HELENDALE/ORO GRANDE LOCAL AREA TRANSPORTATION FACILITIES PLAN REPORT

San Bernardino County
Department of Transportation/Flood Control
Public Works Group

February 1993

TABLE OF CONTENTS

A. Helendale/Oro Grande Local Area Transportation Facilities Fee Ordinance

B. Helendale/Oro Grande Local Area Transportation Facilities Plan Report

1. Executive Summary

a. Project Summary and Costs

2. Helendale/Oro Grande Transportation Facilities Plan and Benefit Area Map

3. Schedule A - Project Priority List and Construction Cost Estimate

4. Relationship Between Fee and Development Property

C. Engineer's Report

1. Transportation Facilities Plan Cost Estimates

D. Appendices (on file at PWG/Transportation/Flood Control Department, Development Coordination Division)

1. Negative Declaration of Environmental Impact

ORDINANCE NO. 3532

AN ORDINANCE OF THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, ADDING SUBSECTION 16.0225(h)(6) TO CHAPTER 2 OF DIVISION 6 OF TITLE 1; AND ADDING SUBSECTION 811.0240(f) TO CHAPTER 2 OF DIVISION 11 OF TITLE 8 OF THE SAN BERNARDINO COUNTY CODE, RELATING TO ROAD FEES TO ASSIST THE FINANCING AND CONSTRUCTION OF ROADS AND PROVIDING FOR THE COLLECTION OF SAID FEES IN THE UNINCORPORATED TERRITORY INCLUDED WITHIN THE BOUNDARIES OF THE HELENDALE/ORO GRANDE LOCAL AREA TRANSPORTATION FACILITIES PLAN.

The Board of Supervisors of the County of San Bernardino, State of California, ordains as follows:

SECTION 1. The Board of Supervisors of the County of San Bernardino finds that:

(1) A Helendale/Oro Grande Local Area Transportation Facilities Plan (herein "Plan") has been prepared in accordance with the requirements of law and is on file with the Clerk of the Board.

(2) The Helendale/Oro Grande community and surrounding areas will experience growth which will increase the need for construction of the additional transportation facilities identified in the Plan.

(3) This financing mechanism is necessary to achieve an equitable method of payment for the construction of the transportation facilities required to accommodate new development and to prevent potential failure of the existing road system.

(4) The Plan fee will be used to build and improve the transportation facilities identified in the Plan. The need for the said transportation facilities is related to new residential and commercial development because such new development will bring additional people and vehicles into the Plan area thus creating more vehicular traffic which can be accommodated safely only with the addition of the said transportation facilities.

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(5) The Plan fee will be imposed on new development projects. These projects bring people and vehicles into the Plan area which will create a need for the transportation facilities identified.

(6) There is a reasonable relationship between the amount of the fee and the cost of the transportation facilities attributable to the developments on which the fee is imposed because the fee has been calculated based upon vehicular traffic trips generated which impact the road system pursuant to a study prepared by Basmaciyan Darnell, Inc. (BDI). The estimated total cost of the transportation facilities necessary to accommodate new development in the Plan area has been divided by the estimated number of possible new vehicle traffic trips in the Plan area. This method constitutes a reasonable distribution of the cost to provide the necessary road improvements among the developers which generate traffic and cause the need for the road improvements.

(7) Prior to implementation, an account will be established for the fee specified herein, and the funds from that account will have been appropriated for the transportation facilities identified in the Plan. A proposed construction schedule has been prepared as a part of the Plan.

(8) A public hearing has been held with the notice of hearing having been given as required by law, and written protests, not withdrawn, have not been filed by the owners of more than one-half of the area of the property subject to the fee.

(9) Only unincorporated portions of the County are within the Plan. In the event an incorporation of all or part of the Plan area occurs, appropriate revisions or arrangements shall be identified pursuant to Government Code Section 56000 et seq.

(10) Failure to mitigate growth impact on transportation facilities within the Plan area and the subdivisions therein will place residents in the Helendale/Oro Grande area in a condition perilous to their health, safety and welfare.

(11) The bridges and major thoroughfares to be provided

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with fees collected by the Plan are identified on and are consistent with the circulation element of the County General Plan, and the railways, freeways, streams and canyons for which bridge crossings are required, and the major thoroughfares whose primary purpose is to carry through traffic and provide a network connecting to the state highway system, are identified on the general plan, and all of these identifications were included in the general plan at least 30 days prior to imposition of the Helendale/Oro Grande transportation fee.

(12) The major thoroughfares contained in the Plan are in addition to, or a reconstruction of, existing major thoroughfares serving the Plan area, and the bridges contained in the Plan are original bridges or additions to existing bridges serving the Plan area.

SECTION 2. Subsection 16.0225(h)(6) is added to Chapter 2 of Division 6 of Title 1 of the San Bernardino County Code, to read:

16.0225 Transportation

(h) Local Area Transportation Facilities Plan Fees

(6) Helendale/Oro Grande Local Area Transportation Facilities Plan Fees

(A) Commercial - Average Daily Vehicle Trip End (Trip): $128.81/Trip

(B) Single Family Residential (SFR) . . . . . $1,288.00/D.U.

(C) Multiple Family Residential (MFR) . . . . . $1,030.00/D.U.

(D) Industrial Average Daily Vehicle Trip End (Trip) $128.81/Trip

SECTION 3. Subsection 811.0240(f) of the San Bernardino County Code is added to Chapter 2 of Division 11 of Title 8, to read:

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811.0240 Subject Areas

(f) The Helendale/Oro Grande Local Area Transportation Facilities Plan is established as follows:

HELENDALE/ORO GRANDE LOCAL AREA
TRANSPORTATION FACILITIES PLAN
LEGAL DESCRIPTION

Those portions of Sections 25, 26, 27, 34, 35, and 36, Township 9 North, Range 6 West; Sections 25 thru 36, Township 9 North, Range 5 West; Sections 25 thru 36, Township 9 North, Range 4 West; Sections 1, 2, 11 thru 14, 23 thru 26, and 36, Township 8 North; Range 6 West; Sections 1 thru 30, 32 thru 36, Township 8 North, Range 5 West; Sections 1 thru 36, Township 8 North, Range 4 West; Sections 3 thru 10, 15 thru 23, and 26 thru 34, Township 8 North, Range 3 West; Sections 1 and 12, Township 7 North, Range 6 West; Sections 1 thru 36, Township 7 North, Range 5 West; Sections 1 thru 36, Township 7 North, Range 4 West; Sections 4 thru 9, 17 thru 20, 29 thru 32, Township 7 North, Range 3 West; Section 1 thru 5, 8 thru 14, and 24, Township 6 North, Range 5 West; Sections 1 thru 24, 29, and 30, Township 6 North, Range 4 West; Sections 5, 6, 7, and 18, Township 6 North, Range 3 West; all lying within San Bernardino Base and Meridian, described as follows:

BEGINNING at the northeast corner of said Section 25, Township 9 North, Range 4 West; thence southerly 2.0 miles more or less along the east line of said Section 25 and its prolongation to the northwest corner of said Section 6, Township 8 North, Range 3 West; thence easterly 4.0 miles more or less along the north line of said Section 6 and its prolongation, to the northeast corner of said Section 3, Township 8 North, Range 3 West; thence southerly 3.0 miles more or less along the east line of said section 3 and its prolongation, to the northwest corner of said Section 23, Township 8 North, Range 3 West; thence easterly 1.0 miles more or less along the north line of said Section 23 to

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the northeast corner thereof; thence southerly 1.0 miles more or less along the east line of said Section 23 to the northwesterly right-of-way line of Interstate Highway 15; thence southwesterly 14.2 miles more or less along said northwesterly right-of-way line of I-15 to the south line of said Section 23, Township 6 North, Range 4 West; thence westerly 4.0 miles more or less along the southerly line of said Section 23 and its prolongation to the centerline of National Trails Highway; thence southeasterly 1.2 miles more or less along said centerline of National Trails Highway to its intersection with the centerline of the Mojave River; thence northwesterly 1.0 miles more or less along said centerline of the said Mojave River to the south line of the north half of said Section 30, Township 6 North, Range 4 West; thence westerly 0.6 miles more or less along said south line to the west quarter corner thereof; thence northerly 0.5 miles more or less along the west line of said Section 30 to the northwest corner thereof; thence westerly 0.5 miles more or less along the south line of said Section 24, Township 6 North, Range 5 West, to the south quarter corner thereof; thence northerly 1.5 miles more or less along the west line of the east half of said Section 24 and its prolongation, to the center quarter corner of said Section 13, Township 6 North, Range 5 West; thence westerly 1.0 miles more or less along the south line of the north half of said Section 13 and its prolongation, to the center quarter corner of said Section 14, Township 6 North, Range 5 west; thence southerly 0.5 miles more or less along the east line of the west half of said Section 14 to the south quarter corner thereof; thence westerly 0.5 miles more or less along the south line of said Section 14 to the southwest corner thereof; thence northerly 1.0 miles more or less along the west line of said Section 14 to the northwest corner thereof; thence westerly 0.5 miles more or less along the south line of said Section 10, Township 6 North, Range 5 West, to the south quarter corner thereof; thence northerly 1.0 miles more or less along the west line of the east half of said Section 10 to the north quarter corner thereof; thence westerly 0.5 miles more

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or less along the north line of said Section 10 to the northwest corner thereof; thence southerly 0.5 miles more or less along the west line of said Section 10 to the west quarter corner thereof; thence westerly 1.5 miles more or less along the south line of the north half of said section 9 and its prolongation to the northeasterly right-of-way line of State Highway 395; thence northwesterly 1.75 miles more or less along said northeasterly right-of-way line of State Highway 395 to the west boundary of Section 32, Township 7 North, Range 5 West; thence northerly 4,500 feet more or less to the northwest corner of said Section 32; thence westerly 1,300 feet more or less along the southerly boundary of Section 30, Township 7 North, Range 5 West to said northeasterly right-of-way line of State Highway 395; thence northwesterly 13.5 miles more or less along said northeasterly right-of-way line of State Highway 395 to the north line of said Section 27, Township 9 North, Range 6 West; thence easterly 14.5 miles more or less along said northerly line of Section 27 and its prolongation to the POINT OF BEGINNING. Except that portion lying within the City of Adelanto.

SECTION 4. This ordinance shall take effect sixty (60) days from the date of adoption.

JON D. MIKELS, Chairman
Board of Supervisors

SIGNED AND CERTIFIED THAT A COPY
OF THIS DOCUMENT HAS BEEN DELIVERED
TO THE CHAIRMAN OF THE BOARD
EARLENE SPROAT
Clerk of the Board of Supervisors
of the County of San Bernardino

STATE OF CALIFORNIA)
) ss.
COUNTY OF SAN BERNARDINO)

I, EARLENE SPROAT, Clerk of the Board of Supervisors of the County of San Bernardino, State of California, hereby certify that at a regular meeting of the Board of Supervisors of

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said County and State, held on the 1st day of March, 1993, at which meeting were present Supervisors: Marsha Turoci, Barbara Cram Riordan, Larry Walker Jon D. Mikels

and the Clerk, the foregoing ordinance was passed and adopted by the following vote, to wit:

AYES: SUPERVISORS: Turoci, Riordan, Walker, Mikels

NOES: SUPERVISORS: None

ABSENT: SUPERVISORS: Eaves

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the Board of Supervisors this 1st day of March, 1993.

EARLENE SPROAT, Clerk of the Board of Supervisors of the County of San Bernardino, State of California

Deputy

APPROVED AS TO FORM
DATE 1-13-93
COUNTY COUNSEL
SAN BERNARDINO COUNTY, CALIFORNIA
BY DEPUTY

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HELENDALE/ORO GRANDE LOCAL AREA
TRANSPORTATION FACILITIES PLAN REPORT

EXECUTIVE SUMMARY

The Helendale/Oro Grande Transportation Facilities Plan consists of approximately 245 square miles and is bounded by Interstate 15 on the east; State Highway 395 on the west; George Air Force Base, Victorville City limits, and Adelanto on the south; and extends north two miles north of Wellington Road. An estimated 33,800 additional new residential homes can be built in the remainder of the area exclusive of the existing residences.

The communities of Helendale, Oro Grande, Hodge, and Silver Lakes are rapidly developing. The existing road system is marginally able to handle the existing traffic and will have problems handling the traffic capacity in the future. With the increase in the number of permits for new residences issued in the last several years and the anticipated continued growth in the area, based on the existing land use from the adopted General Plan, the increased traffic volumes will over stress the existing road system of paved and graded dirt roads in the area. This increased traffic will lead to increased travel times and decreased "level of service" throughout the area if something is not done to improve the road system.

It can no longer be expected that the major road improvements that will be needed for the area can be fully funded from the traditional revenue sources that constructed the existing highway system and street network. Supplemental funding sources must be developed if important components of the County's transportation road system are to be constructed. These needed roads will provide relief to the existing marginal road facilities and support orderly development in the future. Development fees represent a potential source of supplemental funds.

A development fee program has been prepared for consideration, by the Board of Supervisors, based on the general principle that future development within the described benefit area will benefit from constructing the proposed transportation facilities plan and should pay for them in proportion to projected traffic demand attributed to each.

The needed improvements were determined by performing a traffic level of service analysis. Trip ends were selected as the best common denominator and fees were established by dividing the total estimated cost of the needed improvements by the total number of projected new daily trip ends within the plan area. Adjustments were made to trip ends between non-residential and residential land uses to reflect the different level of trips generated by each.

The total new trip ends attributed to new development within the plan area is projected to be 350,193 trips. The total estimated cost to provide the needed improvements is $65,010,000 and includes constructing or widening approximately 111.5 miles of paved county roads, signalizing 20 intersections, constructing 5 river crossings, and 4 railroad crossings. Also, included in the plan is a fair share contribution for improvements to State Highway 395 through the area. Measure "I" will contribute $7,458,600 and the State will contribute $12,400,400 of the total cost resulting in the remaining $45,151,000 to be provided by development fees. Calculation of fees are based upon State contributions made in recent years. If, however, State funding should no longer be available, recalculation of the fees will be necessary.

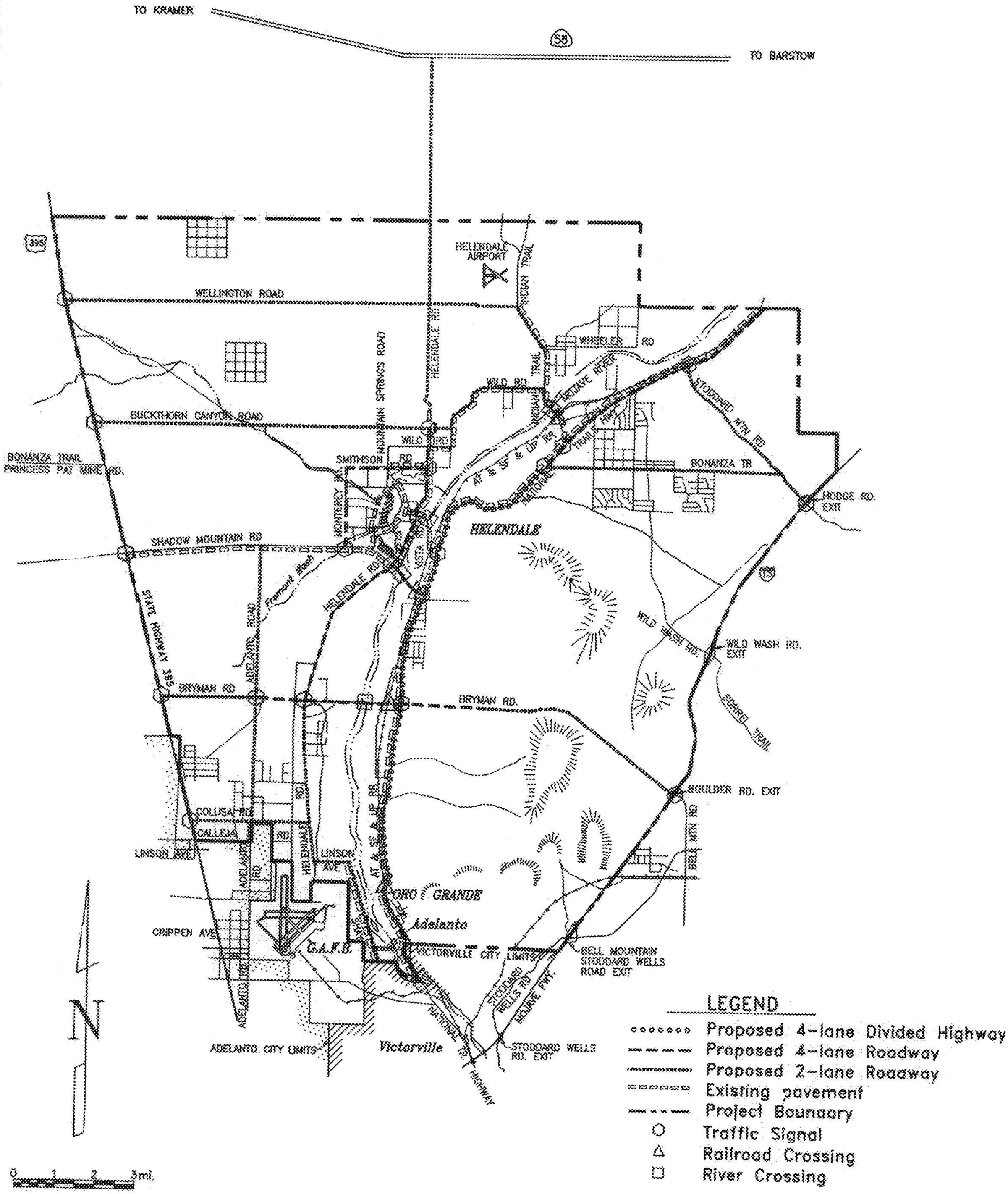
The resulting fees to fund the proposed Helendale/Oro Grande Transportation Facilities Plan are recommended as follows:

Single Family Residential (SFR):	$ 1,288.00 / D.U.
Multiple Family Residential (MFR):	$ 1,030.00 / D.U.

Industrial and commercial land use designations will require special traffic studies and allow a wide variety of development intensities. Traffic impact fees will be treated on a case by case basis supported by the individual land use proposals for each development based on $128.81 per trip.

Only unincorporated portions of the County are within the benefit area for the facilities financing. All fees collected under this program will be deposited into accounts specifically to construct the Helendale/Oro Grande Transportation Facilities Plan only. These fees will not be used to construct any other road facility not expressly shown within said Helendale/Oro Grande Transportation Facilities Plan.

HELENDALE/ORO GRANDE TRANSPORTATION FACILITIES PLAN



HELENDALE/ORO GRANDE LOCAL AREA TRANSPORTATION FACILITIES PLAN
RELATIONSHIP BETWEEN FEE AND DEVELOPMENT PROPERTY

The method for determining the fee per dwelling unit (DU) and commercial/industrial per gross leasable square feet (GLSF) was to first establish the cost per new trip and then convert that to a cost per DU or cost per GLSF.

Proposed new trips used to compute the cost per trip to determine the cost per dwelling units and commercial/industrial units per GLSF was obtained from information contained in the Helendale/Oro Grande area model prepared by Basmaciyan-Darnell, Inc. (BDI) and in the Transportation Department, Traffic Division, land development files. Future dwelling unit estimation is based on existing land use from the adopted County General Plan.

PLAN AREA TRIP GENERATION

Residential: For single family detached residential (single family residential) (SFR) the ITE recommended average of 10 trips per unit was used and for multiple family residential (MFR) an average of 8 trips per unit was used. Based on that information, 33,100 SFR DU and 700 MFR DU are projected within the plan area. Commercial/Industrial: Commercial land uses within the plan area have had traffic generator factors introduced to account for a summation of diverted links, passerby, and induced trips as follows:

Acres of zoned commercial = 65
Acres of zoned regional industrial (IR) = 2,792, other industrial = 114
Percentage of gross leasable square feet (GLSF) in an acre = 26%
Institute of Transportation Engineers (ITE) trips based on 1,000 GLSF
ITE rate per 1,000 GLSF (Commercial) = 34.5 trips
ITE rate per ACRE for Industrial (except IR) = 30 trips
Induced trip percentage (Commercial) = 30%
Induced trip percentage industrial (except IR) = 70%

Using the above information and the ITE Trip Generation Manual the following calculations were made:

Single Family Residential (SFR)	
33,100 DU X 10 trips per DU	= 331,000
Multiple Family Residential (MFR)	
700 DU X 8 trips per DU	= 5,600
*Commercial (COM) trips	
65 ac. X 43,560 sf/ac X .26 GLSF / 1000 X 34.5 X .3	= 7,619
*Industrial (IR) trips: 2,792 ac X 1.4 trips/ac	= 3,909
*Other Industrial trips: 114 ac X 30 trips/ac X .7	= 2,394
Total fee trips	= 350,522

* Industrial and commercial land use designations will require special traffic studies and allow a wide variety of development intensities. The calculations shown above are for estimating total fee trips and for establishing a unit cost per trip. Actual traffic impact fees for industrial and commercial land uses will be determined by the individual land use proposals.

The cost estimate as shown on the "Helendale/Oro Grande Local Area Transportation Facilities Plan Cost Estimate" is $45,151,000.

$$\text{Cost per trip} = \frac{\$45,151,000}{350,522} = \$128.81 \text{ per trip}$$

Costs were distributed to the various residential land use categories based on trip generation tables and passerby information from ITE.

SFR at 10 trips/DU	10 X $128.81	= $1,288.00 per DU
MFR at 8 trips/DU	8 X $128.81	= $1,030.00 per DU

HELENDALE/ORO GRANDE TRANSPORTATION FACILITIES PLAN

PROJECT SUMMARY AND COSTS

AREA: 245 Square Miles

Projected New

Residential Dwelling Units: 33,800

ESTIMATED COSTS:

NATIONAL TRAILS HIGHWAY: 15.3 Miles	$ 9,202,000
STATE HIGHWAY 395 SHARE	$ 1,944,000
4 LANE ROADS: 24.3 Miles	$ 12,614,000
2 LANE ROADS: 71.9 Miles	$ 19,945,000
20 SIGNALS (COUNTY SHARE)	$ 3,831,000
5 RIVER CROSSINGS	$ 15,000,000
4 RAILROAD CROSSINGS	$ 1,410,000
ADDITIONAL IMPROVEMENTS	$ 1,064,000
SUBTOTAL	$ 65,010,000
LESS STATE FUNDS	$(12,400,400)
LESS MEASURE "I" FUNDS	$ (7,458,600)
TOTAL	$ 45,151,000

PROPOSED DEVELOPMENT FEE

Single Family Residential (SFR)	$ 1,288.00/D.U.
Multiple Family Residential (MFR)	$ 1,030.00/D.U.
Commercial and Industrial	

Commercial and industrial land use designation will require special traffic studies and allow a wide variety of development intensities. Traffic impact fees will be treated on a case by case basis supported by the individual traffic studies for each development based on $128.81 per trip.

SCHEDULE A

HELENDALE/ORO GRANDE LOCAL AREA TRANSPORTATION FACILITIES PLAN PROJECT PRIORITY LIST AND CONSTRUCTION COST ESTIMATE

The plan priority list should be reviewed and updated periodically to account for changes in development activity. The recommended transportation facilities plan improvements are reflected below in the year the activity (i.e. study, design, right–of–way acquisition, construction, etc) will be started. Each project is unique and has different time spans for completion.

ACTIVITY STARTING IN YEAR 1–9	Total Cost	Measure "I" Share (10%)	State Share (20%)
1. **NATIONAL TRAILS HIGHWAY**			
At Oro Grande Underpass			
Drainage/Alignment Studies	$20,000	$20,000	$0
2. **NATIONAL TRAILS HIGHWAY**			
Turner Rd/Vista			
Top AC/Turn Pockets	$94,000	$94,000	$0
3. **NATIONAL TRAILS HIGHWAY**			
Underpass N/E			
Resurface/Drainage Construction	$200,000	$200,000	$0
4. **HELENDALE ROAD**			
Bryman to Shadow Mnt			
Construct 2 Lane Road	$1,129,000	$112,900	$225,800
FUTURE PROJECTS			
1. **NATIONAL TRAILS HIGHWAY**			
A) Victorville City Limits to Bonanza			
Widen to 4 Lane Divided Hwy	$9,202,000	$920,200	$1,840,400
B) Bonanza Trail to North Plan Boundary			
Widen to 4 Lane Hwy	$1,678,000	$167,800	$335,600
C) At Oro Grande Underpass			
Construct 4 Lane Overpass (County Share)	$1,260,000	$126,000	$252,000
D) Mojave River Crossing			
At Mojave Narrows	$4,000,000	$400,000	$800,000
E) .5M N Underpass/ Bryman			
Top AC/ Turn Pockets	$300,000	$300,000	$0
F) Victorville City Limits/ Helendale Rd.			
Realign, Stripe	$300,000	$300,000	$0

SCHEDULE A
Page 2
FUTURE PROJECTS

		Total Cost	Measure "I" Share (10%)	State Share (20%)
2.	**MONTERREY ROAD**			
	Smithson Rd. to Shadow Mountain Rd.			
	Construct 4 Lane Road	$1,648,000	$164,800	$329,600
	Signal at Shadow Mnt.	$250,000	$25,000	$50,000
3.	**BONANZA TRAIL**			
	National Trails Hwy to Stoddard Mnt.			
	Construct 2 Lane Road	$1,471,000	$147,100	$294,200
	Signal at National Trails Hwy.	$250,000	$25,000	$50,000
4.	**HELENDALE ROAD**			
	A) Linson Avenue to Bryman			
	Construct 2 Lane Road	$1,040,000	$104,000	$208,000
	B) Bryman to Shadow Mountain			
	Widen to 4 Lane	$1,129,000	$112,900	$225,800
	C) Shadow Mountain to Buckthorn Canyon			
	Widen Existing 2 Lane to 4 Lane	$629,000	$62,900	$125,800
	Signal at Vista	$250,000	$25,000	$50,000
	Signal at Buckthorn	$250,000	$25,000	$50,000
	Signal at Smithson	$250,000	$25,000	$50,000
	D) 1/2 Mile North of Buckthorn to Plan Boundary			
	Construct 2 Lane Road	$1,268,000	$126,800	$253,600
	E) North Plan Boundary to SH 58			
	Construct 2 Lane Road	$1,319,000	$131,900	$263,800
5.	**BRYMAN ROAD**			
	A) Interstate 15 to 2.1 Miles E. of Nat. Trails			
	Construct 2 Lane Road	$2,707,000	$270,700	$541,400
	Signal I–15/Bryman	$83,000	$8,300	$16,600
	B) 2.1 miles E. Nat. Trails to Helendale Rd.			
	Construct 4 Lane Road	$3,543,000	$354,300	$708,600
	Signal National Trails Hwy/Bryman	$250,000	$25,000	$50,000
	Signal Helendale/Bryman	$250,000	$25,000	$50,000
	River Crossing	$4,000,000	$400,000	$800,000
	RR Xing	$50,000	$5,000	$10,000
	C) Helendale Road to Adelanto Road			
	Construct 4 Lane Road	$606,000	$60,600	$121,200
	D) Adelanto Road to SH 395			
	Construct 2 Lane Road	$1,009,000	$100,900	$201,800
	Signal SH 395/Bryman	$83,000	$8,300	$16,600
6.	**SMITHSON ROAD**			
	A) Monterrey Rd to Mountain Springs Rd.			
	Construct 4 Lane Road	$897,000	$89,700	$179,400
	B) Mountain Springs Rd to Helendale			
	Widen to 4 Lane	$448,000	$44,800	$89,600

SCHEDULE A
Page 3

FUTURE PROJECTS	Total Cost	Measure "I" Share (10%)	State Share (20%)
7. **COLUSA ROAD**			
State Hwy 395 to Helendale Rd.			
Construct 2 Lane Road	$761,000	$76,100	$152,200
Signal at Colusa	$83,000	$8,300	$16,600
8. **LINSON AVENUE**			
Helendale Rd to Shay Rd.			
Construct 2 Lane Road	$254,000	$25,400	$50,800
9. **SHAY ROAD**			
Victorville City Limits to Linson			
Improve 2 Lane Road	$500,000	$50,000	$100,000
10. **BUCKTHORN CANYON ROAD**			
A) State Hwy 395 to Helendale Rd.			
Construct 2 Lane Road	$2,131,000	$213,100	$426,200
Signal at SH. 395	$83,000	$8,300	$16,600
B) Helendale Road to Wild Road			
Construct 2 Lane Road	$127,000	$12,700	$25,400
11. **SHADOW MOUNTAIN ROAD**			
Helendale Rd to Nat. Trails Hwy.			
Construct 4 Lane Road	$907,000	$90,700	$181,400
Signal at Helendale	$250,000	$25,000	$50,000
Signal at SH 395	$83,000	$8,300	$16,600
River Crossing	$4,000,000	$400,000	$800,000
RR Xing	$50,000	$5,000	$10,000
Chip Seal	$150,000	$150,000	$0
Signal at Nat. Trails Hwy.	$250,000	$25,000	$50,000
12. **ADELANTO ROAD**			
A) Adelanto City Limits to Colusa Rd			
Construct 2 Lane Road	$64,000	$6,400	$12,800
B) Colusa Rd to Shadow Mtn.			
Construct 2 Lane Road	$1,725,000	$172,500	$345,000
Signal at Bryman	$250,000	$25,000	$50,000
13. **INDIAN TRAIL**			
A) AT&SF, UP RR Crossing to Wild Rd.			
Reconstruct 2 Lane Road	$250,000	$25,000	$50,000
Signal at National Trail Hwy.	$250,000	$25,000	$50,000
River Crossing	$2,000,000	$200,000	$400,000
RR Xing	$50,000	$5,000	$10,000
B) Wheeler Road to Wellington			
Construct 2 Lane Road	$302,000	$30,200	$60,400
14. **WILD ROAD**			
Buckthorn Canyon to Indian Trail			
Reconstruct 2 Lane Road	$725,000	$72,500	$145,000

FUTURE PROJECTS		Total Cost	Measure "I" Share (10%)	State Share (20%)
15.	**VISTA ROAD**			
	2 Lane River Crossing	$1,000,000	$100,000	$200,000
	Signal at Vista	$250,000	$25,000	$50,000
16.	**STODDARD MOUNTAIN ROAD**			
	A) National Trails Hwy to Bonanza			
	Construct 2 Lane Road	$1,162,000	$116,200	$232,400
	Signal at National Trails	$250,000	$25,000	$50,000
	B) Bonanza Trail to I--15			
	Construct 2 Lane Road	$290,000	$29,000	$58,000
	Signal at I--15	$83,000	$8,300	$16,600
17.	**WELLINGTON ROAD**			
	A) State Hwy 395 to Helendale Rd.			
	Construct 2 Lane Road	$2,333,000	$233,300	$466,600
	Signal at SH 395	$83,000	$8,300	$16,600
	B) Helendale Road to Indian Trail			
	Construct 2 Lane Road	$507,000	$50,700	$101,400
18.	**STATE HIGHWAY 395**			
	20% Fair Share Along West Plan Boundary			
	Widen to 4 Lane Divided Hwy.			
	$9,720,000 * 20%	$1,944,000	$194,400	$0 (Caltrans)
	TOTALS	$65,010,000	$7,458,600	$12,400,400

Helendale/Oro Grande
Sample Commercial Trip Generations

1. Supermarket (High) = $\frac{150 trips}{1000 ft^2}$
   (Such as Vons, Stator Bros.)

   Assuming 100' X 100' floor size = $10,000 ft^2 \cdot \frac{150 trips}{1000 ft^2}$ = 1,500 trips

   applying induced trip adjustment factor of 30%
   1,500 X .3 = 450 trips

   FEE: $128.81/trip X 450 trips = **$57,965**

2. Standard Commercial Office (Medium) = $\frac{34.5 trips}{1000 ft^2}$
   (Such as accounting, insurance, or attorney offices)

   Assuming 45' X 45" floor size = $2,025 ft^2 \cdot \frac{34.5 trips}{1000 ft^2}$ = 70 trips

   applying induced trip adjustment factor of 30%
   70 X .3 = 21 trips

   FEE: $128.81/trip X 21 trips = **$2,705**

3. Specialty Store (Low) = $\frac{3 trips}{1000 ft^2}$
   (Such as shoe repair, hobby shop, or florist)

   Assuming 40' X 35" floor size = $1,400 ft^2 \cdot \frac{3 trips}{1000 ft^2}$ = 4.2 trips

   applying induced trip adjustment factor of 30%
   4.2 X .3 = 1.26 trips

   FEE: $128.81/trip X 1.26 trips = **$162**

Helendale/ Oro Grande
Sample Industrial Trip Generations

TYPICAL INDUSTRIAL USES:

1. Industrial Park (High) 63 trips/AC

   Applying a induced trip adjustment factor of 70%:
   63 trips/acre X .7 = 44 trips/acre
   44 trips/acre X $128.81/trip = **$5,668/AC**

2. Manufacturing (Medium) 39 trips/AC

   Applying a induced trip adjustment factor of 70%
   39 trips/acre X .7 = 27 trips/acre
   27 trips/acre X $128.81/trip = **$3,478/AC**

3. General Heavy Industrial (Low) 7 trips/AC

   Applying a induced trip adjustment factor of 70%:
   7 trips/acre X .7 = 5 trips/acre
   5 trips/acre X $128.81/trip = **$644/AC**

ROCK QUARRY AND MINING INDUSTRIAL USES:

Typically very low traffic generations. Estimated from existing quarry and mining operations.

4. Rock Quarry or Mine (Very Low): 1.4 trips/acre

   1.4 trips/acre x $128.81/trip = **$180/AC**

HELENDALE/ORO GRANDE LOCAL AREA TRANSPORTATION FACILITIES PLAN

ENGINEER'S REPORT

This report addresses the transportation needs and impact on the existing road system in and around the communities of Helendale, Oro Grande, Hodge, and Silver Lakes which can be predicted as development occurs within the area.

DESCRIPTION

The Helendale/Oro Grande Plan area consists of approximately 245 square miles of unincorporated area of San Bernardino County generally bounded by Interstate 15 on the east, State Highway 395 on the west, George AFB, the city limits of Victorville and Adelanto on the south, and extends north two miles north of Wellington Road.

PURPOSE

The area is experiencing growth and the needed transportation facilities cannot be fully funded through traditional revenue sources. Supplemental funding sources must be developed if the major components of an adequate transportation system are to be constructed. A study of the existing transportation needs and projected future impacts were prepared by the firm of Basmaciyan-Darnell, Inc. (BDI). The study clearly shows the need to upgrade the sparse two lane paved roads and several existing dirt roads to current standards for County maintenance.

Traditional funding sources for maintaining and constructing County roads are derived almost entirely from highway user taxes and fees. Other sources include federal and state aid, fine and forfeitures, grants and reimbursements. These sources are not sufficient to fund the necessary improvements to the road system to accommodate growth. This plan is a mechanism for financing improvements for transportation needs created by future development.

In 1989 the voters of San Bernardino County approved a half-cent sales tax to improve the county's transportation system. Known as Measure "I", the funds generated by the sales tax are designated to relieve existing deficiencies in the transportation system. Some of the projects identified in the traffic study for

future growth were also recognized in the Measure "I" program as locations beginning to have delays, indicating these locations would be further negatively impacted by growth.

The estimated funds to be generated by Measure "I" for the Helendale/Oro Grande area have been deducted from Schedule "A" and the cost estimates. Measure "I" funds can be used to complete the improvements necessary to relieve existing traffic congestion, increase public safety, improve air quality and in conjunction with contributions from the developer fee program a project can also accommodate future traffic impacts. It should be noted the extent of the improvement to mitigate growth is greater than the correctional measures covered by Measure "I" improvements.

During the past years, the State has maintained a program for matching local contributions on road projects. For the purpose of estimating the project costs a State contribution of 20% of the total project has been included. If State funding should no longer be available, recalculation of the cost estimates and resulting fees will be necessary.

ESTIMATE OF DEVELOPABLE LANDS

Based on a review of the existing Assessor's Office information, United States Geological Survey topographical mapping, aerial photos, and the existing land use from the current County General Plan, it is projected that approximately 33,100 lots would be developed as single family residential and 700 as multiple family residential for a total of 33,800 lots. Additionally, 65 acres is available for commercial development and 2,906 acres is available for industrial development.

AREA PLAN

A preliminary program was identified by staff and presented to the community at a series of committee and public meetings. Some $65,010,000 in two lane and four lane roads, signals, river crossings, and railroad crossings were identified which included an estimated $1,994,000 to cover the local traffic share of the costs for improvements to State Highway 395. The included projects are the minimal improvements deemed necessary to provide the community with a transportation system adequately meeting the basic needs of the future 33,100 single family residential

units (SFR), 700 multiple family residential units (MFR), 65 acres of commercial development, and 2,906 acres of industrial development, of which 2,792 acres are designated regional industrial (IR) and 114 acres are designated other community industrial.

Direct consultation was received from area property owners and through a series of meetings during the development of the plan. Development patterns and the community's desires were a major element in designating the priorities for the first five years of the program based on anticipated revenues. The priority listing in Schedule A should be reviewed and updated periodically to match improvements with growth in the plan area. The Building and Safety Department adds a $25.00 charge for fee collection.

REASONABLE COST DISTRIBUTION

The development generated costs were distributed to the anticipated land uses based on the trips per land use as defined in the "Institute of Transportation Engineers Trip Generation Manual" and the existing land use factors for the Helendale/Oro Grande area. Trip generation was computed at 10 trips per day for single family residential, 8 trips per day for multiple family residential, 34.5 trips per 1,000 square feet for commercial, 1.4 trips per acre for regional industrial, and 30 trips per acre for other industrial land uses.

Commercial developments are largely dependent upon attracting business within the plan area. It is recognized, however, that a portion of the trips to the commercial areas will be induced traffic from outside the plan area, such as necessary service and supply vehicles. Since the commercial areas are supported by the residential community in which they serve, an adjustment factor has been used in an effort to insure that the trips generated as a result of the commercial attraction are not being excessively charged.

For the commercial land use areas traffic generator factors have been adjusted for passerby trips based on the ITE Traffic Generation - 5th Edition (published in 1991). This adjustment reflects anticipated driver behavior and consists of a summation of diverted links, passerby, and induced trips deemed appropriate to the development area. Commercial development shall have the opportunity to submit for

approval an independent traffic study, prepared by a traffic engineer, estimating the anticipated traffic from a development. If it is agreed that the trip generation rates are different than the averages used in this report, the fees will be based on the cost per trip.

The vast majority (96% - 2,792 total acres) of industrial land use in the plan consists of a cement quarry northeast of Oro Grande which is zoned as regional industrial (IR). The number of trucks leaving the plant daily averages between 80 and 90. The highest total traffic ever, when operating at maximum production, is approximately 150 trucks. Because quarry operations are very different from normal traffic patterns, this land use category was considered to have a low contribution of trips. The regional industrial (IR) land use will be charged the cost per trip multiplied by the anticipated number of average daily trips generated by the development built in this land use area.

Approximately 114 acres of other industrial is contained within the plan area boundary. This land use designation will require special traffic studies and allow a wide variety of development intensities. Traffic impact fees will be treated on a case by case basis supported by individual traffic studies for each development. The industrial land use will be charged the cost per trip multiplied by the anticipated number of average daily trips generated by the development.

An example of the methodology in determining the industrial fee can be shown with a typical industrial park. An manufacturing is under the "medium" category (39 trips/ac) based on the Institute of Traffic Engineers (ITE) Traffic Generation - 5th Edition (published in 1991).

39 trips/acre X .7 = 27/trips acre
27 trips/acre X $128.81/trip = $3,478/acre

The area is generally bisected in a north-south direction by the Mojave River. The area to the west of the river is generally flat, while the area to the east is partially mountainous or hilly. National Trails Highway is now the main north-south thoroughfare. To prevent the need for extremely costly four lane bridges over the Mojave River and to prevent overburdening National Trails Highway, another north-south thoroughfare, Helendale Road, was identified on the west side of the

Mojave River. Providing paved roads to State Highway 395 on the west boundary of the plan and to Interstate 15 on the east boundary of the plan will also aid in improving north-south circulation.

The Atchison, Topeka, and Santa Fe Railroad as well as the Southern Pacific Railroad generally parallel National Trails Highway through the plan area crossing National Trails Highway two miles north of the Victorville city limits. The existing crossing is narrow and sub-standard and needs to be rebuilt as part of the realignment of National Trails Highway. The amount estimated for this crossing is $6,300,000, with the Public Utilities Commission paying 80%, Measure "I" paying 2%, the State paying 4%, and the remaining 14% consisting of development fees. Participation from the City of Victorville for the crossing and bridge at National Trails Highway and the Mojave River is also considered. The cost to provide immediate drainage improvements at the underpass is not included in this estimated amount but is shown separately in Schedule "A".

COMMUNITY REVIEW

Direct public input was received from area property owners and through a series of meetings during the development of the plan. County Counsel has reviewed the reports and prepared the required ordinances on January 13, 1993. The plan was presented before the Development Advisory Committee on October 20, 1992 and the Planning Commission on February 20, 1992.

On February 22, 1993 the Transportation/Flood Control Department will take forth to the Board of Supervisors, for their consideration, a Fee Ordinance and related actions for transportation facilities in the community of Helendale/Oro Grande. These documents are on file with the Clerk of the Board of Supervisors.

ENVIRONMENTAL ANALYSIS

The preliminary environmental description forms for the identified transportation facilities plan were submitted to the Land Management Department, Environmental Analysis Division, for review and processing. It was determined that the Helendale/Oro Grande Local Area Transportation Facilities Plan would not have a significant environmental impact on the communities in the area. A Negative Declaration of Environmental Impact for this plan has been prepared for approval by the Board of Supervisors.

HELENDALE/ORO GRANDE LOCAL AREA
TRANSPORTATION FACILITIES PLAN COST ESTIMATES

ROUTE 1. 4 LANE ROADS	LENGTH (MILES)	ESTIMATED COST	MEASURE "I" SHARE (10%)	STATE SHARE (20%)
NATIONAL TRAILS HWY				
A) Victorville City Limits to Bonanza Trail	15.3	$9,202,000	$920,200	$1,840,400
B) Bonanza Trail to North Boundary	6.7	$1,678,000	$167,800	$335,600
HELENDALE				
A) Bryman Rd. to Shadow Mountain Rd.	4.5	$2,258,000	$225,800	$451,600
B) Shadow Mountain Rd. to Buckthorn	2.5	$629,000	$62,900	$125,800
BRYMAN ROAD				
A) Adelanto Rd. to Helandale Rd.	1.2	$606,000	$60,600	$121,200
B) Helandale Rd. to 2.1 Miles E. Nat. Trails Hwy.	4.4	$3,543,000	$354,300	$708,600
SHADOW MOUNTAIN ROAD				
Helandale Rd. to Nat. Trails Hwy.	1	$907,000	$90,700	$181,400
SMITHSON ROAD				
A) Monterrey Rd. to Mountain Springs Rd.	1	$897,000	$89,700	$179,400
B) Mountain Springs to Helandale Rd.	1	$448,000	$44,800	$89,600
MONTERREY ROAD				
Smithson Rd. to Shadow Mountain Rd.	2	$1,648,000	$164,800	$329,600
SUB TOTALS	39.6	$21,816,000	$2,181,600	$4,363,200

ROUTE 2. 2 LANE ROADS				
STODDARD MNT. RD.				
A) National Trails Hwy. to Bonanza Trail	3.6	$1,162,000	$116,200	$232,400
B) Bonanza Trail to Interstate 15	0.9	$290,000	$29,000	$58,000
BONANZA ROAD				
Nat. Trails Hwy. to Stoddard Mnt. Rd.	5.8	$1,471,000	$147,100	$294,200
HELENDALE ROAD				
A) Linson Ave. to Bryman Rd.	4.1	$1,040,000	$104,000	$208,000
B) Buckthorn Canyon Rd. to north Boundary	5	$1,268,000	$126,800	$253,600
C) North Boundary to S.H 58	5.2	$1,319,000	$131,900	$263,800
ADELANTO ROAD				
A) Adelanto City Limits to Colusa Rd.	0.5	$64,000	$6,400	$12,800
B) Colusa Rd. to Shadow Mnt. Rd.	6.8	$1,725,000	$172,500	$345,000
INDIAN TRAIL				
A) AT&SF, RR Crossing to Wild Rd.	1	$250,000	$25,000	$50,000
B) Wheeler Rd. to Wellington Rd.	1.2	$302,000	$30,200	$60,400
WILD ROAD				
Buckthorn Canyon to Indian Trail	2.9	$725,000	$72,500	$145,000
BRYMAN ROAD				
A) SH 395 /Adelanto Rd.	2.5	$1,009,000	$100,900	$201,800
B) 2.1 Miles East of Nat. Trails Hwy. to I-- 15	5.8	$2,707,000	$270,700	$541,400
WELLINGTON ROAD				
A) SH 395 to Helandale Rd.	9.2	$2,333,000	$233,300	$466,600
B) Helandale Rd. to Indian Trail	2	$507,000	$50,700	$101,400

ROUTE	LENGTH (MILES)	ESTIMATED COST	MEASURE "I" SHARE (10%)	STATE SHARE (20%)
2. 2 LANE ROADS – CONTINUED				
BUCKTHORN CANYON ROAD				
A) S.H. 395 to Helandale Rd.	8.4	$2,131,000	$213,100	$426,200
B) Helandale Rd. to Wild Rd.	0.5	$127,000	$12,700	$25,400
COLUSA ROAD				
S.H. 395 to Helandale Rd.	3	$761,000	$76,100	$152,200
LINSON AVENUE				
Helandale Rd. to Shay Rd.	1	$254,000	$25,400	$50,800
SHAY ROAD				
Victorville City Limits to Linson	2.5	$500,000	$50,000	$100,000
SUB TOTALS	71.9	$19,945,000	$1,994,500	$3,989,000
3. SIGNALS				
National Trails Hwy. @ Bryman Rd.		$250,000	$25,000	$50,000
National Trails Hwy. @ Shadow Mnt. Rd.		$250,000	$25,000	$50,000
National Trails Hwy. @ Vista Rd.		$250,000	$25,000	$50,000
National Trails Hwy. @ Bonanza Trail		$250,000	$25,000	$50,000
National Trails Hwy. @ Indian Trail		$250,000	$25,000	$50,000
National Trails Hwy. @ Stoddard Mnt. Rd.		$250,000	$25,000	$50,000
Helandale Rd. @ Bryman Rd.		$250,000	$25,000	$50,000
Helandale Rd. @ Shadow Mnt. Rd.		$250,000	$25,000	$50,000
Helandale Rd. @ Vista Rd.		$250,000	$25,000	$50,000
Helandale Rd. @ Buckthorn Canyon Rd.		$250,000	$25,000	$50,000
Helandale Rd. @ Smithson Rd.		$250,000	$25,000	$50,000
Adelanto Rd. @ Bryman Rd.		$250,000	$25,000	$50,000
Monterrey Rd. @ Shadow Mnt. Rd.		$250,000	$25,000	$50,000
S.H. 395 @ Colusa Rd.		$83,000	$8,300	$16,600
S.H. 395 @ Shadow Mnt. Rd.		$83,000	$8,300	$16,600
S.H. 395 @ Buckthorn Canyon Rd.		$83,000	$8,300	$16,600
S.H. 395 @ Wellington Rd.		$83,000	$8,300	$16,600
S.H. 395 @ Bryman Rd.		$83,000	$8,300	$16,600
I–15 @ Stoddard Mnt. Rd.(Hodge Rd. Exit)		$83,000	$8,300	$16,600
I–15 @ Bryman Rd. (Boulder Rd. Exit)		$83,000	$8,300	$16,600
SUB TOTAL		$3,831,000	$383,100	$766,200
4. MOJAVE RIVER CROSSINGS				
Bryman Rd. –4 Lane Crossing		$4,000,000	$400,000	$800,000
Vista Rd. –2 Lane Crossing		$1,000,000	$100,000	$200,000
Indian Trail –2 Lane Crossing		$2,000,000	$200,000	$400,000
Shadow Mountain Rd. –4 Lane Crossing		$4,000,000	$400,000	$800,000
National Trails –4 Lane Crossing		$4,000,000	$400,000	$800,000
SUB TOTAL		$15,000,000	$1,500,000	$3,000,000
5. RAILROAD CROSSINGS				
Bryman Rd. – 4 Lane Crossing		$50,000	$5,000	$10,000
Shadow Mnt. Rd. – 4 Lane Crossing		$50,000	$5,000	$10,000
Indian Trail – 2 Lane Crossing		$50,000	$5,000	$10,000
		(20% of Total)	(2% of Total)	(4% of Total)
Nat. Trails Hwy. – 4 Lane Crossing (Total Cost $6,300,000) P.U.C will contribute 80%		$1,260,000	$126,000	$252,000
SUB TOTAL		$1,410,000	$141,000	$282,000

6. ADDITIONAL IMPROVEMENTS

	ESTIMATED COST	MEASURE "I" SHARE (10%)	STATE SHARE (20%)
NATIONAL TRAILS HWY – UNDERPASS			
A) Drainage Studies/Construction	$220,000	$220,000	$0
B) Top AC/Turn Pockets – Turner Rd N. /Vista	$94,000	$94,000	$0
C) Realign, Stripe – Vic. CL./Helendale Rd.	$300,000	$300,000	$0
D) Top AC/Turn Pckts – .5M N. Underpass/Bryman	$300,000	$300,000	$0
SHADOW MOUNTAIN RD.			
Chip Seal	$150,000	$150,000	$0
STATE HWY. 395 FAIR SHARE			
$9,720,000 *20%	$1,944,000	$194,400	$0 (Caltrans)
SUB TOTAL	$3,008,000	$1,258,400	$0
TOTALS	$65,010,000	$7,458,600	$12,400,400
Less Measure "I" Funds	($7,458,600)		
Less State Funds	($12,400,400)		
Development Fee Contribution	**$45,151,000**		