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A COMPARISON OF THE EFFECTS OF POSTED FEEDBACK AND INCREASED POLICE SURVEILLANCE ON HIGHWAY SPEEDING

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A counterbalanced, reversal design was used to compare the effectiveness of posted feedback and increased police surveillance in reducing speeding on two urban highways. Drivers' speeds were measured using a concealed radar unit. During public posting, a large highway sign, which listed the percentage of drivers not speeding during the preceding week and the best record to date, was erected on each street. Use of the feedback sign alternated with periods of baseline and periods of increased police surveillance and ticketing. During increased police surveillance, highly visible, stationary police radar patrols were established along the highways for either 30 min or 60 min per day, 5 days per week. Results indicated that although public posting was highly effective in reducing the percentage of speeding drivers, increased police surveillance was not. Thus, since the feedback sign required only 30 min per week to maintain, public posting was at least 10 times more efficient in controlling speeding than was police surveillance and ticketing.

DESCRIPTORS: public posting, speeding behavior, driving speed, feedback, highways, police procedures, driving behavior, ticketing

Speeding on the highways is one of the most common problems confronting police today, and the predominant method of dealing with it involves strict enforcement of speed limits. However, a growing body of evidence suggests that strict enforcement is not effective in reducing speeding behavior (Carr, Schnelle, & Kirchner, 1980; Cirillo, 1968; Edwards & Brackett, 1978; Galizio, Jackson, & Steele, 1979). For example, Cirillo (1968) analyzed statistics from all over the United States and found that the level of enforcement in an area was unrelated to mean speed or accident rate. Edwards and Brackett (1978) reported results showing that traffic speed was unrelated to the frequency with which citations were issued, and Galizio et al. (1979) and Edwards and Brackett (1978) found that the presence of a marked car reduced drivers' speeds only while the vehicle was present.

A more recent study (Carr et al., 1980) examined the relationship between the number of citations written for moving violations and the frequency of traffic accidents. During one period examined in that study, the Nashville Police began a special project to increase enforcement of the 55 mph (88 km/h) speed limit on commuter highways leading into their city. Several months later the police began a work "slowdown" to support demands for salary increases. This slowdown led to a sharp curtailment of traffic enforcement. Carr et al. (1980) found that a 52% increase (above baseline) in the mean citation rate during the crackdown phase, and a decrease to 36% of the original baseline rate during the slowdown, had no effect on accidents, injury, property damage, or fatalities.

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However, Carr et al. did not conduct systematic samplings of vehicle speeds and thus did not show whether the changes in enforcement pattern actually influenced speeding behavior. Thus, it is not clear from their study whether the police were ineffective in reducing accidents because they did not reduce speeding or because speeding behavior was unrelated to accidents. Since several studies have reported a positive relationship between speeding and accident rate (Cirillo, 1968; Department of Scientific Research, Road Research Laboratory, 1963) and other studies have demonstrated that the presence of police vehicles only influences driving speed while the police are present, it is unlikely that the police in the Carr et al. (1980) study actually influenced speeding behavior.

In another recent study, Van Houten, Nau, and Marini (1980) reduced speeding behavior by posing the percentage of drivers not speeding during the preceding week, as well as the best record to date, on a large highway sign. A similar procedure has been employed by McNees, Egli, Marshall, Schnelle, and Risley (1976) in reducing shoplifting. However, Van Houten et al. (1980) tested their feedback technique along a highway where the speed limit decreased from 80 km/h to 50 km/h and where the surrounding area changed from sparsely settled to densely populated, residential. It is possible that such "transition zones" are highly sensitive to attempts to control speeding. This being the case, increased police surveillance might also be an effective means of controlling speeding in such zones, despite the lack of success associated with the use of such techniques in other types of surroundings. Therefore, the purpose of the present experiment was to compare public posting of performance feedback with increased levels of police surveillance on highway speeding behavior.

METHOD

Subjects and Setting

The subjects of this study were drivers entering Dartmouth, Nova Scotia, along either of two sections of public highway between 10:00 a.m. and 11:30 a.m. or between 2:00 p.m. and 3:30 p.m., Monday through Friday. Both sections of highway allowed limited vehicular access and led directly into residential areas of the city. Only traffic entering the city was studied.

Woodland Avenue was a four-lane divided highway with a speed of 80 km/h. However, at the crest of a hill, it narrowed to two undivided lanes with a speed limit of 50 km/h. Suburban residences faced both sides of the street inside the 50 km/h zone. This area was considered to be particularly dangerous because it conducted a great deal of pedestrian traffic and because a high proportion of drivers did not slow their vehicles to the 50 km/h limit until they reached a stop light 1.0 km inside the 50 km/h zone.

Portland Street was a four-lane undivided highway with a speed limit of 70 km/h. However, where Portland Street left the less densely settled outskirts of the city and entered a mixed business and residential area, this speed limit decreased to 50 km/h. The high frequency of cross traffic originating from side streets, combined with the failure of a high proportion of drivers to slow their vehicles for the 50 km/h zone made this residential area particularly dangerous.

Except where noted, the procedures described below were identical on both highways.

Apparatus

Vehicle speeds were measured using a Mark IV-A Radar Speedalyzer manufactured by the Stephenson Company. The radar antenna was concealed in a dark green garbage bag and placed inside a yellow litter can located at the side of the highway next to the inbound lane. On Woodland Avenue, this drum was permanently installed .35 km inside the beginning of the 50 km/h zone. On Portland Street, this drum was installed .25 km inside the beginning of the 50 km/h zone. The radar antenna was directed at oncoming traffic through a 22-cm wide by 18-cm high rectangular hole cut into the side of the drum. The radar metering unit

was located inside an automobile parked on a side street and out of view of approaching traffic. The antenna and metering unit were connected by means of a 30-m extension cable. More detailed information about the apparatus, as well as details of the procedures followed in determining apparatus reliability, is contained in Van Houten et al. (1980).

The feedback signs used here were essentially the same as the weekly feedback sign described by Van Houten et al. (1980). However, the signs used in the present study were made with reflective materials and were much larger, measuring 3.15 m long by 1.65 m high. Letters were 20.3 cm in height and the two types of feedback numbers were 20.4 cm high and 25.6 cm high. On both highways the signs were installed at the beginning of the 50 km/h speed limit zone, next to the first 50 km/h speed limit sign.

General Procedure

The speeds of vehicles were sampled twice daily on each highway, Monday through Friday. Morning sampling sessions always began sometime between 10:00 and 11:30 a.m. and afternoon sampling sessions always began sometime between 2:00 and 3:30 p.m. The exact time at which sampling began varied from day to day to make the sampling routine less predictable to the drivers. The speeds of 100 vehicles were sampled during each morning session, and an additional 100 vehicles were sampled during each afternoon session. Consequently, sampling sessions varied in duration, depending on the volume of traffic. In most cases, only 15 to 25 min were required to clock the 100 vehicles.

Twice during each condition a second, independent observer also recorded the speeds of vehicles in order to obtain estimates of interobserver agreement. Measures of interobserver agreement were calculated by dividing the number of agreed upon speeds by 200. These values were converted to percentages by multiplying them by 100. Interobserver agreement ranged from 98% to 100%.

A more detailed description of the radar monitoring procedure and the procedure followed in obtaining estimates of interobserver agreement are included in Van Houten et al. (1980).

Experimental Design

The study used a reversal design (Baer, Wolf, & Risley, 1968), with the order of experimental conditions counterbalanced across the two different streets. The sequence of conditions at Woodland Avenue was: Baseline 1, Weekly Posting 1, Baseline 2, Weekly Posting 2, Baseline 3, Police Radar Surveillance and Ticketing (30 min/day), Baseline 4, Weekly Posting 3, Baseline 5, Police Radar Surveillance and Ticketing (60 min/day), Baseline 6, Weekly Posting 4, Follow-up. The sequence of conditions at Portland Street was: Baseline 1, Police Radar Surveillance and Ticketing (30 min/day), Baseline 2, Weekly Posting 1, Baseline 3, Weekly Posting 2, Baseline 4, Police Radar Surveillance and Ticketing (60 min/day), Baseline 5, Weekly Posting 3, Follow-up. The procedures followed during the four major conditions (Baseline; Weekly Posting; Police Radar Surveillance and Ticketing, 30 min and 60 min/day) are described in detail below.

Baseline. During this condition, vehicle speeds were recorded according to the procedure outlined above and police patrolling and ticketing were carried out according to the normal police schedule. However, police radar patrolling never exceeded 1 h/wk during this condition and during many baseline periods there was no radar patrolling by police. During initial Baseline conditions the feedback sign was absent from the street. Once a sign was erected for weekly posting, it remained in place, and was covered with a large sheet of opaque green plastic during all subsequent Baseline conditions.

Weekly posting. During this condition, the sampling of vehicle speeds took place as during Baseline. However, during Weekly Posting sessions the feedback sign was present at the beginning of the 50 km/h speed limit zone. The sign indicated the percentage of drivers travel-

ing at 64 km/h or less during the preceding week ("Drivers Not Speeding Last Week") and the highest percentage yet recorded ("Best Record"). Although the speed limit was 50 km/h, 64 km/h was chosen as the cutoff point because local highway and police officials did not consider vehicles traveling less than 65 km/h to be significant threats to highway safety. Police patrolling procedures remained as during Baseline.

New weekly percentages were posted on the sign every Monday and represented the combined morning and afternoon results from one randomly chosen day during the preceding week.

Police radar surveillance and ticketing: 30 min/day. During this condition, the feedback sign was covered if present and daily radar sampling from the steel litter can continued as during Baseline. In addition, the Dartmouth Police Department established a stationary radar patrol on the road for 30 min each day. Police patrols were conducted at different, randomly chosen times each day during daylight hours. These patrols were operated from a marked police car parked on the road within one block of the litter can and in full view of all traffic entering the 50 km/h zone. The police constable on duty used a hand-held radar unit to monitor the speeds of inbound vehicles and delivered speeding citations according to normal Dartmouth Police procedures. Radar sampling for statistical purposes, using the hidden vehicle and steel litter can, was conducted only when the daily police radar patrol was absent. Statistical sampling was avoided when police patrols were present because the high visibility of these patrols tended to reduce drivers' speeds to below normal levels (see Galizio et al., 1979).

Police radar surveillance and ticketing: 60 min/day. This condition was conducted in the same manner as the police radar and ticketing: 30 min/day condition. However, police radar patrols were established for a total of 60 min each day rather than 30 min each day.

Follow-up. During this condition only one radar sample was taken each week on a randomly selected day.

Probe Sessions

Probe sessions were conducted at least once during each condition in order to determine whether the various techniques maintained their effectiveness throughout the entire day. Seven different samples consisting of 100 vehicles each were conducted during every probe session. Sampling was done at 2-h intervals, the first at 10:00 a.m. and the last at 10:00 p.m.

RESULTS

Woodland Avenue

The results obtained on Woodland Avenue are shown in Figure 1. The topmost curve in this figure represents the percentage of drivers traveling at or over 60 km/h. These values were calculated for each day of the study by dividing the number of drivers traveling at or over 60 km/h on that day by 200. Similar curves show the percentage of drivers traveling at or over 65 km/h and 70 km/h. Table 1 lists the change in the mean percentage of drivers within each speed category during each experimental condition. Changes were calculated in relation to the mean percentages obtained during the preceding baseline condition. Relative reductions are preceded by "—" and relative increases are preceded by "+."

Baseline 1. During the first baseline condition, an average of 6.2% of the drivers sampled were traveling 70 km/h or more. An average of 16% of drivers were traveling 65 km/h or

Table 1

Percentage reduction in speeding relative to baseline for each experimental condition: Woodland Avenue.

	Experimental Condition					
Speed	*Posting 1*	*Posting 2*	*30 min Radar*	*Posting 3*	*60 min Radar*	*Posting 4*
≧51	−11	− 8	+ 4	−13	+ 2	− 7
≧55	−22	−20	+ 6	−32	+ 4	−12
≧60	−35	−41	+23	−50	+ 4	−23
≧65	−44	−55	+12	−62	−12	−35
≧70	−47	−56	+ 1	−59	−32	−50

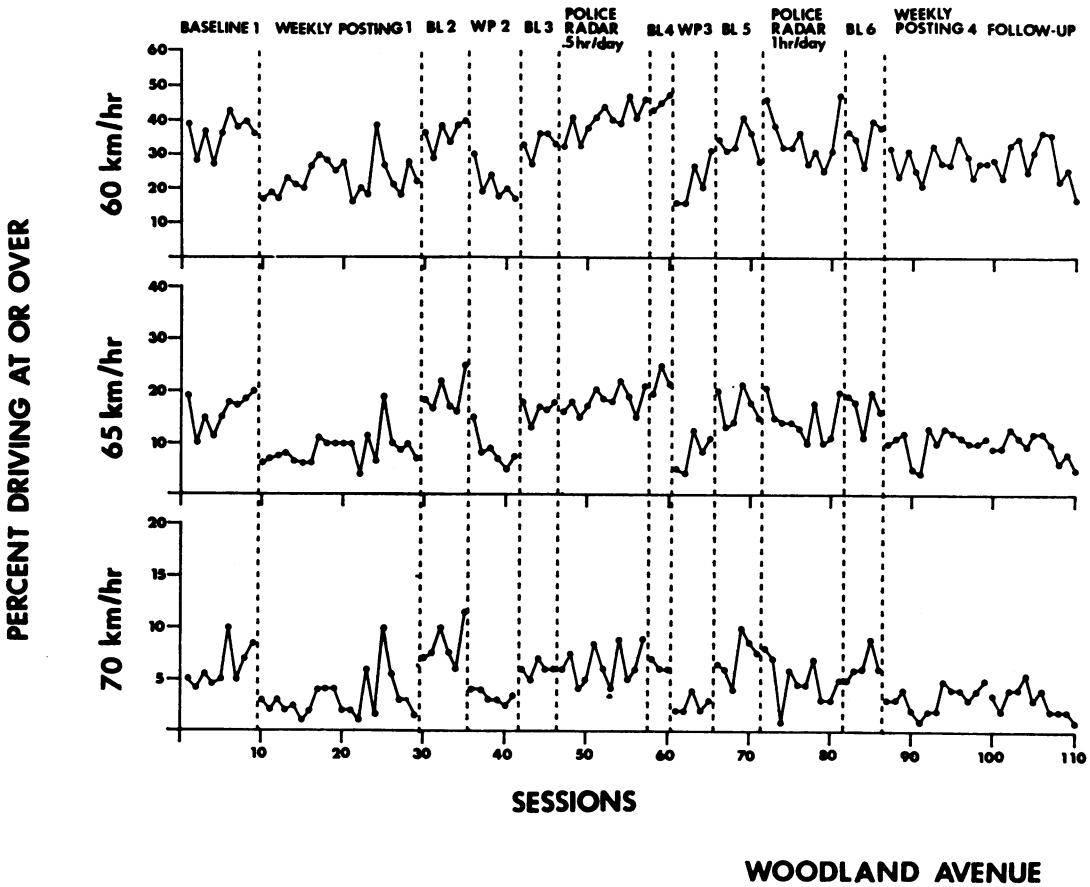

Fig. 1. The percentage of motorists traveling on Woodland Avenue at or over 70, 65, and 60 km/h during each daily session of each experimental condition.

more and an average of 36% of drivers were traveling 60 km/h or more. Drivers traveling 55 km/h or more and 51 km/h or more averaged 65.6% and 81.6%, respectively. There is some suggestion that these percentages increased as the baseline condition continued.

Weekly posting 1. Figure 1 shows that the erection of the feedback sign produced decreases in the percentages of drivers traveling in all speed categories. Table 1 shows that, relative to baseline levels, these decreases were greatest within the higher speed categories.

Baseline 2. Figure 1 and Table 1 show that, during this condition, the percentages of drivers traveling in each of the speed categories returned to their baseline 1 levels.

Weekly posting 2. Figure 1 and Table 1 show that weekly posting again produced a reduction in the percentage of drivers traveling within each speed category. There was no overlap between the results obtained during the weekly posting 2 and baseline 2 conditions for drivers traveling in the 70 km/h-and-over and the 65 km/h-and-over categories.

Baseline 3. Results obtained during this condition were comparable to the results obtained during the baseline 1 and baseline 2 conditions.

Police radar surveillance and ticketing: 30 min/day. During this condition, the percentages of drivers traveling within all of the speed categories did not decrease relative to baseline levels. Indeed, there is some indication of a slight increase in the percentage of speeders during this condition (see Figure 1 and Table 1).

Baseline 4. Figure 1 shows that percentages remained at the high levels established during the preceding police radar and ticketing condition, and thus were slighlty higher than during the preceding three baseline conditions.

Weekly posting 3. The percentages of drivers traveling within all of the speed categories decreased to levels established during the preceding weekly posting conditions (see Figure 1).

Baseline 5. Results obtained during this condition were comparable to those obtained during the baseline 1, 2, and 3 conditions.

Police radar surveillance and ticketing: 60 min/day. Figure 1 shows that the percentages of drivers traveling 70 km/h or more and 65 km/h or more fell slightly during this condition. However, Table 1 shows that the overall reductions obtained during this condition were not as great as the reductions obtained during the preceding weekly posting conditions. The percentages of drivers traveling within the 60 km/h-or-more, 55 km/h-or-more, and 51 km/h-or-more categories remained at baseline levels during this condition.

Baseline 6. During this condition, percentages returned to their previous baseline levels.

Weekly posting 4. During this condition the performance of drivers was comparable to performance during the preceding weekly posting conditions. However, unlike preceding posting conditions, there was little reduction in the percentage of drivers traveling 60 km/h or more.

Follow-up. During this condition the performance of drivers in all speed categories did not differ from the level established during the preceding weekly posting conditions.

Portland Street

The results obtained on Portland Street are illustrated in Figure 2. The format of this figure is the same as the format of Figure 1. Table 2 presents the percentage change in the means obtained during each experimental condition relative to the means obtained during the preceding baseline condition. Increases in the percentage of drivers within a speed category are symbolized by "+" and decreases are symbolized by "—."

Baseline 1. Figure 2 shows that day-to-day performance within all speed categories was stable throughout the baseline 1 condition. Police surveillance averaged about 30 min/wk during this condition.

Police radar surveillance and ticketing: 30 min/day. Figure 2 and Table 2 show that the percentages of drivers traveling within all of the speed categories during this condition were unchanged from baseline 1 levels. Daily performance remained stable throughout this condition.

Baseline 2. Performance during this condition was unchanged from performance during the preceding two conditions.

Weekly posting 1. Figure 1 shows that the percentages of drivers traveling within the three speed categories were reduced substantially during this condition. Within the 70 km/h-or-more, 65 km/h-or-more, and 60 km/h-or-more categories there was no overlap between the results obtained during this condition and the results obtained during the preceding baseline conditions. Table 2 shows that the greatest reductions were obtained in the percentages of drivers traveling within the highest speed categories.

Baseline 3. Performance during this condition returned to earlier baseline levels.

Weekly posting 2. Performance during this condition was comparable to performance during the first weekly posting condition.

Baseline 4. During this condition, perfor-

Table 2

Percentage reduction in speeding relative to baseline for each experimental condition: Portland Street.

	Experimental Condition				
Speed	*30 min Radar*	*Posting 1*	*Posting 2*	*60 min Radar*	*Posting 3*
≧51	−2	− 5	− 6	+ 1	− 7
≧55	−6	−15	−18	+ 5	−11
≧60	−5	−31	−35	+ 8	−26
≧65	−5	−39	−38	− 5	−37
≧70	−4	−51	−36	+14	−42

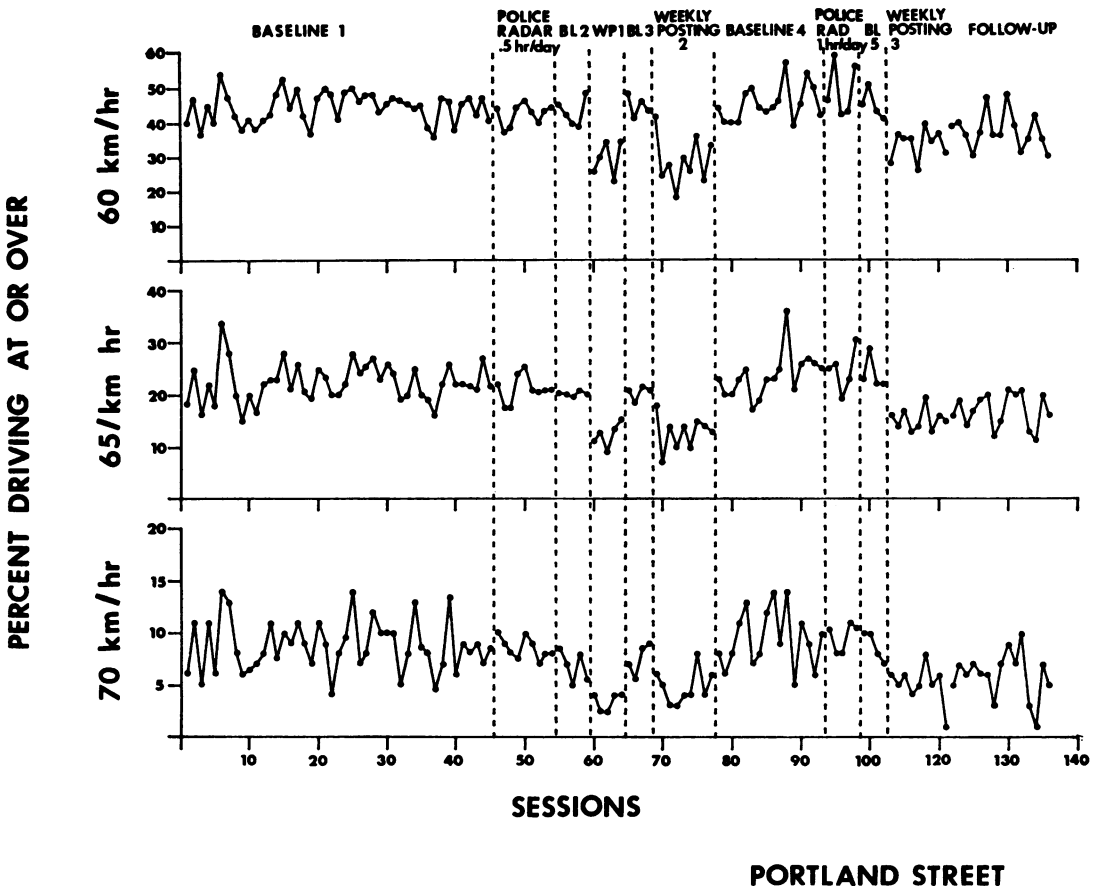

Fig. 2. The percentage of motorists traveling on Portland Street at or over 70, 65, and 60 km/h during each daily session of each experimental condition.

mance again returned to earlier baseline levels.

Police radar surveillance and ticketing: 60 min/day. During this condition, the percentages of drivers traveling within all of the speed categories remained unchanged relative to previous baseline levels (see Figure 2). The results presented in Table 2 show that the mean percentage of drivers actually increased slightly within most speed categories.

Baseline 5. Performance during this condition was comparable to performance during the preceding baseline conditions.

Weekly posting 3. Performance during this condition was comparable to performance during the preceding weekly posting conditions. However, as on Woodland Avenue, there was little reduction in the percentage of drivers traveling 60 km/h or more.

Follow-up. During this condition the percentage of drivers falling into each of the speed categories remained unchanged from the levels established during the preceding weekly posting conditions.

Speeding Citations

As expected, the number of speeding citations delivered on Woodland Avenue and Portland Street increased during the daily police radar surveillance and ticketing conditions. During baseline conditions on Woodland Avenue an average of only .08 drivers/day were stopped and ticketed. Similarly, an average of only .09 drivers/day were stopped and ticketed during the weekly posting conditions. This increased to an average of .36 drivers/day during police radar surveillance and ticketing: 30 min/day, and

1.93 drivers/day during police radar surveillance and ticketing: 60 min/day. A similar outcome was obtained on Portland Street. There an average of only .14 drivers/day were ticketed during baseline and an average of only .16 drivers/day were ticketed during weekly posting. This increased to 1.28 and .86 drivers/day during the police radar surveillance and ticketing: 30 min/day and 60 min/day conditions.

Traffic Accidents

To validate the effectiveness of the feedback sign further, a tally was made of all traffic accidents occurring on the two streets during the 10 months (January through October) immediately preceding the present study and during the same 10-month period following the erection of the feedback sign. Only accidents occurring within the 50 km/h zone and between the feedback sign and the first set of traffic lights were considered. Omitted from the tally were accidents in which all vehicles were outbound, and hence could not have passed the sign, and accidents occurring when the feedback sign was covered.

During the 10 months preceding the study, there were nine accidents on Woodland Avenue. During the same period in the following year, the number of accidents fell to four, a 55% reduction. When accidents did occur, they were less serious. Damage to vehicles amounted to $470 per accident during the period preceding the study and $350 per accident during the period following the erection of the sign, a 25% reduction. On Portland Street there were 20 traffic accidents during the 10 months preceding the study and only 14 during the 10 months following, a 30% reduction. Damage to vehicles during these periods decreased from $772 per accident to $412, a 47% reduction. During the period following the present study, the number of injuries resulting from traffic accidents on Portland Street was reduced by two-thirds.

Probe Sessions

Results obtained during the daylong probe sessions are presented in Figures 3 and 4. The first graph in Figure 3 represents the mean percentage of drivers traveling at 70 km/h or more during the seven sampling periods between 10:00 a.m. and 10:00 p.m. for probe sessions conducted during the baseline, weekly posting, and police radar conditions on Woodland Avenue. Means were calculated by summing the percentages obtained during the probes conducted during all replications of an experimental condition and dividing by the number of replications of that condition. Means for the police radar and ticketing condition represent the combined results of the police radar surveillance and ticketing: 30 min/day and the police radar surveillance and ticketing: 60 min/day conditions. Figure 3 also contains similar graphs of the mean percentage of drivers traveling 65 km/h or more and 60 km/h or more during the three different conditions. Figure 4 illustrates the results of probes conducted on Portland Street.

Woodland Avenue. Figure 3 confirms the earlier conclusion that the mean percentages of drivers traveling 70 km/h or more, 65 km/h or more, and 60 km/h or more were lower during the weekly posting conditions than during either the baseline or the police radar surveillance and ticketing conditions. Furthermore, the figure also shows that public posting maintained this relative superiority throughout the 12-h sampling period. There was little difference between the mean percentages obtained during baseline and the mean percentages obtained during police radar surveillance and ticketing.

During baseline and during police radar surveillance and ticketing, the mean percentage of drivers within each speed category was highest during the morning and early afternoon, declined with the onset of darkness at 6:00 and 8:00 p.m. and increased at 10:00 p.m. Mean percentages followed a similar course during the weekly posting conditions.

Portland Street. Figure 4 shows that the mean percentages of drivers traveling 70 km/h or more, 65 km/h or more, and 60 km/h or more were lowest during the weekly posting conditions throughout the 12-h sampling period. As

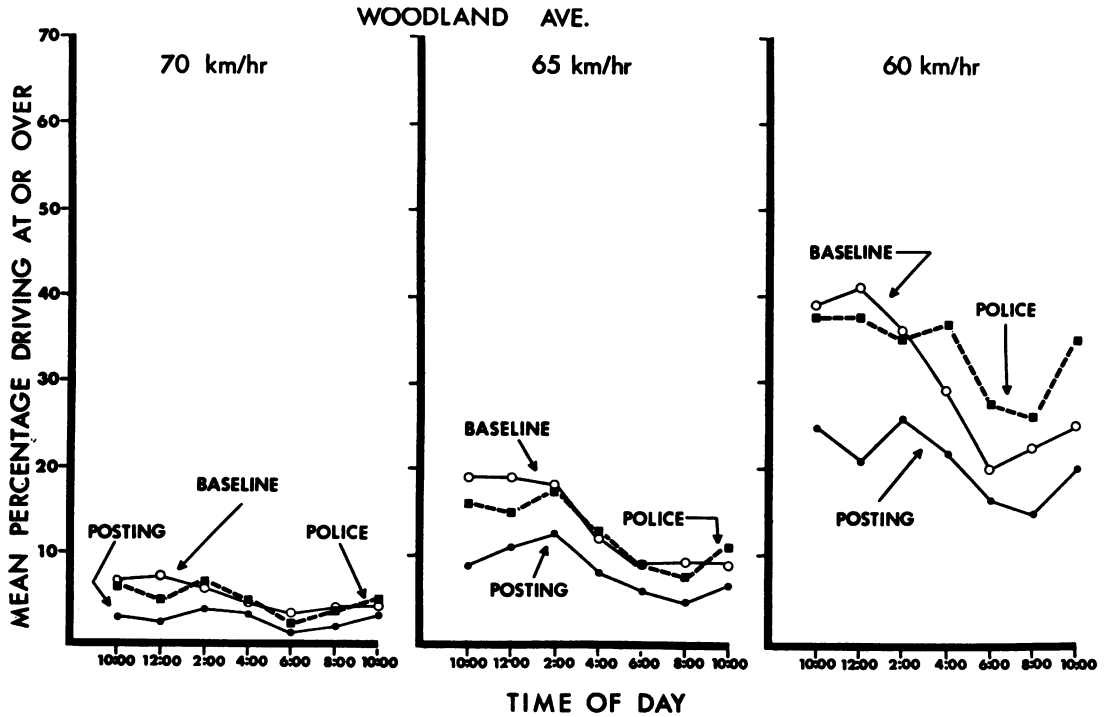

Fig. 3. The mean percentage of motorists traveling at or over 70, 65, and 60 km/h, sampled at 2-h intervals on randomly selected days during each condition; Woodland Avenue.

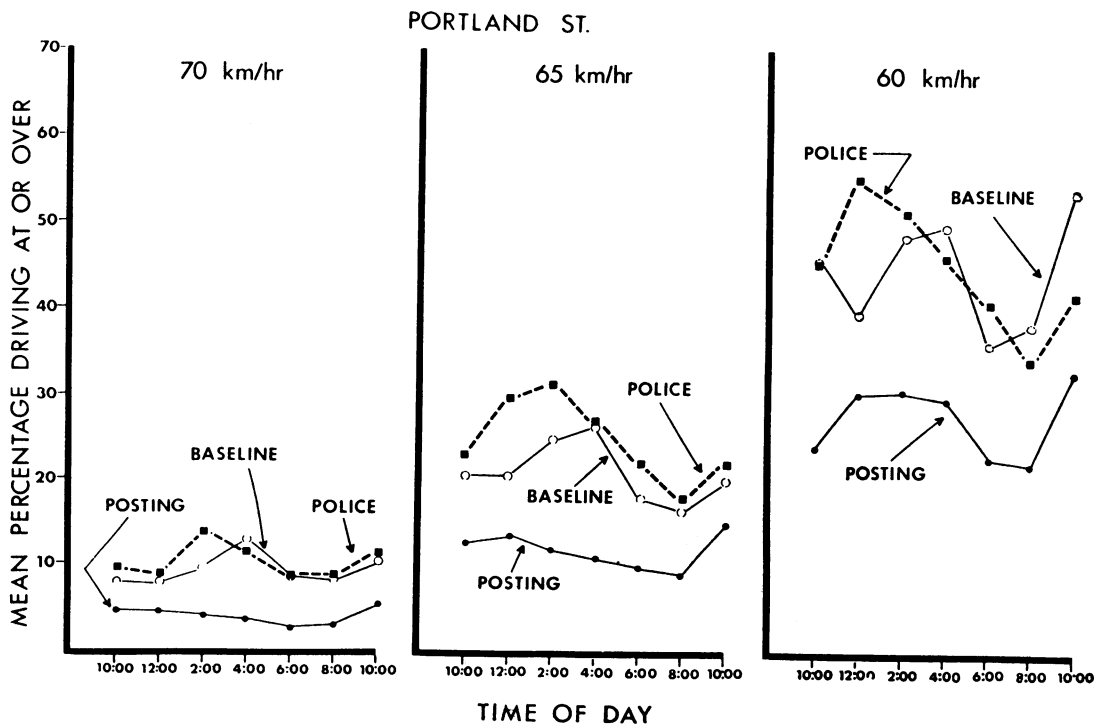

Fig. 4. The mean percentage of motorists traveling at or over 70, 65, and 60 km/h, sampled at 2-h intervals on randomly selected days during each condition; Portland Street.

on Woodland Avenue, there was little difference between results obtained during the baseline and during the police radar surveillance and ticketing conditions.

The mean percentage of drivers traveling within each speed category followed a daily pattern similar to the pattern observed on Woodland Avenue. Percentages were low in the morning hours, peaked in the early afternoon, fell with darkness at 6:00 p.m. and 8:00 p.m., and increased at 10:00 p.m.

DISCUSSION

The results of this experiment demonstrated the superiority of public posting over the standard police radar surveillance and ticketing procedure. During the follow-up condition, operation of the public posting procedure required a total of only 30 min per week. This was the time required to record 200 cars and change the numbers on the sign. The police radar and ticketing procedures required either 150 min per week (30 min/day) or 300 min per week (60 min/day). Therefore, the police radar and ticketing procedures required either five (30 min/day) or 10 times (60 min/day) as much time to carry out as did the public posting condition. It should also be noted that the police ticketing procedures actually involved slightly more time because constables who charged motorists were required to appear in court whenever motorists pleaded not guilty to the speeding charges.

Despite the greater amount of time required to carry out the standard police radar surveillance and ticketing procedure, the data show that this procedure did not produce significant reductions in speeding on either road, even after being in effect for 11 consecutive days. In contrast, the public posting procedure produced marked results immediately after its introduction on both highways. Therefore, in terms of deployment of police personnel the public posting condition was *more* than 10 times as effective as the standard police procedures.

It could be argued that standard police procedures should be maintained because they provide a source of revenue, whereas the posting of feedback does not. However, considering the effort involved, the revenues collected in Dartmouth through the ticketing of speeders are rather small. In the present study, police ticketed, at maximum an average of two drivers per hourly session and roughly one-quarter of these were warning tickets. Given that the fine for speeding is $53, this translates to an average of $79.50 per session. Dartmouth Police estimate that it costs $25 per hour to place a single constable in the field, and since for legal reasons they prefer to use two-man patrols when conducting radar surveillance, this translates to a cost of $50 per session. Thus, during an average 1-h surveillance session, net revenues amounted to only $29.50. Moreover, since in 10% of cases the drivers plead "not guilty," requiring constables to spend 1 to 4 h waiting to testify in court, some speeding charges actually produce negative revenue.

However, the police in Dartmouth regard their job as one of controlling speeding and not as one of producing revenue. From this standpoint, the cost-effectiveness of the standard police procedures studied here was essentially zero, despite the revenues produced for the city.

The results of this study replicate the previously reported finding that police radar surveillance and ticketing do not influence speeding behavior (Edwards & Brackett, 1978; Galizio et al., 1979). In the present study, emphasis was placed on making the police radar patrols highly visible. This was done in order to increase the likelihood that the drivers passing through the area would become aware of the increased police surveillance. However, it is possible that police surveillance and ticketing affect only those drivers who are actually ticketed. This being so, tickets could have been delivered at a higher rate using a concealed, unmarked police vehicle because it is well known that when a highly visible patrol car is present on a street, the speeds of vehicles passing by are reduced (Galizio et al., 1979). However, even with im-

proved methods, ticketing alone would have been a highly inefficient means of controlling the speeds of large numbers of drivers. For example, the Nova Scotia Department of Highways estimates that approximately 7,500 vehicles per day enter Dartmouth on each of the streets studied here. As the baseline data indicate, in order to reduce the speeds of drivers traveling 10 km/h or more over the limit, the police would need to stop and charge 40% of the total, or 3,000 drivers per day. This is clearly an impossibility because neither the police nor the courts has the personnel to deal with such numbers. Moreover, such a massive crackdown would undoubtedly strain police-community relations.

The results of this experiment replicate the findings reported by Van Houten et al. (1980) that public posting of the percentage of drivers who were not speeding during the preceding week, along with the best record to date, can produce a marked decline in speeding behavior. The finding that the effectiveness of the feedback procedure declined somewhat on drivers traveling closest to the speed limit was also replicated. More importantly, throughout both studies, the feedback sign maintained continued effectiveness over drivers traveling within higher speed categories. The results of the present study are also consistent with Van Houten et al. (1980) in suggesting that the use of this procedure reduces the number and cost of traffic accidents. In this regard, it should be pointed out that the sign used in the Van Houten et al. (1980) study remains in use at the original site and that its effectiveness is still being maintained under follow-up conditions at the time of this writing (approximately 20 mo after the sign was first erected).

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