

Chapter 5

THE SUBSTANTIVE LAW OF ROADSIDE COLLISIONS: AN ANALYSIS OF THE COMMON LAW

5.1 INTRODUCTION

This chapter deals with the potential legal liability of road authorities (and other responsible bodies as delineated in Chapter 4) to persons injured through collision with roadside objects.

The investigators have been asked to answer two questions:

- (1) If a local council or other road authority places frangible poles alongside its roadways, and one of them causes injury to a motorist or pedestrian, will a court hold the council or authority liable for damage caused?

Our answer is "No".

- (2) If a road authority or local council uses a rigid pole alongside its roadway and a motorist collides with that pole causing death or more serious injury than would have occurred had a frangible pole been used, would a court hold the council or authority responsible for the damage caused?

Our answer is "Yes".

In neither case can the answer be absolute; all the relevant facts of any incident must be considered. Our overall conclusion, however, will be fully supported and explained below. In general the conclusions we draw are supported by the written opinions obtained by this project from a Queen's Counsel of the State of Queensland and from a Member of the Bar of the State of Victoria.

5.1.1 The Law of Accidents

The area of law which is concerned with personal injury and property damage caused by road traffic accidents is classified as the law of torts. A person who suffers an injury will be forced to bear the costs associated with that injury unless the injured party can prove all the elements of an action against the person who has caused the injury.¹ The area of torts which provides the rules regulating recovery of damages for road accidents, is negligence, though a second possible cause of action is public nuisance. In an action sounding in negligence, the injured party must prove each of the following elements:

- duty of care
- breach of the standard of care
- causation
- damage.

The onus of proof on the balance of probabilities will lie upon the injured party; that is, the injured party must satisfy the trier of fact that it is more likely than not, that each of the elements is satisfied.

In order to supply a complete answer to the two questions posed earlier, certain hypothetical fact situations will be put forth to aid in the clarification of the law in this area. For the lawyer the process is no

1. The statement in the text refers to a tort action, or a recovery through negotiation. An injured party may receive compensation through a statutory no-fault scheme or through first party insurance. See Chapter 6.

more than an application to a particular fact situation of the very familiar rules of the law of negligence. While the rules of law are relatively clear, when these rules are applied to a particular set of facts the answer may not always be unequivocal. The issue of roadside hazards that is discussed below has not been the subject of a reported decision within Australia, and the conclusions that are drawn are reasoned by analogy or from general principles. Nonetheless the solutions appear relatively clear.

The terms of reference of this project sought a clarification of the legal implications surrounding the use of frangible or slip-base luminaire poles. This requires an examination of two issues:

- (1) What are the legal implications for a local council or road authority which has decided to, and has, installed frangible poles by the roadside? What legal liability, if any, would there be if one of these poles was hit by a car and, upon impact, cascaded through the air and came to rest on the ground, injuring a pedestrian or following motorist?
- (2) On the other hand, what are the legal implications for a local council or other road authority which continues to maintain and replace rigid poles? What legal liability would be incurred if a motorist, having left the road, hit a rigid pole and suffered a serious injury (or death) which in the opinion of an expert would not have occurred if a frangible pole had been used? Would an action by the injured party (or the dependants of the deceased) be successful against a council or authority?

This chapter will be concerned primarily with collisions with luminaire poles, that is, street lighting poles which do not otherwise carry overhead conductors. Collisions with utility poles, traffic lights, and signposts, will be treated at the end of the chapter.

5.2 COUNCILS USING FRANGIBLE POLES

Will a council using frangible poles to support street lighting be held responsible if a motorist or pedestrian is injured by the frangible pole? Consider the following hypothetical fact situation. The driver of a motor vehicle proceeding along a suburban road at 60 km/hr leaves the roadway as a result of momentary inadvertence and collides with a frangible pole dislodging it from its base. The pole falls upon a pedestrian using the footpath causing severe injuries to the pedestrian.

The pedestrian will be forced to bear the cost of his own injuries unless he is able to prove that someone was at fault in causing the damage. As indicated in the last chapter the likely defendants would include the negligent driver (backed by that driver's compulsory third party insurance company) and also the road authority or local council which owns or controls the frangible pole that caused the injury. For greater clarity of analysis the potential liability of the driver will be ignored, and only the liability of the local council (or other road authority) will be presently considered.

In order to make out a case sounding in negligence in his action against the local council, the injured pedestrian will have to satisfy all four of the elements, that is, duty, breach of the standard of care, causation and damage.

5.2.1 Duty

In order to determine whether one person owes a duty of care to another, it is necessary to discover whether they are in such proximity or neighbourhood that the law impose a duty of care upon one to the other. The test was articulated by Lord Atkin in the well-known case of *Donoghue v. Stevenson*:²

You must take reasonable care to avoid acts or omissions which you can reasonably foresee would be likely to injure your neighbour. Who, then, in law, is my neighbour? The answer seems to be — persons who are so closely and directly affected by my act that I ought reasonably to have them in contemplation as being so affected when I am directing my mind to the acts or omissions which are called in question.

In the hypothetical fact situation under scrutiny, should the local council have had in mind a pedestrian using one of its footpaths near to the poles it installs? The answer is obvious — it should.

This was the conclusion drawn by the courts in two recent cases where the issue of whether a local council or road authority owed a duty of care to road users and pedestrians was considered. In *Levine v. Morris*,³ a

2. [1932] A.C. 562, 580.

3. [1970] 1 All E.R. 144.

decision of the English Court of Appeal, the liability of a road authority for negligence in the siting of sign posts was discussed. An injured and a deceased passenger brought an action for damages against the driver of a motor vehicle and against the English Ministry of Transport. The driver had proceeded along a carriageway at about 80 km/hr in heavy rain when his car skidded, went out of control, hit the offside kerb, shot back across the roadway and, 30 metres after leaving the roadway, crashed into the concrete columns of a massive sign just over 1 metre off the carriageway. The trial judge found that the driver had left the road as a result of negligence in the control of his vehicle. Liability was apportioned 75% to the driver and 25% to the Ministry. Lord Justices Russell, Sachs and Widgery had no difficulty in arriving at the conclusion that the Ministry, when siting the signposts, was under a duty to motorists who might leave the roadway to take reasonable care not to impose unnecessary hazards to their safety.

The argument put forward by the Ministry that their only duty was to erect a visible sign and that they were under no duty to consider whether the sign posts themselves constituted a hazard, was rejected by the Court, Sachs L.J. stating that the argument was "quite untenable".⁴ His Lordship pointed out that it was a well known risk that motorists might leave the carriageway, often through no fault of their own. He stated:⁵

The chances of such accidents happening ought always to be borne in mind by the Ministry, and the extent of those chances assessed.

Their Lordships all agreed that a road authority has a duty to motorists to site with care those devices which might constitute a hazard.

The other recent case in which a question of a road authority's duty of care arose is *Webb v. State of South Australia*,⁶ a decision of the High Court. A majority of the Court held that the State of South Australia, through its highway department, owed Webb, an injured pedestrian, a duty to take care. The facts in that case were as follows: The plaintiff pedestrian suffered an injury when he stepped into a gap between a permanent kerb and a false kerb on the road. The defendant State had constructed the false kerb on the road in order to create a type of "safety island" around a "stobey" pole which, due to road reconstruction, was now located on one of the carriageways of the road. The State of South Australia was held to owe a duty of reasonable care. In fact, the State of South Australia chose not to even raise the issue of whether a duty was owed. They implicitly conceded that they owed a duty, and argued the case upon whether it was reasonable to construct the false kerb.

Are there any factors which might in some way limit the duty of an authority to pedestrians and road users? Statutory authorities, such as local councils, sometimes enjoy some degree of immunity; that is, they are said not to owe a duty of care in certain circumstances where a private individual would.⁷ The law recognises that local councils are often given powers by statute which they may or may not exercise, depending upon available resources, time and other considerations. The courts are reluctant to second guess the authority's decision whether to act in these cases or not.

It is not entirely clear whether the limit on duty applies to the selection of poles. Local councils and road authorities derive their power to light streets from legislation. Rarely does the legislation require that the streets be lit; usually it is merely a power to do so. The empowering legislation does not prescribe a manner in which the lighting is to be provided; the choice of location, type of lighting and type of support pole is left to the authority.⁸

One view of the issue is that once a council or local authority has made a decision and installed a particular type of pole (whether rigid or frangible) then a duty of care arises to insure that it does not pose an unreasonable hazard to both pedestrians and motorists. Support for this view can be found in a number of cases but is best illustrated in *Sheppard v. Glossop Corporation*,⁹ a case which concerned the liability of a council for failing to continue to illuminate a street at a particular time. Lord Justice Atkin stated:¹⁰

4. *Id.* 148.

5. *Ibid.*

6. (1983) 43 A.L.R. 465.

7. One judicially created immunity is a freedom of liability for mere omissions (nonfeasance) as opposed to wrongful act (misfeasance). The nonfeasance doctrine is irrelevant here and will not shield the authority from liability where roadside furniture, such as poles, has been erected.

8. E.g. the *Electricity Act* 1876-1980 (Qld.) s.174(1) provides, "An Electricity Authority may construct, maintain and control works on any road for the purpose of lighting." Subsequent sections provide procedures for placing and altering electric lines but do not prescribe the manner by which the lighting is to be provided.

9. [1921] 3 K.B. 132.

10. *Id.* 150.

If it decides to light any area, its lamps and appliances must be placed and maintained with reasonable care so as to avoid danger to wayfarers or owners or occupiers of adjoining property.

Lord Justice Scrutton added:¹¹

The power given them is discretionary. If they do light they will be liable in damages for negligence in lighting; negligence in allowing gas or electricity to escape; negligence in putting posts in a highway without warning and negligence in placing traps and dangers in the street and not lighting them at night.

As one Member of the Bar whose opinion was obtained has stated:¹²

It is submitted that this principle [noted above] applies with equal force to the design and location of street lighting poles which are traps or dangers to a motorist in the event of a foreseeable collision with them.

If this view is adopted, namely, that once a power is exercised, a duty of care arises to those who might foreseeably be injured by that act, then the major issue will be whether there has been a breach of the relevant standard of care. In other words, an authority owes a duty to take reasonable care to avoid injuring pedestrians or motorists. Whether liability exists will depend, amongst other factors, on the question of whether the authority's conduct breaches the standard of care of the reasonable authority. That question is discussed later in this chapter.

The other view is that there are factors which might limit the duty of an authority to pedestrians and road users. This view emphasises the distinction between the acts of a public authority and those of private individuals. The law regarding duty in the case of public authorities exercising a statutory power has been laid down in *Anns v. London Borough of Merton*,¹³ a decision of the House of Lords. This case concerns the failure by a local council to exercise a power, which it had under statute, to inspect dwelling foundations. The Court held that, in some circumstances, a local council could be liable for failing to exercise such a power, but that the answer in this instance depended on facts which were not available to the Court.

In *Anns'* case, the Court classified decisions as being either "policy" or "operational". Lord Wilberforce, in the leading judgment, stated that a common law duty of care would be more readily imposed on a public authority in respect of "operational" decisions than "policy" decisions. This duty may arise regardless of whether the authority is exercising a statutory power or performing a statutory duty but "in the case of a power, liability cannot exist unless the act complained of lies outside the ambit of the power."¹⁴

These statements have given rise to the view that if one can classify the decision to use a particular type of pole as a "policy" decision, then providing the act complained of does not lie outside the ambit of power, then no duty of care will arise. What does Lord Wilberforce mean when he says "unless the act complained of lies outside the ambit of power"? Lord Wilberforce states earlier in his judgment:¹⁵

A plaintiff complaining of negligence must prove, the burden being on him, that action taken was not within the limits of a discretion *bona fide* exercised, before he can begin to rely on a common law duty of care.

In other words a plaintiff would have to prove that the policy was based on irrelevant considerations, or failed to take into account relevant considerations, and therefore the power was not *bona fide* exercised.

Let us put this in the context of a person suffering injury as a result of a pole collision (for example, a pedestrian or following motorist being injured by a falling pole). Let us assume also that the legislation which governs the acts of the particular authority gives it a power to light the streets. According to the view, based upon *Anns'* case, the injured party would not be able to establish that a duty of care was owed to him unless he can show *either* that the council's decision to place that type of pole in that location was an "operational" decision, or, alternatively, in the case of it being a "policy" decision that the council *either* failed to take into account relevant factors or considered irrelevant factors.

If it is a policy decision, did the authority, in fact, formulate a policy? To negate a duty situation, the authority would have to show that it gave consideration to the type of pole to be used, and, as a result of a

11. *Id.* 149.

12. W. C. Lee, Q.C. (Queensland). *Opinion: Legal Implications of Frangible Poles for Road Authorities*. See Appendix D. p. 137.

13. [1977] 2 All E.R. 492; [1977] 2 W.L.R. 1024.

14. [1977] 2 W.L.R. 1024, 1037.

15. *Id.* 1035.

considered decision, elected to use one type of pole rather than another. Evidence of a deliberated decision would be found in, for example, the agenda of the meeting, the minutes which showed that proper consideration was given to the choice of type of pole, and that a policy was formulated. If no evidence of proper consideration were available, the immunity which public bodies enjoy for policy decisions taken in the exercise of statutory powers could not be relied upon by the authority. The courts will review the failure by a public body to direct its mind to its acts or omissions which it can foresee would affect road users.

Even if it can be shown that the authority gave consideration to the selection of a particular type of pole, that alone may be insufficient, even if *Anns'* case applies.

The other Member of the Bar whose opinion was obtained put it this way:¹⁶

The adoption of a policy, however, will not give an authority blanket protection from legal action. For an authority to be protected the policy must be based on relevant considerations; and the pole in question must be one to which the policy can legitimately apply. . . .

A policy (for example) to use rigid poles on the border of all carriageways would not be legitimate if it were adopted for an extraneous reason ("the Shire President owns a saw-mill") or in blind ignorance of relevant and well-known facts ("many people die from vehicle/pole collisions"). But the policy need not be right, nor wise, nor far-sighted in order to protect the authority from legal action. The only criteria is that it must be based on relevant considerations. These obviously include safety factors; but other matters such as cost, convenience, and durability will be relevant. If an authority adopts a policy concerning placement of, say, luminaire poles, it would be legitimate to weigh lighting factors against the hazard factor. In other words there is a recognition that authorities must make discretionary choices — weighing up conflicting considerations. Provided such choices are made in a legitimate way, the authority is given legal protection.

The second proposition mentioned above — that the policy must apply to the pole in question — may seem self-evident. Yet I suspect that this may become an area of debate. I can imagine an authority adopting a policy to use rigid poles, but having no policy on the placement of poles. In such a case the authority would owe a duty of care in the placement of those rigid poles. In other words it would be liable for the placement of a pole if reasonably competent road engineers, confined to using rigid poles, would regard such placement as unsafe.

In summary, there are two views regarding whether a local council or road authority owes a duty of care to pedestrians or motorists when installing a particular type of pole at a particular site. The first view states that where the authority is given a power to light and chooses to do so, then it owes such a duty of care. Considerations as to cost, durability, actual safety etc. are relevant only to the standard of care, not to the existence of the duty. The other view states that where the authority is given a power to light and exercises that power, then a duty of care will only exist if the decision to place that particular type of pole in that particular location is characterised as an "operational" decision, or alternatively, if it is characterised as a "policy" decision, that the decision-makers failed to take into account relevant considerations.

The investigators believe that a court, if confronted with the hypothetical fact situation before us, would be inclined to follow the first view and conclude that in all situations a local council or road authority owes a duty of care to pedestrians and motorists to take reasonable care not to cause injury when deciding on the design and placement of a pole.

5.2.2 Standard of Care

It is assumed here that a court would find that the council or road authority owes a duty of care to the injured pedestrian. The plaintiff must now prove that, by its act, the authority has breached its duty of care. The standard of care to which the council or any road authority must comply, is to act reasonably. This standard may sound very vague to the layperson and difficult to interpret. The test is objective not subjective; any authority will be held liable unless it acts consistently with the actions of a reasonable man (or reasonable authority) of ordinary prudence. One can rephrase the test to ask whether the traffic engineer or local council, deciding to use frangible poles rather than rigid poles, was acting as a reasonable traffic engineer or reasonable council using ordinary prudence would have acted in similar circumstances.

The injured plaintiff will have to discharge the burden of proof on a balance of probabilities by showing that the act of using frangible poles was unreasonable in the circumstances. In Chapter 2 the writers discussed factors which would be relevant in the choice of utilising frangible poles. For example, the investigators have

16. S. Morris, (Victoria), *Opinion: Legal Implications of Frangible Poles for Road Authorities*, Appendix C pp. 125-126.

surveyed the experience of overseas countries in the use of frangible poles, as well as that of South Australia and elsewhere within Australia, including the laboratory data, on-road performance, manufacturing specifications and other relevant material.

The factors which are balanced by a court to determine whether the act in question was “reasonable” include magnitude of risk and the social and economic cost of avoiding the risk. A court will attempt to quantify the likelihood of harm arising from a particular act (such as using frangible poles) and the gravity of harm to any individual from such an act; on the other side of the ledger it will look at the social and economic costs of avoiding the risk. For instance is the act particularly useful for another purpose? What costs would be involved in removing the offending condition?

The application of these criteria to our fact situation would require a court to look at, first, the *likelihood* of harm ensuing to a motorist or a pedestrian from the use of frangible poles. Particularly relevant would be the long experience in the United States and other jurisdictions which has shown that there has been virtually no injury caused to pedestrians or to motorists as a result of their use. Even though injury was in fact produced in the hypothetical fact situation under analysis, the court is interested in the degree of risk that should have been foreseen at the time of choosing the style of pole for streetlighting. The local council is not an insurer of road users; it must merely be prudent. Reliable data show that poles rarely, if ever, cascade out of control and pose hazards for vehicular or pedestrian traffic. If the court finds that the likelihood of harm was relatively remote, while carrying out its balancing calculation, it would impose liability on the council or road authority only if it found that the gravity of harm was likely to be great, and the use of frangible poles served no worthwhile societal goal.

Second, what is the *gravity* of harm? Is it likely, for example, that a person will be hit by a cascading pole and suffer severe injury or is it more likely that one might trip over a pole lying across the footpath producing less severe injuries? Is the severity of injury likely to be greater than that suffered if a rigid pole is hit with sufficient force to send it to the ground, or a lantern was dislodged from a rigid pole and hit a pedestrian?

The court would also receive evidence to determine how useful frangible poles (as compared to rigid poles) are for other purposes. It has been demonstrated¹⁷ that frangible poles are especially useful in lessening the road toll which is caused by impact with a fixed roadside hazard. Statistics show that the incidence of collisions between motorists and fixed luminaires is high.¹⁸ A motorist who comes into contact with a rigid luminaire is likely to suffer severe or fatal injuries. The location of the pole, the car, and the pedestrian would also be relevant. Was the pole located in a position which brought it close to the carriageway of the highway immediately following a sharp bend in the road? Had conditions on the road changed so as to make the particular pole more likely to be hit? Was it a “black spot” pole which had been hit (and replaced) repeatedly? Were the poles used on a high speed limited access road with practically no pedestrian traffic, or where pedestrians were prohibited? Such factors will increase the likelihood of harm, and would incline (or compel) a court to deny that there was any failure to exercise due care in constructing a frangible pole. Alternatively, if a frangible pole was placed where there was high pedestrian traffic and low speed vehicular travel which might cause the pole to act in an erratic fashion, the conclusion might well be that such use was unreasonable.

5.2.2.1 *Admissibility of Evidence.* Compliance with the requisite standard of care can only be demonstrated to the court through the admissibility of relevant evidence. A wide variety of evidence is admissible to convince the trier of fact that the use of a particular type of pole is incompatible with the requisite standard of reasonable care. Any of the following would be persuasive:

- statistics — e.g. on the frequency of involvement of particular types of hazards in road accidents.
- expert testimony by city planners, traffic and highway engineers.
- engineering manuals.
- evidence of earlier accidents that occurred at that site, or in similar locations.

The rules of evidence place limits upon the use of hearsay evidence even from an expert. The introduction of a traffic manual, for example, may be objected to when proffered in evidence, if the editor or compiler is not present in the courtroom and available for cross-examination. It would be necessary to have a competent traffic engineer or other expert testify. If that expert were to incorporate within his/her testimony or supporting

17. See Chapter 3, especially pp. 30-31.

18. See Chapter 2, especially pp. 10-11.

affidavits, any statistics or information based upon a book or other treatise, then that evidence could be taken into account by the trier of fact.

5.2.2.2 Conclusion. On the assumption that competent evidence was adduced before the court, and further that the frangible pole was used in an area which is characterised by medium to high speed vehicular traffic, in our opinion a court would find that the use of frangible poles was consistent with a reasonable standard of care. Therefore a plaintiff injured by the fall of a frangible pole would be unlikely to succeed in an action for damages against the local council or road authority responsible for the use of the frangible pole.

5.2.3 Causation

Causation and damages will be considered only to complete the analysis of a negligence action. If a court was satisfied that a local council owed a duty of care to an injured pedestrian and, furthermore, that duty of care was breached by the use of frangible poles (contrary to the analysis above) it would have to be shown that the use of the frangible pole caused the injuries suffered by the pedestrian. To determine whether there was such causation a "but for" test is employed. The court considers whether the person's injuries were the result of the use of a frangible pole; that is, would he have been injured even if a rigid pole had been employed. A court must speculate upon what would have happened. For example, would the rigid pole have fallen due to the impact or would a lantern have fallen from the rigid pole? Would the pedestrian have suffered the same or similar injuries if the council decided to use a rigid pole? Only if the court concludes that it was the use of a frangible pole which caused the accident would the injured plaintiff receive compensation.

5.2.4 Damages

The issue of damages is considered only if each of the other elements has been found by the trier of fact to be substantiated by the plaintiff. If it is found that the local council or road authority owed a duty of care and breached that duty, and that the use of a frangible pole caused the injury suffered by the plaintiff, then the aim of tort law would be to return the injured victim to the situation that he enjoyed before the accident, insofar as a monetary award can. The common law recognises two broad heads of damages:

special damages: those items of damage of a tangible nature calculable arithmetically such as loss of earnings to the date of trial, medical and hospital expenses, property damage repair or replacement and the like; and

general damages: which include compensation for pain and suffering and for the loss of enjoyment of life and compensation for future income loss.

In the case of fatal accidents, dependants or the deceased's estate would be entitled to compensation.

5.2.5 Conclusion: Action Against the Authority

In most cases, assuming, of course, that the frangible pole has been properly sited, there would be no liability on the part of the responsible authority to a person injured by the fall. Councils and road authorities are not insurers of pedestrians' safety.

5.2.6 Actions Against the Driver

In the analysis above it has been shown that it is unlikely that an injured pedestrian could recover against the local council or other road authority for their use of frangible poles. However, the injured pedestrian is likely to succeed against the driver who, through negligence, has left the road and collided with the pole.¹⁹ Any recourse against the driver must be analysed separately from recourse against the road authority. A finding that the driver was negligent (or not negligent) does not affect a potential finding of liability against the road authority. In the hypothetical fact situation under examination the motorist left the roadway because of negligence. In many instances, it might well be that the driver would leave the roadway through no fault of his own. For example, a tyre might burst causing the car to go out of control and leave the roadway; the driver might be forced off the road by an unidentified vehicle encroaching upon his carriageway. Another possible cause would be a latent fault in the design or construction of the vehicle. Finally a vehicle could leave the highway for reasons unknown, or at least incapable of being proven at trial. In each of these instances the

19. See Chapter 6 for discussion of third party insurance.

injured pedestrian would be unable to recover against the motorist; yet that would not enhance his chance of recovery against the local authority.

5.2.7 Other Roadside Objects

If one of the material facts of the hypothetical fact situation is altered, the analysis is also substantially varied. Suppose the above hypothetical situation is changed so that a motorist negligently leaves the carriage-way and impacts against a frangible pole, but this time the frangible pole is not a pole carrying streetlighting only, but instead a utility pole carrying the overhead conductors of an electricity supplier and telephone lines. Is the local council, or the electricity supplier, which authorised the use of such a frangible pole, likely to be liable to a pedestrian injured in the circumstances considered earlier.

The analysis of the duty relationship between the pedestrian and the electricity supplier would be the same as before. That is, an electricity supplier (or anyone else) which constructs, locates, maintains, or owns a pole carrying overhead conductors adjacent to the roadway, would owe a duty of care to users of the roadway and footpath. It is possible that a court would grant an immunity because the electricity supplier in the exercise of a statutory power made a policy decision to erect a frangible pole to carry overhead conductors, but it is unlikely that a court would find that no duty was owed.

The analysis of the standard of care would be markedly altered. The test would remain that of determining whether the act by the defendant was reasonable. Would a reasonable electricity supplier acting prudently choose a frangible pole rather than a rigid pole to carry overhead wiring? To answer that question it would be necessary to produce competent, expert evidence at the trial. Testimony would be elicited as to the customary usage world wide; are frangible or slip-base poles customarily used to support overhead conductors? What is the likely behaviour of such poles when hit by automobiles? Whilst experimentation on frangible poles designed to carry overhead conductors is now well advanced,²⁰ it could appear to a trier of fact that the "state of the art" is not yet so developed as to encourage their use. Unlike the aftermath of a collision with a frangible luminaire pole, with a frangible utility pole there is the possibility that live wires will be brought to the road surface and that the service of electricity to users will be interrupted. The court would have to determine whether the gravity of the risk to pedestrians or following motorists is outweighed by the lessening of the risk of severe injury to other users of the highway. It could depend upon the location of the pole in question. Was this a "black spot" pole which was located in a high risk area and had caused fatalities or serious accidents previously? Was there a high volume of pedestrian traffic, or was this a limited access road barred to pedestrians? Was it impractical to underground the cables? Depending upon the nature and quantum of proof, the answers to these questions might well incline a court to find that the use of a frangible pole for carrying overhead conductors in the circumstances was unreasonable. If the court found the use unreasonable, it is likely that liability could be imposed upon the electricity supplier, or other appropriate defendant.

In other instances a court would have to determine whether use of a frangible pole to support a sign, or to support traffic signals, was reasonable. In Chapter 3 of this project the investigators surveyed the use of frangible or slip-base poles to support signposts and traffic signals.²¹ The process to determine the legal implications of use would be the same in each instance; the facts would be applied to the elements of a tort action sounding in negligence. We are of the view that it would be regarded as reasonable, and therefore not negligent, for a local authority or other road authority to utilise frangible or slip-base poles to support signs. In the instance of traffic signals while there is still some controversy regarding the use of frangible or slip-base poles to support traffic signals, we believe that a court could well find it reasonable to use frangible poles to support traffic signals though factors such as the volume of both motorised and pedestrian traffic might well be taken into account in reaching the appropriate conclusion.

5.3 AUTHORITIES NOT USING FRANGIBLE POLES

Would a road authority be found negligent if it used a rigid pole when a frangible pole could have been used? Consider the following hypothetical fact situation:

20. See Chapter 3, especially pp. 21-24 and J. C. Fox, M. C. Good and P. N. Joubert, *Development of Breakaway Utility Poles*, (Parkville: Department of Mechanical Engineering of the University of Melbourne, 1979) pp. 298-302.

21. See Chapter 3, especially pp. 35-36.

A 34-year old driver leaves a highway with a 100 km/hr speed limit, without negligence on his part, and collides with a rigid concrete luminaire two metres off the carriageway. He suffers a back injury — deflation of a nerve root in the sacrum lumbar area of the spine. Based upon his previous earning pattern and future earnings' expectations, if successful, he could expect a recovery of over \$250,000.00 based on comparable verdicts in similar injury circumstances. Is it possible that the local council or road authority will be liable for those damages?

5.3.1 Duty

Does a local council or road authority owe a duty of care to a motorist who leaves the roadway? The issue here is basically the same as that canvassed earlier in relation to councils using frangible poles (5.2.1). The only difference is that in the former situation, it was not the person who left the roadway who was injured, but a person properly walking along the footpath, or travelling in a vehicle. In the present situation, the person injured is in the vehicle which leaves the roadway (either the driver or a passenger).

Does this in any way alter the conclusion reached in that analysis that a council or road authority owes a duty of care? The test is the same — that of neighbourhood. Can the council or road authority foresee that its actions in using a particular type of construction for roadside poles is likely to cause an injury to the user of the road? In *Levine v. Morris*, discussed earlier, Lord Justice Sachs stated:²²

The first issue for consideration as regards the siting of the sign is this: were the Ministry when selecting a site under any duty vis-a-vis any of the motorists who might shoot off the carriageway to take reasonable care not to impose unnecessary hazards to their safety. This was a hotly contested issue before the learned trial judge and again in this court. It was contended that the Ministry were under no duty at all to any such motorists. It was asserted that the Ministry had an absolute and paramount duty to erect a clearly visible sign, and that so long as this duty was complied with they had no duty at all to consider hazards to any such motorists, not even if there existed two potential positions for the sign where the visibility was equal, but one obviously involved materially more such hazards than the other.

Any such proposition in relation to the Ministry's action under the powers given by s. 52 of the Road Traffic Act 1960 is quite untenable. It is well known that on high speed roads there is a risk of motorists going off the carriageway inadvertently through no fault of their own, especially in bad weather. There are many potential causes of such inadvertent happenings, such as, for example, tyres that burst or, unknown to the driver, are out of balance: indeed, one could frame a long list of causes which carry no blame on the driver. In addition, there are cases in which the accidents are due to that category of negligence which, to adopt the words of Lord du Parc in *London Passenger Transport Board v. Upson*: 'experience and common sense teach' is likely to occur. The chances of such accidents happening ought always to be borne in mind by the Ministry, and the extent of those chances should be assessed.

The Ministry owe to motorists at least a duty when siting massive signs to take reasonable care when there are two sites equally good as regards visibility not to select the one that involves materially greater hazards to the motorist. Thus, it would be clearly unjustifiable for the Ministry unnecessarily to elect to erect on the verge by a traffic accident black spot a massive piece of what is termed 'road furniture' entailing the risk of much greater injury to those involved in accidents there. Moreover, it would afford the Ministry no defence to establish against a passenger that the particular accident was due to a type of negligence to which experience shows drivers are prone (see again *London Passenger Transport Board v. Upson*), or that the precise cause of the accident was unexplained (cf *Thorogood v. Van Den Berghs and Jurgens Ltd.*, per Asquith L.J.).

There remains the "policy/operational" dichotomy raised by *Anns*' case which was discussed in an earlier section (5.2.1). The investigators, for the reasons given there, are of the opinion that *Anns*' case would not alter the finding that a council or road authority owes a duty of care to road users. Even if *Anns*' case is to have general application, a duty situation will still arise if no consideration or insufficient consideration was given by the authority to the issue of whether to use the safer frangible poles, or to re-site the pole in question.

The investigators therefore conclude that it is most probable that a court would find that a council or road authority owes a duty to road users to take reasonable care in the siting and design of roadside poles.

5.3.2 Standard of Care

Assuming that it is found that the local authority owes a duty to the injured motorist, has it satisfied that duty of care? The standard of care owing is that of "reasonable" care; the prudence with which a reasonable

22. [1970] 1 All E.R. 144, 148.

road authority would act in all the circumstances. There is no issue as to whether streetlighting itself is reasonable. The issue posed is whether the use of the rigid pole, rather than a slip-base or frangible pole is reasonable, taking into account the location of the pole. The decision will rest upon the evidence which is produced before the court with the burden of proof resting upon the injured motorist: relevant factors will include both the location and type of pole used as well as the nature of the road — its surface, camber and the suggested speed limit.

The advocates for the injured motorist would urge upon the court that frangible poles used for streetlighting have an established safety record in other jurisdictions. It would be argued that on a road with a speed limit of 100 km/hr, frangible or slip-base poles, when struck by automobiles, fall in the direction in which the motorist is travelling, and lie harmlessly along the road verge. In addition, such a highway usually has little or no pedestrian traffic.²³

Those advocating the use of rigid poles, that is the solicitor or counsel for the local authority, would argue matters such as the increased cost of utilisation of frangible poles, aesthetic values (perhaps), encouragement to the logging industry and other factors, or even that frangible poles are dangerous.

5.3.2.1 Replacing Rigid Poles Seriatim. No court would impose a standard upon a local council or road authority to replace “overnight” the thousands of rigid luminaire poles which are within the authority’s jurisdiction, even if the court were wholly convinced that safe streetlighting requires the use of frangible poles. In determining whether an authority had acted prudently in retaining the rigid pole in the circumstances of the accident under review it would have to consider the arrangements that the authority had made to implement its policy of using safe roadside equipment. If, for example, the local council, for reasons of cost and manpower, had decided to leave existing rigid poles in place, but to use frangible poles for all poles which were due for replacement (whether through age, deterioration, or damage suffered through being hit by a vehicle) and in all new subdivisions, one would then determine whether the valid policy of the council had been adhered to with regard to the particular pole which had been hit. A council which had a policy of replacing rigid poles, made “dangerous” by dint of their location after road expansion or identified after being involved in several collisions (even if not knocked down), with frangible poles would be considered to be acting reasonably.

5.3.2.2 Conclusion. No general answer can be given to the issue of whether an injured motorist could show that a council failed to use reasonable care when it used a rigid pole to support its streetlighting. The proper conclusion would depend upon the position and vulnerability of the particular pole in question, and the policy of the local council. For example, in the case of *Webb v. State of South Australia*,²⁴ the High Court of Australia in determining that the State of South Australia was liable to the injured plaintiff, Webb, stated that, “the risk of significant personal injury was obvious; the occurrence of such an injury was a distinct possibility. The risk could have been eliminated without difficulty or expense.”²⁵ The State of South Australia had “created the danger by its artificial construction in the highway. In this situation the application of a reasonable standard of care calls for the elimination of risk of injury to users of the highway presented by that artificial construction.”²⁶ In our hypothetical fact situation one could argue that the artificial construction in (or on) the highway was the luminaire pole. It may have required some difficulty or expense to remove the risk by the use of a frangible pole. Given the location (a high speed road with little or no pedestrian traffic) and the potential severity of injury, it is at least possible, if not probable, that a court would find that the local authority in our hypothetical fact situation failed to act reasonably.

5.3.3 Causation

Assuming that there is both a duty owed to the injured motorist and that the use of a rigid pole by the local council or road authority was unreasonable, has that act by the authority caused the injuries to the defendant? In order to determine causation one asks: “but for” the act of the defendant would the injuries have occurred? In such a case the court must speculate. Had the pole been located elsewhere would the driver have had sufficient recovery time to regain control of the motor car and return to the highway without injury or

23. See Chapter 3.

24. (1983) 43 A.L.R. 465.

25. *Id.* 467.

26. *Ibid.*

incident? On the assumption that a luminaire pole was necessary in that position to cast sufficient illumination upon the carriageway of the highway, would the accident have been less severe had the authority used a frangible pole rather than the rigid pole which "speared" the motorist causing serious injury to his back?

While the court must predict what would have happened, it is not entirely guess work. The behaviour of frangible poles is well known and well documented.²⁷ It is a wholly logical conclusion to draw that the use of a frangible pole would have caused lesser injuries.

What caused the collision between the pole and the car? What caused the injuries? The accident may be said to have been caused by two factors: (1) the car leaving the highway and impacting against the pole; (2) the presence of the pole only two metres from the roadway leaving insufficient recovery time for the motorist who has left the highway. One cannot escape from noticing that it was the car that left the highway; not the pole which came out to the car.²⁸ Yet it is stated that the car left the road without negligence on the part of the driver. It is foreseeable that cars will leave the roadway. To place an unforgiving object just off a high speed road may well be *a cause if not the cause*, of a collision.

The cause of the accident may be different from the cause of the injury.²⁹ Perhaps no physical injury would have been suffered by the motorist had a slip-base or frangible pole been used instead of a rigid pole. One would expect that expert medical testimony, as well as engineering testimony, would be presented to explain the sudden deceleration of the automobile, the degree of intrusion into the interior of the automobile and the likely effects of such an impact upon the physical integrity of the plaintiff. Undoubtedly a court would find that the use of a rigid pole, rather than a frangible pole, would have caused an injury of greater severity. The defendant would be liable for the damages associated with the greater degree of injury suffered.

5.3.4 Damages

The analysis as regards damages is very similar to that which was discussed in the first hypothetical fact situation posed. That is, if the local authority is found to have owed a duty of care to the injured motorist and to have failed to satisfy that duty of care, causing the motorist damage, then all those damages which can be said to have been caused by the use of a rigid rather than a frangible pole will have to be compensated for by the local authority.

5.3.5 Conclusion

We conclude that, under certain circumstances, a local council or road authority could be legally liable for damage suffered by a motorist who leaves the road and hits a rigid pole used to support streetlighting, suffering injuries more severe than would have been likely to have been suffered were the pole a frangible or slip-base pole.

A local authority owes a duty of care to motorists using its roads. It must act reasonably in selecting the type of pole that it will place along the roadside. If, in taking account of factors including location, road design, volume of vehicular and pedestrian traffic, and frequency of collision, with a particular pole, a prudent council would have used the safer frangible pole, an authority which fails to do so may be held liable for all damage caused to a motorist. We are supported in our conclusion by the opinion of two eminent members of the Bar who were consulted and offered written opinions to this project.³⁰

5.3.6 Liability to a Negligent Driver

In the hypothetical fact situation just presented, it was assumed that the driver left the road without negligence on his part and hit a rigid pole less than two metres from the road. Would there be any liability on the council to a driver who, through his/her own negligence left the roadway and collided with a pole? The answer to that question is "Yes" — the council could still be liable.

Where accidents are due to that category of negligence which "experience and common sense teach is likely to occur",³¹ a duty is still owed to those motorists. Therefore if leaving the roadway was due to a type of

27. See Chapter 3.

28. Unlike the situation of *Bretherton v. The Council of Shire of Hornsby* [1963] S.R. (N.S.W.) 334 where a self sown tree fell damaging the plaintiff's vehicle.

29. See, e.g., *Froom v. Butcher* [1976] 1 Q.B. 292.

30. See the *Opinions* of W. C. Lee, Q.C. and S. Morris, Appendices C and D.

31. Lord Justice Sachs in *Levine v. Morris* [1970] 1 All E.R. 144, 148.

negligence to which experience shows drivers are prone, or even that the precise cause of the accident is unknown,³² it would afford the local council no valid defence.

It would be likely to affect the quantum of damages awarded against the council. All States in Australia have passed legislation³³ apportioning liability where persons suffer damage partly as a result of their own fault and partly as the fault of any other person. The injured plaintiff recovers an amount reduced to such extent as the court thinks equitable and just having regard to the plaintiff's share in the responsibility for the damage.

5.3.7 Other Objects Hit

In the hypothetical fact situation above it has been assumed that the local authority failed to utilise the safer frangible pole to support its lanterns for streetlighting purposes, and has instead used a rigid pole. Other possibilities include the failure by a local council or other road authority to utilise frangible poles to carry overhead wires, for use in support for road signs, and for traffic signals. The analysis of a potential case against a road authority for failure to use any of these will be an application of the basic rules of the tort of negligence.

Earlier in this chapter³⁴ the appropriateness of using frangible or slip base poles to support signs, traffic control signals, electricity and telephone and telegraph lines was discussed. Investigators are of the opinion that the same analysis would apply in situations where the object hit is a luminaire, a sign or a traffic signal. The frangible utility pole is not yet in widespread use anywhere in the world, and a local council which continues to use a rigid pole to support overhead conductors, is unlikely to be liable to an injured motorist on the basis of choice of type of pole. Liability could be found for failure to relocate or underground a particular "black spot" pole.

The same analysis would apply to other roadside hazards such as bus-stops, call boxes, culverts and the like though the standard of care will vary from object to object. For objects which cannot be made safe by the use of frangible or slip base supports, other methods must be utilised. The relevant public institution can fulfil its duty in a variety of ways: it can relocate the hazard outside the danger or recovery zone; it can use impact attenuators, other safety equipment to minimise the consequences of collision; in some circumstances it may be enough to warn motorists of the impending danger.

5.4 PUBLIC NUISANCE

The investigators have considered whether a person injured as a result of a collision with a pole or other roadside object could bring an action in public nuisance against the authority responsible for the pole or other object. The investigators, together with counsel consulted, conclude that an action in public nuisance is unlikely to succeed in most circumstances.

In order to establish a cause of action in public nuisance, a plaintiff would have to prove two elements: (i) that the placing of the poles was an unlawful act endangering the public; and (ii) that the plaintiff suffered "particular" damage.³⁵

5.4.1 Unlawful Act

The essence of public nuisance is that there must be an act which is unlawful (either at common law or by statute) which "... endangers the lives safety health property or comfort of public ...".³⁶ As Fleming, one of the leading text book writers points out,³⁷ obstructions or encroachments on the public's right of way along the highway were one of the earliest instances of public nuisance recognised by the courts.

Are poles *prima facie* obstructions of the public's right of way? The answer would appear to be "yes". In *R. v. United Kingdom Electric Telegraph Co. Ltd.*,³⁸ the Court held that a pole placed at the side of the road

32. Lord du Parc in *London Passenger Transport Board v. Upson* [1949] 1 All E.R. 60.

33. See e.g. *Wrongs Act* 1958 (Vic.) s. 26.

34. See p. 74.

35. The investigators are here concerned only with a civil action brought by an injured plaintiff, but it should be pointed out that the Attorney-General may initiate a criminal prosecution or may, on his own behalf or on behalf of others, seek an injunction to restrain the public nuisance.

36. *Kent v. Minister for Works* (1973) 2 A.C.T.R. 1, 25-26 per Smithers J.

37. J. G. Fleming, *The Law of Torts*, 5th ed. (Sydney: The Law Book Co., 1977) 394.

38. (1862) 9 C.C.C. 174.

was an obstruction even though it did not hinder the free passage of traffic. It constituted a public nuisance, however, *only if placed without legal authority*.³⁹

The crux of the matter is that the placing of the pole or other object must be without legal authority. The investigators are of the opinion that statutory authorisation is a defence to an allegation of public nuisance. In an early decision of the Victorian Full Court, where the plaintiff alleged both negligence and nuisance in respect of the placing of a guide post with which his horse collided, it was stated:⁴⁰

No presumption of a nuisance legitimately arises from the mere fact that posts have been placed by a municipal council upon a road under its control and management, for the protection of the public passing along the road.

In *Fullarton v. North Melbourne Electric Tramway and Lighting Co. Ltd.*, a decision of the High Court, Chief Justice Griffith stated:⁴¹

In the case of undertakings such as railways, tramways, telegraphs or telephones, it is obvious that the authorised works cannot be carried out without doing many things that are nuisances at common law, such as the erection of posts and laying of rails on highways and stretching wires above them. Such nuisances must be taken as authorised.

The investigators are of the opinion that where a pole is placed along the road by an authority which has general statutory power to do so,⁴² then an allegation of public nuisance will fail.

On the other hand, American writers have suggested that the installation of hazardous roadside objects constitute an actionable public nuisance.⁴³ They rely on the case of *De Lahunta v. Waterbury*⁴⁴ as authority for the proposition that an object placed by a highway authority under general statutory powers might constitute a public nuisance. Fitzpatrick *et al.*,⁴⁵ referring to *De Lahunta v. Waterbury*, state "this case would lend great support for the contention that non-breakaway poles are public nuisances".

The investigators have doubts as to whether this is a correct exposition of the American law. In *De Lahunta v. Waterbury* the municipality, which was acting as a highway authority, had not complied with the requirements necessary to obtain approval for the installation of the device and the structure itself was a violation of the State traffic commission's regulations regarding size and elevation. It could therefore be argued that the Municipality of Waterbury had acted outside its powers and for that reason was not able to rely upon the defence of statutory authorisation, and, hence, they could be liable to the injured parties in public nuisance.

The investigators have found a number of American decisions which tend to cast doubt on the correctness of the view expressed by Fitzpatrick *et al.*, that a pole, the placement of which was authorised by statute, might constitute public nuisance.⁴⁶ These decisions clearly indicate that what would otherwise be a nuisance if placed on the road is legitimatised if done under statutory authorisation.

It is the investigators' opinion that where a statute empowers an authority to place objects along the road, then the placement of such an object is a lawful act, and an action in public nuisance will not succeed. The only situation where an action in public nuisance might succeed is where an authority relying on its general powers under statute to place poles along the road, acts contrary to provisions in another statute specifically prohibiting the placement of such objects along certain roads.

This can be illustrated by an example taken from the relevant legislation in Victoria. The State Electricity Commission of Victoria is empowered under s. 106 of the *State Electricity Commission Act* 1958 to enter upon any public or private lands streets or roads and construct any works and erect on under over along or across the same any poles and electric lines. This section is broad enough to authorise the placement of poles along

39. See also *R. v. Train and Others* (1862) 9 C.C.C. 180, and Pearce and Meston, *The Law Relating to Nuisances*, (London: Sweet and Maxwell, 1926) 115-182, particularly 135-136.

40. *Birmingham v. President etc. of the Shire of Berwick* (1883) 9 V.L.R. 344, 345.

41. (1916) 21 C.L.R. 181, 188.

42. Providing that such an act is not specifically prohibited or regulated by a contrary provision in another statute. This is discussed *infra*.

43. J. E. Fitzpatrick, M. N. Sohn, T. E. Silfen and R. H. Wood, *The Law and Roadside Hazards* (Charlottesville: Michie, 1975) 32-36, 308-340; Annotation — "Collision with Traffic Control Devices", 7 A.L.R. 2d 226-251, particularly 230-231, 235-236, 238-239.

44. (1948) 59 A. 2d 800, 7 A.L.R. 2d 218.

45. Fitzpatrick, Sohn, Silfen and Wood, 316.

46. *McKim v. City of Philadelphia* (1907) 66 A. 340; *City of Prichard v. Alabama Power Co.* (1937) 175 So. 294; *Simpson v. City of Montgomery and Alabama Power Co.* (1968) 211 So. 2d 498; and 39 Am. Jur. 2d, "Highways, Streets and Bridges", 458, 855-856.

the road, whether it be a road under the control of a local council or the Country Roads Board. Nevertheless, this statutory authorisation will not protect the S.E.C. from an action in public nuisance if it acts contrary to a provision in another statute which prohibits the placement of such poles along the road. Such a prohibition can be found in s. 106 of the *Country Roads Act* 1958 which states:

Notwithstanding anything in any Act no tower pole wire pipe or other structure or apparatus shall be placed on over or under any freeway by any public authority or Government department or any person without the prior consent in writing of the Board.

The investigators suggest that if an authority such as the S.E.C., even though generally authorised to place poles along the road, was to place a pole along a freeway without obtaining the written consent of the Country Roads Board, then an action in public nuisance might succeed at the instance of a person injured in a collision with such a pole.

5.4.2 Particular Damage

If a plaintiff can establish that the placement of the offending pole was unlawful, in the sense that it was not authorised at all or, although generally authorised, it was specifically prohibited or regulated, as outlined above, then the plaintiff will have to prove that he has suffered "particular" damage in order to succeed in an action in public nuisance. This means that he will have to prove that he has suffered damage in excess of that likely to be suffered by the general public. Assuming that our plaintiff has suffered injury or property damage in a collision with a pole, he will satisfy this requirement.

5.5 PRACTICAL LEGAL IMPLICATIONS

A reader could be forgiven for wondering if the foregoing presents an accurate representation of the state of the law concerning roadside hazards in Australia today. A personal injury lawyer or member of the legal department at the major electricity suppliers in each State might suggest that the typical matter which reaches the court has the public authority as the claimant seeking compensation for property damage to "its" poles from a motorist who has collided with them. A motorist, passenger or pedestrian seeking compensation from the public authority for injuries caused by its poles is a relative rarity.

It is undoubtedly true that persons injured in the past as a result of collision with an object of roadside "furniture", such as a street pole, traffic signal, signpost or the like, have been reluctant to seek redress from the public authorities who control their construction and maintenance. Several reasons can be offered. The cost of litigation is probably the greatest single disincentive to those who would otherwise seek compensation. Under the Australian method of litigation, costs follow the event — that is, the unsuccessful party must not only bear its own costs of litigation, but in addition, must pay all costs which its opponent has reasonably and properly incurred. A legal adviser, in light of this rule, would properly caution a prospective plaintiff that he must have a very strong *prima facie* case before embarking upon litigation. Furthermore, by substantive tort rules the claimant bears the onus of convincing the trier of fact on the balance of probabilities, and must also bear the risk of the ambiguity of the legal norms.

Despite this considerable hurdle, plaintiffs are suing public authorities in increasing numbers for injuries suffered as a result of the negligent placement or design of roadside furniture.⁴⁷ The tendency of contemporary tort law is to favour injured plaintiffs; the decision, for example, in *Webb's* case ought to spur others to issue writs. The negotiating posture of the public authority has been weakened by recent decisions.

It is practically impossible to comment upon the posture that ought to be taken by motorists who are requested to compensate electricity suppliers or local councils for damages done to their roadside installations. The matter is regulated by statute⁴⁸ and varies markedly from State to State. In some instances, the public authority may have to prove negligence on the part of the motorist; in others, strict liability applies. Those advising motorists should ensure that a *prima facie* case exists against their client before acceding to the request, and should further ensure that the amount requested by the authority to repair or replace the damaged property is fair and reasonable in the circumstances.

47. Reported cases include *Webb v. State of South Australia*, *infra*, *Levine v. Morris* *infra* and *Moore v. Woodman* [1970] V.R. 577. The investigators are aware of other matters (some pending) which have not been the subject of law reporting.

48. See e.g. *Electricity Commission Act*, 1950 (N.S.W.) and *Electric Light and Power Act*, 1958 (Vic.).

5.6 GENERAL CONSIDERATIONS OF ACCIDENT LAW: PRESENT AND FUTURE

This chapter of the project has attempted to detail the law, as it is applied in Australia at the present time, in adjusting the losses due to collisions between motor vehicles and fixed roadside hazards. The area of tort law has been subject to criticism especially from academics and government officials, and the area of personal injury law is especially under scrutiny. The undeniable trend is to emphasise the compensatory nature of tort law today, resulting in a tendency for each of the elements of a negligence action to be satisfied in situations where previously liability would have been denied by the courts. In no area is the acceleration more pronounced than in liability against public authorities with injured plaintiffs receiving damages where previous decisions had denied recovery.

Criticism of the negligence system remains virulent, however, despite the "tinkering" with its operational details. Among the criticisms are the following:

- the fault system operates in an arbitrary and inequitable fashion — like a lottery;
- the tort system is too expensive to operate — including legal and administrative costs;
- the technicalities of the common law are too great;
- the system of transfer of liability has in-built delays which lead to great hardship;
- the fortuity of evidence of fault being available is too great.

The federal government elected in 1983 is committed to major reform of accident compensation. The first step is intended to be the adoption of a non-fault motor compensation scheme accompanied by the abolition of common law claims.⁴⁹ Any rational system of law in the area of motor vehicle accidents will include among its objectives the following:

- promotion of safety and prevention of accidents;
- adequate and timely compensation to all victims of accidents;
- deterrence of activities which present a high risk of injury to road users;
- low transaction costs in providing compensation to victims;
- proper allocation of resources.

The law presently regulating road traffic accidents emphasises only the provision of compensation to "deserving" victims; that is, those who can prove that fault which caused their injuries, and who are substantially free from fault themselves. The object of deterrence has been lost since the advent of compulsory third party insurance, while the legal and administrative costs of transferring each dollar of compensation to the victim have gone up enormously.

5.7 ACCIDENT LAW AND THIS PROJECT

The investigators were asked to embark upon this project to clarify the legal implications surrounding the use of frangible poles so that an authority giving consideration to using such poles would be able to intelligently assess any risk involved in their installation. We have become convinced that the massive loss of life, physical injury and property damage which result from collision between vehicles and roadside objects can be lessened through their use. We are pleased (and not surprised) to see that the law as presently interpreted in Australia imposes no potential liability upon authorities who use safer poles, and may impose liability upon those who fail to use them.

It is unlikely in our opinion that the implications of the law of torts will be the principal cause of the widespread use of safer roadside "furniture". Surely the personnel of local councils, highway authorities, electricity suppliers and the like are persons of goodwill who recognise and wish to give effect to the societal goal of reducing accidents and the losses produced by them. Once the variety of safer hardware and its availability within Australia at a competitive price is known, serious contemplation will be given to its widespread use.

49. See G. Evans, Attorney General, "Policy on Law and Justice" abstracted in 18 *Australian Law News* 11 (March 1983).

The law of tort must play a secondary role to the general societal goal of road traffic safety, and to overall economic factors in the selection of roadside objects. No one wishes to “scare” or “force” authorities to use frangible or slip-base poles. Yet tort law can be a catalyst to effect a truer costing of the use of roadside objects. There has been a marked tendency in the development of tort law to effectuate loss distribution. The aim has been to achieve an allocation of loss by placing liability upon the enterprise or organisation that has a “deeper pocket” or can more evenly distribute the loss throughout the community. In any given case involving a fixed roadside hazard, the plaintiff is likely to be an individual while the defendant is likely to be a highway authority, local council or public utility. As between those, the private individual is less likely to be able to bear the entire loss, or to shift or distribute it. The public authority, on the other hand, can allocate such losses throughout the motoring public, the ratepayers, or the customers of the utility.

A responsible road authority may decide that the cost of using a slip-base pole is, say, \$20.00 per pole more expensive⁵⁰ than to continue to use a rigid pole. If only three accidents per year causing physical injuries at, say, \$100,000 recovery per accident, were to be attributed to the authorities, that might well demonstrate that rigid poles are more expensive to use than frangible poles. The use of tort law to effect proper allocation of resources would then dictate use of the safer roadside equipment.

50. It is presently impossible to conduct a cost comparison between using frangible or slip-base poles and rigid poles. Costs per pole will depend upon the number of poles ordered (economies of scale), the design chosen, the instruction given to maintenance crews and the repair equipment carried etc. Some jurisdictions believe that slip-base poles are less expensive per pole than comparable rigid poles; traffic engineers in other jurisdictions have suggested a contrary experience.

INSURANCE AND ITS ROLE IN COLLISIONS WITH ROADSIDE HAZARDS

6.1 INTRODUCTION

Insurance has an important role to play in the road traffic area not only in providing funds for the compensation and rehabilitation of motor accident victims but also in the area of road safety. Although at present there are moves from both State and Commonwealth Governments which may markedly alter the role insurance has to play in road traffic accidents, the investigators are convinced that regardless of the outcome of the evolution of the insurance industry in this field, it will have a major responsibility to reduce the incidence of injury and death through collisions with roadside hazards. The American insurance industry has been conscious of this role and over the last two decades has actively sought to reduce the number of roadside hazards through negotiation with various highway authorities and also through generating public awareness of the issue. With the exception of a few insurers, the Australian insurance industry has generally not been aware of the problems posed by roadside hazards and therefore have done nothing to ameliorate the situation. Nevertheless, the Australian insurers contacted by the investigators have been generally co-operative and interested in the programmes adopted by their American counterparts in reducing roadside hazards.

6.2 TYPES OF INSURANCE AVAILABLE IN AUSTRALIA FOR ROAD TRAFFIC ACCIDENTS

6.2.1 Compulsory Third Party

All Australian States and Territories have enacted compulsory third party insurance schemes which are funded by payments made annually by each owner of a registered vehicle.¹ As a result of these schemes, a person injured as a consequence of a motor vehicle accident (or his dependants in the case of death) has access to unlimited insurance funds if it can be shown that the driver was at fault. Most victims of roadside object collisions are able to obtain damages for their injuries either by a settlement reached with the third party insurer or as a result of a judgment against the driver which is satisfied by the insurer.

Excluded from recovery under third party schemes are those injured persons who cannot establish that someone was at fault. A driver, for instance, who may be totally free from fault, cannot recover under third party insurance unless he can find someone whose fault caused the accident.

6.2.2 Optional Third Party Insurance

Two other forms of indemnity insurance are available throughout Australia which have an impact upon road traffic accidents. Persons and organisations whose acts can foreseeably affect the users of roads can acquire an indemnity policy to compensate anyone injured as a result of their negligence. In the context of this report, a road authority, local council or electricity supplier could arrange a public liability cover against the risks associated with the use of a particular type of pole, or for poles located close to the carriageway, or for faulty maintenance, or the like. This is a form of indemnity insurance. The insurer will only pay the insured if that

1. *Motor Vehicles (Third Party Insurance) Act, 1942 (N.S.W.)*; *Motor Vehicles Insurance Act, 1936-1979 (Qld.)*; *Motor Vehicles Act, 1959-1983 (S.A.)*; *Motor Accidents (Liabilities and Compensation) Act, 1973 (Tas.)*; *Motor Car Act, 1958 (Vic.)*; *Motor Vehicle (Third Party Insurance) Act, 1943 (W.A.)*; *Motor Traffic Ordinance, 1936 (A.C.T.)*; *Traffic Ordinance (as amended) (N.T.)*.

insured party has a legal liability; that is, the insured is responsible, by law, to pay an injured person. In practice the insurer, upon being notified by the policy holder, will conduct negotiations, and arrange to have the matter defended in court, if necessary.

Individuals and organisations who have arranged compulsory third party insurance against the risk of liability to a third party for personal injuries incurred through road traffic accidents may also choose to take third party insurance cover for any property damage that they may cause to third parties through negligent driving. No State or Territory presently requires such cover to be arranged. It operates for property damage in the same way that compulsory third party insurance operates for personal injuries.

6.2.3 Statutory No-Fault Insurance Schemes

In addition to insurance which is arranged by the owner or driver to cover any liability to third parties which arises as a result of his fault, two States and one Territory have legislation² which provides compensation to traffic accident victims (or their dependants) regardless of fault. These Acts provide benefits to those injured, including drivers in one-car accidents, pedestrians, passengers etc. through an administrative process rather than through litigation in the courts. The New South Wales Law Reform Commission has recently released a report favouring the introduction of similar legislation into that State³ and the Federal Attorney-General, Senator Gareth Evans, has stated that the Commonwealth would be guided by the recommendations of the New South Wales Report.⁴

While the no-fault compensation statutes vary from State to State in detail, the core provisions are similar. Each statute creates an independent statutory body to provide funds to traffic accident victims on a no-fault basis, such funds arising from income acquired through compulsory third party premiums. The relevant benefit is paid upon receipt of proof that the accident was "caused by or arose from the use of a motor vehicle" and proof of loss. A written application is forwarded to the administrator of the scheme; usually neither a personal appearance nor assistance from a legal advisor is necessary.

Benefits payable under the statutes include:

- (i) loss of earnings or for loss of earning capacity;
- (ii) lump sum to dependants upon death of the wage earner;
- (iii) medical and associated benefits.

There is no benefit payable for pain and suffering. Payments made from other sources such as workers compensation, private insurance and the like are, in general, deducted so as to prevent double recovery. There is a ceiling on the benefit available — for example, in Victoria an injured party may receive up to \$20,800 in lost earning capacity as well as reasonably incurred expenses, e.g. medical, hospital or funeral.

It is not the intention of the Victorian and Tasmanian Acts to replace the common law action of negligence available to persons injured in road traffic accidents. Rather it was hoped that the benefits provided by the schemes would be adequate in most cases to deter the victim from bringing a legal action. In other words, in these States the common law action of negligence co-exists with the scheme. The injured person must first claim benefits from the scheme rather than through the courts.⁵ But he may still bring an action at common law for damages of the type not awarded by the statute (e.g. pain and suffering) or damages greater than the monetary limits of the scheme.

On the other hand in the Northern Territory and in the New South Wales proposal, the common law action is abolished.⁶ Proponents of the abolition of the common law action point out that its retention, together with a no-fault scheme, would be far too expensive. They advocate that first party insurance should be made available for those who wish to recover amounts greater than those provided for in the no-fault schemes.

There is a clear trend toward no-fault schemes in the legal handling of road traffic accidents, and they will become even more important in the future. Whether the schemes continue on a State by State basis or as a

2. *Motor Accidents Act*, 1973 (Vic.); *Motor Accidents (Liabilities and Compensation) Act*, 1973 (Tas.); *Motor Accidents (Compensation) Act* (as amended) 1979 (N.T.).

3. New South Wales Law Reform Commission, *Working Paper, Compensation for Transport Accidents*, (1983).

4. See e.g. "How Would the Injured Fare Under National Compo?", 57 L.I.J. 523, (1983).

5. See e.g. *Motor Accidents Act*, 1973 (Vic.), s. 79.

6. *Motor Accidents (Compensation) Act* (as amended) 1979 (N.T.), s. 5(1). An action for pain and suffering is preserved in the Northern Territory, limited to a maximum recovery of \$100,000. See ss. 5(2) and 39(1).

result of legislation agreed upon between the Commonwealth and the States, and whether common law actions are abolished, or not, no-fault recovery of compensation is likely to become universal. The implications for roadside safety are discussed below in 6.5.

6.3 OTHER SYSTEMS OF RECOVERY

The legal community tends to view recovery through common law actions in the courts and by negotiated settlement, and recovery under the no-fault automobile schemes as the sole methods of compensation for accidents. There are other methods which should be mentioned for completeness though they will not be extensively reviewed here.

In addition to third party or liability insurance, there are several forms of first party, or personal insurance which protect the policy holder, and his dependants against the risks of road accidents. Relevant here would be, for example, life insurance, medical and hospital cover, property insurance, and personal accident insurance.⁷ In Australia most vehicle owners would look to their comprehensive insurance cover to effect repairs after collisions. Persons in all States but Victoria and Tasmania, would look to their individual medical and hospital cover for reimbursement for expenses incurred following a road accident.

The States also provide benefits which may be available to victims of road traffic collisions. Included within this could be workers' compensation and social security payments, such as invalid pension, widow's pension and sickness benefits. For example, workers who are injured as a result of road traffic accidents which occur while at work, or on journeys to and from their place of employment would usually look to benefits provided by the statutory workers' compensation schemes, rather than to benefits under the motorist schemes. Persons already in receipt of social security benefits usually need not refund these upon receipt of an award of damages, though there is, sometimes, an obligation to repay.⁸

As well as sources from government, or provided under statutes, private sources may be available to the victim. In most situations of employment, as a term of the contract, a person will be entitled to wages and salary even when away sick or as a result of an accident. Other occupational schemes would include early retirement schemes, superannuation and disability benefits.

6.4 THE OBJECTIVES OF TORT LAW AND THE EFFECT OF INSURANCE

Speaking broadly, the law of torts in the area of road accidents has two objectives. It attempts to provide full *compensation* to those injured in road accidents, insofar as the victims can prove fault on the part of someone who caused their injury, and that they (the victims) are substantially free from fault in causing the accident. Secondly it attempts to promote safety and prevent accidents by deterring the motorist from blame-worthy driving. Similarly it seeks to deter anyone whose acts can foreseeably cause injury on the road (such as road authorities, local councils, electricity suppliers, and others who place objects along the road) from acting carelessly, by holding them responsible for all damage caused by their negligence.

How has the availability of insurance affected these general objectives? Undoubtedly the widespread availability of insurance has facilitated the goal of compensation. The victim of an automobile accident who can prove fault is now almost guaranteed to actually receive the damages awarded by the court. Insurance provides a guarantee that funds will be available to meet claims. Because insurance operates to spread the risk among all insured, the motorist or other person who is found liable need not bear the entire risk (with its possibly crippling financial effect) but instead, through the payment of a premium, is freed from financial liability.

The widespread availability of insurance appears to have almost entirely eliminated the effectiveness of tort law in preventing or eliminating road traffic accidents. Before insurance became commonplace, the theory behind tort law was that the imposition of liability for any negligent act would so affect the potential wrong doer that it would encourage constant vigilance, and thus help to prevent accidents. Since insurance now replaces the personal onus on the wrong doer to pay damages, the deterrent no longer operates.

7. See further, P. T. Atiyah *Accidents, Compensation and the Law*, (London, Weidenfeld and Nicholson, 3rd edn., 1980). Chs. 12-17.

8. For a discussion of the relationship between forms of recovery, see e.g. Paras. 55-100 to 56-200 of C.C.H., *Victorian Workers' Compensation Practice Guide*.

It may well be that the law of torts was never particularly effective in preventing accidents. The continuing presence of the sanction of the criminal law for intentional wrong doing, and the fear of personal injury to oneself, are likely to be more effective than the threat of the imposition of a judgment some years in the future.

It also may be possible to distinguish two types of behaviour which are risk creating and which should be discouraged in the interest of road safety. The momentary inadvertence of a driver, the venial act of negligence, or the failure to act is one type and appears to be relatively intractable. It is said that the average driver is guilty of many errors of judgment and negligence or inattentive moments every time he uses a motor vehicle. Most have no consequence; they result in no injury or loss; the driver escapes any blame. While programmes of driver education, high visible police enforcement, and perhaps driver retesting can lessen the impact of such acts of negligence, they are likely to remain a constant source of collision.

The second type is far less ephemeral. The investigators have discussed in the previous chapters the creation of a safer roadside environment. Those persons and institutions which own, control or maintain objects on or alongside the road can, by their acts, either create a hazardous environment, or minimise the dangers to motorist and passengers. The actions of these authorities and councils are not unplanned and need not be inadvertent. The failure, for instance, to use a safer form of pole, or to locate objects at sufficient distance from the carriageway is an act which should be susceptible to societal pressure. Before insurance, persons or institutions found negligent would have had to pay for the entire damage caused; since insurance the loss is spread.

6.5 INSURANCE COMPANIES AND ROADSIDE HAZARDS

The enormous cost of accidents to the community has been well documented.⁹ The investigators believe that the responsibility for reducing the road toll is shared; the driver, vehicle manufacturers, public institutions such as road authorities and local councils, motoring organisations such as the RACV, government bodies, especially State and Commonwealth Departments of Transport, and insurance companies. In practical terms, it may be suggested that those with the largest financial stake in motoring have the greatest "clout" and most ability to affect the behaviour of those who design and maintain the roadside environment. In this chapter the insurance industry has been isolated to outline its potential for contributing to a safer highway.

The march toward more complete compensation for the injured motorist ought not to inhibit in any way the promotion of roadside safety and preventive measures to ensure that unnecessary roadside hazards are minimised or eliminated. Regardless of whether compensation to a victim of a traffic accident is dependent upon proving fault or not, and whether compensation is paid directly by the driver-owner, or by the negligent road authority, or by an indemnity insurance company, or by a government agency, an ultimate objective must be to prevent accidents as well as to compensate victims. With governments now committed to a policy of fair compensation to every person injured as a result of road transport, it is incumbent upon all reasonable agencies to ensure that accidents are kept to a minimum. The investigators are of the opinion that alteration to the roadside offers the greatest possibility to reduce fatalities and serious injury within the general area of road transport accidents.

What can insurance companies do to promote accident prevention with regard to roadside hazards? The investigators approached five Australian insurance companies as well as the Insurance Council of Australia to ascertain their attitudes to claims made in respect of injuries sustained by persons involved in collisions with a roadside hazards, and, more importantly, whether they had initiated any programmes aimed at the correction these hazards.

The general response was that the companies surveyed had never considered taking action against an authority for the negligent siting or design of a roadside object. They had paid without question (except in the matter of depreciation) all claims from authorities in respect of damage to their installations caused by an insured driver. Most of the companies contacted expressed concern at the rising cost of meeting claims to property damage to the vehicles and objects involved. One company, the RACV, permitted the investigators to study files in respect of claims lodged by individuals in collisions with roadside objects. This company was aware of the problem and had attempted to publicise it.¹⁰

In the United States, insurers have been more active in directing campaigns against the dangers posed by roadside hazards. Both the Insurance Institute for Highway Safety and the Federation of Insurance Council

10. *Royalauto*, September, 1978, 15.

9. See Ch. 2, esp. ss. 2.7 to 2.7.2.

through publications and films have attempted to influence relevant government highway departments to provide more "forgiving" objects along the road. These organisations have also tried to make insurance companies more aware of the role they can play in the prevention of collisions with roadside hazards.

One company, Nationwide Mutual, instituted the "Booby Trapped Highway Program" in 1974. Under this programme, the company has withheld payment to highway authorities unless the hazardous fixture involved in the collision is replaced by a safe device, properly installed. Mr J. E. Fisher, the President of Nationwide Mutual, stated at the inception of the program:

The roadside must be made safer so that errant drivers — and they can be anyone — won't be sentenced to death or disabling injury by smashing into unyielding roadside menaces, such as steel poles or concrete bridge pillars. Drivers, particularly those who run off the road because of momentary inattention, should have a chance to regain control of their cars, rather than be killed or maimed by roadside hazards. While the modern four-lane divided highways are safer than the old narrow two-lane country roads, they can be made far safer by installing breakaway poles and by building adequate guardrails around concrete pillars.¹¹

The investigators recommend that insurance companies in Australia familiarise themselves with the campaigns conducted in the United States. It is further recommended that insurance companies programme their information retrieval systems to be able to ascertain the frequency and cost of collisions with roadside objects. Insurance companies are in a unique position to ascertain particularly dangerous locations and hazards. When in possession of such information they can play a major role in reducing the road toll by informing and persuading road authorities to alter the roadside environment.¹²

The direct approach taken by Nationwide Mutual may not be suitable for Australian conditions. Responsible road authorities, local councils and electricity suppliers ought not to be pressured or bludgeoned into replacing hazardous roadside equipment, or relocating it at a position further from the carriageway. The investigators are of the opinion that dissemination of information of the availability and behaviour of items such as frangible poles and impact attenuators will stimulate road authorities to take action to replace dangerous equipment within the capacity of their budgets with all deliberate speed.

If, after the passage of appropriate time, local councils or road authorities continue to ignore their duty to motorists and passengers, then perhaps repeated civil actions for negligence by injured plaintiffs, and a refusal by insurance companies to pay for the replacement of hazardous fixtures could supply the necessary "incentive". As a first step, however, we believe that insurance companies should embark upon a programme of distribution of information and assembling statistics related to roadside hazards.

11. "News from Nationwide Insurance", June 5, 1974, 3.

12. The investigators are aware that the recommendations go beyond the legal implications of roadside hazards. By the collection of relevant data, legislation may be proposed to reduce risk. If legal advisers and insurers are aware of the dangers posed by roadside hazards and the steps that may be taken to enforce the rights of injured parties, this will assist in the proper distribution of compensation, and may lead to preventive steps being undertaken.

PROJECT SUMMARY AND RECOMMENDATIONS

7.1 INTRODUCTION (CHAPTER 1)

In 1978 the Office of Road Safety of the Australian Department of Transport commissioned this study into the legal implications surrounding the use of frangible or breakaway poles for street lighting and the support of overhead conductors. Frangible or breakaway poles are safety devices in that they yield or collapse on impact, thus decreasing the possibility of injury to the occupants and the amount of damage to the vehicle. Conventional rigid poles, on the other hand, whether made of timber, steel or concrete, cause a rapid deceleration of the impacting vehicle and thus their potential for severe injury to the occupants and damage to the vehicle is high. The Office of Road Safety considered that the use of frangible poles was one way of creating a safer roadside environment, as their use significantly reduces the severity of vehicle-pole collisions.

The Department of Transport had previously sponsored other projects which dealt with different aspects of roadside hazards. These culminated in a three year project into vehicle-pole collisions by the University of Melbourne Department of Mechanical Engineering. In the report of the findings of the project, the investigators recommended that for new installations, breakaway poles should be mandatory for street lighting and that electric cables should be undergrounded. Where poles had to be located along the road, the investigators stressed that they should be offset by at least 3 metres from the travelled edge. In relation to existing street lighting poles, the authors recommended that replacement of rigid poles with breakaway designs should occur where the pole was due for replacement or where there was a determination that it posed a particular hazard. Finally, the investigators recommended that the "legal responsibilities of the owners of unnecessarily hazardous roadside assets should be clarified".

The need for legal clarification grew out of a discussion paper presented at the Fixed Roadside Hazards Symposium in 1977. Discussion at this symposium brought to light the fact that many State and local instrumentalities were concerned that the use of frangible or breakaway poles might expose them to increased legal liability. The reasons for this were two-fold. First, these instrumentalities believed that because it is the very nature of a breakaway pole to yield, the incidence of accidents where poles fell would increase. Pedestrians and following motorists would be exposed to greater hazards and increased injuries and property damage would result. Second, many instrumentalities felt that, as with the misfeasance-nonfeasance distinction, they would incur no liability if they continued to use existing rigid poles. This attitude was reinforced by the fact that claims had never been made against them by a motorist or passenger injured in a collision with a rigid pole.

The attitude of some authorities was that while it was their responsibility to ensure that the road surface was adequately designed and lit to minimise accidents, objects along the road were not their problem. After all, poles are not in the path of motorists; if pole-vehicle collisions occurred, it was the fault of the motorist: either he was under the influence of alcohol, or he was reckless, careless or inattentive. Installing breakaway devices would not diminish the number of accidents and might, in their view, increase them. The Office of Road Safety, in order to alleviate concern, commissioned this project to clarify the legal implications surrounding their use.

7.2 GENERAL AIM OF THE PROJECT

The aim of the project was to clarify legal implications of the use of frangible or breakaway poles. This involved an investigation of the legal liability of the various State instrumentalities and authorities who decide upon the type of pole to be utilised and who control the maintenance of the pole or signal. This investigation

had two aspects. First it required an examination of whether an instrumentality would incur liability if a breakaway pole fell injuring a motorist, a passenger or pedestrian or causing property damage. Second it required an investigation of whether an instrumentality which used a rigid pole when a breakaway one would be safer (or merely maintained a rigid pole in a position where it posed a danger to motorists) could incur liability for damage sustained by a motorist or a passenger from a collision with such a pole. In other words, could an instrumentality incur liability for failing to use the safest device available? Roadside objects encompassed by this study were poles which support overhead conductors or street lights, sign posts and traffic control signals. The potential liability of instrumentalities in all the States was examined.

7.3 SPECIFIC OBJECTIVES

The specific objectives of the project can be broadly summarised as follows. First, it was necessary to identify the legal concepts which would be relevant when a vehicle impacts a fixed roadside object such as a utility or luminaire pole, a sign post or a traffic control signal. Second, the legally relevant facts which are enumerated below had to be ascertained:

Who owns the object struck (i.e. the pole, sign or signal)?

Who controls the object?

Who inspects the condition of the object?

What is the location of the object vis-à-vis the road?

What is the design of the object?

Is safer equipment available?

Are safety devices absent?

Why did the motorist leave the road?

The project investigators concentrated on the following general questions. If a frangible or breakaway pole were to fall and injure a pedestrian or motorist or cause property damage, would there be any liability on the part of the owner or controller of the pole based on the ordinary principles of negligence? What is the behaviour of the various types of breakaway or frangible poles indicated by the experience in the jurisdictions which use them? What is the incidence of injuries to or damage suffered by pedestrians or motorists as a result of a falling column? Are there any constraints on their use which is justifiable by experience? What is the behaviour of rigid poles compared to breakaway poles? What is the difference in casualty and property damage rates? If a motorist or passenger suffered injury or damage as a result of a collision with a rigid pole, are there circumstances where the owner or controller of the pole could incur liability on the ordinary principles of negligence? What are the legal implications for authorities for failing to use breakaway designs or failing to take steps to minimise the risk imposed? Which authorities in each Australian State would be potential defendants?

7.4 THE ADEQUACY OF DATA REGARDING FIXED OBJECT COLLISIONS (CHAPTER 2)

Numerous commentators have recognised that Australian statistics on collisions with fixed roadside objects are inadequate. This inadequacy makes it difficult to present a true picture of the incidence, severity and cost of fixed object collisions in Australia. Aside from the lack of uniformity among the States and Territories, the data is inadequate in four respects. First, statistical reports of accidents are far from uniform. Some States classify accidents according to the primary object struck ignoring the fact that the vehicle may have been involved in a secondary collision which caused injury or damage. This may well result in a distortion of the incidence and severity of accidents. Second, the data are inadequate in the manner in which fixed objects are categorised. For example, striking a pole depending on the particular State, might mean a utility pole or a street lighting pole or some other type of pole altogether. This failure to recognise the importance of pole function makes cost/benefit analysis difficult. Third, not all States collect data on accidents which result in property damage only. New South Wales, for example, requires the reporting of an accident if it involves a casualty or property damage of \$300 or more, whereas in Victoria accidents are not usually reported unless there is a casualty. This of course results in an under-reporting of the incidence of particular types of fixed

object collisions as well as affecting estimates regarding the severity and cost. Fourth, most States do not classify the severity of the injury which results from a collision. It is termed a casualty or a fatality. There is no indication of whether the casualty is series or minor. This makes overall estimates regarding severity and cost difficult.

The investigators recommend that a uniform system of reporting of accidents be adopted which would alleviate the deficiencies mentioned above.

7.5 VEHICLE/POLE COLLISIONS: INCIDENCE AND SEVERITY

As pointed out above, official Australian statistics distort the road accident picture. Because of this the investigators have relied on data provided by two Australian studies. The first study by Vaughan from the New South Wales Traffic Accident Research Unit examined characteristics of pole crashes in that State. The second study relied on for statistical data was that undertaken by Fox, Good and Joubert of the University of Melbourne Department of Mechanical Engineering.

The objects most frequently hit in Vaughan's study were poles. Over 50% of accidents involving poles produced casualties. Although other objects produced higher casualty ratings, namely traffic islands, median islands/strips, and trees within roadway boundaries, none of these categories of objects involved nearly as high a number of reported accidents as did poles. In Vaughan's study, pole accidents accounted for over 20% of all reported fixed object collisions and total fixed object casualty crashes, and 28% of all casualties both fatal and non-fatal. It is clear from the data presented by Vaughan that there is a high incidence of pole crashes as well as high severity. As Vaughan stated:

Pole involved crashes were about three times more serious in terms of fatalities as the "average" crash reported. . . . Poles appear to have been the most dangerous man-made objects struck by motor vehicles in New South Wales in 1973.

The Melbourne University Study investigators collected data for eight months on vehicle/pole collisions in the Melbourne metropolitan area which resulted in vehicle disablement. The Melbourne University Study investigators concluded that the injury statistics produced by their survey, when compared with those of Victoria's Road Safety and Traffic Authority and the Motor Accidents Board, accounted for all fatalities but was conservative in estimating the incidence of pole collisions and the number of injuries resulting therefrom. They estimated that pole accidents, both primary and secondary, produced 45 fatalities and 785 injuries in the Melbourne metropolitan area annually.

In relation to fixed object collisions, the authors of the survey concluded that primary pole accidents account for 22.2% of fatal fixed object collisions and 32.9% of injury producing fixed object collisions on a State wide basis. For the Melbourne metropolitan area the authors estimated that pole accidents account for 45.3% of all fatal fixed object collisions and 51.9% of all injury producing fixed object collisions. Although there are discrepancies between the two studies, it is clear that somewhere between one-third and one-half of all vehicle/pole collisions result in casualties. As the authors of the Melbourne University Study point out, if on measures severity in terms of the number of fatalities per 100 casualties, pole/vehicle collisions are 1.5 times greater in severity than the average accident.

Overseas studies have confirmed the danger posed by poles in general and street lighting in particular. In is difficult to quantify with any precision the annual number of accidents in Australia involving lighting or other poles, much less the resulting number of injuries and fatalities or property damage. Few statistical summaries differentiate between the type of pole hit. In addition, as mentioned earlier, there are usually methodological discrepancies between the various data gathering agencies. Nevertheless it is possible to obtain some idea of the number of street lighting pole collisions in particular jurisdictions, although it may prove difficult to extrapolate and apply these findings to the whole of Australia.

Vaughan took a random sample of 10% of the reported pole accidents and examined the records in order to determine what type of damage was done to the pole. This makes it possible to obtain some idea of the annual figures of street lighting poles struck although no conclusions can be drawn regarding severity of these pole collisions. Poles which do not carry power cables accounted for roughly one out of every three vehicle/pole collisions. Collisions with street lighting poles alone would account for approximately 205 accidents in that year.

7.6 SOCIETAL COSTS OF POLE COLLISIONS

The courts do not attempt to calculate the total cost of pole collisions to any given jurisdiction. That is a task left to statisticians. The estimations vary dramatically depending on the philosophy adopted which dictates the choice of the components which contribute to the cost of an accident.

Few authors have analysed the cost of an accident in relation to the particular objects struck. For these reasons the investigators utilised the data and analysis produced by the Melbourne University Study regarding the cost associated with their sample of accidents in the Melbourne metropolitan area.

The authors of the Melbourne University Study used three different methods to calculate the societal costs of pole accidents in Melbourne. One method termed "current resource costs" was based on the direct cost attributable to the accident. Using this method, the authors of the study estimated that the annual cost of vehicle/pole collisions in the Melbourne metropolitan area was \$7 million and that the average cost per accident was \$3,371. The second method termed "total costs net of consumption" included direct and indirect costs. The authors, using this method, estimated that the annual cost of vehicle/pole collisions in the Melbourne metropolitan area was \$16.9 million and that the average cost per accident was \$8,186. The third method termed "total costs" included the same components as the second method with the exception that the average consumption was not deducted from foregone earnings. The authors estimated, using this method, that the annual cost of vehicle/pole collisions in the Melbourne metropolitan area was \$23.1 million and that the average cost per accident was \$11,175.

It is clear that collisions with roadside objects in particular utility and luminaire poles and traffic control signals carry with them a high societal cost. On a conservative basis, taking into account only those direct costs attributable to a vehicle/pole collision, the cost in the Melbourne metropolitan area alone amounts to \$7 million each year, or \$3,371 per collision.

7.7 STATE OF THE ART — THE STANDARD OF CARE (CHAPTER 3)

The investigators were required to assemble engineering and technical information about road construction and roadside objects. These data are necessary in order to determine whether an action in negligence would lie against a road authority as an essential element of any negligence action is whether there has been a breach of the standard of care owed by a road authority to a road user.

The standard of care is determined by reference to technological development and change, practices and methods currently in use, i.e. the state of the art. This is not to say that a road authority is necessarily required to adopt the latest safety devices irrespective of other factors. What is required is that an authority in the performance of its duty in the placement and design of the devices located along the road, must act in a manner which is reasonable taking into account such other factors as cost, accident rates, etc. Resolution of the question of the standard of care applicable is determined by reference to what a reasonable road engineer fully apprised of the circumstances, would do. It is therefore necessary to describe the state of the art which currently applies in the area of the design and location of fixed objects along the road. In order to accomplish this the investigators canvassed practices in all the Australian States as well as the Northern Territory and the Australian Capital Territory. Additionally, questionnaires were sent to the Highway Departments of each of the American States, the Canadian Federal Highway Authority, each of the Canadian Provincial Highway Departments and to the New Zealand Road Authority. Information was received from the road safety bodies of Sweden and the Netherlands. Current literature in the field was surveyed and researchers both in Australia and overseas were contacted about the latest developments.

7.7.1 Utility Poles

7.7.1.1 Design. During the last five years, researchers both in Australia and overseas have experimented with designs for a utility pole which will minimise the severity of an impact by a vehicle. The feature which distinguishes the design of utility poles from that of poles which provide only street lighting is the difficulty of ensuring that overhead electric cables are kept aloft when the pole is impacted. The researchers in the field have experimented with a breakaway design whereby on impact, the pole yields at the base while the cross beam detaches and remains aloft, thus preventing the cables from falling. It has been suggested that this procedure could be used to modify timber utility poles which pose a particular hazard to motorists because of their location although a modified pole will still pose some degree of danger to the motorist. A device to guard

and prevent the pole from falling on the road surface by means of supporting cables attached to neighbouring poles has also been suggested. The investigators' Australian and overseas enquiries have not revealed any jurisdiction which currently regularly uses a modified breakaway utility pole although one American State does use such poles as temporary poles. The Australian research in this area has indicated that the modified pole would only be feasible where other alternatives such as undergrounding of cables or relocation of the pole are not possible.

7.7.1.2 Alternatives: Location of Poles and Undergrounding of Cables. Strictly speaking the present study is limited to the legal implications of the use of poles of alternative design. The matter of location presents further legal issues which are briefly dealt with in this report. The matter of location is important as the legal characterisation of negligence requires an appreciation of the alternatives available to traffic engineers and the feasibility of the use of such alternatives. The investigators' survey of Australian practises has revealed that there is no uniformity amongst the Australian States regarding the placing of utility poles along the road. The location of poles along the roadside is a primary factor affecting the frequency and severity of pole collisions. The Melbourne University Study concluded that such factors as the horizontal curvature of the road, the traffic flow rate, the skid resistance of the surface, road width, super-elevation of the road, placement on the inside or outside of a bend and the lateral offset of the pole from the kerb all influence whether a pole is likely to be impacted and also the resulting severity of such an accident. The authors of the Melbourne University Study noted the particular importance of the lateral offset of the pole:

The results indicate that the probability of an accident involving poles at the pavement edge is 3.5 times higher than for poles which are set 3 metres back from the road edge. They also show that little further reduction in accident probability is achieved by moving the pole back from 3 metres to 12 metres offset.

Despite the clear evidence that pole location is a central factor in collisions, none of the Australian States appears to prescribe any general restriction or policy on the placement of utility poles in the area adjacent to the road. Although electricity authorities in some States are required to obtain the consent of the local Council for the placement of utility poles along the road, more attention is usually given to aesthetics than to road safety. The only area where there is some uniformity amongst the States regarding the placement of utility poles is in respect of freeways. Practically every State has legislated to prohibit utility poles along this category of road unless the responsible road authority has consented in writing. The situation in the United States is quite different in this respect. The American Association of State Highways and Transportation Officials has recommended that utility poles be not permitted within 30 feet (9.14 m) of the road. Most of the American States' Highway Departments observe this restriction, authorising the placement of a pole within this area only if it is shielded from motorists by a guardrail placed behind a non-mountable kerb or on the upslope of a ditch.

7.7.1.3 Legal Implications of Hazardous Utility Poles. Utility poles constitute one of the greatest hazards to motorists both in terms of the frequency of accidents and in severity. In the opinion of the investigators, it would breach the standard of care owed to a motorist to leave unaltered a hazardous utility pole or to place a new utility pole in a hazardous location. Utility poles can be identified as hazardous either because they have been involved in a collision or because they have a high accident probability according to the model designed by the Melbourne University Department of Mechanical Engineering. At the present time modification of the design of utility poles does not offer the motorist adequate protection; therefore the prudent road authority must alter the location of hazardous poles, underground the cables, or use impact attenuators. It is recognised that, in part, the present hazardous position of certain utility poles has resulted from changing patterns in vehicular traffic, widening of road surfaces, increased speed limits and other factors beyond the control of the authority which originally constructed or which now owns or controls a particular pole. These factors can affect legal liability. Although the common law does not demand, and cannot expect, that hundreds of thousands of utility poles will be relocated overnight or otherwise modified, it does, however, require that when a given pole becomes especially hazardous or has been knocked down and needs to be replaced, that the responsible institution will act with prudence to eliminate undue risks which threaten a motorist's safety. An authority may face the imposition of legal liability for the damages which ensue from its failure to take such steps.

7.7.2 Street Lighting Poles

7.7.2.1 Design Alternatives for Street Lighting Poles. Poles that support only street lighting do not pose the design difficulties presented by utility poles as there is no danger of live cables falling which might injure a

person. On the other hand, on conventional streets and roads, street lighting poles, unlike utility poles, must be located relatively near to the pavement edge in order to accomplish their function of illuminating the road surface. Over the last 15 years, new designs have emerged for street lighting poles which greatly reduce the severity of a collision. These new designs are known generically as breakaway or frangible poles, although technically there is a distinction between the two. In general terms, the principle behind their operation is that on impact they yield to the force of the vehicle. Thus the vehicle passes through sustaining a minimum of damage and the driver is given an opportunity to regain control over the vehicle. Conventional poles, on the other hand, decelerate a car rapidly thus increasing the possibility of injury to occupants and the severity of vehicle damage. These alternative designs are no longer experimental and constitute the principal form of lighting poles in several places. They are in widespread use throughout England, Canada, the United States of America and New Zealand. In Australia, the use of these poles is still not widespread. While they are used by several State Highway Departments in Australia, some government instrumentalities do not encourage their use. Only in South Australia are they yet used extensively.

7.7.2.2 Types of Designs.

7.7.2.2.1 Frangible base poles. There are, in essence, three types of frangible base designs which are used to support street lighting poles: aluminium shoe bases, aluminium transformer bases and steel progressive shear bases. Generally, these bases contain a weakened section which fails on impact. When a vehicle impacts a pole with a frangible base either by striking the pole or the base, the force causes the base to fail and consequently both base and pole fall over.

7.7.2.2.2 Breakaway poles. There are two categories of breakaway poles: the slip-base and the frangible coupling. The slip base also known as the breakaway joint, originated at the Transportation and Road Research Laboratory in the 1960s. Known as the Cambridge slip-base, it is still widely used today. The Cambridge slip-base design was subsequently modified into a triangular multi-directional form. The principle behind both the Cambridge and the multi-directional slip-base is the same. On impact the pole slips off its base, usually rotating over the roof of the vehicle as the vehicle passes through. The other type of breakaway pole is the breakaway or frangible coupling design which consists of a fluted aluminium coupling which shears on impact, thus releasing the pole. Both of these breakaway designs have been found to be superior to the frangible base designs in low speed collisions.

7.7.2.2.3 Other types of safety poles. In New Zealand fibreglass poles have been used for a number of years. These poles generally shear on impact. One disadvantage is that after impact the whole pole must be replaced. Nevertheless the cost is low and the New Zealand authorities are pleased with their safety record.

One of the newest developments in the area of safety poles is the E.S.V. pole. This pole, developed in Sweden and used in northern Europe, operates on a different principle to the frangible base or breakaway types of poles in that on impact, it does not separate from its foundation. As with the New Zealand fibreglass pole, the E.S.V. pole requires total replacement after impact.

7.7.2.3 Acceptance of the New Designs. In Australia, the only national standard regulating the design of street lighting columns concerns itself with illumination and pole strength relative to environmental factors, e.g. wind loadings. There is no Australian standard for a breakaway light pole nor has the Standards Association of Australia addressed itself to the issue of breakaway light columns, much less prescribed any specifications. South Australia is the only State in which breakaway poles are used extensively for street lighting. Breakaway poles are installed by the Highways Department on all roads under their control and also on most Council controlled roads. In fact, the breakaway pole is the standard pole used by the Highways Department. In most of the other States and the two Territories, the use of breakaway poles is the exception rather than the rule. They are used exclusively on high speed roads and in limited numbers.

The use of breakaway poles is much more widespread overseas. In the United States, the Federal Legislature endorsed the use of breakaway devices and required that they be installed on roads receiving Federal funding. The American Association of State Highway and Transportation Officials has published criteria for breakaway supports specifying where they are to be placed and standards of performance. The declaration of a standard by a national body having responsibility for road safety and the requirement by the Federal Highway Administration that each State comply with the standard in order to be eligible for funding, has undoubtedly been responsible in part for the proliferation of this safety equipment. In Australia, the low usage of these breakaway

poles may in fact be attributable to the lack of a developed national standard. The development of a national standard is not one calling for legal expertise but rather for engineering skills. But the absence of a standard may well have legal implications. Compliance with a standard will not necessarily be regarded by the courts as behaviour sufficient to discharge the requisite standard of care, but would be likely to be used by the courts to evaluate the activities of an instrumentality. The lack of a national standard results in each government or highway authority having to design its own warrants or specifications and to exercise its own judgment without the guidance which would otherwise be available. The legal responsibility of each highway authority would be clarified by the publication of a standard for frangible or slip-base poles. The investigators are aware that the United States standard and that of the British Standards Association may not necessarily be suitable to Australian conditions. Nonetheless, they may well serve as models for the development of an Australian standard.

7.7.2.4 Performance of the New Designs. Experience with the new designs, both overseas and in South Australia, indicates clearly that their use markedly reduces the severity of injuries sustained by vehicle occupants as well as reducing the cost of damage to both the vehicle and the pole.

In the investigators' survey of overseas usage of these designs, a common response from experienced highway engineers was that the breakaway pole performed satisfactorily in reducing injuries. A number of studies have systematically documented the capabilities of breakaway poles for effecting significant reduction in injuries and vehicle damage with the consequential saving in societal costs. This reduction in accident severity is borne out by statistics supplied to the investigators by the South Australian Highways Department.

7.7.2.5 Potential Liability for the Use of the New Designs. Some authorities have been reluctant to install breakaway or frangible street lighting poles because they fear that the columns could, in some circumstances, pose a hazard to other road users. They are deterred from use of the poles by the spectre of the imposition of legal liability upon them for injuries caused to innocent motorists being hit by cascading poles or pedestrians or home owners felled by errant columns. They query whether they would be considered negligent for installing such hardware in certain locations. The possible imposition of legal liability for the use of breakaway poles which constitute a potentially affirmative hazard must be examined in the context of research in the field together with the attitudes of experienced road engineers.

The investigators have reached conclusion that in general, no legal liability will be imposed on an authority which installs or authorises the installation of poles of a breakaway or frangible design. This conclusion has been reached after assessing the research reports referred to in the report relating to the behaviour of these designs and taking into account the experience in those overseas and domestic jurisdictions in which they are in use.

7.7.2.6 Limitations on the Use of the New Designs. In some circumstances it may not be appropriate to use breakaway poles. The investigators are of the opinion that a prudent road engineer would give consideration to the behaviour of breakaway poles when called upon to decide whether to replace a rigid pole with a new design, or when making provision for street lighting in a previously unlit area. Three sets of circumstances have been identified by some overseas engineers as situations in which the benefits which accrue from the use of breakaway poles must be balanced against the potential hazards to others:

- (a) In locations in which there is a high volume of pedestrian traffic;
- (b) Where average vehicular speeds are low; and
- (c) On medians below a certain width.

7.7.2.7 Legal Implications of Breakaway v. Rigid Street Lighting Designs. Street lighting poles constitute a hazard to the motorist. Alternative designs which markedly reduce the severity or incidence of collisions are available and widely used. In the investigators' opinion, it would breach the standard of care owed to a motorist if a street lighting authority failed to consider alternatives to rigid poles when deciding to replace a pole which has been damaged, or when deciding to light a previously unlit area. The choice of a breakaway or frangible design or an E.S.V. pole is one which can best be made by street lighting authorities in each State or Territory taking into account the particular features of the categories of roads in that jurisdiction.

The economic feasibility of the use of frangible poles and alternative means of making the road safe for vehicular traffic are other factors which must be borne in mind by authorities.

7.8 IDENTIFYING THE POTENTIAL DEFENDANT (CHAPTER 4)

7.8.1 Introduction

One of the objectives of the project was to identify the instrumentality or instrumentalities that would be liable to bear the legal responsibility of paying damages to a person injured as a result of a collision with a hazardous roadside object. In most instances, the instrumentality most likely to incur this liability is the one that “owns” the object which produced the injury (that is, the body which installed the object or caused it to be installed). But liability may also be incurred by a road authority, even though it has no or little connection with the object in question, on the basis that it consented to, or failed to object to, the placement of the object in question on a road under its control. A solicitor contemplating an action on behalf of a person injured in a collision with a hazardous roadside object has then, as a first task, to identify the instrumentality or instrumentalities legally responsible for the object in question.

The answer to the question of which instrumentality is responsible will vary from incident to incident, and from State to State. Legislation governs the powers and duties of each statutory instrumentality. Reference must also be made, in each State to Acts relating to local government, roads and road traffic, and also to the Act or Acts prescribing the powers and duties of the authorities responsible for the supply and transmission of electricity. In some States, reference must also be made to regulations made pursuant to the Acts noted above. In addition, agreements made between various authorities relating to cost-sharing and the joint use of facilities might also have a bearing on the identification of the responsible parties. The investigators have been struck by the lack of clarity in the legislation and the apparent inconsistencies in the powers and duties of the various instrumentalities.

7.8.2 Bases of Liability

The major indicia of liability is ownership of the object. As a common sense proposition, one could usually assume that the authority that erects a roadside object is the owner of that object. The investigators found that in their discussions with various State authorities, the instrumentality that had constructed the poles in a given location usually referred to them as “our poles” and assumed that ownership vested in them. Yet, in at least two of the States, it is not clear whether the authority which places an object along the road is the actual *owner* of the object in question, or whether, by virtue of provisions found in other statutes, the legislature intended that the ownership of these objects be vested in the road authority, which may not even be aware of their installation, nor have any explicit powers to prevent or control their construction.

Another indicia of liability is control over the road on which the object is located. In the investigators’ opinion, if an instrumentality has control over the placement or location of an object along the road, or the determination of the object’s design, it is responsible in law for the consequences of exercising that control. Thus, a road authority that gives its consent (whether by virtue of a statutory requirement or merely in fact) to the placing of a pole in a position close to the carriageway, or permits the use of a column constructed of a material which poses a substantial risk to a motorist, is a potential defendant to an action brought by an injured person, on the basis of “control”. It is possible, by an extension of this principle, that an authority with this power of control could incur liability for failing to object rather than actually giving its consent. In some States the authority which owns the object may not control it and, conversely, the authority which controls the road may not own or have control over the object in question.

Liability could be determined either on the basis of an authority’s ownership of the object or its exercise of control over the object. Therefore, the investigators have attempted to point to indicia of both ownership and control where found in the statutory material. In some cases it is not possible to determine with certainty which authority is responsible for the object in question and reference would have to be made to the facts surrounding the particular collision. In other situations it may well be that more than one authority is potentially liable.

It is recognised that the identification of the responsible authority and the determination of its potential liability will depend on the facts surrounding the particular collision, the nature of the object struck, its location and design, and the category of road on which the object was located. Chapter 4 of the report contains a summary of the statutory provisions in each State relating to the care and management of the road and the powers of various authorities to locate objects along the road.

In almost every State the classification of the road in question has an important bearing on the identification of the responsible authority. For this reason in each section of Chapter 4 there is a brief summary of the

powers of road authorities in respect of either the most common or most important categories of road in each State. Additionally, the investigators have indicated the extent of the powers of the various authorities in locating objects along the road. This is necessary in order to determine the responsible authority. It is also important in that there may be instances where an authority has exceeded its powers or failed to comply with a requirement which is either self-imposed or imposed by another statute, as, for example, where an electricity authority places a pole along a freeway without the consent of the road authority as required by statute in some States. In this case it may be said that the electricity authority has acted outside its powers, or in legal terms, the act is *ultra vires*. This may, in some circumstances, give rise to an action in public nuisance by an injured motorist.

Extracts from the legislation in each State (as at 31st December, 1982) are included in the Appendix to this report.

7.9 THE SUBSTANTIVE LAW OF ROADSIDE COLLISIONS (CHAPTER 5)

7.9.1 Introduction

A principal aim of the project was to determine the potential liability of State instrumentalities to persons injured through collisions with roadside objects. The investigators conclude:

- (1) That if a local council or other road authority places frangible poles alongside its roadway, and one of them causes injury to a motorist or pedestrian, a court will not hold the council or authority liable for the damage caused.
- (2) That if a road authority or local council uses a rigid pole alongside its roadway and a motorist collides with that pole causing death or more serious injury than would have occurred had a frangible pole been used, a court would hold the council or authority responsible for the damage caused.

These conclusions are not absolute; all the relevant facts of any incident must be considered. The conclusions drawn are supported by the written opinions obtained by this project from a Queen's Counsel of the State of Queensland and from a member of the Bar of the State of Victoria.

7.9.2 The Law of Accidents

The area of law which is concerned with personal injury and property damage caused by road traffic accidents is classified as the law of torts. A person who suffers an injury will be forced to bear the costs associated with that injury unless the injured party can prove all the elements of an action against the person who has caused the injury. The principal area of torts which provides rules regulating recovery of damages for road accidents is negligence. The injured party must prove each of the following elements:

- duty of care
- breach of the standard of care
- causation
- damage.

The injured party must satisfy the trier of fact that it is more likely than not that each of the elements is satisfied.

7.10 AUTHORITIES USING FRANGIBLE POLES

The investigators have exposed, step by step, the legal reasoning employed to determine when, if ever, a local council using frangible poles to support street lighting would be held responsible if a motorist or pedestrian is injured by a frangible pole. The following hypothetical fact situation is considered. The driver of a motor vehicle proceeding along a suburban road at 60 km/h leaves the roadway as a result of momentary inadvertence and collides with a frangible pole dislodging it from its base. The pole falls upon a pedestrian using the footpath causing severe injuries to the pedestrian. In order to make out a case in negligence in an action against the local council, the injured pedestrian will have to satisfy all four of the elements, that is, duty, breach of the standard of care, causation and damage.

7.10.1 Duty

In order to determine whether one person owes a duty of care to another, it is necessary to discover whether they are in such proximity that the law would impose a duty of care upon one to the other. It is clear that a council should have in mind a pedestrian using one of its footpaths near to the poles it installs; therefore it owes a duty of care to the pedestrian. The duty owed by a road authority to pedestrians, motorists, and passengers is well established by judicial precedent. Two important cases *Levine v. Morris*, a decision of the English Court of Appeal, and *Webb v. State of South Australia*, a 1983 High Court of Australia decision, make it clear that such a duty is owed.

There are some factors which could limit the duty of an authority to pedestrians and road users. Statutory authorities such as local councils, sometimes enjoy some degree of immunity; that is, they are said not to owe a duty of care in certain circumstances where a duty of care would be owed by a private individual.

The law recognises that local councils are often given powers by statute which they may or may not exercise, depending upon available resources, time and other considerations. The courts are reluctant to “second guess” the authorities’ decision whether to act in these cases or not.

Legislation rarely requires that a street be lit, nor does it prescribe a manner in which the lighting is to be provided; the choice of location, type of lighting and type of support pole is left to the authority.

There are two views regarding whether a local council or road authority owes a duty of care to pedestrians or motorists when installing a particular type of pole at a particular site. The first view states that where the authority is given a power to light and chooses to do so, then it owes such a duty of care. The other view states that where the authority is given a power to light and exercises that power, then a duty of care will exist when the decision to place that particular type of pole in that particular location is characterised as an “operational” decision. Alternatively, a duty will arise even if it is characterised as a “policy” decision, but the decision-makers fail to take into account relevant considerations. On this view no duty would arise if a deliberated decision were taken based upon considerations such as cost, durability or convenience. The investigators believe that a court would be inclined to follow the first view and conclude that in all situations a local council or road authority owes a duty of care to pedestrians and motorists to take reasonable care not to cause injury when deciding on the design and placement of a pole.

7.10.2 Standard of Care

The plaintiff must prove that the authority, by its act, has breached its duty of care. The standard of care to which the council or any road authority must comply, is to act reasonably. The test is objective not subjective; any authority will be held liable unless it acts consistently with the actions of a reasonable man (or reasonable authority) of ordinary prudence.

The factors which are balanced by the court to determine whether the act in question was “reasonable” include magnitude of risk and the social and economic cost of avoiding the risk. A court will attempt to quantify the likelihood of harm arising from a particular act (such as using frangible poles) and the gravity of harm to any individual from such an act; on the other hand it will look at the social and economic costs of avoiding the risk.

The application of these criteria to our fact situation would require a court to look at, first the *likelihood* of harm ensuing to a motorist or a pedestrian from the use of frangible poles. Particularly relevant would be the long experience in the United States and other jurisdictions which has shown that there has been virtually no injury caused to pedestrians or to motorists as a result of their use. A court would look at the likelihood of the *gravity* of harm. The court would also receive evidence to determine how useful frangible poles (as compared to rigid poles) are for other purposes. It has been demonstrated that frangible poles are especially useful in lessening the road toll which is caused by impact with a fixed roadside hazard. The location of the pole, the car, and the pedestrian would also be relevant.

Compliance with the requisite standard of care can only be demonstrated to the court through the admissibility of relevant evidence. A wide variety of evidence is admissible to convince the trier of fact that the use of a particular type of pole is inconsistent with the requisite standard of reasonable care. Any of the following would be persuasive:

- statistics e.g. on the frequency of involvement of particular types of hazards in road accidents
- expert testimony by city planners, traffic and highway engineers

- engineering manuals
- evidence of earlier accidents that occurred at that site, or in similar locations.

On the assumption that competence evidence was adduced before the court, and further that the frangible pole was used in an area which is characterised by medium to high speed vehicular traffic, in the opinion of the investigators, a court would find that the use of frangible poles was consistent with a reasonable standard of care. Therefore a plaintiff injured by the fall of a frangible pole would be unlikely to succeed in an action for damages against the local council or road authority responsible for the use of the frangible poles.

7.10.3 Causation and Damages

Causation and damages are summarised only to complete the analysis of a negligence action. A pedestrian plaintiff would have to show that the use of the frangible pole caused the injuries suffered. To determine whether there was such causation a “but for” test is employed. The court considers whether the person was injured because a frangible pole was used, or whether he would have been injured even had a rigid pole been employed. Only if the court concludes that it was the use of a frangible pole which caused the accident would the injured plaintiff receive compensation.

The issue of damages is considered only if each of the other elements has been found by the trier of fact to be substantiated by the plaintiff. If it has been found that the local council or road authority is liable to the plaintiff, then the aim of tort law, through a monetary reward would be to return the injured victim to the situation that he enjoyed before the accident.

7.10.4 Conclusion: Actions Against the Authority

In most cases, assuming that the frangible pole has been properly sited, there would be no liability on the part of the responsible authority to a person injured by the fall. Councils and road authorities are not insurers of pedestrians’ safety.

7.10.5 Other Roadside Objects

Suppose a motorist negligently leaves the carriageway and collides with a frangible pole, but this time the frangible pole is not a pole carrying street lighting only, but instead a utility pole carrying the overhead conductors of an electricity supplier and telephone lines. The elements of a negligence action arising out of a collision between a motorist and a pole other than one carrying only street lighting are the same, but the analysis is substantially varied. The test would remain that of determining whether the act by the defendant was reasonable. To determine whether a reasonable electricity supplier acting prudently would choose a frangible pole rather than a rigid pole to carry overhead wiring, it would be necessary to produce competent, expert evidence at the trial. Testimony would be elicited as to the customary usage world wide; frangible or slip-base poles are not yet customarily used to support overhead conductors. Whilst experimentation on frangible poles designed to carry overhead conductors is now well advanced, it would probably appear to a trier of fact that the “state of the art” is not yet so developed so as to encourage their use. Depending upon the nature and quantum of proof, and the location of the pole, a court would be likely to find that the use of a frangible pole for carrying overhead conductors in the circumstances was unreasonable. If the court found the use unreasonable, it is likely that liability could be imposed upon the electricity supplier or other appropriate defendant.

In other instances a court would have to determine whether use of a frangible support to support a sign, or to support traffic signals, was reasonable. We are of the view that it would be regarded as reasonable, and therefore not negligent, for a local authority or other road authority to utilise frangible or slip-base poles to support signs. In the instance of traffic signals, while there is still some controversy regarding the use of frangible or slip-base poles to support traffic signals, we believe that a court could well find it reasonable to use frangible poles to support traffic signals, though factors such as the volume of both motorised and pedestrian traffic might well be taken into account in reaching the appropriate conclusion.

7.11 AUTHORITIES NOT USING FRANGIBLE POLES

Would a road authority be found negligent if it used a rigid pole when a frangible pole could have been used? The following hypothetical fact situation is considered. A 34 year old driver leaves the highway with 100 km/h speed limit, without negligence on his part, and collides with a rigid concrete luminaire 2 metres off

the carriage way. He suffers a back injury. Based upon his previous earning pattern and future earnings' expectations, if successful, he could expect a recovery of over \$250,000 based upon comparable verdicts in similar circumstances. It is concluded that it is possible that the local council or road authority would be liable for those damages.

7.11.1 Duty

Does a local council or road authority owe a duty of care to a motorist who leaves the roadway? The issue here is basically the same as that canvassed earlier in relation to councils using frangible poles. The only difference is that in the former situation, it was not the person who left the roadway who was injured, but a person properly walking along the footpath, or travelling in a vehicle. In the present situation, the person injured is in a vehicle which leaves the roadway (either the driver or a passenger).

The test is the same — that of neighbourhood. Can the council or road authority foresee that its actions in using a particular type of construction for roadside poles is likely to cause an injury to the user of the road?

The investigators conclude that it is most probable that a court would find that a council or road authority owes a duty to road users to take reasonable care in the siting and design of roadside poles.

7.11.2 Standard of Care

The standard of care owing is that of "reasonable" care; the prudence with which a reasonable road authority would act in all the circumstances. The issue posed is whether the use of a rigid pole, rather than a slip-base or frangible pole is reasonable, taking into account the location of the pole. The decision will rest upon the evidence which is produced before the court with the burden of proof resting upon the injured motorist; relevant factors will include both the location and type of pole used, as well as the nature of the road.

No court would impose a standard upon a local council or road authority to replace "overnight" the thousands of rigid luminaire poles which are within the authority's jurisdiction, even if the court were wholly convinced that safe street lighting requires the use of frangible poles. In determining whether an authority had acted prudently in retaining the rigid pole in the circumstances of the accident under review it would have to consider the arrangements that the authority had made to implement its policy of using safe roadside equipment.

No general answer can be given to the issue of whether an injured motorist could show that a council failed to use reasonable care when it used a rigid pole to support its street lighting. The proper conclusion would depend upon the position and vulnerability of the particular pole in question, and the policy of the local council.

7.11.3 Causation and Damages

Has the act by the authority caused the injuries to the plaintiff? In order to determine causation one asks: "But for" the act of the defendant would the injuries have occurred? On the assumption that the luminaire pole was necessary in that position to cast sufficient illumination upon the carriageway of the highway, would the accident have been less severe had the authority used a frangible pole rather than a rigid pole? It is a wholly logical conclusion to draw that the use of a frangible pole would have caused lesser injuries. Undoubtedly a court would find that the use of a rigid pole, rather than a frangible pole, would have caused an injury of greater severity. The defendant would be liable for the damages associated with the greater degree of injury suffered.

If the local authority is found to have owed a duty of care to the injured motorist and to have failed to satisfy that duty of care, causing the motorist damage, then all those damages which can be said to have been caused by the use of a rigid rather than a frangible pole will have to be compensated for by the local authority.

7.11.4 Conclusion

It is concluded that, under certain circumstances, a local council or road authority could be legally liable for damage suffered by a motorist who leaves the road and hits a rigid pole used to support street lighting, suffering injuries more severe than would have been likely to have been suffered were the pole a frangible or slip-base pole.

7.11.5 Liability to a Negligent Driver

There could be liability on the council to a driver who, through his/her own negligence left the roadway and collided with a pole. Where accidents are due to that category of negligence which "experience and

common sense teach is likely to occur" a duty is still owed to those motorists. Therefore if leaving the roadway was due to a type of negligence to which experience shows drivers are prone, or even that the precise cause of the accident is unknown, it would afford the local councils no valid defence.

7.12 PRACTICAL LEGAL IMPLICATIONS

The investigators are aware that litigation is, at present, rarely brought by an injured motorist or passenger against the road authority or local council. Much more usual is that the State or local instrumentality will bring an action against a motorist who has left the roadway and destroyed a pole along the roadside for damages caused to the pole.

The investigators have noticed a trend, however, toward greater awareness by legal advisers of the possibility of bringing actions, and for courts to find liability on the part of public bodies, and to make awards in favour of plaintiffs.

7.13 INSURANCE AND ITS ROLE IN COLLISIONS WITH ROADSIDE HAZARDS (CHAPTER 6)

Insurance has an important role to play in the road traffic area not only in providing funds for the compensation and rehabilitation of motor accident victims, but also in the area of road safety. The American insurance industry has been conscious of this role and over the last two decades have actively sought to reduce the number of roadside hazards through negotiation with various highway authorities and also through generating public awareness of the issues. With the exception of a few insurers, the Australian insurance industry has generally not been aware of the problems posed by roadside hazards and therefore have done nothing to ameliorate the situation.

7.13.1 The Objectives of Tort Law and the Effect of Insurance

Speaking broadly, the law of torts in the area of road accidents has two objectives. It attempts to provide full compensation to those injured in road accidents *insofar as the victims can prove fault on the part of someone who caused their injury*. Second, it attempts to promote safety and prevent accidents by deterring the motorist from blameworthy driving. Similarly it seeks to deter anyone whose acts can foreseeably cause injury on the road (such as road authorities, local councils, electricity suppliers and others who place objects along the road) from acting carelessly by holding them responsible for all damage caused by their negligence.

The availability of insurance has affected these general objectives. Undoubtedly it has facilitated the goal of compensation. The victim of an automobile accident who can prove fault is now almost guaranteed to *actually receive the damages awarded by the court*. Insurance provides a guarantee that funds will be available to meet claims. Because insurance operates to spread the risk among all insured, the motorist or other person who is found liable need not bear the entire risk but instead, through the payment of a premium, is freed from financial liability. The widespread availability of insurance appears to have almost entirely eliminated the effectiveness of tort law in preventing or eliminating road traffic accidents. Before insurance became common place, the theory behind tort law was that the imposition of liability for any negligent act would so affect the potential wrong doer, that it would encourage constant vigilance and thus help to prevent accidents. Since insurance now replaces the personal onus on the wrongdoer to pay damages, the deterrent no longer operates. It may well be that the law of torts was never particularly effective in preventing accidents. The continuing presence of the sanction of the criminal law for intentional wrong doing and the fear of personal injury to oneself are likely to be more effective than the threat of the imposition of a judgment some years in the future.

It also may be possible to *distinguish two types of behaviour which are risk creating and which should be discouraged in the interest of road safety*. The momentary inadvertence of a driver, the venial act of negligence, or the failure to act is one type and appears to be relatively intractable. It is said that the average driver is guilty of many errors of judgment and negligence or inattentive moments every time he uses a motor vehicle. Most have no consequence — they result in no injury or loss and the driver escapes any blame. While various programmes intended to modify the behaviour and attitude of the driver can lessen the impact of such acts of negligence, they are likely to remain a constant source of collision.

The second type is far less ephemeral. The investigators have discussed in the report the creation of a safer roadside environment. Those persons and institutions which own and control or maintain objects on or

alongside the road can, by their acts, either create a hazardous environment or minimise the dangers to motorists and passengers. The actions of these authorities and councils are not unplanned and need not be inadvertent. The failure, for instance, to use a safer form of pole or to locate objects at sufficient distance from the carriageway is an act which should be susceptible of societal pressure. Before insurance, persons or institutions found negligent would have had to pay for the entire damage caused. Since insurance, the loss is spread.

7.13.2 Insurance Companies and Roadside Hazards

The enormous cost of accidents to the community has been well documented in the report. The investigators believe that the responsibility for reducing the road toll is shared: the drivers, vehicle manufacturers, public institutions such as road authorities and local councils, motoring organisations such as the R.A.C.V., government bodies, especially State and Commonwealth Departments of Transport, and insurance companies. In practical terms, it may be suggested that those with the largest financial stake in motoring have the greatest "clout" and most ability to affect the behaviour of those who design and maintain the roadside environment. The insurance industry, in particular, has this potential to contribute to safer highways. The march toward more complete compensation for the injured motorist ought not to inhibit in any way the promotion of roadside safety and preventive measures to ensure that unnecessary roadside hazards are minimised or eliminated.

Regardless of whether compensation to a victim of a traffic accident is dependent upon proven fault or not, and whether compensation is paid directly by a driver/owner or by the negligent road authority or by an indemnity insurance company or by a government agency, an ultimate objective must be to prevent accidents as well as to compensate victims. With governments now committed to a policy of fair compensation to every person injured as a result of road transport, it is incumbent upon all reasonable agencies to ensure that accidents are kept to a minimum. The investigators are of the opinion that alteration to the roadside offers the greatest possibility to reduce fatalities and serious injury within the general area of road transport accidents.

In the United States insurers have been active in directing campaigns against the dangers posed by roadside hazards. The Insurance Institute for Highway Safety and the Federation of Insurance Counsel through publications and films, have attempted to force relevant government highway departments to provide more "forgiving objects" along the road. These organizations have also tried to make insurance companies more aware of the role they can play in the prevention of collisions with roadside hazards. One American insurance company has instituted a programme whereby payment to highway authorities (for damaged roadside objects) is withheld unless the hazardous fixture is replaced by a safer device properly installed.

The investigators recommend that insurance companies in Australia familiarise themselves with the campaigns conducted in the United States. It is further recommended that insurance companies programme their information retrieval systems to be able to ascertain the frequency and cost of collisions with roadside objects. Insurance companies are in a unique position to ascertain particularly dangerous locations and hazards. When in possession of such information they can play a major role in reducing the road toll by informing and persuading road authorities to alter the roadside environment.

7.14 THE FUTURE

The report deals with legal liability as it presently exists within the States of Australia. The federal government has announced its intention to consider the introduction of legislation which would establish a no-fault scheme of compensation for road accidents and abolish common law liability as discussed in this paper.

The legal implications of the use of frangible poles is unlikely to be the only, or even the major factor, in encouraging their use. At best the imposition of liability can serve to properly allocate the cost of accidents to instrumentalities which are best situated to lessen the incidence of such occurrences.

Bibliography

- American Association of State Highway and Transportation Officials, *A Guide for Accommodating Utilities on Highway Rights-of-Way*. Washington: A.A.S.H.T.O., 1969.
- American Association of State Highway and Transportation Officials, *Highway Design and Operational Practices Related to Highway Safety*. 2nd ed., Washington: A.A.S.H.T.O., 1974.
- American Association of State Highway and Transportation Officials, *Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals*. Washington: A.A.S.H.T.O., 1975.
- Annotation — Collision with Traffic Control Devices*, 7 A.L.R. 2d 226-251.
- Atiyah, P. S., *Accidents, Compensation and the Law*, 3rd ed. London: Weidenfeld & Nicholson, 1980.
- Boughton, C. J. and P. W. Milne, "Collisions with Fixed Roadside Hazards — An Overview of the Problem", *Fixed Roadside Hazards Symposium*, October 1977. Jointly sponsored by the Australian Road Research Board and the Department of Transport. Vermont: A.R.R.B., 1977.
- Carlson, R. D., J. R. Allison and J. L. Bryden, *Performance of Highway Safety Devices*, Albany: Engineering Research and Development Bureau of the New York State Department of Transportation, 1977. Research Report 57.
- Commonwealth of Australia, Department of Transport, *The Road Accident Situation in Australia in 1975*, Canberra: A.G.P.S., 1977.
- Commonwealth of Australia, Department of Shipping and Transport, *The Road Accident Situation in Australia: A National Review*, Canberra: A.G.P.S., 1972.
- Cox, K., "High Mast Lighting", (1973) 38 *Public Lighting* 6-18.
- Cramer, Rep. W., (Florida) 3, *Hearings*, United States House of Representatives, Committee on Public Works, Special Subcommittee on the Federal-Anti Highway Program. Comment made in Ninetieth Congress, First Session, 1967.
- Crowther, R., "High Lighting Masts", (1977) 179 *Public Lighting* 110-117.
- Dawson, R. R. F., *Current Costs of Road Accidents in Great Britain*, Crowthorne: Road Research Laboratory, 1971, Report LR 396.
- Epstein, J., "Roadside Hazards — The Legal Implications", *Fixed Roadside Hazards Symposium*, October 1977. Jointly sponsored by the Australian Road Research Board and the Department of Transport. Vermont: A.R.R.B., 1977.
- Evans, G., Attorney-General, "Policy on Law and Justice", 18 *Australian Law News* 11 (March, 1983).
- Fitzgerald, E. J., "The Effectiveness of Impact Attenuators: Two Case Studies in Massachusetts", (1973) 5 *Accident Analysis and Prevention* 243-245.
- Fitzpatrick, J., M. N. Sohn, T. E. Silfen and R. H. Wood, *The Law and Roadside Hazards*. Charlottesville: The Insurance Institute and The Michie Co., 1975.
- Fleming, J. G., *The Law of Torts*, 5th ed. Sydney: Law Book Co. Ltd., 1977.
- Fox, J. C., M. C. Good and P. N. Joubert, *Collisions with Utility Poles*, Parkville: Department of Mechanical Engineering in the University of Melbourne, 1979.

- Good, M. C. and P. N. Joubert, *A Review of Roadside Objects in Relation to Road Safety*, Canberra: A.G.P.S., 1973.
- Hall, J. W., *Identification and Programming of Roadside Hazard Improvements*, College Park: Transportation Studies Center of the University of Maryland, 1978.
- Highnett, H. J., *A Sideway Impact Test Into a 12.2M. Lighting Column Fitted with a Breakaway Joint*, Crowthorne: Road Research Laboratory, 1969, Report LR 241.
- Highnett, H. J., *High Speed Impact Test on a 40 Ft. Lighting Column Fitted with a Breakaway Joint*, Crowthorne: Road Research Laboratory, 1967, Report LR 67.
- "Highways, Streets and Bridges", 39 *Am. Jur.* 2d 458.
- "How Would the Injured Fare Under National Compo?", 57 *L.I.J.* 523 (1983).
- Institute for Road Safety Research, (S.W.O.V.), *Hazards with Falling Lighting Columns*, Voorburg: S.W.O.V., 1978.
- Kennedy, J., "Save Lives by Removing Death Poles", (1979) 51 *Engineering Australia* 19.
- Labra, J. J., *Development of Safer Utility Poles*, San Antonio: Southwest Research Institute, 1977. Interim Report.
- Marquis, E. L., T. J. Hirsch and Q. F. Nixon, "Test and Evaluation of a Tire-Sand Inertia Barrier", (1976) 566 *Transportation Research Record* 69-79.
- Moore, R. L., "Less Lethal Lighting Columns", (1976) 69 *Light and Lighting* 208-209.
- New South Wales Law Reform Commission, *Working Paper, Compensation for Transport Accidents*, (1983). *News from Nationwide Insurance*, June 5, 1974.
- Nordlin, E. F., W. H. Ames and R. N. Field, "Dynamic Tests of Five Breakaway Lighting Standard Designs", (1968) 259 *Highway Research Record* 6-23.
- Nordlin, E. F., J. R. Stoker and R. N. Doty, "Dynamic Tests of an Energy-Absorbing Barrier Employing Sand-filled Plastic Barrels", (1972) 386 *Highway Research Record* 28-51.
- Paterson, J., *A Review of the Cost of Accidents*, Canberra: A.G.P.S., 1973.
- Pearce and Meston, *The Law Relating to Nuisances*, London, Sweet & Maxwell, 1926.
- Royalauto*, (September, 1978).
- Singh, H., "Street Lighting Design", (1974) 164 *Public Lighting* 48-51.
- South Australia, Highways Department, District Engineer (Metropolitan), *Collisions with Lighting Poles 1969-1978*, Internal Reports to the Superintending Engineer (Metropolitan).
- Standards Association of Australia, *Australian Standard Manual of Uniform Traffic Control Devices*, (1975) A.S. 1742 — Part I, 7.
- Starks, H. J. H. and M. M. Miller, *Roadside Equipment and Accidents*. Report 22, Crowthorne: Road Research Laboratory, 1966.
- Thompson, P., J. Powers and R. L. Hollinger, *Frangible Base Accident Experience in New Jersey*, Trenton: Bureau of Operations Research of New Jersey Department of Transportation, 1974.
- Transportation Research Board, *Policies for Accommodation of Utilities on Highway Rights-of Way*, National Co-operative Highway Research Program Synthesis of Highway Practice, 34, Washington: Transportation Research Board, 1976.
- Troy, R. R. F. and N. G. Butlin, *The Cost of Collisions*, Melbourne: Cheshire, 1971.
- United States House of Representatives, Committee on Public Works, Special Subcommittee on the Federal-Aid Highway Program. Ninetieth Congress, First Session, 1967. *Hearings*. Statement made by Rep. W. Cramer (Florida) 3.

- Van Zweden, J. and J. E. Bryden, *In-Service Performance of Highway Barriers*, Albany: Engineering Research and Development Bureau of the New York State Department of Transportation, 1977, Research Report 51.
- Vaughan, R. G., *The Epidemiology of Pole Crashes*, Roseberry: Traffic Accident Research Unit of the Department of Motor Transport, 1975.
- Victorian Workers' Compensation Practice Guide*, (C.C.H.).
- Viner, J. G. and F. J. Tamanini, "Effective Highway Barriers", (1973) 5 *Accident Analysis and Prevention* 203-213.
- Walker, A. E., *Field Experience of Breakaway Lighting Columns*, Crowthorne: Transport and Road Research Laboratory, 1974. Report LR 660.
- Walton, N. E., T. J. Hirsch and N. J. Rowan, "Evaluation of Breakaway Light Poles for Use in Highway Medians", (1973) 460 *Highway Research Record* 123-126.
- Warner, C. Y. and D. Friedman, "Automobiles and Highway Crash Attenuators: System Design Considerations", (1974) 488 *Transportation Research Record* 19-23.
- Wolfe, G. K., M. E. Bronstad, J. D. Michie and J. Wong, "A Breakaway Concept for Timber Utility Poles", (1974) 488 *Transportation Research Record* 64-77.