will be necessary to permit the computation of the accident rates.

In addition, the collision data will be analyzed to provide what types of corrective measures may be taken by educational, engineering, or enforcement agencies. The City of Austin will provide continuous study of, but not limited to, all intersections having seven or more collisions per year. A regression line analysis will be made annually and based on the previous five-year collision experience in the City of Austin.

6. TRAFFIC ENGINEERING FEATURES

Traffic engineering has been defined as "that phase of engineering which deals with planning and geometric design of streets, highways and abutting lands, and with traffic operation thereon as their use is related to safe, convenient, and economic transportation of persons and goods". This is accomplished through the regulation and control of traffic and proper planning and geometric design of transportation facilities. The purpose of this guide is to describe the methods and procedures by which this information may be compiled, maintained, and analyzed during the continuing phase of study.

The scope of this study is to investigate and analyze all forms of traffic engineering features, from the design and operational standpoint, in order to provide the optimum transportation system for the Study area. Traffic control measures shall include, but not be limited to, parking, speed limit, turning movements and street access controls, one-way streets, channelization, turn lanes, illumination, signs and markings, traffic signals, and pavement markings.

The efficient and economical flow of traffic on the existing street system is dependent upon a continuous program of studying the

many factors influencing traffic operations and applying the required traffic control measures. A complete study and analysis of traffic engineering features shall be made at least at four-year intervals.

7. TRAVEL PATTERNS

Travel patterns are a basic factor to be considered in the development of the transportation system which seeks to furnish an acceptable level of service. Some of the more important factors required for the study are listed as follows: factual information of past and present travel patterns, the relationship between person and vehicular movements, population distribution, various land uses, growth patterns, trip generation data, and economic data. These forecasts result in future trips and the distribution of trips over the existing and proposed transportation network.

Distribution and assignments will be made as necessary for special studies, and additional five and twenty-year system analysis will be conducted at least every five years. From those comparisons and other pertinent data available, a recommendation will be made by the Advisory Committee as to whether additional Origin-Destination data is desirable.

The data necessary for this phase of study is complex in that much of it is a compilation of data from other phases. The collection of this data will be made as indicated elsewhere in these procedure guides.

8. PARKING

Parking is an essential component of the development phase of any urban area. Basic data was gathered during the initial phase of the Austin Transportation Study. The purpose of this guide is to describe the methods and procedures by which this information may be maintained, updated, and evaluated during the continuing phase of this Study.

Although the work described by this guide is primarily for the Central Business District, also special emphasis will be placed upon the State Capitol Complex and the University of Texas areas.

Data necessary for updating the parking study should include the cordon count of the Central Business District, parking space inventory, parking demands by trip purpose, and parking space usage.

Inventories of parking spaces shall be maintained and summaries of this statistical data shall be prepared annually. A comprehensive parking study to include all four items above in the Central Business

District shall be conducted as necessary or at least every ten years by the City of Austin.

Central Business District cordon counts shall be made at least every five years so that they will coincide with the parking studies scheduled to be conducted every ten years.

9. AIRPORT, RAILROAD, BUS & TRUCK

A study and analysis of the services provided by these terminal and transfer facilities will indicate the effect or impact they have upon the street system. It is highly desirable to provide a network of streets and highways that will complement each terminal and transfer facility. The purpose of this guide is to describe the methods by which this information may be maintained and used during the continuing phase of study.

A study shall be made of airport, railroad, bus, truck, and transit lines within the Study area. This shall be accomplished in a manner similar to that used in the initial report and as discussed in the Austin Transportation Study's 1967 Annual Report.

Since this type of information is of such a nature that accurate records are maintained by each of the above mentioned units, this data shall be analyzed at least at five-year intervals or more often if required. Data collection and analysis shall be made similar to that used in the initial phase of this study.

The Study Office will secure information on any changes in operation or location of these transportation facilities on an annual basis. These annual reports shall be reviewed and any significant changes would indicate the need for special studies.

COMMUNITY CONTROLS AND COMMUNITY VALUE FACTORS

Community controls and community value factors are two important aspects in transportation planning for any urban area. These two items must be considered so that the proposed transportation system is compatible with the rest of the urban design. There should be a balance between the thoroughfares proposed, the neighborhoods through which they run, and the facilities which they serve. The transportation proposals must be such that they fit in with the general environment of the community.

The data collection and analysis for these two items shall be made in a manner similar to that used in the initial phase of the Study. A

constant monitoring process by the City of Austin's Committee on Urban Arterials will provide information that will enable the Transportation Study Office to be aware of any developments such as schools, parks, playgrounds or other facilities in the area. Subdivision ordinances and zoning regulations are the subject of continual study and review by the City of Austin, and as changes occur in these regulations they will be so noted.

FINANCIAL RESOURCES

In order that future Transportation Planning may be keyed to the financial abilities of the governmental agencies ultimately responsible for financing the proposed Transportation System, continuing studies of the financial characteristics of those governmental agencies involved in this study will be maintained. The data presented in that section of the Austin Transportation Study's initial report on financial resources will be updated as necessary and will be reviewed for any significant changes.

Tabulations will be kept of both City and State expenditures for highway and street construction, maintenance and right-of-way in the Study area. Also figures will be kept for traffic control devices and other items necessary to thoroughfare operation within the area. Travis County will also be asked to supply the same type of information for roads maintained by their agency within the Study area.

All of the above data will be compiled and reviewed and noted for its effect on transportation planning in general in the Austin Transportation Study Area.

SECTION III

REAPPRAISAL

Some elements of the planning process require more frequent review than others, therefore, reappraisal is carried on at three levels of intensity. Those three levels of reappraisal would consist of routine review, major review, and complete plan re-evaluation.

The routine review would consist of the annual surveillance program which provides for determining if changes in urban development are in accordance with forecasts. This review would include system reanalysis if land use changes differ significantly from those previously forecasted. It is anticipated that this routine review would be carried on continually during the operation of the Transportation Study and as significant factors are found, they would be incorporated into developing new traffic estimates for project planning.

The major review would consist of a complete thorough examination of all study elements and would include new field surveys when necessary to supplement the routine reviews conducted above. In this major review new forecasts would be made which would extend the target date to a point at least twenty years in advance of the study date so that twenty-year design data will always be available and to update the Five Year Program.

As was done in the initial phase of this Study, a trip assignment of existing trips to the existing system would be made and the resulting assigned volumes compared with the actual traffic volumes on the ground. This, of course, would allow an evaluation of the validity of the current trip assignments and forecasting process.

It is anticipated that this review would be conducted at intervals of five years or at such other time as conditions might warrant as indicated by routine review.

It is anticipated that for the Austin Study this major review would take place sometime in 1971, preferably after the 1970 Census data is made available. This will allow the maximum benefit to be realized from this data and in addition will allow a comparison to be made of actual census tract and zonal populations with corresponding land use data collected at the same time as the census data.

A complete plan re-evaluation would consist of a full re-examination of all the elements involved in the Transportation Plan. The target date would be extended, along with a review of all forecasts and new forecasts prepared when necessary, resulting in a full network reanalysis as conditions warrant.

Forecasts

The following forecasts will be made in connection with the Transportation Study.

1. Population Forecasts
2. Land Use Forecasts
3. Financial Resources Forecasts
4. Trip Forecasts

The population and land use forecasts will be used to derive trip forecasts for assignment of future traffic volumes to the systems.

Population Forecasts

Five and twenty-year population forecasts by the City of Austin will be made every five years at which time the forecast year will be extended so that twenty-year data will be available at all times. The cohort-survival method checked by other methods will be used for these population forecasts.

Land Use Forecasts

Five and twenty-year land use forecasts will be made for the Study area every five years. As in the above population forecasts, the target year will be extended each time. Land use will be forecasted in the following eight categories:

1. Residential
2. Retail Commercial
3. Wholesale Commercial
4. Light Industry
5. Heavy Industry
6. Public and Quasi-Public
7. Streets and Alleys
8. Agriculture and Vacant

Financial Resources Forecasts

At five-year intervals or at such other time that significant changes occur, revised analysis and forecasts will be made of the financial capabilities of the various governmental agencies.

Projections of the availability of these future funds will be based on expenditures in the Transportation Study area by all governmental agencies during the previous ten year period for all items necessary to the construction of Transportation facilities.

Trip Forecasts

Trip forecasts will be made at least every five years or at such

other time as surveillance indicates. These forecasts will be made by utilizing existing procedures unless new or better procedures are developed and accepted by the Advisory Committee. In essence the forecasting procedures will utilize trip generation or expansion factors based on population and land use as noted in "Texas Procedures for Development of Vehicle Trip Forecasts" by the Planning Survey Division of the Texas Highway Department.

SECTION IV

SERVICE

The ability to provide needed planning data and assistance to those responsible for the planned implementation in an urban area is one of the primary objectives of urban transportation planning. The data derived from the forecasts and analysis made in this Transportation Study would be of limited value unless it was applied to the decision making process. The data gathered should be furnished to, but not limited to, the Study participants. It should also be made available to other public and private groups involved in community planning in the Study area.

The furnishing of information, maps, publications, or other data derived by this Study to organizations or individuals, either public or private, will be subject to the provision of the Texas Highway Commission Minute Order Number 45-927 portions of which are quoted below:

> "NOW, THEREFORE, BE IT ORDERED that it shall be the policy of the Texas Highway Department to disseminate material which is readily available and subject to reproduction from the public records under the following regulations:
>
> 1. Governmental Agencies - Upon request a reasonable number of copies will be furnished free of cost to representatives of other governmental agencies.
>
> 2. Private Organizations, Companies and Individuals
>
> A. On all material which is regularly published by the Department, a schedule of prices shall be determined and applied uniformly to all purchases.
>
> B. On material which is not regularly published by the Department and where such procedure does not interfere with the normal operations of the Department, the material may be reproduced by an outside printer or publisher, the entire cost of the work to be borne by the purchaser. In all cases where the material to be reproduced is of value to the Department, necessary steps shall be taken to insure its safe return.
>
> C. All material which is prepared for public information shall be distributed to the public free of

charge. The material will be distributed in accordance with available supply and estimated demand.

IT IS FURTHER ORDERED that where a charge is made for material that said charges shall not be greater than an amount deemed sufficient to reasonably reimburse the State for the actual expense of printing such publication or printed matter."

Socio-economic, land use, traffic data, etc. information should be made readily available to all governmental agencies in the area and also to the newly formed Capitol Area Council of Governments comprised of ten counties in and around the Austin Transportation Study Area.

It is recognized that service is one of the primary responsibilities of a Transportation Study and one which returns substantial dividends in the form of good public relations. Service will therefore be considered of prime importance in the day-to-day operation of this Study.

SECTION V

PROCEDURAL DEVELOPMENT

Statewide in Texas the major research and development work in urban transportation planning is a joint effort of the Texas Highway Department and Texas Transportation Institute at Texas A & M University with the cooperation of the Bureau of Public Roads.

Since 1963 this work has been carried out under two separate projects and has consisted of the development of new or improved computer programs and the analysis and evaluation of traffic data and procedures. Major accomplishments of the first project were:

1. The Revised Texas Control Package
2. Texas Large System Traffic Assignment Package
3. Traffic Assignment Plot Programs

Concepts developed under this project were the basis for additional computer program development. The first project included investigations into the effect of zone sizes, system detail, use of turn penalties, and the study of the adequacy of methods of estimating trip generation and distribution. The second project has continued and expanded in these areas with the object of improving forecasting methods and traffic assignment techniques for use in Texas and to make efficient use of the IBM 360/50 Computer in running the necessary packages. Work currently underway includes the development of a Texas Highway Department model for trip distribution and the programming, testing, and evaluation of a capacity-volume restraint procedure for use in the Texas package.

The results of the above described statewide Research and Development Work will be made available to each Study. Personnel of the Austin Transportation Study Office, Planning Survey Division, and Highway Design Division will determine what new or improved procedures should be used in this Study.

The City of Austin has in the past undertaken projects on research and development as an additional planning tool for the future. One study was a Trip Generation Study by Land Use and Population done by the City of Austin's Department of Traffic and Transportation in March of 1965.

Another program developed by this department and soon to become a reality for traffic control in the City of Austin is a city-wide computer controlled traffic signal system comprised of six basic networks and some 230 intersections throughout the City. This system utilizes an IBM 1800 digital computer.

The City of Austin's Police and Traffic and Transportation Departments recently developed a new collision analysis procedure. The procedure consists of a uniform coding system, adaptable to both departments, and a series of collision analysis programs adapted to the 1800 computer. This system will enable collision data to be analyzed on the basis of engineering and enforcement. It will also provide basic information for a future education program.

Capacity Study: A visual presentation illustrating geographic locations and type of operation at signalization intersections within the Study area will be maintained by the Study office. Input data (operational, environmental, and physical characteristics) for intersection capacity and level of service analysis programs will be updated and maintained by the Study office. Both the City and the Texas Highway Department will report any alterations to the Study office.

Level of Service Studies made in connection with the general five year updating program will be conducted using the Texas Highway Department computer program based on procedures outlined in the 1965 Highway Capacity Manual.

SECTION VI

ANNUAL REPORT

In order to give exposure and demonstrate to the local citizens and others the planning process that is taking place in this community, it is necessary that the Austin Transportation Study publish an Annual Progress Report which would include a summary of all surveillance items. This report should outline what implementation has taken place in completing phases of the recommended Transportation Plan. It should pin-point land development that is occurring that was not consistent with the land use plan and that may have necessitated reforecasts and subsequent traffic reanalysis.

This Annual Report will be structured around the ten basic study elements of the original Transportation Study as listed below.

1. Economic Factors
2. Population Study
3. Land Use Study
4. Transportation Facilities
5. Terminal and Transfer Facilities
6. Traffic Engineering Features
7. Community Controls
8. Community Value Factors
9. Financial Resources
10. Travel Patterns

As well as serving as a means of disseminating information to interested sectors of the community, the Annual Report will serve to outline the effectiveness of the surveillance and forecasting procedures. This report will serve as a valuable guide to the transportation planner to indicate to what extent the transportation planning process has been successful. To some extent this would be reflected by the degree of implementation accomplished and the resulting effects on transportation within the Study area.

ADVISORY COMMITTEE

R. M. Tinstman	City Manager	City of Austin
S. Reuben Rountree, Jr.	Director of Public Works	City of Austin
Hoyle Osborne	Director of Planning	City of Austin
Joe S. Ternus	Director of Traffic and Transportation	City of Austin
Wayne Golden	Planning Coordinator	City of Austin
Ian Morgan	County Engineer	Travis County
T. K. Wood	District Engineer	Texas Highway Department
Lawrence E. Schulz	District Planning Engineer	Texas Highway Department
Bill M. Johnson	Manager, Urban Traffic Studies	Texas Highway Department
W. F. Frey	Urban Engineer	Texas Highway Department
Joe Wright	Director of Planning Survey	Texas Highway Department
Henry M. Bremer	Planning and Research Engineer	Bureau of Public Roads
George S. Nalle, Jr.	Mayor of Rollingwood	City of Rollingwood
W. R. Fowler	Businessman	City of Sunset Valley
William R. Cox	Professor	City of Westlake Hills
David B. Barrow	Chairman, Regional Planning Commission	Regional Planning Commission
Samuel E. Dunnam	Chairman, Austin Planning Commission	Austin Planning Commission
Roy Rodman	Supervising Landscape Architect	Texas Highway Department
Fred Day	Architect	City of Austin

TECHNICAL COMMITTEE

S. Reuben Rountree, Jr.	Director of Public Works	City of Austin
Hoyle Osborne	Director of Planning	City of Austin
Joe S. Ternus	Director of Traffic and Transportation	City of Austin
Wayne Golden	Planning Coordinator	City of Austin
Ken Crawford	Traffic Manager	Texas Highway Department
N. M. Goodwin	Supervising Design Engineer	Texas Highway Department
Ben A. Alley	Supervising Resident Engineer	Texas Highway Department
Bill M. Johnson	Manager, Urban Traffic Studies	Texas Highway Department

STUDY COORDINATOR

Bill M. Johnson	Texas Highway Department

PLANNING COORDINATOR

Wayne Golden	City of Austin

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