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Introduction

Presented herein are the results of a deflection survey of various roads in Ventura County. This study was requested by Mr. M.C. Lorenz, Director Public Works for Ventura County, in a letter to Mr. Edward T. Telford, District Engineer, (District 07), Attention Mr. John L. Beaton, dated February 21, 1966.

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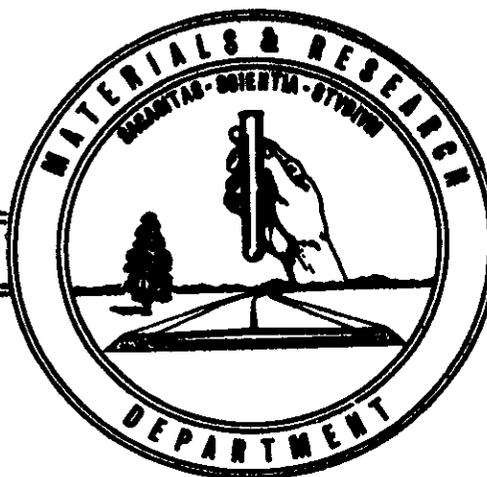
STATE OF CALIFORNIA  
HIGHWAY TRANSPORTATION AGENCY  
DEPARTMENT OF PUBLIC WORKS  
DIVISION OF HIGHWAYS



# DEFLECTION STUDY OF VARIOUS ROADS IN VENTURA COUNTY

66-477

June 1966



State of California  
Department of Public Works  
Division of Highways  
Materials and Research Department  
June 24, 1966

Lab.Auth. 33277

Mr. M. C. Lorenz  
Director of Public Works  
County of Ventura  
Courthouse  
Ventura, California 93001

Attention Mr. V. G. Stevens  
Operations Engineer

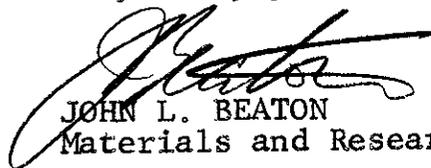
Dear Sir:

Submitted for your consideration is:

REPORT  
ON  
DEFLECTION STUDY  
OF  
VARIOUS ROADS IN  
VENTURA COUNTY

Study made by . . . . . Pavement Section  
Under direction of . . . . . E. Zube  
Project supervisor . . . . . R. A. Forsyth  
Report prepared by . . . . . J. B. Hannon

Very truly yours,



JOHN L. BEATON  
Materials and Research Engineer

Attach  
cc: L. R. Gillis  
C. T. Ledden  
A. C. Birnie  
A. A. Smith  
M. L. Bauders

## INTRODUCTION

Presented herein are the results of a deflection survey of various roads in Ventura County. This study was requested by Mr. M. C. Lorenz, Director Public Works for Ventura County, in a letter to Mr. Edward T. Telford, District Engineer, (District 07), Attention Mr. John L. Beaton, dated February 21, 1966.

From April 7 to 13, 1966, deflection measurements were obtained with the traveling deflectometer carrying a 15,000 pound axle load on the following 58.49 miles of county roads:

<u>Road</u>	<u>Limits</u>	<u>Length (Miles)</u>
A. Rolling Oaks Drive	State Hwy. Rte. 101 to Sundown Road	0.63
B. Calle Yucca	Calle Corta to State Hwy. Rte. 101	0.88
C. Arneill Road	State Hwy. Rte. 101 to Las Posas Rd.	1.38
D. Las Posas Road	State Hwy. Rte. 101 to State Hwy. Rte. 34	4.14
E. Central Avenue	Vineyard Ave. to State Hwy. Rte. 101	3.74
F. Santa Clara Avenue	State Hwy. Rte. 101 to State Hwy. Rte. 118	2.82
G. Rice Avenue	State Hwy. Rte. 101 to State Hwy. Rte. 1	3.72
H. South Mountain Road	Willard Bridge to Bellevue Avenue	6.15
I. Guiberson Road	State Hwy. Rte. 23 to Torrey Rd.	6.79
J. Piru Canyon Road	Center St., north to end	7.45
K. Cochran Street	Rebecca St. to Stow St.	1.99
L. Erringer Road	Alamo St. to 100'S of Hamilton St.	2.08
M. Bradley Road	State Hwy. Rte. 118 to Balcom Canyon Rd.	4.56

N. Stockton Road	Balcom Canyon Rd. to Broadway Rd.	4.39
O. Broadway Road	Stockton Rd. to State Hwy. Rte. 23	1.11
P. Santa Ana Road	Casitas Pass Rd. to State Hwy. Rte. 150	5.69
Q. El Roblar Drive	State Hwy. Rte. 33 to Rice Road	0.97

These facilities appeared to be a representative cross section of the Ventura County road system. All roads are two lane and have structural sections consisting of varying thicknesses of asphaltic concrete or road-mixed surfacing over either oiled earth, native soil or an untreated aggregate base. Curbs and gutters are present on portions of roads C, D, K, L and Q.

Visual examination revealed that the surfacing on most roads was in fair to good condition with varying degrees of distress. Several, however, showed signs of instability in the form of rutting.

A tabulation of deflection measurements and visual observations for each test section is presented by Table I.

#### RECOMMENDATIONS

The reconstruction recommended for the various roads would be considered adequate to restore a comparable State facility to a condition sufficient to render service-free maintenance for an extended period of time under a given traffic volume. In arriving at the proposed corrective treatment, consideration was given to visual appearance, Traffic Index, and continuity of structural section as well as level of transient deflection.

For the roads in question, the 80 percentile deflection levels fell into two general groupings. For the lower group, (0.011" to 0.059"), either a double screening seal coat or a thin open or dense graded asphaltic concrete blanket is possibly the most practical and economical method of relieving pavement distress and improving roadway appearance. The seal coat treatment is recommended for sealing and obscuring existing distress, whereas the thin open graded asphaltic concrete blanket repair is recommended for restoring riding quality or preventing reflection type cracking. Where thin blankets are recommended, however, isolated areas of severe distress should be subject to local

digout repair. This should consist of scarifying and removing existing material in these areas to a depth of 0.67' and replacing it with 0.50' of Class 2 aggregate base and 0.17' of dense graded asphaltic concrete.

For those roads with evaluated deflection levels in excess of 0.059" a more extensive corrective treatment is indicated. Where curbs and gutters do not impose vertical controls, corrective treatment should consist of overlaying the existing surfacing with a variable thickness of Class 2 aggregate base and surfacing with 0.17' or 0.25' of asphaltic concrete. The aggregate base should be "daylighted" through the entire structural section in order to prevent an unsatisfactory drainage condition. On roadways where cracking is continuous and has progressed to the point where the existing surfacing can be expected to act independently of any blanket, i.e., as an aggregate base rather than an integral part of the new surfacing, the placement of an asphaltic concrete contact blanket becomes practical since significant reductions in deflection can be effected without accompanying loss of flexibility.

The aforementioned recommendations provide for full utilization of the residual strength of the existing roadway. This type of repair is without exception the most economical since it has been our experience that even a badly cracked pavement retains a good deal of residual strength which should be incorporated into the reconstruction if possible. Where vertical controls exist and deflection levels indicate the need for a major repair, a digout is necessary. For this investigation a digout repair was found to be necessary on only a portion of one roadway. Here, it was considered desirable to maintain flexibility and thus a higher tolerable deflection by replacing the existing material with aggregate base, subbase and asphaltic concrete surfacing.

The following are specific recommendations for the various roads subject to this deflection study:

A. Rolling Oaks Drive

From State Highway Route 101 to Sundown Road.  
(Test Section A-1). Overlay existing surfacing with 0.67' of Class 2 aggregate base and 0.17' asphaltic concrete.

B. Calle Yucca

From Calle Corta to State Highway Route 101.  
(Test Section B-1 and B-2). Place 0.17' asphaltic concrete blanket. Prior to this treatment, the areas of severe distress should be subject to a local digout repair. This would consist of scarifying and removing the existing material in this area to a depth of 0.67'. This would be followed by the placement of 0.67' of Class 2 aggregate base to conform with original grade, followed by the 0.17' asphaltic concrete blanket.

C. Arneill Road

From Las Posas Road to Ponderosa Street.  
(Test Section C-1 and C-2). No corrective treatment.  
From Ponderosa Street to State Highway Route 101  
(Test Section C-3). No corrective treatment.

D. Las Posas Road

From State Highway Route 101 to State Highway Route 34.  
(Test Sections D-1 to D-6). Place a 0.05' open graded asphaltic  
concrete blanket.

E. Central Avenue

From Vineyard Avenue to Santa Clara Avenue.  
(Test Section E-1). Place double screening seal coat.

From Santa Clara Avenue to State Highway Route 101.  
(Test Sections E-2 and E-3). Overlay existing surfacing with  
0.17' asphaltic concrete.

F. Santa Clara Avenue.

From State Highway Route 101 to State Highway Route  
118. (Test Sections F-1 to F-3). Place 0.17' asphaltic concrete  
blanket.

G. Rice Avenue

From State Highway Route 101 to Pleasant Valley Road.  
(Test Sections G-1 to G-3). Place 0.25' asphaltic concrete blanket.

H. South Mountain Road

From Willard Bridge to 4.7 miles east.  
(Test Section H-1 and H-2). Place an 0.08' dense graded asphaltic  
concrete blanket.

From 4.7 miles east of Willard Bridge to Bellevue  
Avenue. (Test Sections H-3 to H-5). No corrective treatment.

I. Guiberson Road.

From State Highway Route 23 to 4.15 miles east.  
(Test Section I-1 to I-3). Place an 0.08' dense graded asphaltic  
concrete blanket.

From 4.15 miles east of State Highway Route 23 to  
Torrey Road (Test Section I-4). Place 0.17' asphaltic concrete  
blanket.

J. Piru Canyon Road

From Center Street to 6.0 miles north.  
(Test Sections J-1 to J-3). Place a 0.05' open graded asphaltic  
concrete blanket.

From 6.0 miles north of Center Street, north to end  
of pavement. (Test Sections J-4 and J-5). Place 0.17' asphaltic  
concrete blanket.

K. Cochran Street

From Rebecca Street to Tapo Street.  
(Test Section K-1). Place an 0.08' dense graded asphaltic concrete blanket.

From Tapo Street to Stearns Street.  
(Test Section K-2). No corrective treatment.

From Stearns Street to Stow Street.  
(Test Section K-3). Place either a 0.05' open graded asphaltic concrete blanket or a double screening seal coat.

L. Erringer Road

From Alamo Street to State Highway Route 118.  
(Test Section L-1). Overlay the existing surfacing with 0.33' of Class 2 aggregate base and 0.20' asphaltic concrete.

From State Highway Route 118 to Arcane Street.  
(Test Sections L-2 to L-4). Place a 0.17' asphaltic concrete blanket.

From Arcane Street to 100' south of Hamilton Street.  
(Test Section L-5). Place either a 0.05' open graded asphaltic concrete blanket or a double screening seal coat.

M. Bradley Road

From State Highway Route 118 to Berylwood Road.  
(Test Section M-1). Place 0.17' asphaltic concrete blanket.

From Berylwood Road to 2.25 miles north of State Highway Route 118 (Test Section M-2). Overlay existing surfacing with 0.33' of Class 2 aggregate base and 0.21' asphaltic concrete.

From 2.25 miles north of State Highway Route 118 to Balcom Canyon Road. (Test Section M-3). Place 0.17' asphaltic concrete blanket.

N. Stockton Road

From Balcom Canyon Road to 1.35 miles east.  
(Test Section N-1). Place 0.17' asphaltic concrete blanket.

From 1.35 miles east of Balcom Canyon Road to Broadway Road. (Test Sections N-2 and N-3). Overlay existing surfacing with 0.67' of Class 2 aggregate base and 0.17' asphaltic concrete.

O. Broadway Road

From Stockton Road to State Highway Route 23.  
(Test Section O-1). No corrective treatment.

P. Santa Ana Road

From Casitas Pass Road to 1.0 miles north.  
(Test Section P-1) No corrective treatment.

From 1.0 miles north of Casitas Pass Road to State Highway Route 150. (Test Sections P-2 to P-5). Place 0.17' asphaltic concrete blanket.

Q. El Roblar Drive

From State Highway Route 33 to Rice Road. (Test Sections Q-1 and Q-2). Place either a 0.05' asphaltic concrete blanket or a double screening seal coat.

The evaluated deflection levels for the section between State Highway Route 33 and Lomita Avenue are in excess of existing criteria for a 3-1/2" AC at a T. I. of 7.0 (0.025"). Because this facility is in relatively good condition with only isolated or intermittent cracking, full corrective treatment of the existing condition is not recommended at this time, particularly since the existence of curbs and gutters place some restriction on the method of corrective treatment. The application of the aforementioned surface treatment should seal off the surface and retard future distress. At the time when a major repair is anticipated for this facility, additional deflection measurements should be made since a continued application of traffic may significantly change the level of deflection and, thus, the degree of required reconstruction.

These recommendations are consistent with and derived from experience gained by past deflection studies.

ANALYSIS OF DATA

The criteria utilized for evaluation of pavement deflections originated as the result of a comprehensive deflection study which was made throughout the State. The results of this work suggested limits of the maximum tolerable deflection to preclude "fatigue" cracking during the design life of the pavement. These limits, which vary in accordance with the type of structural section, are as follows and were based on a Traffic Index of 9+:

Thickness	Type of Pavement	Maximum Deflection for Design Purposes (Tentative)
6 in.	Cement Treated Base (Surfaced with Bit. Pavement)	0.012"
4 in.	Asphalt Concrete on Gravel Base	0.017"
3 in.	Asphalt Concrete on Gravel Base	0.020"
2 in.	Asphalt Concrete on Gravel Base	0.025"

At the present time, limiting values are adjusted for low TI pavements, utilizing data obtained from asphalt fatigue studies made by this department.

The evaluated deflection level (Table I) is the 80 percentile value for each deflection measurement taken in a given section. This value is used as the basis for design since it reflects the deflection characteristics of the roadway as a whole rather than isolating possible causes of distress indicated by averages through cut, fill, cracked or uncracked sections.

The Traffic Index values used for design purposes in this study are shown in Table I. These values were obtained from the County of Ventura.

TABLE I

DEFLECTION TEST DATA

VENTURA COUNTY

Road and Test Section	Existing Structural Section	T. I.	Deflection (Inches)		Appearance
			IWT	Mean OWT (80% level)	
A- Rolling Oak Drive	1-1/2" AC	5.5	0.063"	0.035"	Rutting, small "alligator" cracking and intermittent patches.
A-1) L-shaped headwall, 0.2 Mi. from Hwy. 101 to 350' S. (SBL)	over native soil			0.107" (25)**	
B- Calle Yucca	"	5.0	0.036"	0.052"	Intermittent patches and some "alligator" cracking near the shoulders.
B-1) 1/2 Morelia Court to 400' S. (SBL)				0.076" (28)	
B-2) 1/2 Calle Laredo to 400' S (SBL)	"	"	0.032"	0.046"	Same as above with some rutting.
				0.061" (30)	
C- Arneill Road	"	7.0	0.017"	0.021"	Good condition
C-1) 1/2 Rocklyn St. to 500' S. (SBL)				0.025" (33)	
C-2) 1/2 Dunning St. to 400' S. on widened area. (SBL)	"	"	0.022"	0.022"	" "
				0.024" (28)	
C-3) 1/2 Berry St. to 400' S. (SBL)	"	"	0.023"	0.022"	Good condition with isolated patches.
				0.034" (28)**	

TABLE I (continued)

DEFLECTION TEST DATA

VENTURA COUNTY

Road and Test Section	Existing Structural Section	T.I.	Deflection (Inches)		Appearance	
			TWT	Mean Evaluated* (80% levcl)		
D- Las Posas Road D-1) 100' N. of Pickering St. to 700' N. (NBL)	1-1/2" RMS over native soil	7.6	0.017"	0.022"	0.029" (42)	Random "map", transverse and small "alligator" cracking.
D-2) $\phi$ Calle La Cumbre to 500' E. (EBL)	"	"	0.020"	0.018"	0.023" (25)	"
D-3) Episcopal Church sign on left to 300' E. on widened area (EBL)	"	"	0.019"	0.016"	0.021" (22)	Good condition
D-4) $\phi$ Glenbrook St. to 550' E. (EBL)	"	"	0.019"	0.023"	0.026" (40)	Intermittent "alligator and "map" cracking in both lanes.
D-5) $\phi$ Temple Ave. to 700' E. (EBL)	"	"	0.016"	0.020"	0.025" (46)	"Map" and transverse cracking in the OWT and a thin AC blanket covers the rest of the lane.
D-6) $\phi$ Antonio Ave. to 500' E. (EBL)	"	"	0.028"	0.030"	0.037" (37)	Generally good condition with inter- mittent "map" and transverse cracking.

TABLE I (continued)

DEFLECTION TEST DATA

VENTURA COUNTY

Road and Test Section	Existing Structural Section	T.I.	TWI	OWI	Deflection (Inches)		Appearance
					Mean	Reevaluated* (80% level)	
E- Central Avenue E-1) 1/2 Rose Ave to 800' N. (NBL)	2" AC over native soil	8.0	0.017"	0.019"	0.023" (57)**		Good condition with isolated cracking.
E-2) 0.1 Mi. S. of Santa Clara Ave. to 700' S. (SBL)	"	"	0.032"	0.057"	0.071" (51)		Intermittent small "alligator" cracking with patches.
E-3) Telephone Pole #11303 to 500'S. (SBL)	"	"	0.028"	0.047"	0.065" (36)		" "
F- Santa Clara Avenue F-1) 0.05 Mi. N. of Hwy. 101 to 600' N. (NBL)	2" AC 6" AB	8.0	0.015"	0.025"	0.032" (42)		Isolated transverse and small "alligator" cracking in the OWT.
F-2) 1.75 Mi. N. of Hwy. 101 to 700' N. (NBL)	"	"	0.032"	0.021"	0.041" (48)		Intermittent to continuous small "alligator" cracking i both wheel tracks.
F-3) Culvert Marker #5048-0.35 to 650' N. (NBL)	"	"	0.014"	0.019"	0.021" (44)		Generally good condition with isolated "alligator" cracking.

TABLE I (continued)

DEFLECTION TEST DATA

VENTURA COUNTY

Road and Test Section	Existing Structural Section	T. I.	Deflection (Inches)		Appearance	
			Mean	Evaluated* (80% level)		
G- Rice Avenue G-1) 1/2 Sturgis Rd. to 700' S. (SBL)	2" AC over oiled earth	7.0	0.049"	0.042"	0.059" (50)**	Intermittent areas of small "alligator" cracking and patches. Some rutting and corrugations.
G-2) 0.15 Mi. N. of Pleasant Valley Rd. to 700' N. (NBL)	"	"	0.037"	0.046"	0.051 (49)	Intermittent small "alligator" cracking and a few patched and spalled areas.
G-3) 300' N. of Wooley Rd. to 1050' N. of Wooley Rd. (NBL)	"	"	0.028"	0.040"	0.059" (52)	" "
H- South Mountain Road H-1) 100' E. of S. Mountain Lemon Dr. to 600' E. (EBL)	3" AC over native soil	5.5	0.011"	0.018"	0.020" (34)	Random "map", longitudinal and isolated "alligator" cracking.
H-2) 1.2 Mi. E. of Willard Bridge to 400' E. (EBL)	"	"	0.008"	0.009"	0.011" (28)	Isolated patches and "map" cracking.
H-3) 3.05 Mi. E. of Willard Bridge to 800' E. (EBL)	"	"	0.025"	0.022"	0.032" (54)	Good condition.

TABLE I (continued)

DEFLECTION TEST DATA

VENTURA COUNTY

Road and Test Section	Existing Structural Section	T. I.	Deflection (Inches)		Appearance	
			IMT	Mean OWT Evaluated* (80% level)		
H-4) 4.8 MI. E. of Willard Bridge to 400' E. (EBL)	3" AC over native soil	5.5	0.010"	0.013"	0.014" (28)**	Good condition
H-5) 5.55 MI. E. of Willard Bridge to 500' E. (EBL)	"	"	0.017"	0.020"	0.021" (37)	"
I- Guiberson Road	3" AC over native soil	5.5	0.015"	0.020"	0.023" (50)	Good condition with isolated patches and small "alligator" cracking.
I-1) 0.1 MI. E. of Hwy. 23 to 700' E. (EBL)	"	"	0.012"	0.015"	0.021" (33)	"
I-2) 1.5 MI. E. of Hwy. 23 to 500' E. (EBL)	"	"	0.012"	0.022"	0.026" (50)	Good condition with isolated longitudinal cracking.
I-3) 100' E. of Telephone Pole #385845 E. to 800' E. (EBL)	"	"	0.032"	0.042"	0.048" (38)	Good condition with isolated longitudinal and "alligator" cracking.
I-4) 4.95 MI. E. of Hwy. 23 to 550' E. (EBL)	"	5.5	0.029"	0.039"	0.052" (34)	Generally good condition with isolated patches.
J- Piru Canyon Road	3" AC over ciled earth					
J-1) 1/2 Orchard St. to 500' N. (NBL)						

TABLE I (continued)  
DEFLECTION TEST DATA

VENTURA COUNTY

Road and Test Section	Existing Structural Section	T.I.	Deflection (Inches)		Appearance	
			TWT	mean OWT		
J-2) 1.35 Mi. N. of Center St. to 600' N. (NBL)	3" AC over oiled earth	5.5	0.020"	0.032"	0.037" (35)**	Generally good condition with isolated to intermittent "map" and transverse cracking.
J-3) Culvert Marker #4033-3.75 to 400' N. (NBL)	"	"	0.013"	0.022"	0.024" (30)	Generally good condition with isolated distress.
J-4) Mile Marker 40.22 to 350' N. (NBL)	"	"	0.047"	0.051"	0.057" (24)	Intermittent longitudinal cracking in both wheel tracks.
J-5) 7.1 Mi. N. of Center St. to 150' N. (NBL)	"	"	0.025"	-----	0.083" (3)	"Alligator" cracking in both wheel tracks and light rutting with corrugations. Pavement deformed during deflection measurements.
K- Cochran Street K-1) 650' W. of Winifred St. to Winifred St. over native soil (EBL)	1-1/2" AC	7.0	0.024"	0.024"	0.034" (47)	Generally good condition with isolated "map" and "alligator" cracking.
K-2) 4 Workman Ave. to 400' E. (widened area)	3" AC over native soil	"	0.030"	0.029"	0.045" (29)	Good condition
K-3) 600' W. of Stearns St. to 300' E. of Stearns St. (EBL)	"	"	0.017"	0.019"	0.025" (61)	Generally good condition with isolated small "alligator" cracking.

TABLE I (continued)

## DEFLECTION TEST DATA

## VENTURA COUNTY

Road and Test Section	Existing Structural Section	T.I.	Deflection (Inches)		Appearance	
			IWI	Mean GWI (80% levcl)		
L-Erringer Road L-1) Bracket Cochran St. 400' each way (SBL)	1" RMS over native soil	7.0	0.022"	0.047"	0.073" (52)**	Random transverse and longitudinal cracking near the shoulder.
L-2) ∅ Patricia Ave. to 500' S. (SBL)	2" AC over native soil	7.0	0.032"	0.037"	0.041" (33)	Intermittent to continuous "block" cracking with patches.
L-3) ∅ Kearney Ave. to 400' S. (SBL)	"	"	0.051"	0.037"	0.063" (29)	Intermittent "alligator" and "map" cracking in NBL. Patches in SBL.
L-4) ∅ Kearney Ave. to 400' S. (in widened area)	"	"	0.037"	0.022"	0.046" (32)	Generally good condition with isolated distress.
L-5) ∅ Arcane St. to 400' S. (SBL)	"	"	0.020"	0.030"	0.035" (28)	" "
M- Bradley Road M-1) Bridge A213 to 800' N. (NBL)	2" AC over native soil	7.0	0.018"	0.048"	0.059" (56)	Good condition with isolated longitudinal cracking near the shoulder.
M-2) 1.95 Mi. N. of Hwy. 118 to 700' N. (NBL)	"	"	0.039"	0.061"	0.070" (49)	Generally good condition with isolated fine longitudinal, "map" and small "alligator" cracking.

TABLE I (continued)

DEFLECTION TEST DATA

VENTURA COUNTY

Road and Test Section	Existing Structural Section	T I.	Deflection (Inches)		Appearance	
			Mean	Evaluated* (80% level)		
M-3) Culvert Marker #2020-4.25 to 700' N. (NBL)	1-2" RMS over native soil	7.0	0.024"	0.044"	0.053" (46)**	Generally good condition with isolate "block" and shrinkage cracks (chip seal)
N- Stockton Road N-1) 0.05 MI. E. of Balcom Canyon Rd. to 800' E. (EBL)	2" RMS over native soil	"	0.021"	0.034"	0.045" (56)	Generally good condition with isolate short, fine transverse cracks.
N-2) 1.55 MI. E. of Balcom Canyon Rd. to 800' E. (EBL)	"	"	0.047"	0.058"	0.071" (55)	Continuous "map" and "block" cracking reflecting through chip seal. Isolated spall.
N-3) 2.70 MI. E. of Balcom Canyon Rd. to 500' E. (EBL)	"	"	0.042"	0.064"	0.081" (30)	Generally good condition with isolate "block" cracking and patches at the shoulder
O- Broadway Road O-1) E. edge of Bridge #213 to 800' E. (EBL)	2" AC over native soil.	7.0	0.015"	0.018"	0.026" (56)**	Good condition
P- Santa Ana Road P-1) 0.3 MI. N. of Casitas Pass Rd. to 500' N. (NBL)	1-1/2 RMS over native soil	7.0	0.020"	0.032"	0.039" (35)	Good Condition
P-2) 1.2 MI. N. of Casitas Pass Rd. to 600' N. (NBL)	"	"	0.032"	0.041"	0.047" (37)	Isolated to intermittent patches and fine hair-line "map", "alligator and longitudinal crack

TABLE I (continued)  
DEFLECTION TEST DATA

VENTURA COUNTY

Road and Test Section	Existing Structural Section	T. I.	Deflection (Inches)		Appearance	
			IWT	Mean OWT (80% level)		
P-3) 2.65 Mi. N. of Casitas Pass Rd. to 500' N. (NBL)	1-1/2" RMS to native soil	7.0	0.021"	0.029"	0.041" (34)**	Isolated to intermittent patches and fine hair-line "map", "alligator" and longitudinal cracks
P-4) 4.0 Mi. N. to Casitas Pass Rd. to 500' N. (NBL)	2" AC 6" AB	"	0.022"	0.034"	0.041" (34)	Good condition with isolated longitudinal cracking.
P-5) 5.4 Mi. N. of Casitas Pass Rd. to 500' N. (NBL)	"	"	0.027"	0.044"	0.060" (31)	Intermittent "map", "alligator" and "block" cracking.
Q-1) El Roblar Drive 300' W. on Hwy 33 to 800' W. (WBL)	3-1/2" AC 6" AB	7.0	0.032"	0.041"	0.048" (35)	Generally good condition with isolated to intermittent "map" and longitudinal cracking.
Q-2) 4 Amnaz Ave. to 500' W. (WBL)	"	"	0.020"	0.018"	0.028" (34)	Generally good condition with isolated distress.

\* The deflection value at which 20% of the deflection measurements are higher and 80% are lower.

\*\* Number of individual deflection measurements.