schools
county facilities

PROGRAM WORK PROGRAM FOR

VENTURA COUNTY MULTI MODAL TRANSPORTATION STUDY

Ventura County is undertaking a multi-modal transportation study as part of the SCAG regional transportation planning effort, as required under provisions of SB-325. The study will both examine current countywide transportation deficiencies and determine future system needs.

The determination of future needs and the formulation of alternative systems to satisfy those needs will be based largely on an analysis of the relationships between land-use patterns, the intensity and distribution of social and economic activities, and the resultant mobility desires which are generated.

The underlying premise of the transportation study process therefore is that transportation facilities should be determined on the basis of how they will best serve the mobility desires of the county's inhabitants, and that these facilities can be an influence in shaping the physical arrangement of communities toward their desired goals.

This requires that the starting point of a transportation study be the determination of the life styles desired by the inhabitants of the county, not the analysis of different modes or systems of transportation. The first order of priority therefore is the formulation of countywide goals which can be translated into specific land-use issues. These goals should not be abstract, ivory-tower statements of ideals but a classification and weighing of individual or group preferences. The cooperation of citizens on an individual or group basis is necessary to accomplish this type of delineation.

those most needing - elderly, poor, low income workers, young - student

At the other end of the study spectrum, the culmination of the study will be in a plan and programs to enable realistic implementation of major study findings and assure the availability of funding for desired systems development.

The transportation planning process which will be implemented with this study will be a continuing process, subject to reexamination and updating at periodic intervals if it is to be flexible enough to reflect changing trends and policies at county or local levels.

Time Phasing

The target date for the planning effort of this initial study is 1995. This time span allows for the formulation of a reasonable long range plan because it possesses an acceptable unpredictability factor. It also facilitates a budgeting process that allows for staged development of a total system, not only to meet currently anticipated needs, but also to permit major program revisions in the event of changes in county policies for budgeting priorities. In any event, the development of any type of multimodal transport system by 1995 requires programming efforts to begin at least by 1975.

Study Process

This transportation study is based on an understanding of two interrelated factors: first, a transportation system can be a major determinant of the way that a geographical area will spatially develop; second, a transportation system is the result of interaction processes between people, and economic activity

and land uses. Therefore, in order to plan an efficient system, it is imperative that the transportation planning process, land-use planning process, and socio-economic development process be merged.

This will mean intensive coordination among local jurisdictions and the county if the necessary data is to be generated and a coordinated analysis is to be performed.

Based on these assumptions, this transportation study is divided into four major task areas:

1. Coordination among concerned local and county agencies, citizens, and regional agencies.
2. Formulation of short and long term county goals and objectives.
3. Data collection, analysis, and evaluation.
4. Plan formulation, including development and evaluation of alternative systems, and program formulation.

A minimum of 24 months will be required from the inception of the study to dissemination of the first phase draft to local agencies and groups for review and feedback. After any suggested revisions are made, the plans will be sent to VCAG for adoption.

To accomplish the study in this time period, with effective coordination throughout the process, a work program that is organized largely along the critical path method has been developed. In this approach each accomplished step (sub-routine) provides input for the succeeding step. In addition some steps, and even major elements, occur simultaneously due to time constraints or end products which serve as input to several steps or elements.

This work program divides the study into nine major elements with sub-routines. This level of delineation will provide a fairly detailed insight into the planning process while remaining manageable for scheduling and coordinating purposes. The major elements of the study are:

1. County Goals Updating
2. Economic and Population Forecasts
3. Land Use and Development Factors
4. Social Needs and Mobility
5. Streets and Highways Facilities Inventory
6. Travel Patterns and Forecasts
7. Transit Studies
8. Financial Studies
9. Plan Formulation

1. County Goals Update

This element concerns itself with soliciting a broad based input of public opinion and political policy to be utilized for a delineation of countywide goals. Effective citizens' cooperation must be secured at this stage, both from individuals and groups, as the resultant goals will, to a great degree, determine the transportation system options or constraints.

1.1. Review Existing Countywide Goals

Goals expressions can be developed or abstracted from four sources: 1) Plans and policy statements from cities, primarily general plans; 2) Implied development goals expressed in development trends and political decisions; 3) Public opinion as expressed in

earlier attitudes surveys; and 4) Goals of other geographical regions.

Time Required: 1.5 months 1.5 man-months

1.2. Governmental Influence

An historical analysis of governmental jurisdictions within the county that have exerted a major influence on development issues will aid in determining the relative strength of political philosophy as a modifier of public opinion.

Time Required: 1.5 months 1.5 man-months

1.3. Conduct Attitudes Survey and Public Hearings

A self-administered, home mail-out survey to develop basic data concerning people's attitudes regarding a number of planning issues will be conducted. A two percent countywide sample will be selected to receive questionnaires. In addition, a separate written poll will be conducted among elected officials, both at the local and county level, on the same planning issues.

A series of public hearings to solicit testimony on basic planning and transportation issues will be held countywide to supplement the mailing surveys. By this hearing process, the planning function can be brought closer to the citizen and should establish a condition of public trust vital to any major planning study.

Time Required: 4.0 months 12.0 man-months

1.4. Analyze Attitudes Survey

Time Required: 2.0 months 2.0 man-months

1.5. Develop Updated Goals

Polling results from local and county policy makers, as well as input from the attitudes survey responses and hearing

testimony, will provide working data for development of a goals statement for VCAG adoption. This statement should be developed as much as possible in concert with the public and private sectors at both local and county levels.

Time Required: 2.5 months 2.5 man-months

1.6. Evaluation (Impacts) of Goals

The potential socio-economic, physical, natural, and political consequences of the developed goals will be analyzed to present local and county policy makers with a framework of reference as to potential consequences of alternative political decisions.

Time Required: 3.0 months 4.5 man-months

2. Economic and Population Analysis and Forecasts

This element seeks to determine economic development and population distribution trends, and a forecast of those factors relative to the county's desired goals. The present status of these activities, to a large degree, will have a bearing on the future development of the county, perhaps to the extent of necessitating controls in certain areas.

2.1. Economic Trend Analysis

Historical development data of economic activity will be analyzed and will serve as partial input to a projection of future economic activity distributions and employment profiles.

Time Required: 1.5 months 3.0 man-months

2.2. Distribution of Economic Activity

An analysis of the current range of economic activity as to type and location, employment profiles, income profiles, family

expenditure patterns, and car ownership distribution will be basic to projecting the distribution of future activity.

Time Required: 1.5 months 3.0 man-months

2.3. Population Trend Analysis

Historical data on population trends will serve as input for a population projection.

Time Required: 1.0 months 1.5 man-months

2.4. Population Distribution Analysis

An analysis of population distribution will facilitate delineation of current areas of concentration or dispersal that can be expected to act as future generators or attractors of trip activity.

Time Required: 0.5 months 1.0 man-months

2.5. Population and Employment Forecasts

Projections will be made on the basis of data collected and analyzed in the preceeding steps as to population and employment distribution for the years 1980, 1985, and 1995.

Time Required: 1.5 months 3.0 man-months

2.6. 1995, 1985, and 1980 - Distribution of Activities

The objective of this step is to develop zonal estimates of the distribution of population and economic activity which can be assigned to the county transportation analysis zones to determine trip demand and mobility patterns.

The 1995 estimates are established first to project the long-range distribution and establish total system needs. The 1985 and 1980 estimates will delineate interim system needs and show incremental deficiencies.

Time Required: 3.0 months 9.0 man-months

3. Land Use and Development Factors

Economic activity distribution and population patterns largely dictate the types, intensity, and location of land uses. The spatial allocations of land uses in turn have a bearing on mobility considerations in terms of trip generation and attraction. Thus, an analysis of current and projected land use patterns will aid in determining traffic volume projections, trip generation data, and subsystem needs.

3.1. DIME File

A DIME file is a computer program system which creates the capability of relating socio-economic and transportation/mobility data to actual geographical locations through use of a map coding and plotting system.

Once raw data is stored and coded geographically into the computer, analysis can be performed and results obtained on a geographical basis, either as maps or tabulations.

Time Required: 6.0 months 12.0 man months

3.2. Develop and Analyze Land Use Data

Basic spatial relationships in currently existing land use patterns will be shown. Tabulations showing land uses on a zone-by-zone basis and the relationship of these uses on a zonal basis will be made as partial input for the establishment of zonal travel links.

Time Required: 5.0 months 10.0 man months

3.3. Land Use Location Analysis

Existing density patterns will be analyzed and optimum physical location techniques for future land uses will be developed. This will allow evaluation of the influence of accessibility and

mobility desires on spatial allocations and aid in establishing uniform land use criteria.

Time Required: 4.0 months 8.0 months

3.4. Land Use and Systems Design

The objectives of this step are to develop better planning concepts relating spatial allocations of land use to mobility considerations. This will involve consideration of relationships among arterial and terminal location, land densities and uses, development criteria, and traffic controls.

Time Required: 3.0 months 6.0 man months

4. Social Needs and Mobility

Too often the mobility needs of various segments of the population are either totally forgotten or ignored. This element will attempt to assess current deficiencies in this area in terms of needs of various non-auto accessible segments of the population.

4.1. Identify Social Groups that are Unserved

An inventory will be made of groups in the county which currently possess either limited or no means of private mobility but depend largely on public transportation.

Time Required: 2.5 months 2.5 man months

4.2. Identify Currently Deficient Services

Once user groups are identified, the existing range of public or private transportation services available to them must be identified and analyzed as to their efficiency in serving the needs of these user groups.

Time Required: 2.5 months 5.0 man months

4.3. Identify Major Public Service Facilities

This step will identify the range of facilities that need to be accessed by user groups that currently possess either limited or no means of private mobility. These facilities will be geographically plotted and travel linkages established to imput into the total transportation network.

Time Required: 1.0 months 1.0 man months

4.4. Develop Use Network

Once user groups are known and facilities to which access is desired are plotted, a travel pattern or travel design network can be established which will form an integral part of the public transportation portion of the plan.

Time Required: 3.0 months 6.0 man months

5. Streets and Highways Facilities Inventory

This element should provide an inventory of major street and highway facilities and current operational capabilities of this system. Information on physical condition and operational characteristics will permit testing of future street and highway components and establishment of a subsystem for the automobile mode.

5.1. Street Selection

Streets in the county system which currently have significant traffic carrying factors will be selected in order to assign traffic flow data and travel characteristics. Then, anticipated future arterials must be linked into this system.

Time Required: .5 months 1.5 man months

5.2. Develop Streets and Highways Network

A network will be developed for analysis purposes that will represent the county total system. This will include link

selection, volume allocations, and map plotting.

Time Required: 1.5 months 4.5 man months

5.3 Develop Speed and Capacity Information

Operating characteristics of the streets and highways system must be studied. To do this, it is necessary to undertake certain speed-volume and capacity studies upon which operational characteristics of the system can be established.

Time Required: 2.0 months 6.0 man months

5.4. Code and Load Highway Network

To analyze alternative systems, coding assignments must be made to the streets and highways network links. This will include calculation of link distances, travel time under load conditions, capacity, and volume projections.

Time Required: 3.0 months 12.0 man months

6. Travel Patterns and Forecasts

This element aims at obtaining travel pattern information from which it will be possible to establish characteristics of travel within the county and to other points. This is necessary to adequately determine current system deficiencies, estimate future travel and demand, and test alternatives.

6.1. Develop O and D Questionnaire

It is anticipated that a modified version of the questionnaire utilized by LARTS in its 1967 survey can be utilized.

Time Required: .5 months 0.5 man months

6.2. Select O and D Study Sample

Dwelling units that will be interviewed must be selected and roadside interview sites determined.

Time Required: .5 months 1.5 man months

6.3 Conduct O and D Survey

Roadside interviews, home interviews, and truck and taxi surveys will be conducted to determine trip patterns related to various modes of travel.

Time Required: 2.0 months 4.0 man months

6.4 Code and Analyze and Factor Data

Information obtained from the surveys will be coded for tabulation and evaluation.

Time Required: 2.0 months 4.0 man months

6.5 Develop 1995 Travel Forecast

Traffic volumes and travel demands for 1995 will be developed so the general scale of the traffic problem can be established. This will include a trip assignment process to be applied to the total system.

Time Required: 3.0 months 12.0 man months

7. Transit Studies

This element of the program will involve an inventory of public transportation services in the county as well as a measurement of usage, travel demand, and passenger requirements. Once this analysis is made, the deficiencies of the system in terms of social mobility needs can be ascertained with data available from that element. A staged system to correct those deficiencies as well as provide for future needs will then be designed.

7.1 Inventory and Plot Existing Transit Network

This will involve a geographical plotting of the existing county transit system as well as an inventory of the types and degree of services currently being provided.

Time Required: 1.0 months 3.0 man months

7.2 Code Transit Network

A network will be developed that will simulate existing transit operations. This will include link distance, volume, and trip time calculations.

Time Required: 2.5 months 10.0 man months

7.3 Conduct Terminal Location Study

An analysis will be conducted of all terminal facilities that have an impact on public transportation requirements. Physical inventories will be plotted, and the trip generating aspects of these facilities analyzed to determine future terminal needs and trip desires.

Time Required: 3.0 months 6.0 man months

7.4 Analyze and Forecast Terminal Needs 1980, 1985, and 1995

Deficiencies in terminal facilities will be determined, and a forecast of terminal requirements and travel patterns developed.

Time Required: 2.0 months 6.0 man months

8. Financial Studies

To formulate a program for the effective implementation of a transportation plan, it is necessary to develop financial tools that can be utilized as a part of the implementation process. This element will involve an analysis of sources of financial revenue and methods of programming and allocated funds for staged development of a transportation system.

8.1 Collect Data

Information on existing financial practices with regard to funding transportation facilities and services will be collected.

Time Required: 1.0 months 1.0 man months

8.2 Analyze Needs

Financial needs of the proposed transportation system alternatives will be studied to determine allocation which will be necessary, revenue sources, and possible budgeting procedures which can be utilized.

Time Required: 1.0 months 1.0 man months

8.3 Study Constraints

General limitations as to the financing of transportation facilities must be analyzed so that a feasible financial program can be developed that is politically acceptable.

Time Required: .5 months 1.0 man months

8.4 Develop Program

Though this is a part of the overall financial study, a program will not be developed until the transportation system plan has been formulated. At this stage, general concept outlines will be developed.

Time Required: 2.0 months 2.0 man months

9. Plan Formulation

With the development of county goals and consideration of local planning objectives, it will be possible to formulate a plan which reflects these goals in its transportation system provisions. On the basis of the land use plans, as well as concepts that have been developed out of the previous work elements, the system will be devised so that it will meet the total transportation requirements of the area. This will call for a high degree of correlation between county and local jurisdictions and SCAG.

9.1 Determine Deficiencies

On the basis of existing land use trends, social mobility

data, and the committed transportation system, existing deficiencies in the transportation network will be determined which should reflect local or countywide problem areas.

Time Required: .7 months 1.5 man months

9.2 Evaluate Alternative Systems

An analysis of alternative systems will be conducted to establish the proper role of both transit and highway improvements in the county, and to determine what mix will best meet countywide goals, existing deficiencies, and future needs. The impacts of various systems on the total environmental spectrum will also be analyzed.

Time Required: 3.0 months 9.0 man months

9.3 System Selection

The best mix of transit modes to meet current county and local deficiencies and to satisfy future needs, and which is based on the results of the analyses conducted in this study, will be selected as the proposed system.

Time Required: 1.5 months 3.0 man months

9.4 Detail Plan and Prepare Program - 1980, 1985, and 1995

The selected system must be detailed in sufficient depth to establish location feasibility and financial programming. These will then be prepared on an incremental basis for the three time periods indicated, leading to the total system being operational.

Time Required: 4.5 months 12.0 man months

9.5 Submit for Review and Feedback

The completed package will be submitted to all involved local jurisdictions and county agencies for review and comment. It is anticipated that this will be a process of short duration if

the coordination feedback effort has been implemented at the outset of the study and pursued vigorously.

Time Allocated: 1.0 months 1.0 man months

Upon completion of the local review process, any indicated revisions to the plan will be performed. Then the final plan will go to VCAG for adoption. This process requires approval by at least 50% of the member cities and population in the VCAG area (Ventura County). Once it is approved, the plan can be forwarded to SCAG for inclusion into the SCAG regional plan.

Tabular Summary of Work Program

The elements and sub-routines of this work program are listed below in tabular form, including estimates of cost, man-months required, and calendar month to complete for each sub-routine.

The current staff for the transportation study is composed of one Transportation Planner, one Senior Engineer, and one Associate Engineer who will be involved full time; and one Senior Engineer who will be involved half time. In addition, support manpower is available on a specific sub-routine basis.

The cost allocations for this study have been calculated on the basis of $40,000 of SB-325 derived county planning funds and a 2:1 U.M.T.A. matching grant of $80,000 for the first year of effort, or a total first year allocation of $120,000. It is anticipated that an additional $80,000 will be available during the second year of the study for a total allocation over two years of $200,000. Because of the technical nature of most of the proposed study, as well as the uncertainty of the complexity of many of the elements and sub-routines, it cannot be ascertained whether the majority of the funds will be used in the first year or more

evenly utilized over two years.

Therefore, in order to break out the costs for the performance of each sub-routine, we have divided the total allocation evenly over twenty-four months to calculate monthly salaries and support funds. To calculate actual sub-routine costs we have divided the total two year allocation by the total number of calendar months necessary to complete the study and plan (88.7). This "monthly cost" ($2,255) was then multiplied by the number of calendar months allocated to each sub-routine to arrive at a cost for that sub-routine. The sub-routine costs include both salary and support costs.

On this basis, total monthly salaries are calculated at $5,530 or $132,720 for the 24 month study. This leaves $67,280 for support services, including computer work and consultant support. On a monthly basis, these allocations are as follows:

Salaries	$5,530
Support	$2,803
Total	$8,333

The sub-routine costs are shown in the following tabular breakdown:

TABULAR SUMMARY

Work Element	Calendar Months To Complete	Man-months Needed	Cost
1. County Goals Updating			
1.1. Review Existing Goals	1.5	1.5	$3,383
1.2. Governmental Influence	1.5	1.5	$3,383
1.3. Conduct Attitudes, Survey and Public Hearings	4.0	12.0	$9,020
1.4. Analyze Attitudes Survey	2.0	2.0	$4,510
1.5. Develop Updated Goals	2.0	2.5	$4,510
1.6. Evaluation (impacts) of Goals	3.0	4.5	$6,765
2. Economic and Population Forecasts			
2.1. Economic Trend Analysis	1.5	3.0	$3,383
2.2 Distribution of Economic Activity	1.5	3.0	$3,383
2.3. Population Trend Analysis	1.0	1.5	$2,255
2.4. Population Distribution Analysis	0.5	1.0	$1,128
2.5. Population & Employment Forecasts	1.5	3.0	$3,383
2.6. 1992, 1982 and 1977 Activity Distribution	3.0	9.0	$6,765
3. Land Use & Development Factors			
3.1. DIME File	6.0	12.0	$13,530
3.2. Develop & Analyze Land Use Data	5.0	10.0	$11,275
3.3. Land Use Location Analysis	4.0	8.0	$9,020
3.4. Land Use & Systems Design	3.0	6.0	$6,765
4. Social Needs Mobility			
4.1. Identify Social Groups that are unserved	2.5	2.5	$5,638
4.2. Identify Currently Deficient Services	2.5	5.0	$4,638
4.3. Identify Major Public Service Facilities	1.0	1.0	$2,255
4.4. Develop Use Network	3.0	6.0	$6,765
5. Streets & Highways Facilities Inventory			
5.1. Street Selection	0.5	1.5	$1,128
5.2. Develop Streets & Highways Network	1.5	4.5	$3,383
5.3. Develop Speed & Capacity Information	2.0	6.0	$4,510
5.4. Code and Load Highway Network	3.0	12.0	$6,765

TABULAR SUMMARY (Contd.)

Work Element	Calendar Months To Complete	Man-months Needed	Cost
6. Travel Patterns			
6.1. Develop O & D Questionnaire	0.5	0.5	$1,128
6.2. Select O & D Study Sample	0.5	1.5	$1,128
6.3. Conduct O & D Survey	2.0	4.0	$4,510
6.4. Code, Analyze & Factor Data	2.0	4.0	$4,510
6.5. Develop 1992 Travel Forecast	3.0	12.0	$6,765
7. Transit Studies			
7.1. Inventory & Plot Existing Transit Network	1.0	3.0	$2,255
7.2. Code Transit Network	2.5	10.0	$5,638
7.3. Conduct Terminal Location Study	3.0	6.0	$6,765
7.4. Analyze & Forecast Terminal Needs for 1977, 1982, 1992	2.0	6.0	$4,510
8. Financial Studies			
8.1. Collect Data	1.0	1.0	$2,255
8.2. Analyze Needs	1.0	1.0	$2,255
8.3. Study Constraints	0.5	1.0	$1,128
8.4. Develop Program	2.0	2.0	$4,510
9. Plan Formulation			
9.1. Determine Deficiencies	0.7	1.5	$1,579
9.2. Evaluate Alternative Systems	3.0	9.0	$6,765
9.3. System Selection	1.5	3.0	$3,383
9.4. Detail Plans & Prepare Program for 1977, 1982,1992	4.5	12.0	$10,148
9.5. Submit for Review and Feedback	1.0	1.0	$2,255