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16. Abstract

The problem of excessive speed by motorists through small rural communities is not an isolated problem, but is generally a problem throughout the State. Lack of enforcement powers by small communities and our speed zone policy cause concern by local groups and often create conflicts of opinion with respect to an acceptable reduced speed zone. This study was conducted for the purpose of studying equipment which could be used to alert a passing motorist that his speed was greater than that posted.

Speed analysis equipment was installed. Speed measurements were made both before and after the equipment was turned on.

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SPEED REDUCTION IN RURAL COMMUNITIES

by

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State Department of Highways

and Public Transportation

Study No. 1-10-79-271

Research Report No. 271-1F

April 1983

The material contained in this report is experimental in nature and is published for informational purposes only. Any discrepancies with official views or policies of the DHT should be discussed with the appropriate Austin Division prior to implementation of the procedures or results.

Research Project 1-10-79-271 was approved and funded in August, 1978 for the purpose of studying equipment which could be used to alert a passing motorist that his speed was greater than that posted. The problem of excessive speed by motorists through small rural communities is not an isolated problem, but is generally a problem throughout the State. Lack of enforcement powers by small communities and our speed zone policy cause concern by local groups and often create conflicts of opinion with respect to an acceptable reduced speed zone.

The equipment purchase was called a "speed analysis system" and was manufactured by Sarasota Engineering Company, Inc. The equipment consisted of two loop detectors installed in series on the approach lanes and an electronic analysis device which converted the impulses from the loop detectors to speed. If the speed detected was over the threshold selected, the unit applied power to a relay for a selectable period of time-usually five seconds. Power through the relay contacts activated a signal flasher which flashed lights on a static sign which stated: "You Are Speeding When Flashing."

Two locations were chosen in District Eleven for trial application of the device. The locations selected for trial were US Highway 59 approaches to the City of Timpson and State Highway 19 south of Crockett. Equipment failure ultimately lead to the operation of the system in Timpson only.

The installation on US 59 in Timpson was completed and became operational on June 16, 1981. Several months of before data in the form of speed measurements and volume counts were made prior to the turn on; and speed and volume data were collected over a nine month period after the equipment was turned on.

The results of this study are summarized below and are shown on Figures 1, 2, 3, 4, and 5.

Figure 1 provides a view of the installation on US Highway 59 in Timpson and summarized study data. The results shown in the figure indicate that the system was not effective in reducing the 85 percentile speed or the average speed. The number of the vehicles traveling in

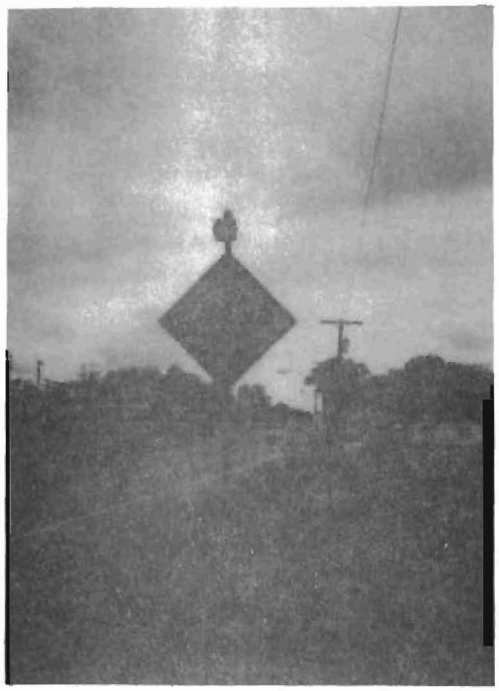
excess of 42 m.p.h., which was the threshold speed set in the unit, did show a reduction as is shown in Figures 2 and 4 when compared with the 85 percentile speed. When compared with the average daily traffic, as is shown in Figures 3 and 5 the number of vehicles under 42 m.p.h. tracks almost perfectly with the normal variations in total traffic.

It can be concluded that the system was not effective in the reduction of the speed of vehicles entering Timpson and had virtually little effect on motorists.

One trucker was overheard to say to another over his C.B. that the lights would flash continually, which is about what they did.

Based on the findings of this study we do not recommend the future installation of this type of device for speed control. This type equipment might, however, be of assistance in rare situations where a hazard such as a stop sign, or dangerous curve is obscured from view and speed is often a factor in the accident history. In this instance detection of his speed could be used to provide the motorist information that his speed was too high to safely stop or negotiate a curve.

Speed Analysis System
And Flasher Controller



Warning Sign And Flasher

S. H. DIV. 6	TEXAS		SHEET
Shelby COUNTY	US HWY. 59	CONT	

South Bound Traffic					
Before Turn - on			After Turn - on		
85% Speed	AVG Speed	# of Vehicles Over 42 mph	85% Speed	AVG Speed	# of Vehicles Over 42 mph
6-2-81 48 mph	42	63			
6-3-81 46 mph	41	34			
6-4-81 46 mph	40	37			
6-5-81 46 mph	42	44			
6-8-81 42 mph	40	40			
6-9-81 46 mph	40	36			
6-15-81			46 mph	41	33
9-21-81			46 mph	41	25

North Bound Traffic					
Before Turn-on			After Turn-on		
85% Speed	AVG Speed	# of Vehicles Over 42 mph	85% Speed	AVG Speed	# of Vehicles Over 42 mph
6-2-81 50 mph	44	63			
6-3-81 46 mph	41	35			
6-4-81 50 mph	39	57			
6-5-81 46 mph	42	49			
6-8-81 46 mph	40	39			
6-9-81 48 mph	43	52			
6-15-81			48	43	47
9-21-81			46	41	31

	Before Turn-on	After Turn-on
ADT	3382	2970
AVG. Violation	1039	1033

	Before Turn-on	After Turn-on
ADT	3523	3375
AVG Violation	2460	2488

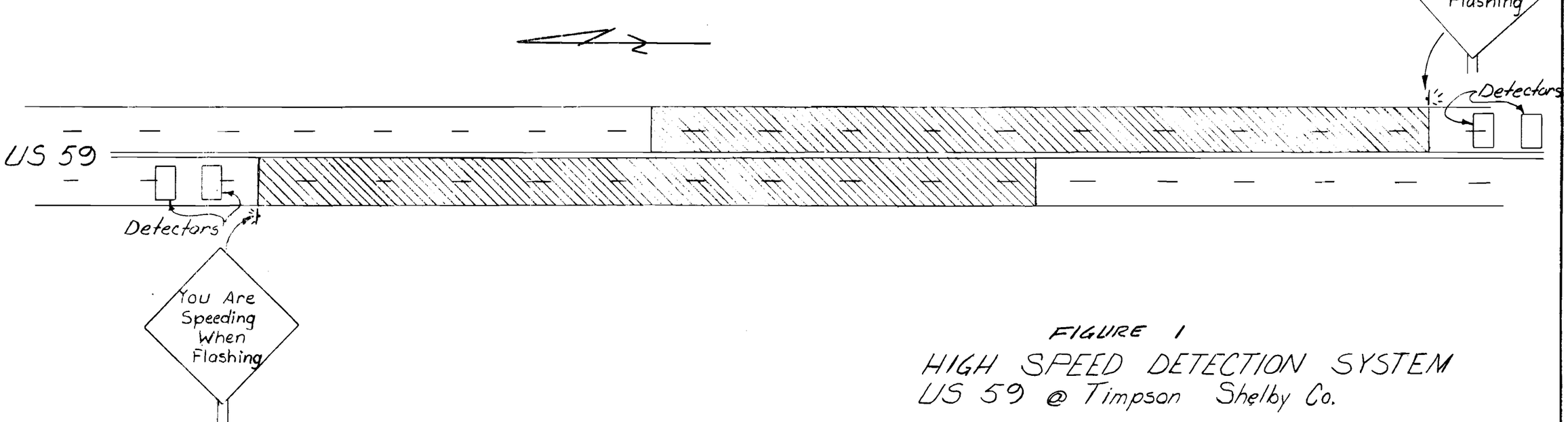
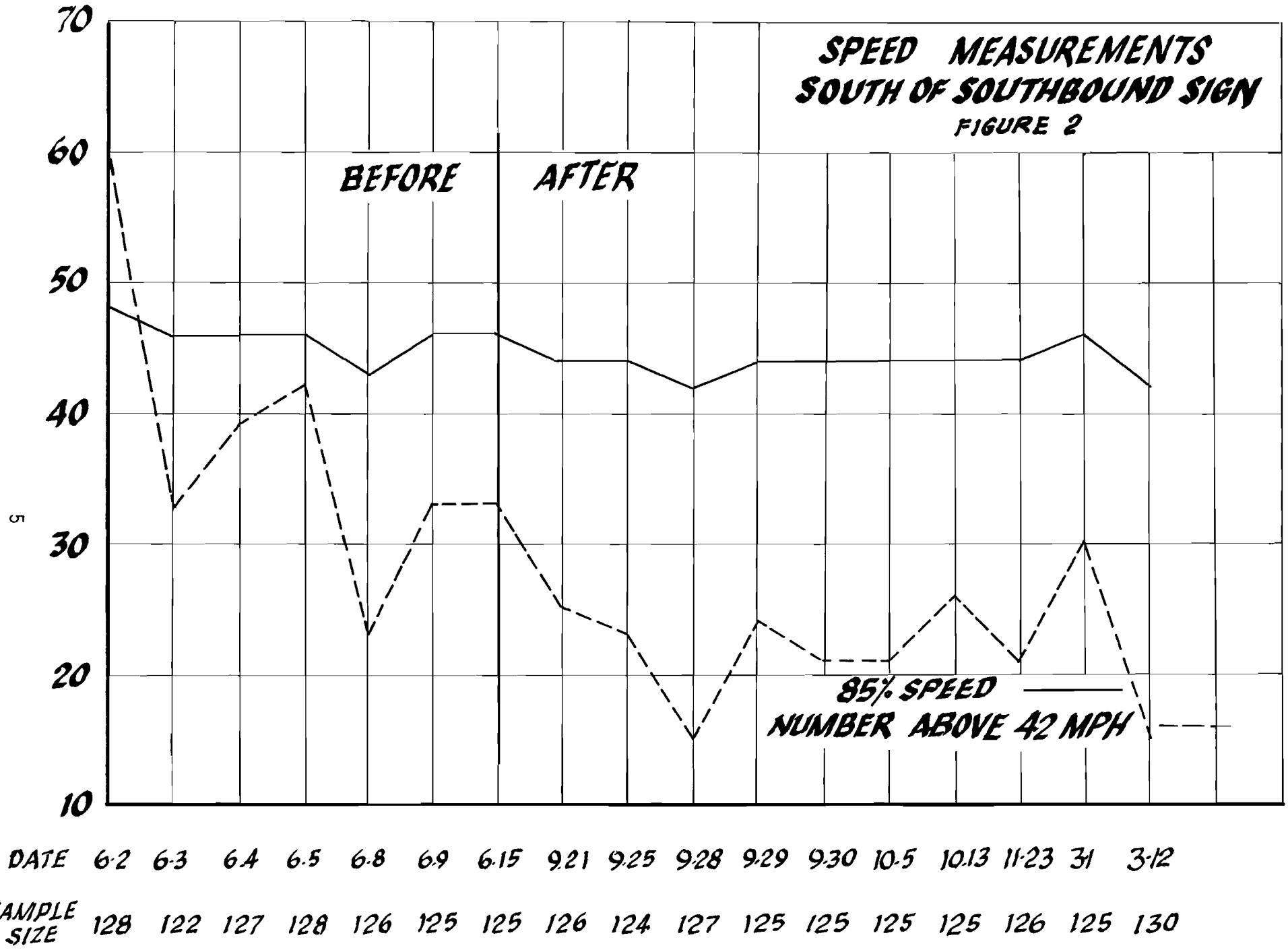
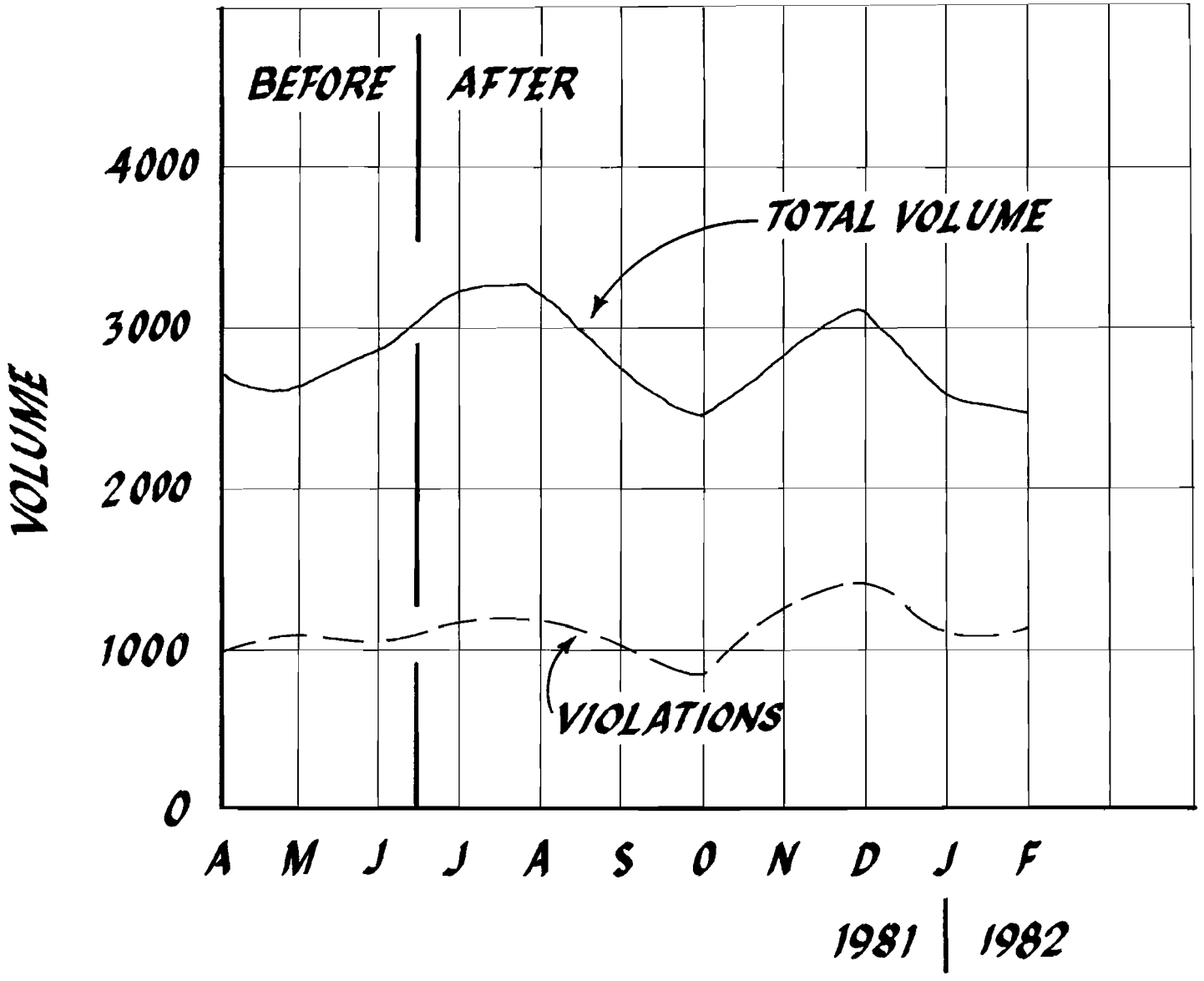


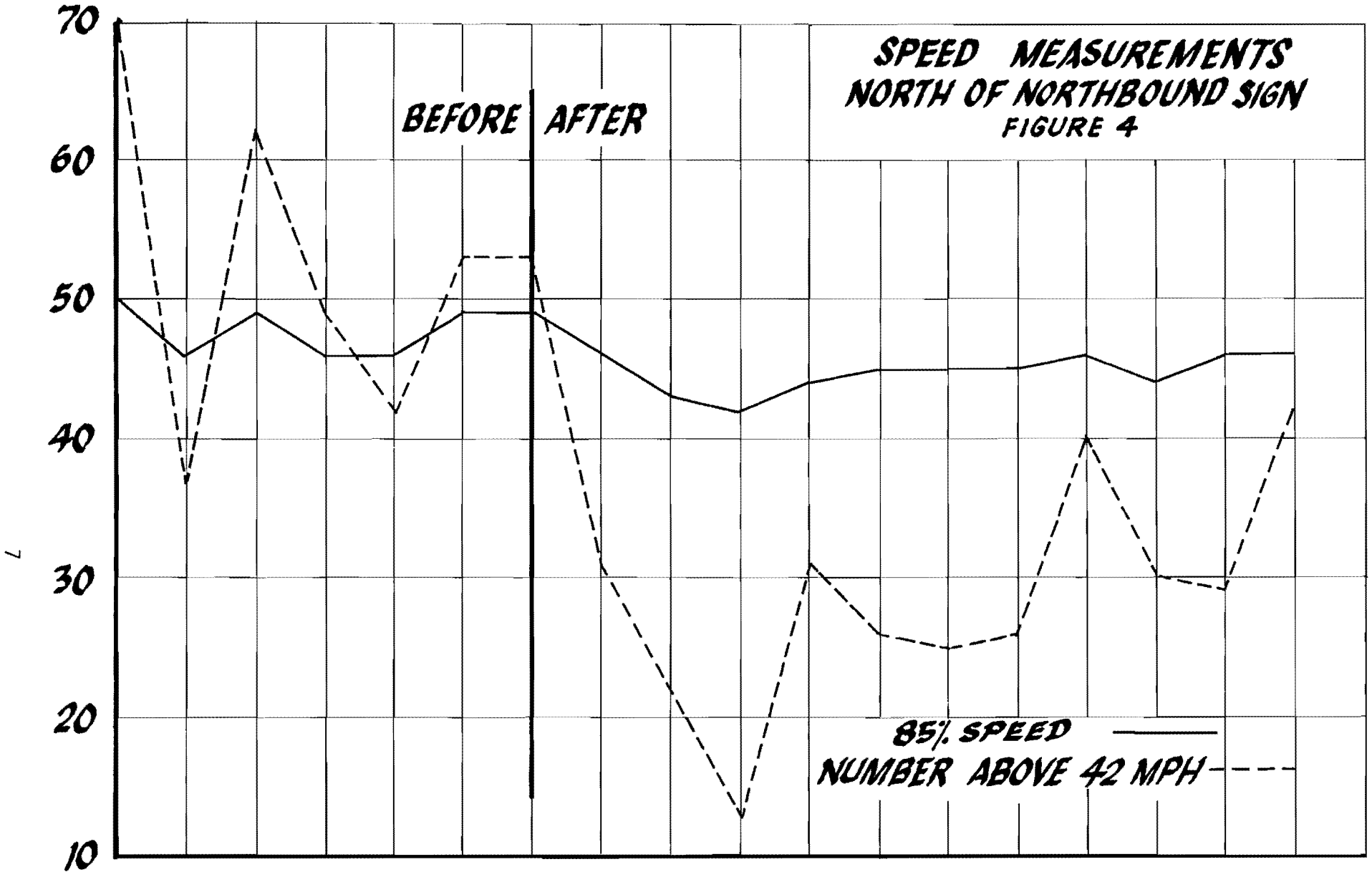
FIGURE 1
HIGH SPEED DETECTION SYSTEM
US 59 @ Timpson Shelby Co.


SPEED MEASUREMENTS
SOUTH OF SOUTHBOUND SIGN
FIGURE 2
BEFORE
AFTER
85% SPEED
NUMBER ABOVE 42 MPH
70
60
50
40
30
20
10
DATE 6-2 6-3 6-4 6-5 6-8 6-9 6-15 9-21 9-25 9-28 9-29 9-30 10-5 10-13 11-23 3-1 3-12
SAMPLE SIZE 128 122 127 128 126 125 125 126 124 127 125 125 125 125 126 125 130

U S 59
S B TIMPSON

FIGURE 3





DATE	6-2	6-3	6-4	6-5	6-8	6-9	6-15	9-21	9-25	9-28	9-29	9-30	10-5	10-13	10-19	11-23	3-1	3-12
SAMPLE SIZE	133	130	131	126	126	126	125	125	126	123	129	126	126	126	125	133	128	128

U S 59
N B TIMPSON
FIGURE 5