



ROAD SHARE

The Case for Presumed Liability on Scotland's Roads

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This report was commissioned by the Road Share steering group in order to provide a detailed basis for the introduction of Presumed Liability for vulnerable road users in Scotland.

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Executive Summary

The Scottish Government recently committed to tackle the long-term decline in walking and cycling in Scotland through its Cycle Action Plan and Walking Strategy. This research reviews the potential role of new liability laws as part of a balanced package of measures to ensure that increasing active travel is matched by improved safety and protection for vulnerable road users.

All countries with high levels of safe walking and cycling have some form of Presumed Liability legislation

Leading cities in Europe now see more than 55% of trips being made by walking and cycling, but Scottish cities fall well behind this. Road casualty statistics show that walking and cycling are becoming relatively less safe when compared with car travel in Scotland. The promotion of active travel is being hampered by a legislative framework which does not protect walkers and cyclists in the event of an accident.

Presumed liability would transfer the burden of proving fault from the vulnerable to the powerful so that cyclists and walkers involved in collisions with motor vehicles would be compensated quickly and fairly.

There is a clear and strong association between Presumed Liability legislation and higher levels of safe walking and cycling. All countries with high levels of safe walking and cycling have some form of Presumed Liability legislation.

Pedestrians, and cyclists, particularly younger and older pedestrians are vulnerable road users and cause the least harm, but these people are less well protected by current laws than vehicle users.

The Road Share Campaign has proposed a system of Presumed Liability that addresses the initial concerns expressed by some stakeholders, and which could achieve broad support for early implementation in Scotland.

Presumed Liability is associated with many benefits and has already been successful across a range of sectors in Scotland including environment, workplace health and safety and consumer protection. Liability provides an incentive for preventative action, improvements in safety are achieved because road users have greater incentives to exercise care, and lower litigation and insurance costs are achieved due to a higher proportion of victims obtaining compensation quickly and fairly.

Extending Presumed Liability to transport presents no fundamental legal or administrative barriers. Reversing the burden of proof to protect the most vulnerable in the event of a road casualty is consistent with Scottish Government goals for a mature and socially conscious nation.

In the event of a road accident the bodywork of cars is better protected than vulnerable road users

1. Introduction

1.1 The need for this review

Although transport policies across the world share broad aims for more walking and cycling, and for reduced casualties, different countries are proceeding at different paces towards these goals. Leading cities in Europe now see more than 55% of trips being made by walking and cycling, but Scotland's cities have more to achieve, with even Edinburgh, the city in Scotland with the highest proportion of active travel, having only around 30% of trips by walking and cycling.

In recognition that more could be done, the Scottish Government recently committed to tackle the long-term decline in walking and cycling in Scotland. The Cycling Action Plan for Scotland (CAPS) set out a vision in 2010 that "By 2020, 10% of all journeys taken in Scotland will be by bike." In 2014 this was accompanied by a walking strategy recognising that walking was one of the best ways for people to travel and to keep fit.

The success of these new policies depends on a wide range of interventions to the built environment, education, publicity and the legal framework. This research reviews the potential role of new liability laws as part of a balanced package of measures to ensure that increasing active travel is matched by improved safety and protection for vulnerable road users.

1.2 Approach to the research

This report has been prepared to develop the evidence base to assist with the debate about the need for presumed liability in Scotland. It has been prepared by and for the Road Share campaign, whose members are drawn from diverse interests across local government, law, health, cycling, and the transport industry.

The Scottish Government's 2010 Cycle Action Plan (CAPS) recognised the need to review whether changes were needed to road liability laws as part

of a strategy to promote more cycling. The 2013 refresh of CAPS noted that a brief review by Scottish Government had not identified a case for changing the law, but that there was scope for further analysis.

The Road Share group has used the preparation of this report to structure the available evidence to make a case for a change in the law.

This research:

- Reviews road safety statistics and previous research
- Explores the relationship between liability legislation and road safety
- Reviews the practical application of strict and presumed liability approaches

1.3 What are Presumed and Strict Liability?

The Road Share Campaign is proposing the introduction of a system of Presumed Liability so that following a collision between a motorist and a cyclist or pedestrian, the motorist (via their insurer) would be presumed liable to compensate a cyclist or pedestrian for loss, injury or damage unless liability can be established otherwise.

Presumed Liability is different from the current fault-based system as it shifts the burden of proof to those who bring the most danger to the collision. Rather than the more vulnerable road user needing to prove that the less vulnerable road user was at fault, the burden of proof when determining compensation is shifted to the road users who have the greatest potential to cause harm. On this basis, if cyclists collide with pedestrians, then liability attaches to cyclists.

For the most vulnerable road users, the Road Share Campaign is proposing Strict Liability, so that adults aged over 70, children aged under 14 and the disabled, receive full compensation regardless of fault.

2. Road Casualty Statistics

Summary

Walking and cycling have been becoming relatively less safe when compared with car travel in Scotland.

As levels of cycling once again start to rise, future casualty reduction can no longer rely on less active travel as it has done in the past.

There is a clear and strong association between Presumed Liability legislation and higher levels of safe walking and cycling.

All countries with high levels of safe walking and cycling have some form of Presumed Liability legislation in place suggesting such legislation is an important element of successful national active travel promotion.

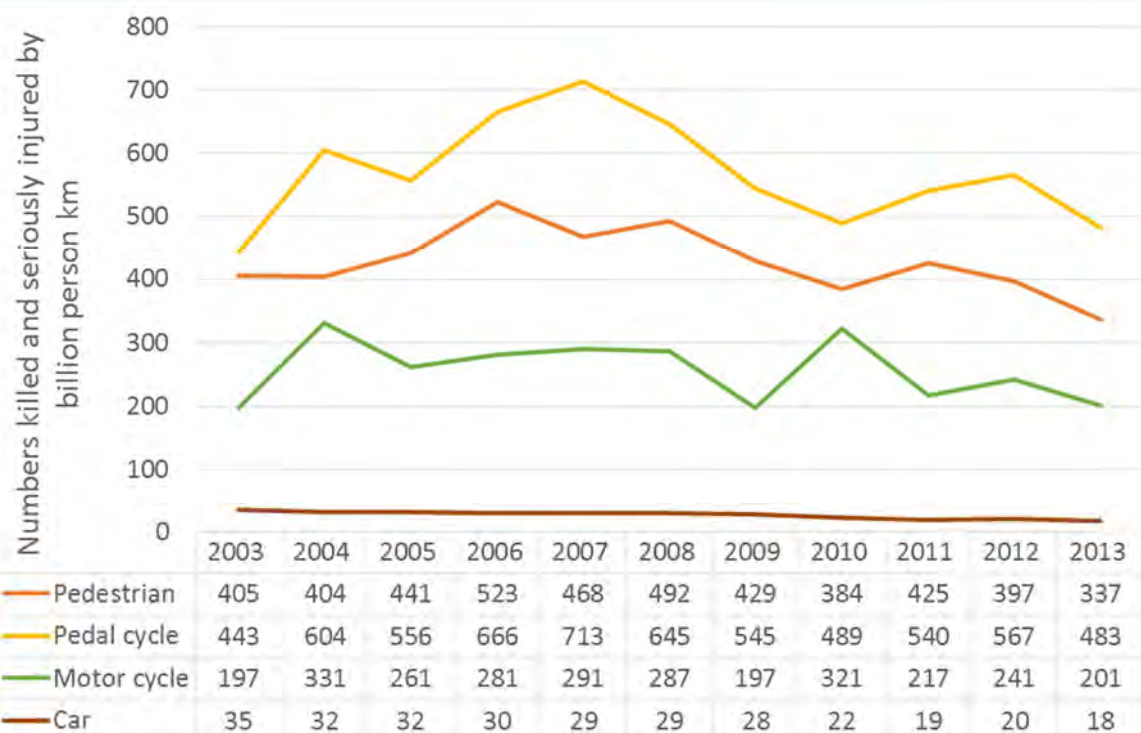
2.1 Recent trends

Roads need to be safe places for all road users. Despite a large increase in the demand for travel by car and lorry, reductions have been achieved in road casualties.

Figure 2.1 shows the numbers of Scottish casualties per billion passenger km.

The large fall in casualties for car users compares favourably with the fall in casualties for motorcyclists, cyclists and particularly pedestrians. In 2013, 51 people died as walkers or cyclists on Scotland's roads and a further 615 were seriously injured. Despite these casualty rates being only half of the casualty levels at the turn of the century, there has also been a decline in active

Figure 2.1 – Trends in Scottish casualties per billion person km for Cycle, Motorcycle, Pedestrians and Cars (1)



travel. Cycling continues to be one of the most dangerous ways to travel in Scotland, and walking is also relatively unsafe compared with car travel.

People in Scotland walked 220 miles per year on average at the turn of the 21st century but only about 150 miles today – a fall of 32%. People travelled in cars for about 5900 miles per year at the turn of the century and today travel about 5300 - a fall of about 10%.

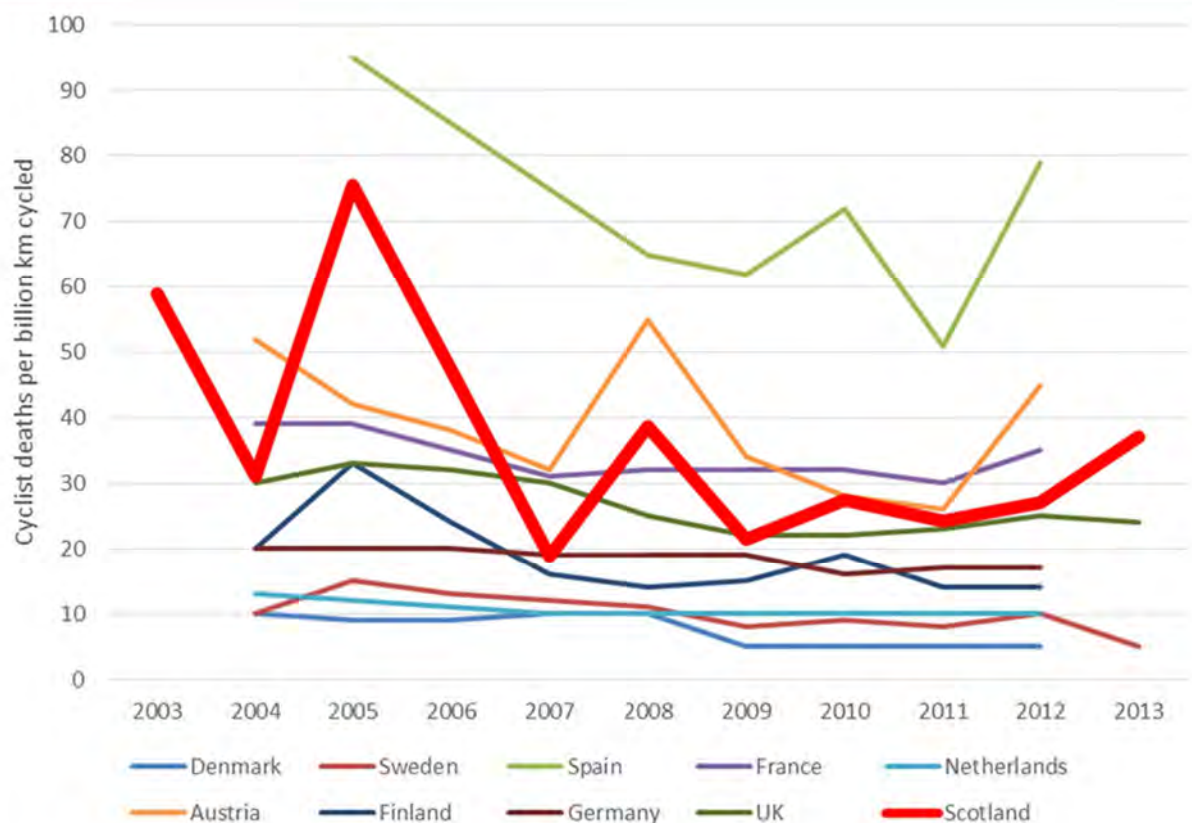
The fall in car user KSI casualties over this period has been 58% (from about 1952 at the turn of the 21st century to 811 today) and in pedestrian casualties 52% (from 918 to about 442).

This means that relative to car travel, walking and cycling have been becoming less safe choices for travel. In 2013, the latest year for which data is available, it was about 19 times more dangerous to walk a mile than to drive the same distance, nearly doubling the difference in danger in the first 13 years of this century.

With consistently more than three times the fatality rate in Scotland than in Denmark, there is scope for improvement

Recent statistics (see Appendix A) show that levels of cycling are once again starting to rise, and the fall in levels of walking also seems to have slowed or stopped since 2008. Future casualty reduction for walking and cycling can no longer rely on less active travel. The static or growing levels of active travel require a new approach to casualty reduction so that higher levels of active travel and fewer casualties can be achieved in tandem.

Figure 2.2 – International Comparisons of Cycle Fatality Rates by Distance Cycled (2)



A key question for this research is whether or not a better safety record can be achieved without a legislative framework better protecting walkers and cyclists.

2.2 International comparisons

International comparisons need to recognise the different data collection methods in each country. The distance travelled by each mode is used as an indication of the exposure to risk in each country. International comparisons of raw population based casualty rates are not informative as the level of walking and cycling varies markedly between countries. A low casualty rate may simply be a proxy indicator for a low level of activity.

In Scotland and the rest of the UK where there are lower levels of walking and cycling than in some countries, it is particularly important to avoid complacency about low casualty levels which have arisen due to low levels of activity.

However, short trips by walking are not counted in some countries or are counted differently between different countries. This makes like for like comparisons of pedestrian casualties by distance travelled difficult. In contrast, for cycling, the distance travelled and fatal casualties are measured reasonably consistently allowing comparisons to be made. An OECD study made international comparisons of all factors affecting cycle safety. This has been used together with Scottish and UK statistics to compare cycle casualties per distance travelled as shown in Figure 2.2.

Cycle fatality rates are strongly associated with the av-

erage distance cycled per person. Scottish cycle casualty rates are substantially lower than in Spain and Austria, but these countries also have relatively low activity levels.

The countries with consistently lower levels of casualties per distance travelled are also the countries with higher average levels of cycling. In the safest country, Denmark, people travel on average 936km per year by bike. The average distance cycled in Scotland is about 56km per person per year but in Spain the level of cycling per person is only 20km per person per year, 75km in France and 136km in Austria.

Increased demand for cycling and lower casualties are closely linked. The statistics show clearly that there is safety in numbers.

2.3 Why are casualties lower in some countries?

It is not possible to accurately quantify the relative contribution of behavioural, physical, cultural, legal and other factors to the higher levels of walking and cycling. These factors are inter-dependent. The OECD review (2) concludes that "National level commitment, or at a minimum regional level commitment, is important in setting the right legal, regulatory and financial framework so that successful implementation of cycling strategies can take place". The review also notes that most EU countries have in place some form of Presumed Liability.

All countries in the world with both high levels of walking and cycling and low casualty rates have some form of Presumed Liability in place.



Recent research into levels of active travel and national legislation is summarised in Appendix A. Countries with more walking and cycling and better safety continue to see increases in walking and cycling. In contrast, the countries with less walking and cycling and higher casualty rates continue to see low levels of walking and cycling with falling levels of activity being more likely than growth..

Scotland has started to invest in growing active travel and the early fruits of this are seen in some places, notably Edinburgh which now has 30% of trips by walking

and cycling.

Scottish Government policy documents make the case for change. About a quarter of all trips in Scotland are by walking and cycling, but it is not yet possible to identify any growth in levels of walking and cycle mode share is only about 1% overall.

A key question for this research is whether or not a better safety record can be achieved without a legislative framework which better protects walkers and cyclists. Figure 2.3 summarises key statistics available from other countries (3).

Figure 2.3 – Cycle Fatalities, Modal Share for Active Travel and Presumed Liability Legislation (4)

Country	Legislation (year introduced)	Type of law	Cyclists Modal Share	Walking Modal Share	Cyclist fatalities per billion KM
France	Loi Badinter (1986)	Strict Liability for personal injury	3%	22%	20-35
Denmark	Danish Road Traffic Act 101 (1985)	Full liability for injury & property where fault is with driver. Burden of proof always lies with liable insurer.	18%	16%	5-15
Germany	Article 7 Straßenverkehrsgesetz (1908)	Presumed Liability: contributory negligence can be claimed.	10%	24%	15-20
Netherlands	Article 185 of Wegenverkeerswet (1994)	50% of liability is strict: the remainder is escapable if negligence is demonstrated. 100% strict for children.	26%	25%	8-12
Switzerland	Art. 58 pp SVG (1958)	Presumed Liability: demonstrating gross negligence can reduce liability	6%	40%	Not available
Sweden	(1975)	No Fault: compensation is usually awarded regardless of intent or negligence.	13%	18%	5-15
UK	Common Law	Negligence must be demonstrated by Vulnerable Road User	2%	22%	25-40
USA	Varies between states - most commonly negligence based.	Negligence must be demonstrated by Vulnerable Road User	1%	11%	55-60

Cause and effect are complex. Presumed Liability legislation could one of the factors that helps to create the circumstances under which people walk and cycle more.

The international data is far from complete, but the available information shows that countries with both better casualty records and with high levels of walking and cycling, all have presumed liability legislation in place. This does not prove that Presumed Liability legislation is necessary in order to achieve higher levels of safe walking and cycling, but it does indicate a strong association.



Cause and effect are complex. Presumed Liability legislation could be partly a consequence of a society that walks and cycles more, demanding better legal protection for these modes. Alternatively, it could be one of the factors that helps to create the circumstances under which people walk and cycle more. There is safety in numbers and increased popularity also helps to make higher levels of spending on infrastructure more politically acceptable.

If more and safer walking and cycling is wanted, then Presumed Liability legislation appears to be a key condition for success.

Presumed liability, in itself, does not deliver higher levels of active travel as the evidence from Spain and Austria shows. It would be impractical to determine the exact cause and effect for each individual measure associated with safe active travel. However, the lessons from these statistics for policy appear to be clear. All countries in the world with BOTH high levels of walking and cycling AND low casualty rates have some form of Presumed Liability.

If more and safer walking and cycling is wanted, then Presumed Liability legislation appears to be a key condition for success.

3. Practical Application of Liability Legislation

Summary

Vulnerable road users who cause the least harm are also the least protected by the law.

The evidence for the introduction of Presumed Liability shows there would be many benefits. Liability provides an incentive for preventative action, improvements in safety are achieved because the liability provides an incentive to exercise care, and lower litigation and insurance costs are achieved as a higher proportion of victims obtain compensation with lower legal and administrative costs.

There are no administrative or legal barriers to implementing Presumed Liability in Scotland.

3.1 The Current UK System is Failing Vulnerable Road Users

If vulnerable road users are injured, then the process by which they obtain compensation is currently weighted against them. Compensation is based on proving that one party was at fault. Motorists, through compulsory third party insurance, have the benefit of full representation by their motor insurers to deal with and pay any claim against them for compensation(5). In contrast, vulnerable road users, or if the victim is dead or seriously injured, their dependents or relatives, must seek out legal representation to prove their case.

It is unfair that the vulnerable road users who cause the least harm are also the least protected by the law. There is a disparity between the damage brought to the collision and the protection provided by the law.

In order to receive compensation, the vulnerable road user must establish (on a balance of probability) that the motorist was negligent and that by the motorist's negligence, the vulnerable road user has been injured. The burden of proof is on the vulnerable road user, and if he or she cannot satisfy the burden of proof, their action will fail.

If the vulnerable road user can prove the motorist was negligent, then the motorist will generally be held liable to compensate the vulnerable road user. However, the award for compensation can be reduced if the vulnerable road user is deemed to have contributed to the collision or injury sustained.

In practice, vulnerable road users' claims are brought against the motorist's insurer. In Scotland, most cases pre-litigation are handled under the Scottish Voluntary Pre action Protocol. This is a system set up to assist both insurers and solicitors. It provides a time structure that both sides should abide by. The Protocol sets out the standard and style in which claims should be intimated to insurers; it provides time limits for insurers to respond to certain requests and even has an established fee structure for Solicitors to recover their fees and outlays.

The burden of proof is on the vulnerable road user, and if he or she cannot satisfy the burden of proof, their action will fail.

People make Scotland what it is, but the legislation is currently written to protect property.

If liability or the value of a case cannot be agreed under the Protocol, then the cases will be raised in court. In litigation, if a Pursuer fails to satisfy the burden of proof, there will be no award of compensation and under the “loser pays” doctrine, the unsuccessful party bears the cost of litigation. This is problematic because our fault based system takes no account of the capability that drivers have to cause great harm to cyclists and walkers on public roads. Therefore the risk of litigation must be borne by the individual Pursuer.

In the event that the unsuccessful party is unable to satisfy the burden of proof, there will be no award of compensation. This is potentially problematic because our fault based system takes no account of vulnerability to injury. There is an intrinsic risk associated with using a motorised vehicle, which is not currently reflected in the law.

In cases where the evidence of the vulnerable road user is lost as a result of a fatal injury, it is up to the Pursuer (often dependents or family members) to prove fault. Cyclists and pedestrians, in particular, are vulnerable to serious head injury, which can affect memory and yet they must still prove negligence on the part of the motorist.

3.2 Rebalancing rights and responsibilities

The case for a change in the law has been recognised for many years. Over 30 years ago, in 1982, Lord Denning “The People’s Judge” wrote:

“In the present state of motor traffic, I am persuaded that any civilised system of law should require, as a matter of principle, that the person who uses this dangerous instrument on the roads - dealing death and destruction all round - should be liable to make compensation to anyone who is killed or injured in consequence of the use of it. There should be liability without proof of fault. To require an injured person to prove fault results in the gravest injustice to many innocent persons who have not the wherewithal to prove it.”

If growing car traffic in the 1980s was the challenge of that era, then the advent of greater automation such as driverless cars, drones and other new technologies presents a new layer of complexity. Within this fast changing transport environment, greater clarity is needed about the rights of those who use motorised transport and their responsibilities to other road users.

Greater clarity is needed about the rights of those who use motorised transport and their responsibilities to other road users.



Presumed Liability legislation removes the burden of proof from those least capable of bearing it

As people are increasingly faced with greater risks, the law needs to respond to help manage these risks with clearer allocation of responsibilities(6).

3.3 Scotland's Culture and its Legal System

Every country needs a legal system that fits its social values and people make Scotland what it is. Sheriff Principal James Taylor in his Review of expenses and funding of Civil Litigation in Scotland, published in 2013, found that over a 3 year period from 2008-2011 the total number of claims for motor liability in Scotland was 1/24th of all claims made in England. He concluded that, "there is a different culture in Scotland, as opposed to England and Wales, when it comes to litigation." (7)

Scotland as a nation is not litigious and is a fair nation where social justice is important to its people. Our current fault based system, which is intended to allow the injured to claim compensation, is actually weighted against them. Presumed Liability is the natural response of a socially conscious nation as it addresses the unacceptable cost of human suffering caused by increased casualties amongst cyclists and pedestrians injured on our roads.

Vehicle users are required by law to carry third party insurance because of their potential to cause harm but are not required by law to compensate pedestrians and cyclists when such harm is caused unless the pedestrian and cyclist can prove fault. In practice, any compensation award against a driver is paid for by his or her insurance company. Insurance companies defend cases brought against them and in so doing do not expose their policyholders to financial risk. Vulnerable road users seeking compensation from negligent drivers not only have the burden of proving fault but are also exposed to great financial risk. If unsuccessful in Court, the "loser pays" which means the vulnerable road user

who fails to prove fault bears the cost of litigation. If a vulnerable road user succeeds in establishing fault against a driver, then the driver's motor insurers will pay the award and legal costs. There is an imbalance in our fault based system. No account is taken of vulnerability to injury and exposure to financial risk. Presumed Liability legislation could address this imbalance.

Under Presumed Liability, the motorist's insurance company would be liable to compensate a vulnerable road user injured in a collision with the motorist's vehicle. It would be for the motor insurer to prove the injuries were caused or contributed to by the fault on the part of the cyclist/pedestrian. Presumed liability does not automatically entitle an injured cyclist or pedestrian to compensation when involved in a collision with a motorised vehicle. It simply places the burden of proving fault onto the motorist's insurer. Presumed Liability simply reverses the burden of proof and removes that burden from those least capable of bearing it and places it upon those most capable of bearing it.

Appendix B summarises liability legislation in other countries showing that each country has adopted different approaches designed to respect their local culture and legislative system. Legislation for Scotland needs to respect Scottish social values where people and communities matter. Specifically:

- Enabling injured people to have access to appropriate rehabilitation facilities when they need them and encouraging compensation claims to be dealt with in a more efficient manner – injured cyclists and pedestrians should receive compensation quickly and fairly without needing to resort to expensive litigation and exposure to financial risk.
- If one is capable of causing great harm to another, then it is fair and reasonable to compensate the more vulnerable in the event of a collision resulting in loss, injury or damage.
- By placing the burden of proof onto the motorist,

More cases would be settled without resort to litigation which should reduce costs for insurers and motorists too.

the proposed presumption of liability would alter the default outcome in compensation claims brought by vulnerable road users. As a result, it is more likely that a greater proportion of compensation claims brought by vulnerable road users would be successful. It is more likely that where the evidence of the vulnerable road user is “lost” as a result of memory loss following a head injury or in fatal injury cases, compensation claims would still be successful and progressed more swiftly. As a result, society would care better for victims.

- Motor insurers would re-evaluate their chances of successfully defending compensation claims brought by vulnerable road users. As a result, more cases would be settled without resort to litigation. If there is a reduction in litigation, there will be a consequent reduction in litigation costs. Furthermore, as insurance costs are distributed across a national pool of policyholders, and given that a large proportion of insurance firm’s costs arise from court proceedings, this should have a knock-on effect of reducing costs for insurers and motorists too. A report for the House of Commons Transport Committee appears to support this theory. It found that the UK has the highest average total insurance premiums across Europe. The support from the French Insurance industry is based on the benefits they have experienced on reduced court costs and reduced road accidents as discussed in Appendix B.

3.4 Benefits of Presumed Liability

Liability laws throughout the legal system are most often implemented where legislators seek to curb or mitigate dangerous or hazardous behaviour. In the absence of liability laws, negligence must be proven in order to receive compensation. In order to review the benefits of Presumed Liability legislation, this evaluation compares Presumed Liability legislation with the alternative of proving negligence.

In civil law, the principle of strict liability means that: “the one who creates an excessive threat to others may

Liability laws provide an incentive to exercise care.

do so, but must accept the obligation to compensate damage regardless of fault” (9). Liability is designed with two goals in mind – compensation, and prevention. Specific benefits in relation to these goals are:

- Liability provides an incentive for preventative action. When a person or party is confronted with economic costs of his action, or is aware that there are potential costs of his action, he will take a sufficient amount of care in order to reduce or avoid the damage (10).
- Improvements in safety are achieved because the liability provides an incentive to exercise care (11). The benefits are achieved through changes in the behaviour of all involved parties, including motorists, cyclists and pedestrians.
- Lower litigation and insurance costs are achieved as a higher proportion of victims obtain compensation quickly and fairly without resort to litigation (12). As the majority of an insurance firm’s costs originate in court costs, the efficiency savings generated by Presumed Liability will be passed on to insurance policyholders providing there is adequate competition in the industry.

3.5 Relating Transport to other liability laws

The world is becoming more complicated and new liability laws have been helping to simplify some areas of law that were able to operate without Presumed Liability legislation in the past. These areas particularly relate to fast changing sectors of environment, health and workplace requirements. Transport is a big employer with staff working increasingly internationally within different liability regimes. To address this growing complexity better clarity is needed in health, safety and environmental laws.

- Workplace - If employers know their liabilities, then they are incentivised to take steps to re-

duce the frequency with which their workers are exposed to risk of injury. In 1992/1993, the UK Government introduced a wave of Health and Safety legislation driven by the implementation of EU Directives. Many of the Regulations imposed strict liability on the employer. At that time, the rate of fatal accidents in the workplace was 1.3 per 100,000 and yet by 2011/2012 that figure had dropped to 0.5 per 100,000. The introduction of strict liability legislation resulted in fewer fatal accidents at work (13)

Improvements in safety are achieved because the liability provides an incentive to exercise care.

- Environment - European Union regulations on the environment define liabilities for damage and to water, land and animal habitats and protected species(14). Strict liability is, in fact, a reasonably well established norm in environmental law.
- Consumer protection – The Consumer Protection Act 1987 imposes strict liability for defective products on the producer of the product, the manufacturer or assembler of the product if different from the producer, any party who has been responsible for a process the product has gone through or who has abstracted an element of the product, any party who holds himself out as being the producer of the product and any importer of the product into the EU. The consumer is entitled to recover damages for all personal injuries caused by the defect in the product. Society generates the risks to which people are exposed in their daily lives, so it is right that consumer protection should provide compensation when harm occurs(15).
- Dogs and Dangerous Animals— Keepers of dogs and other dangerous animals are strictly liable for the harm they cause. Under the Animals Scotland Act 1987, the keeper of a dog would be strictly liable for any injury or damage caused if his or her dog bites another person. The law recognises a dog can cause harm by biting, savaging,

attacking or harrying and therefore the keeper must compensate those injured by such actions. A dog is deemed likely to cause harm and if it does the keeper is strictly liable to compensate the “victim “ who has been bitten or otherwise injured. (16)

3.6 Practical Considerations on the Application of Presumed Liability

With any social change there will be opposition. Presumed Liability legislation needs to take account of the concerns of all groups as it is developed in detail. Consultation will be needed on new legislation to address this. For the purpose of this review, the Road Share group have discussed initial thinking with a wide range of stakeholders. Some people are culturally and attitudinally embedded in ideas about the future of motorised travel and just want walkers and cyclists to get out of the way. Others are so ideologically committed to walking and cycling that they don't like any debate about the dangers of walking and cycling. However, most people responded positively to the prospect of legislation recognising that there is a problem that needs to be addressed and an opportunity to do something about it in Scotland. Interestingly, many people in England see that their best chance of Presumed Liability legislation will be, as with the smoking ban, to show that it works well in Scotland(17).

The core proposal is for a presumption of liability on the roads, that the operator of the mode of transport capable of causing harm should be liable for injuries to more vulnerable road users. In addition, strict liability for the most vulnerable pedestrians and cyclists is proposed. Children (under 14), elderly people (over 70) and disabled people deserve special protection in law. These groups will sometimes be at fault yet should never be liable, to be consistent with a socially responsible approach to more vulnerable road users.

Beyond these core proposals, other related proposals have been reviewed and are discussed briefly below:

- Compulsory 3rd party insurance for cyclists – Cyclists are perceived to be difficult to hold to account by other road users, so there is resistance from some people to providing new rights for cyclists without also new responsibili-

ties. At the top of the list of new responsibilities is mandatory 3rd party insurance for cyclists but it is not clear that such insurance would make any practical difference. Many cyclists are already covered by 3rd party insurance through cycle membership organisations (e.g. CTC or BC). Also, other than for some very vulnerable road users, e.g. children, the majority of cyclists are also car users and already carry car insurance so an easy way to broaden cycle insurance would be for cycle insurance to be bundled as standard with car insurance policies. In practice, the evidence suggests that this would make no difference to car insurance premiums (18). However, introducing a requirement for separate cyclist insurance would be cumbersome, costly to administer and would act as a deterrent to cycling (19).

- Licensing and registration for cyclists - Globally, licences and registration are near ubiquitous for motorists. Similar measures for cyclists, however, are exceedingly rare. Switzerland had such a system, but it was abolished in 2010 after it was

found to be running at a financial loss. Ottawa, in Canada, evaluated their own scheme, but the city council inquiry found that there were limited benefits and bicycle licensing would act as a significant barrier to cycling. Toronto has also evaluated such a system, but found that it would be too expensive to develop, difficult to maintain, and the scheme lacked any support.

- Presumed Liability should be restricted to particular areas such as built up areas – The behavioural change impacts will be amongst the greatest benefits of Presumed Liability and maximising this benefit requires a very clear simple policy. The benefits of targeting the policy at the places where it would make the greatest impact – the built-up areas – would be less than the dis-benefits of a lack of clarity.

Therefore, the evidence suggests that additional regulatory measures would be superfluous, disproportionate and inefficient. Regulation is necessary for drivers of motorised vehicles because of the potential harm and damage the operation of the vehicle poses to cyclists and walkers.



4. Conclusions

The gap between safety for travel in motorised vehicles and for active travellers is growing. Action over the last 30 years has invested in engineering, education and enforcement measures to improve road safety but it seems that additional action is required to close the gap.

There is no evidence of any country achieving the levels of growth in walking and cycling sought by Scottish Government policy without a comprehensive package of measures which includes Presumed Liability legislation.

The Road Share Campaign has proposed a system of Presumed Liability that could achieve broad support for early implementation in Scotland. These proposals address the initial concerns expressed by some stakeholders.

Reversing the burden of proof to protect the most vulnerable in the event of a road casualty is consistent with Scottish Government goals for a mature and socially conscious nation.

Presumed Liability has already been successful across a range of sectors in Scotland including environment, health and safety and consumer protection. Extending it to transport presents no fundamental legal or administrative barriers.



Appendix A—Road Safety Statistics

On Scotland's roads in 2013 there were 1,589 people reported killed or seriously injured (KSI) (159 of whom died). In total there were 8,986 reported injury accidents of which 1,747 were pedestrians and 883 were cyclists.

Between 1992 and 2013, 6,332 people were killed on Scotland's roads.

9 children were reported as killed in 2013 of which 5 were pedestrians and 2 were cyclists. 143 children were reported as seriously injured in 2013, of which 92 were pedestrians and 11 were cyclists.

Vulnerable road users therefore face a disproportionate risk on Scotland's roads.

A1 – Cycle safety

UK cyclist KSI levels have risen steadily since 2004. In 2012, the number of KSI cyclists was 32% higher than the 2005-09 average. The number of cyclists who were seriously injured in the UK in 2011 rose by 4% to 3,222 in 2012. The total number of cyclist KSIs rose by 5% between 2011 and 2012 and now stands at 32% higher than the 2005-09 average. This means that by 2012, cyclist KSI levels had risen for 8 years in a row. In addition, slight injuries to cyclists increased for 5 years in a row between 2007 and 2012. Overall there has been a fall in cyclist activity and a slightly greater accompanying reduction in KSI rates.

Looking specifically at Scotland, the official figures show that the 2010 to 2013 average of numbers of fatal and serious cycle injuries was 25% higher than the 2004-08 average of 134. The popularity of cycling in Scotland has risen in the last decade (20). If an increase in cycling is accompanied by a similar increase in the most serious accidents then the growing popularity of cycling could quickly stall.

A2 - Trends in safety for walkers

At the start of this century Scots walked on average 220 miles and cycled 25 miles per year. In less than 14 years people's walking has fallen to roughly 150 miles, and cycling has increased to approximately 35 miles on average. The latest casualty statistics show that the number of road casualties per mile has risen and fallen broadly

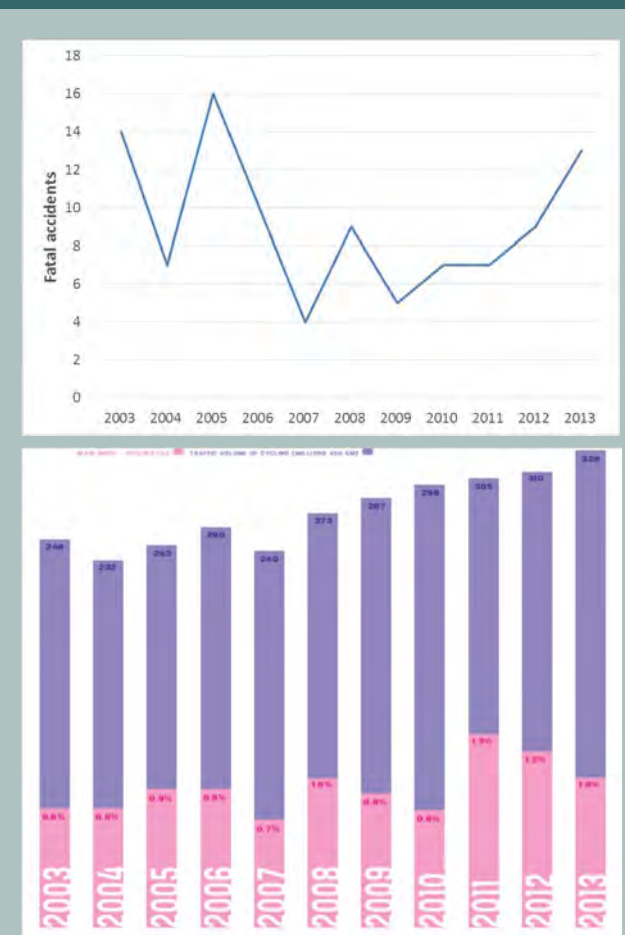
in line with walking and cycling activity. Despite the apparent casualty reductions shown in the headline casualty reductions, once changes in travel behaviour are included, the actual improvement in the most serious casualty numbers has been less than 10%.

Over the same period, the fall in the number of the most serious car user casualties has been about 50%. In 2000, the fatal and serious casualty rate for walkers was 11 times that for car users per mile travelled but by 2013 this ratio had risen to 19 (21).

Walking is still the dominant mode of travel in society, so any successful road safety strategy must make provisions for the protection and support of pedestrians. 80% of trips less than one mile are made by walking.

A 58% increase in the relative risk of walking when compared with car travel in only 10 years is of great concern. Overall, the UK has achieved a drop in actual inci-

Figure A1 - Fatal Accidents in Scotland since 2003 and km cycling in the UK since 1952 (20)



In 2000 the fatal and serious casualty rate for walkers was 12 times that for car users per mile travelled but this ratio has risen to 19.

dences of deaths and serious injuries to pedestrians, but this has been achieved at the cost of a drop in the levels of activity for this group. In 2006, a report published in the Royal Society of Medicine Journal, showed that “Road danger is a disincentive to active transport” and that “more needs to be done in this respect.” (22) Furthermore, research by Miles Tight from the Institute for Transport Studies highlighted the surprising and relative neglect of pedestrians in the UK transport investment, noting that over a period of several decades, there has been insufficient focus on walking (23). Compounding the lack of investment, Pucher and Dijkstra, highlight that ‘transport and land use policies have made walking “less feasible, less convenient, and more dangerous”’. Recent research in Scotland showed that safety concerns were one of the main barriers to walking.

Sonkin et al show that “the conditions are set for a vicious circle of rising road danger leading to more children being driven, which increases traffic volumes, adding further to road danger.” (24) They point out that in England and Wales for each mile travelled, there were 50 times more child cyclist deaths and 30 times more child pedestrian deaths than there are for child car occupants, which is a striking inequality.

The Scottish research is slightly older but showed a similar finding. Harland and Halden in 1996 identified that pedestrian children under 12 years old are twice as likely to be killed by a motor vehicle when compared against the same group in England and Wales (28).

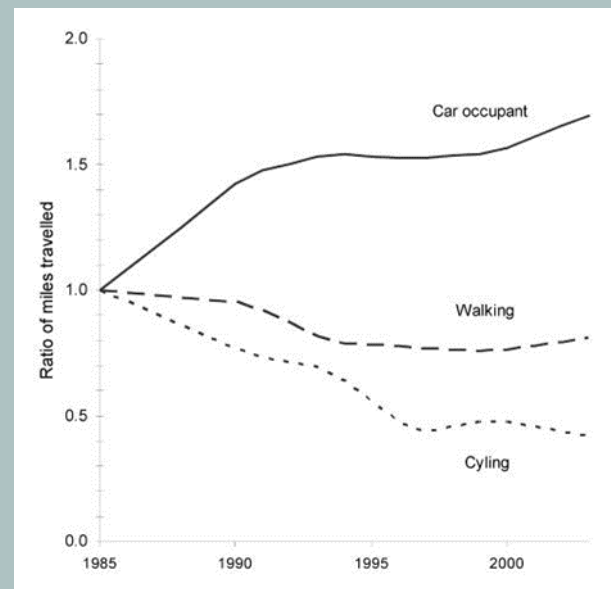
Relative higher danger for walkers has other inherent risks: a report by the Chief Medical Officer in 2009 stated that:

“Levels of inactivity amongst children are startlingly high. Amongst 2–15 year olds, 68% of boys and 76% of girls do not meet the minimum recommendation of an hour of moderate physical activity per day. (29) As a

result, children are being exposed to health risks including obesity, weak bones and future heart disease” (27)

Figure A2 shows how types of active travel for children fell over the 15 Year period between 1985 and 2000 in the UK (27). Government plans now recognise the problem but the safety concerns of the data analysts need a clearer focus. The National Walking Strategy (31) does not year have a clear action plan to tackle road safety issues, where they act as a barrier to more walking.

Figure A2—Car and active travel by children between 1985 and 2000 (UK)



There is a complex interaction between the factors that affect safe attitudes and behaviour. Research (30) has shown that “there is good reason to believe that our sense of what people should do is shaped by observation of what people do..... which in turn is influenced by laws”.

The safety concerns need a clearer focus with an action plan to tackle road safety issues where they act as a barrier to more walking.

Appendix B— International Comparisons of Legislation and Safety

B1 – International Comparisons

There are large international variations in the levels of walking and cycling as modes of travel. If few people are walking then there will be fewer pedestrian casualties. Many international comparisons of casualties are misleading as they ignore walking and cycling activity.

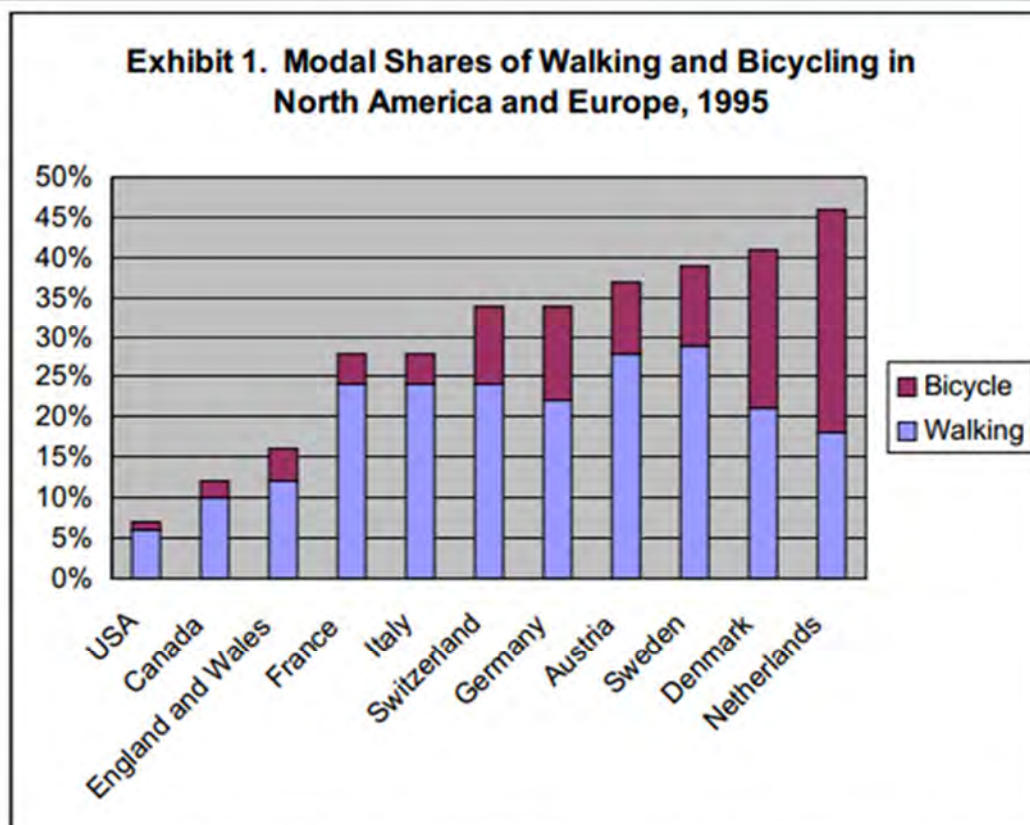
Figure B1 shows how in 1995 walking and cycling activity in England and Wales was lower than in most European Countries. Since then walking and cycling have declined further in the UK and some countries, e.g. Germany and Denmark report further increases.

A 2013 Transport Scotland review provided a brief overview of the varying types of liability legislation in France, Germany, Denmark, the Netherlands, and Italy, making

international comparisons of the fatality rate for cyclists. Based on these comparisons, the report concluded that ‘the data does not supply robust evidence of a direct link between strict liability legislation to levels of cycling and KSIs, when countries like the UK and Ireland are clearly reducing fatalities in cyclists and all other road users without strict liability in place’.

The UK and Ireland are reducing fatalities but this is partly as a result of reduced walking and cycling activity. In the Scottish Government analysis, the variables ‘fatalities’ and ‘legislation’ are both directly and indirectly dependent on public attitudes and traveller behaviour. A different research approach would be needed if the Government wished to consider complex ‘system

Figure B1



Source: Ministries of transport and departments of transportation in various countries.

Note: Modal split distributions for different countries are not fully comparable due to differences in trip definitions, survey methodologies, and urban area boundaries. The distributions here are intended to show the approximate differences among countries and should not be used for exact comparisons.

level’ effects.

In addition, the Scottish Government review omits the ‘seriously injured’ category of accident. Over many years, road safety research has often used KSIs as a key metric because the causal factors in the most serious accidents are largely the same regardless of whether the final outcome is death or serious injury. The specified aim of the research was to discern a link between strict liability and KSIs, so ignoring the ‘seriously injured’ category seems at odds with the government’s aims from their own research.

In order to look at how legislation has worked with engineering and education programmes in other countries to create safer environments which are more conducive to walking and cycling, the evidence in various countries is reviewed below.

This research has been unable to identify any country with both high levels of walking and cycling, and low levels of casualties that does not have some form of presumed liability. The work is limited by the readily available data but has not knowingly excluded any country. Faced with this evidence, it seems that presumed liability legislation is a necessary condition for safe growth in active travel.

B2 - Canada

The province of Ontario in Canada has Presumed Liability that works in a way very similar to what is proposed for Scotland.

“when loss or damages sustained by any person by reason of a motor vehicle on a highway, the onus of proof that the loss or damage did not arise through the negligence or improper conduct of the owner, driver or operator of the motor vehicle is upon the owner, driver or operator of the motor vehicle”(40)

Ontario also has a similar level of pedestrian and cycle casualties to Scotland with approximately 9 pedestrian fatalities and about 1.2 cycle fatalities per million population.(41)

There is also a major problem with lack of walking and cycling in Canada leading to serious health problems for the population. The distances travelled as pedestrians and cyclists are not published but Inactive lifestyles are an increasing policy priority. There is therefore perceived to be a problem with a lack of walking and cycling

which would not be consistent with a country with more than 30% of trips by walking and cycling as is extensively seen in Europe.

A report in Ontario highlighted the need for major engineering improvements to be made to help tackle this problem. (42) The research highlighted that pedestrian and road safety is not simply the responsibility of the road users themselves. Road design and layout and the environment in which the incident occurs all need to be improved too.

B3 - Strict Liability in Switzerland

Switzerland, like other European states, protects vulnerable road users under a system based on strict liability for motorists. The Swiss National Bureau of Insurance says that

“A vehicle holder is held liable unless he can prove that the accident was caused by the gross negligence of the victim, of a third party or by force majeure. In addition to that, he has to prove that he did not commit any fault himself and that the vehicle was not in a defective condition”

Put simply, the onus to show fault is shifted to the powerful road user.

The legislation is the Road Traffic Act (Art. 58 pp SVG, and was first implemented in 1958. As such, it is not possible to draw any sort of before and after comparisons to deduce the effect of the law. However, performing an examination of Swiss road safety can perhaps enable us to draw certain conclusions about whether or not having a system of stricter liability has a positive or negative effect on vulnerable road users.

Over the last 30 years, total road deaths in Switzerland have gradually decreased. 1,246 people were killed in 1980, 954 in 1990 and 592 in 2000(44). The Swiss appear to be making good progress in reducing road danger for motorists, despite a 111% increase in the number of vehicles on the road between 1980 and 2011 (45).

Figure B2—Modal Split in Switzerland (46)

Table 14. Modal split in Switzerland according to the travel behaviour in the microcensus 2000

Transport mode	Daily distance	Time spent	Number of trips
Walking	4.6%	34.3%	40.1%
Cycling	2.5%	5.6%	6.0%
Mot individual transport	69.5%	43.6%	41.6%
Public transport	17.7%	11.4%	10.3%
Total (per person and day)	48 km	89 min	3.6

Figure B3—Historic injuries and fatalities for cyclists in Switzerland

Year	Slightly injured	Severely injured	Fatalities
1980	1 059	1 247	77
1985	1 430	1 430	60
1990	1 641	1 400	60
1995	2 346	1 006	53
2000	2 284	959	48
2005	2 322	815	37
2010	2 344	821	33
2011	2 409	800	37
2012	2 193	840	28
2013	2 199	790	17

Source: FEDRO, accidents registered by the police USV.T.42

Looking specifically at vulnerable road users, there are positive trends for this group too. Cycling and walking are quite popular choices in Switzerland, with private motor vehicle having a relatively low modal share.

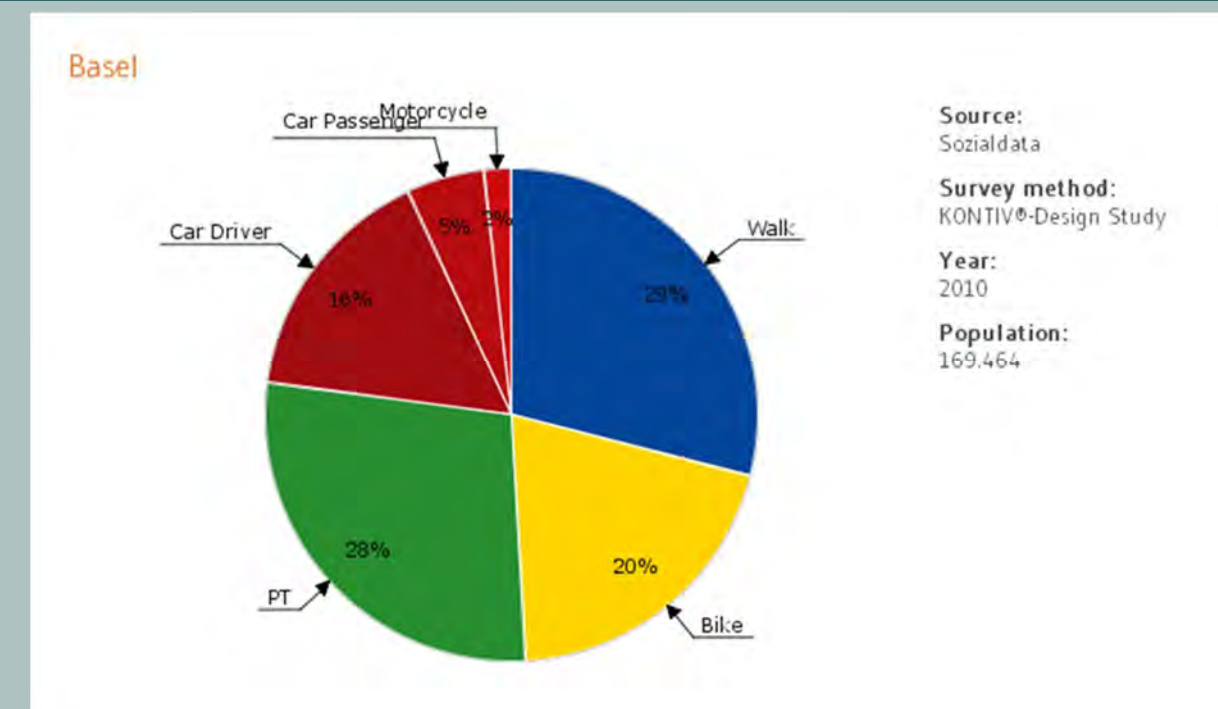
Certain cities in Switzerland have even higher modal shares for sustainable transport. Basel, for example, enjoys 20% modal share for bicycles, as well as 29% for walking and 28% for public transport. The use of motor vehicles (including motorcycles) accounts for only 23% of total traffic in Basel. These figures are made all the more impressive when you consider Switzerland’s mountainous terrain and chilly winters.

Research also shows that the modal share for cycling has steadily increased since the early 1990s, yet as the data in the table demonstrates, serious injury and fatalities for cyclists have drastically declined. It is likely that the increase in ‘slight injury’ can be explained as accidents not involving traffic, such as slipping on ice or failure of equipment. These are far less likely to cause severe damage to a person, and have likely simply risen in step with the number of people on bicycles. Looking at the more useful metric of killed or seriously injured cyclists, the rate has dropped from 11.5 in 2011 down to 10 in 2013. (47) Looking further back, the data shows that pedestrian fatalities dropped 55% over a twenty year period from 1990-2010. Cyclist killed or seriously injured rates over the same period declined 41% (48)

Switzerland has managed to increase levels of activity for vulnerable road users together with a decrease in serious injuries and fatalities. In addition to their liability laws, Switzerland also has invested in infrastructure including reduced traffic zones and widespread 18mph speed zones, and zones with two-way cycling on one-way streets.(49) (50)

The State Councillor for Basel remarked that: “One has to think on a small as well as on a large scale planning cycling measures. Promoting cycling needs large infrastructure projects as well as various small measures.” (51)

Figure B4—Modal Split in Basel



B4 - Strict Liability in France

Amidst growing public discontent at the nation's road safety record, on 15th July 1985, the French introduced greater protection to compensate victims of road safety collisions and introduced strict liability for drivers of motor vehicles. The previous 10 years had seen relatively ground breaking measures such as speed limits, compulsory seat-belt laws, and drink driving laws, but it was recognised that certain groups of road user remained more vulnerable. To give these groups increased legal protection, the 'Loi Badinter' was passed. It states that:

"Victims, apart from the drivers of land surface motor vehicles, shall be compensated for the damage resulting from personal injury suffered by them and their own fault on their part may not be pleaded against them, save where inexcusable fault on their part was the sole cause of the accident."

This excludes instances caused by force majeure, or simply an act beyond the control of the driver. Vulnerable road users younger than 16 or older than 70 and people who are more than 80% disabled will also receive compensation for damage to their property. The law applies if the following criteria are met (52)

- A traffic accident occurred.
- The plaintiff/vulnerable road user has suffered an injury .
- The insured motor vehicle was involved in the accident.
- There is a causal link between the accident and the injury.
- The person whose liability is sought is the custodian or driver of the vehicle involved.

The law was designed to ensure that victims of road traffic accidents were able to obtain "fast and efficient" compensation (53). The law was designed with the acknowledgement that their method of indemnity for vulnerable road users was insufficient. Prior to this, France had operated a fault based system, very similar to the UK's current system.

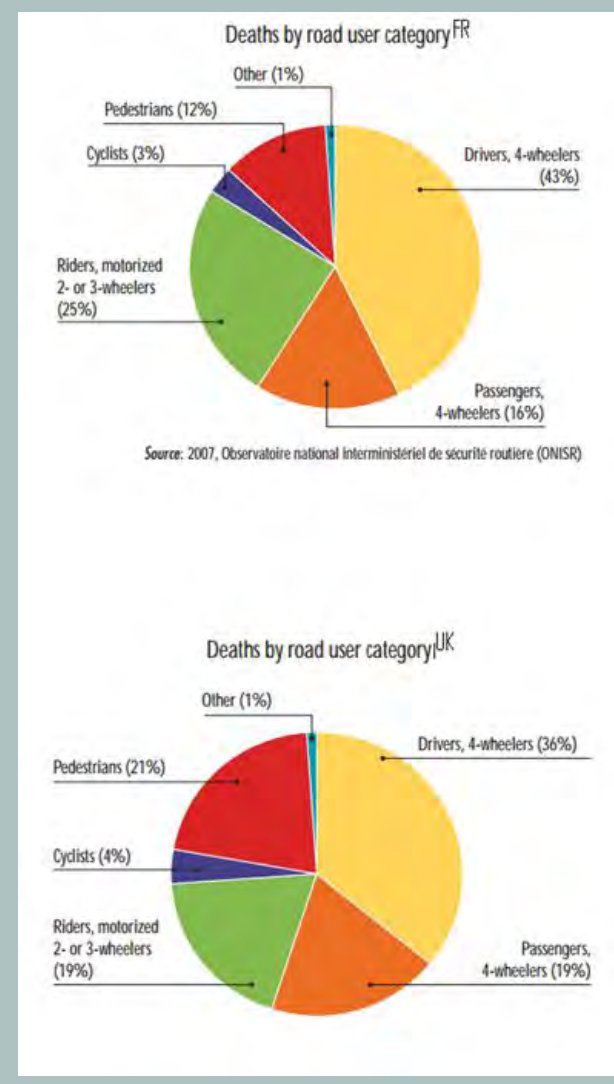
The Loi Badinter appears to have had a positive effect in reducing numbers of court cases and the vast majority of bodily harm cases are now settled out of court. The French Federation of Insurance Companies (Fédération

Française des Sociétés d'Assurances), which is comprised of 234 companies and represents 90% of the French insurance market, is a strong supporter of the Law.

"In France as you know, insurers now support the 'Loi Badinter' because it has given high protection to vulnerable road users. At the FFSA, we believe that it has had a positive effect because the law is a law of indemnity rather than liability. Consequently, vulnerable road users are very quickly indemnified without going through the Court ... So, in fact, after the implementation of the law, the road traffic accidents decreased. This is why insurers support these safety programs." (54)

The Loi Badinter was one road safety initiative amongst many that were enacted over three decades in France. In the 3 decades since this law, and many others, were

A comparison of deaths by road user category between France and the UK



introduced, France has since made improvements in the field of road safety.(54)

Successive French governments have recognised that changes in the law are only one part of a comprehensive programme of road safety improvement. The combined programme of measures led to a 42.6% drop in road fatality rates between 1975 and 1998. Furthermore, between 1998 and 2008, France experienced a stronger decline in road deaths than any other G7 country, where the rate fell by 8.3 deaths per 100,000. (56) France was previously responsible for 16% of Europe's road traffic fatalities but has become a much better performer.(57)

The French and UK statistics are compared in Figure B1. Despite the UK having less than half of the activity of walking and cycling of France, 21% of deaths in the UK are pedestrians compared with only 12% in France.

Looking at the OECD's International Road Traffic and Accident Database, the average number of cyclist deaths in the decade prior to the introduction of the law (1975-85) was 676 per year. The average for the decade after (1985-95) was 418, which represents a 38% decrease, compared with a 1% decrease in cycling's modal share in France over the period. (59)

There is no record of any public awareness campaign or public surveys, which record the public awareness of the Loi Badinter, which makes it difficult to assess what significance the Loi Badinter made to public attitudes.

The FFSA, who represent the French insurance industry, say that "insurers now support the "Loi Badinter" because as well as providing quick and fair compensation, it has also "given high protection to vulnerable road users" and that "after the implementation of the law, the road traffic accidents decreased" (60).

B6 - Strict Liability in the Netherlands

Road traffic liability laws evolved in the Netherlands from around the 1920s onwards and strict liability was introduced in 1994. The law states that "if an accident involves a motor vehicle (car or motor bike) and a non-motorised road user (pedestrian or cyclist) risk liability applies. This means that the driver is liable unless he can prove force majeure."(61)

Liability applies strictly if the vulnerable road user is under 14 years of age. If the victim is over 14, then the

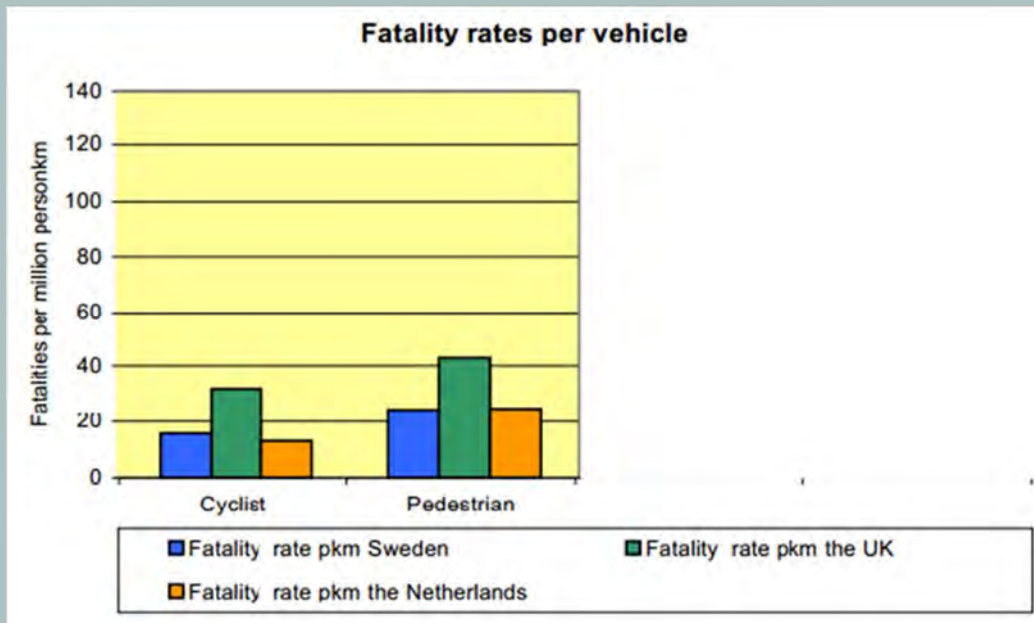
motorist is 50% strictly liable, with the other 50% being determined on a fault basis. The burden of proof for determining that fault lies with the more powerful road user. The reasoning behind the law is that operating a motor vehicle carries an inherent risk. The Dutch law uses the term 'betriebsgefahr'(62) to describe the risk created by the weight and speed of the motor vehicle. Motorists operate vehicles in full knowledge of this inherent risk, and strict liability is an attempt to have this risk mitigated.

The development of strict liability in the Netherlands took place within a context of road safety reform in the Netherlands. Traffic accidents were no longer seen as an inevitable by-product of mass motorised mobility, but rather as a social harm that needed to be solved. (63) In the 1970s, cycling levels had decreased in the post war period, and motorised traffic was booming. As a result, 3264 people were killed on Dutch roads, and in 1973, 450 road deaths were of children. A road safety campaign called 'Stop der Kindermord (Stop the Childmurder) was outraged by these deaths, and campaigned to raise awareness of these deaths and to pressure the Dutch government to improve conditions for vulnerable road users. In doing this, they would remove the danger faced by vulnerable road users without impeding their mobility or freedom.

After sustained campaigning, the successive Dutch governments began to make consistent long-term investments over a 30 year period. These included the development of widespread continuous segregated infrastructure, speed reductions and the redesign of junctions to accommodate all road users. The benefits of this investment are clear today: the mortality rate for Dutch cyclists fell by 77% between 1970 and 2010. The Netherlands has an excellent safety record for vulnerable road users, which is more impressive given their high levels of mobility. Despite higher levels of cycling and walking, vulnerable road users are considerably safer in Netherlands than they are in the UK. (64)

When strict liability was introduced in the Netherlands, mass cycling and widespread homogenous and continuous infrastructure was already in place. As such, it is problematic to isolate strict liability and disentangle it from the heavily entrenched attitudes and road user behaviour developed since the early 1970s. However, the Dutch approach to road safety recognises the positives of a comprehensive and holistic approach to road

Source: Koornstra et al 'SUNflower: A comparative study of the development of road safety in Sweden, the United Kingdom, and the Netherlands' (2002)



safety. Koornstra et al describe a “coherent road safety policy” as requiring a “horizontal co-ordination (between sectors), and vertical co-ordination (between levels)”. (65)

Modern Dutch road safety policy mirrors this approach and is often referred to as ‘sustainable safety’, (66) the key tenets of which are:

- Promoting and continuing the successful infra-structural measures of the past;
- Putting more emphasis on education, regulations, and enforcement;
- Emphasising technological developments;
- Arguing the necessity of a system for quality assurance;
- Arguing the necessity of an integrated approach to measures, safety principles, and policy areas;
- Noting the importance of integration of road safety with other policy areas, innovation of policy;
- Implementation, research and development, and of knowledge dissemination.

B7 Strict Liability in Germany

Presumed liability is a very well established concept in Germany. It was originally enacted in 1907, and as such was one of the first countries to officially recognise the danger presented by the operation of a motor vehicle. As Dr Dieter Heskamp states,

“In the view of the legislator, the use of a motor vehicle involves an increased risk of causing damage, because of the particular characteristics of motorised traffic (the significant weight of motor vehicles and the possibility of significant speeds). So, motor vehicles represent a specific source of danger. When this danger materialises, so that damage is caused, the individual who controls the motor vehicle should be liable to make good the damage.” (67)

As with most liability systems that govern traffic accidents, the German system has its own features which serve to distinguish it from others around Europe. The concept of ‘Betriebsgefahr’ which translates roughly as ‘operating risk’ is the foundation of this law, as it is in the Netherlands, although this concept does leave some room for the operator to attempt to establish contributory negligence. Since 2002 however, the system has

shifted slightly towards a 'stricter' system: children under the age of 10 cannot be held liable for their actions, and the excuse of an 'unavoidable collision' no longer excuses liability. (68)

Only a 'höhere Gewalt' or 'act of God' can allow for a defendant to evade liability. In addition, drivers suffering a sudden and unpredictable unconsciousness or mental disturbance are not responsible for damage. (69) The German system allows for a fairly comprehensive scope when damage is considered; pain and suffering, psychological injury, impacts on financial needs, household assistance, loss of income, small expenses, future damages, rehabilitation and property damage are all taken in to account when assessing the impact of an accident. (70) The 'operating risk' principle can even be applied to damage not directly related to a collision: there is an example of a collision of cars near a farm causing the animals to become panicked, after which the farmer was compensated. (71)

As well as the basic principle of 'Betriebsgefahr', the German system has other similarities with the Dutch. In the Netherlands, 50% of compensation can be reduced if the cyclist is found to be at fault. In Germany, negligent behaviour often results in the liability being split. For example, the court of 'Neuburg an der Donau' looked at a case where a cyclist had entered the lane of oncoming traffic and collided with a car. The court did

not grant the motorist's demand for 100% damages, but instead established 75% liability for the cyclist and 25% to the motorist. As noted by Brümman,

"The cyclist in this case has to pay 75% of the TOTAL damages and the motorist 25%. 'TOTAL' is important here, as damage to the car could be a few scratches and to the cyclist lifelong disability. In such a case, the cyclist (or his liability insurance) would have to pay 75% of the costs of repair for the car's paintwork and the motorist's insurance would have to contribute 25% to the cyclist's lifelong subsistence." (72)

This sort of settlement punishes reckless behaviour by road users whilst still acknowledging the 'operating risk' principle.

Cycling in Germany enjoys a relatively high modal share. The national figure is around 10%, (73) which is five times higher than in the UK, but this figure is considerably higher in certain towns and cities. The town of Greifswald has an impressive 44% of all journeys made by bike, and cities such as Munster and Gottingen have a 38% and 25% share respectively. (74)

Despite a "strong increase" in cycling levels in Germany in recent years, the number of fatalities faced by cyclists is 17 fatalities per billion km travelled. (75)

Appendix C— Case Studies and Other Evidence

In this appendix we question whether a fault based system encourages litigation together with other evidence explaining the processes by which Presumed Liability approaches seem to be working .

C1 - Legal Costs for Insurance Companies Make Everyone a Loser

A case to illustrate this point is Jamie Aarons v Tradex Insurance Company. Jamie, a young female cyclist, sustained injury when a taxi driver opened his driver's door into her path. At the scene, the driver apologised. The driver's insurance company later denied liability citing their policyholder's claim to have 7 witnesses to support the fact that Jamie had cycled into an already open door. None of these witnesses were ever produced. Under the UK's fault based system, Jamie had to prove the driver was at fault which could only be achieved by litigation and the inherent risk of the 'loser pays' principle. The action was raised in Court and eventually settled in Jamie's favour. Had the case been settled at an early stage without litigation, the "legal costs" to the insurer would have only been £2,700. Because Aarons had to prove fault, the legal costs for the insurance company were instead in excess of £16,000. Importantly, Jamie was not compensated for her injury at an early stage which would have been within 3 months. Instead, it took in excess of 11 months, which provides an appropriate illustration of the inefficiencies of the current system.

C2 – An unfair burden of proof

The shortcomings of a fault-based system are evident from the case of Alexander Gibson v AXA Insurance. This case involved a 67 year old experienced cyclist who was hit by the near-side wing mirror of a passing mini bus. He landed on his own carriageway sustaining fracture injuries to his pelvis. Police investigations in the immediate post-accident period were limited and the mini-bus driver maintained that the cyclist had veered into his

path. Liability was denied by the insurers, so a Court Action had to be raised. The case progressed through the Court of Session and with only a few weeks to go before the case was to be heard before a Judge, liability was admitted and the case subsequently settled. The result was an award of compensation of £11,000 after 17 months. The legal costs for both sides had to be paid by AXA and that figure was 10 times higher than if the case had been settled without litigation. Under a presumed liability system, it would have been for the mini-bus driver (in practice, his insurer, AXA) to prove that the cyclist veered in front of him causing the collision and with no evidence to substantiate such claims, the outcome would have been a swift award of compensation with limited legal costs. The result is beneficial for all parties – swifter resolution for the victim, and reduced costs for the negligent party and his insurers.

C3—Unacceptable delays in compensating vulnerable road users

On the 12th January 2004, on the A98 between Banff and Fraserburgh, a 13 year old schoolgirl was seriously injured in a collision with a car. She had got off a school minibus and gone around the rear of the stationary bus to cross the road. She paused briefly at the rear offside of the bus and then took one or two steps before breaking into a run. She was struck by a car travelling at 50mph. The case was heard before a Judge who found the girl 90% to blame. The decision was appealed and the Appeal Court found the girl 70% to blame. That decision was also appealed and the Supreme Court found the girl 50% to blame issuing judgement on the 18th Feb 2015, more than 10 years after the incident. Had the girl been a Dutch or French schoolgirl, compensation would have been awarded automatically as their road traffic liability laws are designed to protect children, as after all they are their most vulnerable citizens." (80)

C4 - Evidence of liability influencing behaviour

Strict liability provides safety boosting incentives. A study by Schafer and Muller-Langer examined and compared the allocative effect of negligence based systems and strict liability based systems. (76) They concluded that when compared to negligence, strict liability “usually achieves socially optimal results”. This is because strict liability incentivises the injurer to “internalise the social costs and reduce the level of activity to the socially optimal level”. Simply put, strict liability ensures that the ‘excessive threat’ posed by a dangerous activity is more likely to be mitigated or prevented by the person responsible. This is reinforced by Hylton who finds that strict liability is preferable to negligence when the risks are asymmetrical. (77) Given that motor vehicles pose a disproportionate danger when compared to cyclists and pedestrians, a strict liability system for road traffic accidents would seem to fit this model particularly well. Schafer and Muller-Langer also remark that presumed liability leads to “efficient results” because it provides an incentive for both parties to exercise due care. (78) When applied to road safety, this translates into having a positive effect on the behaviour of all involved parties, included motorists, cyclists and pedestrians.

This is reiterated by Howard Latin, who notes that, “virtually all social engineering and ‘law and economics’

analyses share one central behavioural assumption—that imposition of liability substantially affects how categories of actors respond to the risks they create or confront.” (79)

C5 –Evidence of lower administrative and insurance costs

No-fault liability systems lower litigation costs. A negligence based system results in the courts having to “determine the level of due care as a legal standard for the socially optimal level” and to “determine the level of care actually taken in order to see whether the injurer was negligent or not.” This information is difficult and time consuming to discern to a satisfactory level, which leads to potentially lengthy litigation. Under a presumed liability system, a higher percentage of victims would obtain compensation without pursuing the injurer, which in turn leads to less litigation processes and therefore less administrative costs. (81)

There has also been criticism directed at the fault based system’s tendency to “overcompensate small losses and undercompensate large losses”. (82) The inefficiency of a negligence based civil system is further compounded by the fact that the costs of resolving these cases is often higher than it would be under strict liability. (83) A strict liability system is more straightforward which results in a reduction of administrative costs for all parties

Number and Rate of Fatal Injuries to Workers.

Source: Statistics on Fatal Injuries in the Workplace. HSE 2014



concerned. (84) As McEwin notes, “if we are concerned with accident compensation...the tort law system is unsatisfactory” (85)

C6 – Evidence of impacts of liability laws in the workplace

European Legislation dealing with the safety of those at work is generally speaking founded on the principle of strict liability. We also know that the UK is one of only 5 European countries that does not operate a system of strict liability for vulnerable road users. It is no coincidence that countries with high levels of cycling and low levels of cycle KSI's have in common liability laws to protect the vulnerable road user.

In 1993, the UK introduced strict liability into workplace with a raft of health and safety regulations. Twenty years later, the positive effect strict liability had on workplace safety was referred to by Lord Drummond Young in the case of *Cairns v Northern Lighthouse Board* when he stated, “strict liability acts as an incentive to reduce the incidence of hazardous activities and it encourages employers to do their utmost to ensure the least possible risk to employees’ health and safety.”

Following upon the introduction of strict liability legislation in the workplace in 1993 over a 20 year period, there was a reduction in fatal workplace injuries from 1.1 per 100,000 (275 fatalities) in 1994/95 to 0.44 per 100,000 (133 fatalities) in 2013/14. Even accounting for a slight shift away from industrial workplaces to a less risky service environment, this level of workplace fatal injury reduction is very significant.

Despite the gains in workplace safety, the Löfstedt report (2011) prompted the UK Government to make changes to the workplace health and safety regulations.

Key amongst these changes was the removal of strict liability for employers regarding accidents in the workplace. The reasoning for the removal was that it was unfair for employers to have to pay compensation to employees when the employer has done everything reasonable to prevent an accident. The introduction of the Enterprise & Regulatory Reform Act 2013 and a return to a fault-based liability regime could lead to a reversal of the downward trend of accidents in the workplace, but it is too early to be able to identify any impacts.

The workplace debate resonates with many of the issues for road accident liability. Individual workers and vulnerable road users are not legally bound to carry insurance. They pose little risk to others either in the workplace or on the roads. An employer is obliged to carry employer liability insurance and is responsible for the acts and omissions of his employees. An employer’s liability insurer will pay any award of compensation made to an injured worker. By comparison, a motorist must have compulsory third party insurance because of the risk the operation of the vehicle poses to other road users. A driver’s motor insurer must pay an award of compensation made to any party injured by their policyholder.

The available evidence shows that strict Liability on the roads and in the workplace does appear to have substantial benefits, but Presumed Liability for responsible adults offers a socially acceptable approach to indemnify vulnerable road users that is consistent with the stated aims of even those who oppose Strict Liability for employers.

C7 – Evidence of Liability laws to protect the environment

EU environmental directives have two core principles; the ‘polluter pays’ principle and the ‘preventative’ principle. (88) The former ensures that those responsible for inflicting the damage are responsible, or liable, for helping to mitigate it by funding the clean-up and repair operations. The latter is based on the idea that a strict regime will lead to improved compliance with environmental regulations, meaning less damage to the environment as a result. (89) Both principles have clear parallels with the implementation of strict liability within road safety – those that are responsible for the most damage, such as motorists, are liable for damages to those that are injured, such as pedestrians and cyclists. In addition, these sanctions mean that the overall incidence of traffic accidents is likely to decrease because of increased compliance with the law.

French and Belgian nuclear power plants run under strict liability. (90) Multiple types of polluters across a variety of European states are governed under strict liability, (91) and it is widely considered that strict liability is effective in reducing harmful activities. (92) (93) (94)

Evidence of strict liability's success in curbing environmental damage can be found by looking at German Environmental strict liability laws, first introduced in 1990. A study by Hoffmeister et al found that these laws had been successful in reducing environmental damage and increasing standards of accident prevention, stating that the strict liability laws effect on accident prevention was "evidently positive". (95)

C8 – The New Zealand No Fault Health Compensation Approach

A form of strict liability or 'no-fault' compensation also exists in several healthcare systems around the world. There is a level of risk present in the healthcare system of any country which can result in claims for compensation. Certain countries recognise that this potential for injury and the injuries suffered in the healthcare system are best compensated by a system of 'no-fault' compensation. Put simply,.

New Zealand was one of the first countries to introduce this sort of system. In 1970s, the US, UK and Australia had also considered such a system, but only New Zealand has actually implemented it. (96) There were concerns about the effectiveness of tort/fault based system.

When New Zealand implemented no-fault, they had multiple goals;

- to enhance the 'public good'
- to reinforce the social contract within New Zealand society
- to minimise the incidence of injury
- to minimise the impact of injury on the community

A no-fault system has not managed a clear reduction in preventable adverse clinical injuries, with their record being on a similar level to other developed countries. (97) (98)

However, the system has been very successful in improving other areas. For example, New Zealand's healthcare professionals are more likely to have an honest relationship with their patients and discuss errors with their patients due to the absence of litigation concerns. (99) There is also evidence of strong support for

the system throughout New Zealand, and a suggestion that the no-fault system was now culturally embedded. (100) Their other stated goals appear to have been largely met. A Scottish Government report on New Zealand's scheme, 30 years after its enactment, noted that their system achieved

"Promotion of social community and solidarity through the implementation of a principled approach to compensating individuals for medical injury: community responsibility, comprehensive entitlement, complete rehabilitation, real compensation and administrative efficiency" (101)

New Zealand's no-fault compensation also facilitates better access to justice (102), with a notable reduction in the cost of initiating and submitting claims, as well as the resolution time of claims. The simplification of claims and a reduction in litigation is a feature of clinical no-fault systems in other countries, too. Finland, Denmark, Sweden and Norway have all adopted no-fault schemes that are broadly similar to New Zealand's. All of these systems have been found to facilitate access to justice and quickly compensate injured parties. A particularly instructive figure shows that 99.9% of the claims handled by Swedish Medical Injury Insurance are resolved out of court, demonstrating the potential for no-fault systems to successfully avoid the high costs in time and money that litigation usually incurs. (103) This effect is acknowledged by Dewees, Duff and Trebilcock, who state that "the no-fault plans in Sweden and New Zealand have had reasonable success in defining the concept of a medical injury and in compensating most injured patients promptly and at relatively low administrative cost" (104)

The broad success of no-fault liability systems abroad resulted in the Scottish Government commissioning a report to evaluate the benefits and feasibility of Scotland adapting a similar system. The report is ongoing, but the current policy position remains "We recommend that consideration be given to the establishment of a no fault scheme for medical injury, along the lines of the Swedish model"(105)

It is widely evident that strict liability regimes are effective at both adequately compensating victims, providing preventative incentives and streamlining the costs of administration, insurance and litigation across a wide variety of areas. It is a fairly straightforward conclusion then that these inherent benefits can be transferred to

the area of road safety if a system of presumed liability is introduced.

C9 – Evidence about Cause and Effect

Presumed Liability will have a significant impact in addressing the shortcomings of the current fault based system as it relates to fatal injury cases.

In these cases, the victim's version of events can never be known, and so the family of the victim must undergo the ordeal of proving a driver's negligence. As it stands, when someone is killed as a result of a road traffic collision, the police must carry out a full investigation to determine the cause of the collision. That report will be sent to the Crown Office and Procurator Fiscal Service to determine whether criminal proceedings should be raised. If a driver is charged with causing death by careless or dangerous driving, a trial date will be set. This is a lengthy process and it is not unusual for the bereaved family to wait well over a year before a careless or dangerous driver is brought to trial. Whilst a trial date is awaited, neither the bereaved family members nor their instructed civil lawyers are allowed access to the Police Collision Investigation report or the police officers who investigated the collision on the basis the matter is sub-judice and release of any information would be prejudicial to the outcome of the criminal trial.

The effect of the fault-based system coupled with our criminal procedures is to deny the relatives of the deceased access to swift compensation. Many cases are litigated unnecessarily as time limits work against negotiated settlements. An injured party or family of a fatally injured victim must have a case settled or raised within 3 years following the date of injury or death. Being unable to pursue a claim for compensation until after a criminal prosecution is completed can cause extreme distress and severe financial hardship. In addition, the families of the bereaved are left further disadvantaged at the start of the Civil case as the driver's legal team usually have had access to all reports prepared for the Criminal trial. Often Civil cases are commenced two years after the fatal collision by which time witness recollection has faded.

Andrew McNicoll was killed in a collision with a lorry as he cycled to work on the Lanark Road, Edinburgh in January 2012. His family had to wait over two years for the

Criminal case to be concluded. The Police investigation report was made available to the family after the trial. With just 5 months to go before the Civil action was time barred, an action for damages was raised in the Court of Session.

Our current fault based system lends itself to increased litigation rather than addressing the issues of compensation for victims at an early stage. This disadvantages all parties involved. Presumed liability, on the other hand, would encourage a fairer and more streamlined system with potential savings for the insurance industry, and considerably less difficulties for victims and the families of victims.

Sally Low was killed whilst cycling in September 2013 near Overton, Morayshire. She was a single mother and cared for her two teenage sons, both of whom were school age. There was an independent witness to the incident who confirmed Sally had done nothing wrong. She was on her own carriageway when she was struck by a car that had been proceeding in the opposite direction. The driver was charged with contravention of the Road Traffic Act 1988. A civil claim for compensation was intimated directly to the driver's insurance company, in November 2013. No offers were made and nine months later the drivers insurance company stated "We are unable to proceed until we have further information from the Police." They would not offer any compensation, not even funeral costs, which forced the family into an unnecessary litigation process.

Our fault based system worked against the family adding to their distress and denying her teenage children access to swift compensation. A Presumed Liability Law would reverse the burden of proof and it would be for the driver's insurance company to establish, on balance of probability, Sally was at fault. With witness testimony confirming she had done nothing wrong, there should have been a swift award of compensation. Presumed Liability is fair as it ensures those who are bereaved are compensated fairly and quickly and it fits with our aspirations for a just society that treats the bereaved with compassion alleviating suffering and financial hardship at an early stage. It is common for many motor insurers to delay awards of compensation pending outcomes of criminal proceedings. Presumed liability would bring about swifter compensation awards with potential cost savings to the motor insurance industry.

C10 – Impacts on Driver Behaviour

There is some evidence that the introduction of Presumed Liability on Scotland's roads would change driver behaviour if implemented as part of a broader programme of measures. The mechanisms for change are highlighted by Knibbe, who suggests that the greater potential for financial sanctions by way of loss of no claims bonus for a collision with a vulnerable road user, could lead to the motorist taking more care to avoid such a collision. (106)

Such suggestions seem to be reinforced by an international review of bicycle safety policies by Pucher et al who state that "the most compelling evidence we found came from communities that have implemented a fully integrated package of strategies to increase bicycling". (107) They provide a persuasive account of the difficulties that are often encountered when attempting to examine road safety measures such as Presumed Liability in isolation:

"The impact of any particular measure is enhanced by the synergies with complementary measures in the same package. In that sense, the whole package is more than the sum of its parts. However, the more successfully a city implements a wide range of policies and programs simultaneously and fully integrates them with each other, the more difficult it becomes to disentangle the separate impacts of each measure" (108)

The success of such holistic approaches is further supported by the Fédération Internationale de l'Automobile, who look at road user behaviour as just one aspect of better road safety, and state that with regards to road safety:

"long-term actions must be pursued in parallel." (109)

These likely positive effects are also noted in a report for Sky and British Cycling looking at cycling safety measures, which states that strict liability is a "key component" of successful cycling ecosystems. (110)

References and Notes

- (1) - Reported Road Casualties 2013 – <http://www.transportscotland.gov.uk/reported-road-casualties-scotland-2013-datasets>
- (2) - Derived from OECD 2013—Cycling Health and Safety. http://www.keepeek.com/Digital-Asset-Management/oced/transport/cycling-health-and-safety_9789282105955-en; Transport Statistics Great Britain 2013 and Mitchell CGB 2014 – Cycling Statistics – British and European. Transport Statistics User Group. <http://www.tsug.org.uk/index.php>
- (3) - This table is designed to give a basic overview of the sorts of civil system operated by different states across Europe. The third column attempts to summarize each system, but given the complex nature of legislation, further reading is recommended. Columns 4 and 5 show the degree to which active travel is common within each state, whilst column 6 provides some insight in to the relative risk, based on exposure, that cyclists face whilst using the roads of each country. A fatality has a standardised definition across Europe, which is “death within 30 days of an accident involving a vehicle on the public highway”. Showing levels of injury suffered per billion km/travelled for cyclists would have provided greater insight, but figures for this metric are inconsistent between different states and not consistently recorded often enough to draw valid comparisons. The table highlights a strong correlation between countries which have reversed the burden of proof for vulnerable road users and both higher levels of active travel and safer environments for cyclists.
- (4) - Cyclist fatalities per billion vehicle km derived from Mitchell CGB2014 and NL(2008-2010), GB(2005),D (2007) DK(2008-2010), FR (2002) NO*(2009 ages 13 and over), SE(2006); p10 Pedalling towards Safety, European Transport Safety Council (2012); p51 Pucher & Buhler “Making Cycling Irresistible” Transport Reviews, Vol. 28, (2008), Pucher ‘Cycling For Everyone: The Key to Public and Political Support’; Buehler & Pucher (2012) ‘Walking and Cycling in Western Europe and the United States: Trends, Policies, and Lessons’
- (5) - European Union (Rights against Insurers) Act 2002. Regulation 3 confers on a victim the right to pursue a claim against the defendant’s motor insurer direct.
- (6) - See also Appendix B with Lord Drummond Young’s opinion in Cairns against Northern Lighthouse Board (2013). Specific comments regarding strict liability
- (7) - <http://www.gov.scot/Publications/2013/10/8023>
- (8) - Transport Committee The AXA Whiplash Report 2013 available at <http://www.publications.parliament.uk/pa/cm201314/cmselect/cmtran/117/117vw56.htm>
- (9) - P10, Lahe, J., Kull, I.,: JETL 2014; 5(1): 105–120, De Gruyter
- (10) - P140, Faure, M., Nollkaemper, A., International Liability as an Instrument to Prevent and Compensate for Climate Change, Maastricht University Faculty of Law
- (11) - See Appendix B quoting Redgrave, “Following implementation of EU Directives and SL in the Workplace 1992/93, consistently lower workplace fatalities were recorded. In 1992 it was 1.3 per 100,000, in 2011/12 it was 0.6 per 100,000.” The only thing that changed was the introduction of SL so it achieved a 50% reduction in fatalities
- (12) - See also Appendix B discussion about the reduced Insurance costs from French and Danish legislation changes
- (13) - Clarke, J., Ford, M., and Smart, A., (2012) ‘Redgrave’s Health and Safety Eighth Edition’ show that in the year this was introduced, the rate of fatal accidents was 1.3 per 100,000. This figure has been consistently lower every year since, with the figures for the year 11/12 showing a rate of 0.6 per 100,000. See also Section 69 of the Enterprise and Regulatory Act 2013 and Professor Ragnar E Lofstedt’s report entitled “Reclaiming Health and Safety for All: a review of Progress 1 year on” as discussed in Appendix B. Section 69 of the Enterprise & Regulatory Reform Act came into force on 1st October 2013 and removed strict liability from employer’s liability cases.
- (14) - Ashford, N., (2010), ‘Reflections on Environmental Liability Schemes in the United States and European Union: Limitations and Prospects for Improvement’ Massachusetts Institute of Technology

- (15) - P27, No Fault Compensation Review Group Report and Recommendations Volume I, available here <http://www.scotland.gov.uk/Topics/Health/Policy/No-Fault-Compensation>
- (16) - Animals (Scotland) Act 1987 s1
- (17) - See Appendix B discussing the Taylor Review which stated that there is no compensation culture in Scotland with 10% of the UK's population but just 4% of the total road traffic compensation claims
- (18) - It is estimated that motorised transport accidents cost the UK £18bn - Clifford, J. & Theobald, C. (2011) Institute of Advanced Motorists: Social Impact Evaluation using Social Return on Investment, London, Institute of Advanced Motorists.
- (19) - The risk to others represented by cyclists then, is very low. Insurance firms clearly agree – cyclists with membership of British Cycling and the CTC have 3rd party insurance coverage up to £10m, and it costs just £24 or £35 respectively. Even if compulsory third party insurance were deemed necessary and desirable, the implementation of such a scheme for cyclists would be very difficult. If insurance is legally mandatory, then it requires enforcement. This, in turn, would mean that cyclists would need a license, and bicycles would need to be registered. These bureaucratic processes and measures retain a fairly regular support, with calls for a cycling license and registration occurring with some frequency. These measures might not dissuade regular, enthusiastic cyclists, but they would certainly deter casual cyclists or those considering taking up cycling. It is important to remember that if a person is not using a bicycle for transport, they will either be adding to pollution and congestion in a car, or adding to the strain on public transport. See: <http://www.smh.com.au/nsw/duncan-gays-licence-plan-for-cyclists-goes-against-previous-departmental-advice-20140703-zsuyi.html>; <http://www.standard.co.uk/news/london/all-cyclists-should-have-a-licence-says-petronella-wyatt-as-her-mother-is-injured-twice-in-a-month-8121009.html>; <http://www.dailymail.co.uk/femail/article-1250746/Beware-rogue-bicycles--Petronella-Wyatt-attacks-cult-cycling-frail-mother-knocked-down.html>; <http://www.bbc.co.uk/news/magazine-22614569>; http://www.newssshopper.co.uk/news/lewi-sham/10508263.Should_London_cyclists_be_licensed__insured_and_taxed__Have_your_say/
- (20) - Cycling Scotland 2015—Annual Monitoring Report. <http://www.cyclingscotland.org/policy/monitoring>. Department for Transport (2003). Walking in GB. Personal Travel Fact sheet 4 – January.
- (21) - Derek Halden (2014) 'Scots are 19 Times More Likely to be Killed or Seriously Injured if they Walk a Mile Compared with Driving' available here <http://roadshare.co.uk/blogposts/2014-accident-stats>
- (22) - Sonkin et al 'Walking, cycling and transport safety: an analysis of child road deaths' Journal of the Royal Society of Medicine Vol. 99 August 2006
- (23) -Tight, Miles (2012) Visions for a walking and cycling focussed urban transport system Institute for Transport Studies, University of Leeds,
- (24) - Pucher, J. and Dijkstra, L. (2000). Making Walking and Cycling Safer: Lessons from Europe,
- (25) - Transportation Quarterly, Volume 54(3), pp. 25-50
- (26) - Going Smarter 2013. Scottish Government
- (27) - Sonkin et al, J R Soc Med. Aug 2006; 99(8): 402–405.
- (28) - Harland, G., Halden, D., (1996) 'Development Department Research Programme Research Findings No 19 -The Pedestrian Casualty Problem in Scotland: Why So Many?'
- (29) - Living Streets 'Is it safe to let our children walk to school?' available at http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@ps/documents/digitalasset/dh_114012.pdf
- (30) - RAC Foundation 2011. Road Sharing: Does it matter what road users think of each other?
- (31) - Let's Get Scotland Walking The National Walking Strategy. Scottish Government 2014
- (31) - P39, House of Commons Transport Committee (2008), Ending the Scandal of Complacency: Road Safety Beyond 2010
- (32) -P54, Reported Road Casualties Scotland 2009
- (33) - P82, Reported Road Casualties Scotland 2011
- (34) - Simon Briscoe 'The Truth About Casualty Statistics' The Guardian – available at <http://www.theguardian.com/the-road-ahead/road-traffic-accident-statistics>

- (35) - P3, Jeffrey, Susanne K E (2010) Epidemiology, cost and prevention of road traffic crash injuries in Strathclyde, Scotland. University of Strathclyde
- (36) - P38, *ibid*
- (37) - P114, *ibid*
- (38) - Royal Society for the Prevention of Accidents, Road Safety Information, October 2013.
- (39) - P32, J Broughton and M Keegan, (2010) 'Linking STATS 19 and Scottish Hospital In-Patient data for the SafetyNet project, Transport Research Laboratory; P4, Jeffrey, Susanne K E (2010) Epidemiology, Cost and Prevention of Road Traffic Crash Injuries in Strathclyde, Scotland.; Reported Road Casualties in Great Britain: guide to the statistics and data Sources, DFT, 2013 available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/259012/rrcgb-quality-statement.pdf
- (40) - Ontario highway traffic act section 193 (1)
- (41) - Transport Canada 2014. Canadian Motor Vehicle Road Traffic Collisions. <http://www.tc.gc.ca/eng/motorvehiclesafety/resources-researchstats-menu-847.htm>
- (42) - Office of the Chief Coroner for Ontario - A Review of All Accidental Pedestrian Deaths in Ontario
- (43) - From January 1st, 2010 to December 31st 2010
- (44) - Stephens, Thomas 'Mandatory bike helmet advocates face uphill battle' <http://www.swissinfo.ch/>
- (45) - P8, Mobility and Transport Pocket Statistics 2014, Federal Department of Home Affairs
- (46) - Environmental Health Impacts of Transport and Mobility P. Nicolopoulou-Stamati, Luc Hens, Vyvyan Howard Springer Science & Business Media, 21 Feb 2006
- (47) - http://www.bfu.ch/en/Documents/04_Forschung-und-Statistik/02_Statistik/2012/PDF/E_USV_T_28.pdf
- (48) - Road Safety Annual Report 2011, International Traffic Safety Data and Analysis Group
- (49) - P13, Cycling Promotion in Switzerland – the example of Basel, Antje Hammer, Mobility Strategy Department of Public Works and Transport, Canton of Basel-Stadt
- (50) - P18 Cycling Promotion in Switzerland – the example of Basel, Antje Hammer, Mobility Strategy Department of Public Works and Transport, Canton of Basel-Stadt
- (51) - ENABLING CYCLING CITIES INGREDIENTS FOR SUCCESS INTERVIEW WITH HANS-PETER WESSELS Interview by Oliver Hatch, Urbtrans.org
- (52) - P1, British Institute of International and Comparative Law, available online at http://www.biicl.org/files/733_compensation_-_traffic_road_accidents_.pdf *ibid*
- (53) - P7, British Institute of International and Comparative Law, available online at http://www.biicl.org/files/733_compensation_-_traffic_road_accidents_.pdf
- (54) - Correspondence with Elisabeth Le Cheulier at the FFSA
- (55) - Gerondeau, Christian- 'Road Safety in France: Reflections on Three Decades of Road Safety Policy' Fédération Internationale de l'Automobile
- (56) - WHO World report on road traffic injury prevention (2004)
- (57) - P182, Social Trends 40 - Transport, Office for National Statistics (2010)
- (58) - Halving Injury and Fatality Rates for Cyclists by 2020 'ECF Road Safety Charter' (2010)
- (59) - Buehler, R. & Pucher, J. 'Walking and Cycling in Western Europe and the United States; Trends, Policies, and Lessons' (2012)
- (60) - Correspondence with Elisabeth Le Cheulier at the FFSA
- (61) - FEVR Briefing, available at <http://www.fevr.org/new/wp-content/uploads/2009/09/Microsoft-Word-THE-NETHERLANDS.pdf>
- (62) - P142, Ernst, Wolfgang (2014), 'The Development of Traffic Liability' Cambridge University Press
- (63) - P146 *ibid*
- (64) - Buehler, R., Pucher, J., (2012) 'Walking and Cycling in Western Europe and the United States Trends, Policies, and Lessons' TR News 280, Rutgers University
- (65) - P18, Koornstra M., et al(2002) 'SUNflower: A Comparative Study of the Development of Road Safety in Sweden, the United Kingdom, and the Netherlands' SWOV, Leidschendam
- (66) - SWOV Fact sheet Sustainable Safety: principles,

misconceptions, and relations with other visions' available online at http://www.swov.nl/rapport/Factsheets/UK/FS_Sustainable_Safety_principles.pdf

(67) - "Nach Auffassung des Gesetzgebers ist mit dem Betrieb eines Kfz aufgrund der Eigenheiten des motorisierten Straßenverkehrs (hohes Gewicht des Kfz und die Möglichkeit hoher Geschwindigkeiten) ein erhöhtes Risiko eines Schadenseintritts verbunden. Das Kfz stellt also eine typische Gefahrenquelle dar. Wenn sich diese Gefahr verwirklicht, also ein Schaden eintritt, soll derjenige, der die Verfügungsgewalt über das Kfz hat, für diesen Schaden eintreten" (author's translation). See (in German) <http://www.strassenverkehrsrecht.net/index.php/haftungsfragen/betriebsgefahr>

(68) - P9, Fedtke, J., 'Strict Liability for Car Drivers in Accidents Involving "Bicycle Guerrillas"? Some Comments on the Proposed Fifth Motor Directive of the European Commission' *The American Journal of Comparative Law* Vol. 51, No. 4 (Autumn, 2003), pp. 941-957

(69) - *ibid*

(70) - Wolfgang Frese, *Compensation for Personal Injuries in Road Accident Cases - National Report Germany*

(71) - Van Dam, C., (2013) 'European Tort Law' Oxford University Press

(72) - Brumann, K., 'Cambridge Cycling Campaign Newsletter' (December 2009/January 2010)

(73) - p10 Pedalling towards Safety, European Transport Safety Council (2012)

(74) - <http://www.cityclock.org/urban-cycling-mode-share/>

(75) - 'Cycling Accident Risks' German Institute of Urban Affairs <http://www.nationaler-radverkehrsplan.de/en/transferstelle/downloads/cye-a-08.pdf>

(76) - Schäfer, H.B. and Müller-Langer, F., (2009) "Strict Liability versus Negligence" in Faure, M. (ed), *Tort Law and Economics*, Cheltenham, Edward Elgar, , p. 3-45

(77) - P1 Hylton, K., (2007) 'A Positive Theory Of Strict Liability', Working Paper series, law and Economics no. 06-35 Boston University School of Law

(78) - Schäfer, H.B. and Müller-Langer, F., (2009) "Strict Liability versus Negligence" in Faure, M. (ed), *Tort Law*

and Economics, Cheltenham, Edward Elgar, p. 3-45

(79) - Latin, H. A.,(1985)., *Problem-Solving Behaviour and Theories of Tort Liability*, 73 *Cal. L. Rev.* 677

(80) - Jackson (Appellant) v Murray & Another (Respondants) (Scotland) (2015) UKSC5

(81) - P409, Michael, F., (2009) *Tort Law and Economics*, Edward Elgar Publishing

(82) - R. Ian McEwin 1999, *No Fault Compensation Systems*, Case Associates, Sydney, Australia

(83) - Schäfer, H.B. and Müller-Langer, F., "Strict Liability versus Negligence" in Faure, M. (ed), *Tort Law and Economics*, Cheltenham, Edward Elgar, 2009, p. 3-45

(84) - Calabresi, G., and Hirschoff, J., (1972) *Toward a Test for Strict Liability in Torts*, 81 *Yale L.J.* 1055

(85) - P406, Fiore, K., (2009) 'No-Fault Compensation Systems' in 'Tort Law and Economics' Edward Elgar Publishing

(86) - Dave Anderson MP, 16 Oct 2012, Column 202, Commons Hansard

(87) - Iain Wright MP, 16 Oct 2012, Column 199, Commons Hansard

(88) - P182, H. P. Brans, E., (2001), *Liability for Damage to Public Natural Resources: Standing, Damage, and Damage Assessment*, Kluwer Law International

(89) - P183, *ibid*

(90) - P288, Brousseau, E., (2012) *Global Environmental Commons: Analytical and Political Challenges in Building Governance Mechanisms* Oxford University Press

(91) - P165, Richardson, B., (2002) *Environmental Regulation Through Financial Organisations: Comparative Perspectives on the Industrialised Nations* Kluwer Law International

(92) - *ibid*

(93) - P288, Brousseau, E., (2012) *Global Environmental Commons: Analytical and Political Challenges in Building Governance Mechanisms* Oxford University Press

(94) - P32, Mazur, E., *Liability for Environmental Damage in Eastern Europe, Caucasus and Central Asia: Implementation of Good International Practices* OECD

- (95) - Hoffmeister, Onno, Schwarze, Reimund (2007) 'The Winding Road to Industrial Safety: Evidence on the Effects of Environmental Liability on Accident Prevention in Germany' Working Papers in Economics and Statistics, no. 2007-11 Institute of Public Finance, University of Innsbruck.
- (96) - P279, Bismark, M., and Paterson, R., (2004), Update: International Report 'No-Fault Compensation in New Zealand: Harmonizing Injury Compensation, Provider Accountability, And Patient Safety
- (97) - Wilson, R., (1995) The Quality in Australian Healthcare Study. Medical Journal of Australia, . 163: p. 458.
- (98) - Davis, P., (2002) Adverse Events in New Zealand Public Hospitals 1: Occurrence and Impact. New Zealand Medical Journal, . 115: p. 271.
- (99) - Schoen, C., (2005) Taking the Pulse of Health Care Systems: Experiences of Patients with Health Problems in Six Countries Health Affairs, 24(509): p. 522
- (100) - P280, Bismark, M., Paterson. R., (2004), Update: International Report 'No-Fault Compensation in New Zealand: Harmonizing Injury Compensation, Provider Accountability, And Patient Safety
- (101) - P34, Farrell, A., Devaney, S., and Dar, A., (2010) 'No-Fault Compensation Schemes For Medical Injury: A Review.' School of Law, University of Manchester
- (102) - No Fault Compensation Review Group Report and Recommendations Volume I, available at <http://www.scotland.gov.uk/Topics/Health/Policy/No-Fault-Compensation>
- (103) - *ibid*
- (104) - P146 Dewees, Duff and Trebilcock (1996) Exploring the Domain of Accident Law, Oxford, Oxford University Press
- (105) - No Fault Compensation Review Group Report and Recommendations Volume I, available at <http://www.scotland.gov.uk/Topics/Health/Policy/No-Fault-Compensation>
- (106) - Knibbe, J., (2012), 'A statutory presumption of liability in collisions between motorists and cyclists' Parliamentary inquiry 'Get Britain Cycling'
- (107) - Pucher, J., Dill, J., and Handy, S., (2009) 'Infrastructure, programs, and policies to increase bicycling: An international review' Preventive Medicine 50 (2010) S106–S125
- (108) - *ibid*
- (109) - Gerondeau, C.,- 'Road Safety in France: Reflections on Three Decades of Road Safety Policy' Fédération Internationale de l'Automobile
- (110) - Grous, Dr Alexander 'The British Cycling Economy 'Gross Cycling Product' Report'