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Michael L. Murphy

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## SPEED TRAPS AND THE USE OF AIRPLANES

By MICHAEL L. MURPHY\*

CALIFORNIA is unique in that it prohibits the use of speed traps to obtain evidence<sup>1</sup> as to the speed of any vehicle for the purpose of an arrest or prosecution under its vehicle code.<sup>2</sup> The California law on this subject is divided into five parts, each of which serves a different function.<sup>3</sup> It should be noted, however, that the law does not prohibit speed traps *per se*,<sup>4</sup> although comments to that effect can be found.<sup>5</sup> Rather it prohibits their use for a certain purpose.<sup>6</sup>

### *The Speed Trap Law and Its Development*

The speed trap law was first considered in *Fleming v. Superior Court*<sup>7</sup> in which the Supreme Court of California upheld its validity and announced the purpose for which it was passed. It stated that the legislature intended to bring traffic officers out into the open so that their presence would be felt by the motorist and thereby impress upon him the fact that he is under a duty to drive carefully and obey all of the rules of the road.<sup>8</sup> While no mention of it was made in *Fleming*, it is obvious that the legislature was motivated in part by a desire to remove the "evils attendant upon the use of speed traps."<sup>9</sup> Prior to

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\* Member, Second Year Class.

<sup>1</sup> Only four states have enacted speed trap laws. See MD. ANNO. CODE GEN. LAWS, Art. 66½, § 213 (1957); ORE. REV. CODE § 483.112 (1961); TEX. PEN. CODE, Art. 803a (1961); WASH. REV. CODE § 46.48.120 (1961).

<sup>2</sup> CAL. VEH. CODE § 40801.

<sup>3</sup> Section 40801 prohibits the use of a speed trap for the above purpose; section 40802 defines what is meant by a speed trap; section 40803 provides that evidence obtained by the "maintenance or use" of speed trap shall not be admitted into court; section 40804 makes incompetent as a witness "any officer or other person" if his testimony is based upon the "maintenance or use" of a speed trap; and section 40805 takes away the jurisdiction of any court to make a conviction upon evidence or testimony "which is inadmissible under this article."

<sup>4</sup> See *Fleming v. Superior Court*, 196 Cal. 344, 348, 238 Pac. 88, 88-89 (1925); 14 CALIF. L. REV. 142 (1925-1926).

<sup>5</sup> See *In re Beamer*, 133 Cal. App. 2d 63, 67, 283 P.2d 356, 359 (1955).

<sup>6</sup> See *Fleming v. Superior Court*, 196 Cal. 344, 348, 238 Pac. 88, 88-89 (1925); 14 CALIF. L. REV. 142 (1925-1926).

<sup>7</sup> 196 Cal. 344, 238 Pac. 88 (1925).

<sup>8</sup> *Id.* at 348-49, 238 Pac. at 89-90.

<sup>9</sup> See *People v. Beamer*, 130 Cal. App. 2d Supp. 874, 879, 279 P.2d 205, 208 (App. Dep't, Super. Ct., Alameda, 1955) (dissenting opinion). See also *In re Beamer*, 133 Cal. App. 2d 63, 68, 283 P.2d 356, 359-60 (1955); 43 CALIF. L. REV. 710, 711 (1955); Comment, 4 So. CAL. L. REV. 220, 221 (1930-1931); 14 CALIF. L. REV. 142, 143 (1925-1926).

1923, when the law was enacted, a rather dubious practice had developed in some communities whereby the local constable, or his equivalent, would mark off a section of the highway, lie in wait, then "clock" the unwary motorist as he drove by.<sup>10</sup> If it was found that he had exceeded the speed limit, he would be stopped, cited for speeding, and fined. Often the fine would be exorbitant and wholly designed to augment local revenue.<sup>11</sup>

In *People v. Beamer*,<sup>12</sup> decided thirty years later, the speed trap law was considered in respect to the use of radar to measure speed. This case marked the first time this issue had been presented to an appellate court.<sup>13</sup> In most of the cases prior to this one, the question turned upon judicial notice of the machine or judicial notice of its accuracy.<sup>14</sup> Quoting from section 751 (b) of the California Vehicle Code,<sup>15</sup> the court defined a speed trap as a particular section of the highway, measured as to distance, the boundaries of which are marked, designated, or otherwise determined, so that the speed of a vehicle can be calculated by securing the time it takes the vehicle to travel the known distance.<sup>16</sup> The court concluded that radar does not constitute a speed trap because it measures speed "through space" without reference to any part of the highway.<sup>17</sup>

This conclusion was met by a strong dissent in which it was said that the highway must be taken to include the space immediately above it.<sup>18</sup> "In . . . light of this [majority] reasoning," the dissenting judge argued, "the enterprising village constable need not even acquire a radar device, but . . . he might install a system of electric eyes just off the highway. They in turn 'through space' could make and record all of the observations necessary . . ." <sup>19</sup> The dissenting judge concluded that radar does fall within the definition of a speed trap and, there-

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<sup>10</sup> *Ibid.* See also Edward C. Fisher, *Modern Traffic Law Enforcement*, 36 NEB. L. REV. 258, 263 (1957), wherein one of the early speed traps is described in great detail.

<sup>11</sup> See 43 CALIF. L. REV. 710, 711 (1955). Two states have enacted statutes to prohibit traffic officers from profiting from fines levied, thus illustrating the extent to which this practice was carried. See NEM MEXICO STAT. ANNO. § 64-22-16 (1953) and WIS. STAT. ANNO. § 85.83 (1957).

<sup>12</sup> 130 Cal. App. 2d Supp. 874, 279 P.2d 205 (App. Dep't, Super. Ct., Alameda, 1955).

<sup>13</sup> See 29 So. CAL. L. REV. 240 (1956). An unreported case is discussed in 19 MUNIC. L. J. 71, 72 (1954).

<sup>14</sup> See *In re Beamer*, 133 Cal. App. 2d 63, 68, 283 P.2d 356, 359 (1955). Cases are collected in Annot., 49 A.L.R.2d 469 (1956).

<sup>15</sup> Now CAL. VEH. CODE § 40802.

<sup>16</sup> 130 Cal. App. 2d Supp. at 877, 279 P.2d at 207.

<sup>17</sup> *Id.* at 877-78, 279 P.2d at 207-08.

<sup>18</sup> *Id.* at 882-83, 279 P.2d at 210.

<sup>19</sup> *Ibid.*

fore, cannot be used to obtain the speed of a vehicle for the purpose of a prosecution under the California Vehicle Code.<sup>20</sup>

Read literally, the reasoning of the court does not appear particularly convincing. Certainly the highway must be taken to include the space immediately above it. If it were otherwise, the purpose for which the law was passed could easily be defeated. But the court's opinion was not written to be read literally. Radar consists of an ultra high frequency transmitter and receiver through the operation of which a series of radio waves are beamed down the street under surveillance. When these waves come into contact with a solid object, such as a car, they are bounced back to the receiver. The number of waves "bounced back" are electronically counted and compared with the number of waves transmitted. The difference is in direct proportion to the speed of the object contacted, regardless of the direction in which it is moving.<sup>21</sup> This is the context in which the majority opinion was written, and this must be the context in which it is read. As a result, it is readily seen that radar measures speed with reference to the number of waves "bounced back" to it and not with reference to any part of the highway upon which a vehicle may travel. The time it takes a vehicle to move across a stretch of road is not a factor to be taken into consideration. This seems to be what the court meant when it said that radar measures speed "through space" and, therefore, is not a speed trap as that term is defined in the California Vehicle Code.<sup>22</sup>

One other aspect of *Beamer* should be noted. Appellant argued that radar constitutes a speed trap, because it measures time and distance.<sup>23</sup> This argument has little merit.<sup>24</sup> Notwithstanding the observation made above, this contention must fail. It begs the question. Speed necessarily involves the determination of time and distance, for that is exactly the method by which it is computed. To put it mathematically, speed equals distance divided by time. Without the determination of time and distance it would be impossible to speak in terms of speed. Appellant assumes that which he must prove. As the court pointed out, his "argument could be applied with equal force to the

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<sup>20</sup> 130 Cal. App. 2d Supp. at 881-82, 279 P.2d at 210.

<sup>21</sup> *Id.* at 875-76, 279 P.2d at 206-07.

<sup>22</sup> A Washington case, decided a year later, came to the same conclusion on similar reasoning. See *State v. Ryan*, 48 Wash. 2d 304, 293 P.2d 399 (1956). See also Edward C. Fisher, *Modern Traffic Law Enforcement*, 36 NEB. L. REV. 258, 269 (1957); Carosell & Coombs, *Radar Evidence in the Courts*, 32 DICTA 323, 352 (1955); Comment, 30 WASH. L. REV. 49, 53 (1955).

<sup>23</sup> 130 Cal. App. 2d Supp. at 877, 279 P.2d at 207.

<sup>24</sup> *Id.* at 877-78, 279 P.2d at 207-08. See also *In re Beamer*, 133 Cal. App. 2d 63, 69, 283 P.2d 356, 360 (1955).

speedometer . . . .”<sup>25</sup> But, according to the court, it is “too well established for argument that the . . . speedometer . . . is not a speed trap . . . .”<sup>26</sup> While there is no authority for this proposition, it would appear that it is firmly entrenched in judicial thinking<sup>27</sup> and undoubtedly true.

Dissatisfied with the decision in *People v. Beamer*,<sup>28</sup> appellant refused to pay his fine. Thereupon he was arrested and put in jail. He then sued out a writ of habeas corpus to contest the propriety of his conviction.<sup>29</sup> Disregarding the usual limitations in respect to review upon a writ of habeas corpus, the district court of appeals took jurisdiction of the case. The court said that it did so “because of the public importance of the question, and for the reason that this is the only way the cause can be taken to an appellate court.”<sup>30</sup> It then proceeded to affirm the decision in the prior case and disclose the status of the law in California. According to the district court of appeals: “There is nothing inherently wrong with ‘speed trap’ evidence, and many states, in the absence of statute, permit its use. California has seen fit to prohibit ‘speed traps’ of a certain defined kind, but only those ‘speed traps’ coming within the definition are prohibited.”<sup>31</sup> Thus the court limited the application of the law. It then defined the kind of speed trap prohibited and found that it has four characteristics: (1) a particular section of the highway (2) measured as to distance (3) the boundaries of which are marked, designated, or otherwise determined (4) so that the speed of a vehicle can be calculated by securing the time it takes the vehicle to travel the known distance.<sup>32</sup> The court concluded: “If any one of these elements is absent the device does not fall within the prohibition of the section.”<sup>33</sup>

Undoubtedly this case was correctly decided upon the facts. Radar does not appear to be a speed trap when it is used as it was here. The method employed to measure Beamer’s speed was open and “above board” in every respect. All of the officers involved were dressed in regulation uniform and the radar set was mounted on the back of a police car which was clearly marked as such and parked in plain sight.

<sup>25</sup> 130 Cal. App. 2d Supp. at 877, 279 P.2d at 207.

<sup>26</sup> *Ibid.*

<sup>27</sup> 130 Cal. App. 2d Supp. at 882, 279 P.2d at 210 (dissenting opinion). See also *In re Beamer*, 133 Cal. App. 2d 63, 69, 283 P.2d 356, 360 (1955).

<sup>28</sup> 130 Cal. App. 2d Supp. 874, 279 P.2d 205 (App. Dep’t, Super. Ct., Alameda, 1955).

<sup>29</sup> See 43 CALIF. L. REV. 710, footnote 1 (1955).

<sup>30</sup> *In re Beamer*, 133 Cal. App. 2d 63, 64, 283 P.2d 356, 357 (1955).

<sup>31</sup> *Id.* at 67, 283 P.2d at 359.

<sup>32</sup> *Id.* at 68, 283 P.2d at 359.

<sup>33</sup> *Ibid.*

Little more could have been asked to make the operation more conspicuous.

But suppose that the facts were otherwise, *i.e.*, that the officers involved were not properly dressed and the police car was not properly marked and parked where it could be seen. Would the district court have reached the same conclusion? According to its opinion,<sup>34</sup> it seems that it would have, but that is questionable. Two alternatives must be considered, both of which turn upon the interpretation of the purpose for which the speed trap law was passed. If the law was passed to eliminate the "evils attendant upon the use of speed traps,"<sup>35</sup> then the court might have reached the same conclusion. Under this interpretation, it appears that the law was passed to meet a particular contingency and no more. This seems to have been the position taken by the court. On the other hand, if the law was passed to bring traffic officers into the open so that their presence would be felt by the motorist, it is suggested that the court would have reached another conclusion. Under this interpretation, the "evil" to be eliminated is not the method by which speed laws were enforced, but the secret way in which it was done.

Of the two alternatives considered, the latter seems preferable. In the first place, this alternative represents the position taken by the Supreme Court of California in *Fleming*. It found that the legislature intended to make the motorist aware of the traffic officers and thereby compel obedience to the law. In the second place, this alternative is suggested by the language used in the law. In addition to prohibiting the use of speed traps for a certain purpose, the law requires that every officer wear a "full distinctive uniform" and use a motor vehicle painted a "distinctive color."<sup>36</sup> These words obviously import a desire to eliminate the secret element in speed law enforcement. In the third place, it is quite likely that the legislature was not aware of any speed trap other than the one it defined and, therefore, it probably felt that it had covered the field with its definition. In retrospect it can be seen that it was mistaken, but that does not alter the motive with which it acted.

Whether this argument should be extended to permit any "visible" method of speed law enforcement is a proposition open to question. But such a rule would promote better traffic regulation, which appears to be a factor taken into consideration by the court in the second *Beamer* case. With all of this in mind, it is suggested (1) that the

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<sup>34</sup> 133 Cal. App. 2d 63, 283 P.2d 356 (1955).

<sup>35</sup> See 43 CALIF. L. REV. 710, 712 (1955).

<sup>36</sup> See CAL. VEH. CODE § 40804. *Cf.* CAL. VEH. CODE § 40800.

statutory definition of a speed trap be considered as one of the many definitions possible, but not as the only definition and (2) that the decision in the second *Beamer* case be limited to the facts upon which it was decided.

### *Use of Airplanes to Measure Speed*

Since 1959 the speed of motorists in California has been measured from airplanes.<sup>37</sup> In view of the number of traffic fatalities in recent years, resort to this means of speed law enforcement is not surprising. In 1960, for example, 3,723 people died as a result of traffic accidents in this state.<sup>38</sup>

The process by which speed is measured from airplanes is relatively simple and it closely resembles that of a patrol car or motorcycle sent out to cruise the streets. A pilot is given a particular road to patrol, which he does from an altitude of four to seven hundred feet. Ahead of this road two signs are posted to indicate that it is patrolled by airplane. The pilot works this road in close conjunction with one or two patrol cars. Their purpose is not to patrol the same road from the ground, but to make contact with a violator detected from the air.

When the pilot sees a motorist he believes to be exceeding the speed limit, he brings his airplane into one of three positions, each of which is taken in the same direction as that being driven by the suspected vehicle. He flies directly above the suspected vehicle, directly behind it, or directly adjacent to it. The position preferred by the California highway patrol, under whose direction this program is carried out, is that directly adjacent to the suspected vehicle. From this position the pilot lines up a part of his airplane with a part of the car below. Usually a wing strut is brought in line with the back bumper of the car. He then flies parallel to the suspected vehicle, "clocking" it. This he does by means of an air speed indicator which is located on the airplane's instrument panel and operates much like a speedometer.

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<sup>37</sup> The material about the use of airplanes to measure speed was gathered in a taped interview with Sergeant Edward A. Schumann, Technical Services Division, Planning and Research Section, Fixed-Wing Aircraft Program, California Highway Patrol in Sacramento, California, Oct. 8, 1962. See also *Highways: Somebody Up There*, 59 NEWSWEEK 28 (Jan. 29, 1962). Compare the program in California with that in other states. See Lew L. Gourley, *Flying Highway Patrol*, 69 FLYING 27 (July 1961) (Nevada); Richard A. Myren, *Evaluation of the Measurement of Motor Vehicle Ground Speed from Aircraft*, 52 J. CRIM. L., C. & P.S. 213 (1961) (Indiana); Bob Hudson, *Watch Out for the Sky Cops*, 88 AM. MERCURY 50 (Mar. 1959) (Indiana); Edward C. Fisher, *Modern Traffic Law Enforcement*, 36 NEB. L. REV. 258, 260 (1957) (Nebraska); Hugh W. Scott, *The Eyes of Oklahoma Are Upon You*, 59 FLYING 30 (Aug. 1956) (Oklahoma).

<sup>38</sup> 1962 WORLD ALMANAC 304.

The air speed indicator is calibrated in miles per hour and tells the pilot his air speed in the absence of any wind. It does not tell him, however, how fast the motorist below is driving. This he must obtain by determining his head wind or tail wind, whichever the case may be, then adjusting his indicated air speed accordingly. For example, if the pilot discovers that he has a tail wind of five miles per hour, he must add this amount to his indicated air speed in order to determine the speed of the suspected vehicle. Similarly, if he discovers that he has a head wind of five miles per hour, he must subtract this amount from his indicated air speed. The pilot finds his head wind or tail wind by the use of a stop watch. With reference to mile markers on the ground, he calculates the time it takes him to fly between two or more of them. The pilot then refers to a printed chart, which indicates his speed. This he compares to the figure registered on his air speed indicator and finds the difference. The difference is the extent of his head wind or tail wind. It should be noted that the speed measured by the use of the stop watch is that of the airplane and not that of the suspected vehicle. For all practical purposes, there is no difference between the two, and the one equals the other. In any case, if the pilot ultimately determines that the motorist has been exceeding the speed limit, he radios one of his patrol cars, describing the violator's car, the direction in which it is moving, and the present location of the vehicle. He then continues to watch the violator's car to verify that no mistake is made in contact by the ground unit. After contact has been made the violator is asked to step back to the patrol car where he can hear the pilot relate the violation. One of the members of the ground unit then points out the patrol aircraft to the violator, who is cited for speeding or warned, whichever is deemed more appropriate.

The aircraft used by the California highway patrol is clearly marked, having the words "Highway Patrol" printed underneath the wing and the insignia of that organization painted on both sides of the fuselage. The color of the aircraft is either black and white or maroon and white. The officers involved, including the pilot, are dressed in regulation uniform.

From this description of the use of airplanes to measure speed, it does not appear that it constitutes a speed trap as that term is used in the California Vehicle Code. Adopting the definition offered in *In re Beamer*<sup>30</sup> as the proper criterion, it can be seen that one of the necessary elements is missing. No reference is made to a particular section of the highway, so that the speed of a vehicle can be calculated by

<sup>30</sup> 133 Cal. App. 2d 63, 283 P.2d 356 (1955).

computing the time it takes the vehicle to travel across it. To be sure, there is a reference to a particular section of the highway which is measured as to distance and marked by road signs; but that reference is made in order to determine the amount of head wind or tail wind the patrol aircraft has to encounter. But notwithstanding that,<sup>40</sup> the result is the same. The speed measured in any case is that of the airplane as it flies from sign to sign and not that of the suspected vehicle. To argue that the two are equal is useless. They *must* be equal if one is determined by reference to the other. To argue that these facts alone are sufficient to bring into operation the prohibition of the statute is no less futile. Even if it be assumed that an airplane is a motor vehicle, as that term is used within the definition of a speed trap, it is clear that the law was written with reference to the use of a section of the road to measure the speed of the motorist's car, and not that of the patrol vehicle.

This leaves but one more possibility to consider. Suppose that the definition offered in *In re Beamer*<sup>41</sup> is rejected and that a speed trap is defined to mean a method of enforcement characterized by a secret or undisclosed measurement of speed. Would the result be any different? It does not appear that it would. The program seems to be conducted as openly as its nature will permit. Of course, that fact is not conclusive, but it should be sufficient under the circumstances. One argument otherwise could occur. It might be said that signs posted along the highway warning motorists of the use of airplanes to patrol the road do not compel obedience to the law as effectively as uniformed officers visibly watching traffic and, therefore, the program must fall within the definition of a speed trap. Notwithstanding the apparent truth in this statement, the argument is likely to fail. In view of the steps taken to comply with the law and the public policy in favor of

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<sup>40</sup> There is some reason to doubt that reference is made to the mile markers to determine the amount of head wind or tail wind the patrol aircraft has to encounter. For example, suppose that the indicated air speed is seventy miles per hour. It may be remembered that this figure does not represent the motorist's speed, for it does not take into account the force exerted by the wind upon the patrol plane. To determine the amount of force so exerted, the pilot calculates the time it takes him to fly from one mile marker to another, converts this into speed, compares the figure thus obtained with that registered upon his air speed indicator, and finds the difference. If the speed gathered by the use of the stop watch is seventy-five miles per hour, the pilot knows that he has a tail wind of five miles per hour. He then adds that figure on to the seventy miles per hour registered on his air speed indicator to find the motorist's speed. But this final computation is unnecessary, for the figure ultimately reached is the same as that obtained by the use of the stop watch alone. The result thus casts some doubt upon the existence of the practice just described and suggests that the speed of the motorist is actually determined by the use of the stop watch and nothing else.

<sup>41</sup> 133 Cal. App. 2d 63, 283 P.2d 356 (1955).

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strict traffic regulation, it is suggested that it is enough that the program does not contravene the purpose for which the law was passed. It may be admitted that the program's sponsors must take reasonable care to see that the public is notified of the program's operation. But, in the absence of any evidence that this has not been done, there is no reason to hold that the use of airplanes to measure speed is a "speed trap" as that term is used in the California Vehicle Code.