FAURE LEVEL CROSSING COLLISION, CAPE TOWN, SOUTH AFRICA

A CASE HISTORY

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SUMMARY

The intersection of a Road with a Rail Network by its very nature introduces substantial risks.

In the event of a Level Crossing collision, a Technical Investigation is instituted to identify the Root Cause(s) as well as the Contributory Causes. Compliance with applicable prescripts forms a key element of the investigation. Where applicable, appropriate corrective actions are developed to reduce the likelihood of similar occurrences.

Should a civil claim be instituted against the rail operator, the court will examine the facts and make a judgment accordingly. The court judgment becomes “case law” and can be a critical factor in future civil claims.

This paper discusses case law as a result of a level crossing accident which occurred in Faure on 13 November 2006 and ended up in a ruling by the Supreme Court of Appeal.

INTRODUCTION

On 13 November 2006 a Metrorail commuter train travelling between Strand and Cape Town collided with a truck carrying 31 farm workers at a level crossing near Faure Station in the Western Cape. 20 people died in the tragic accident.

This level crossing accident was investigated by the **Railway Safety Regulator** (RSR) and a full report produced. Civil action was instituted against Metrorail by two of the injured persons which was heard in the **Cape High Court**. The matter was then taken on appeal to the **Supreme Court of Appeal**.

The findings of the RSR were never disputed by the courts – in fact there was a high degree of alignment regarding the facts but each institution contextualised the facts differently and produced unique findings.

This paper traces the history of this case and emphasises the necessity for robust risk assessments at level crossings.

NOTATION

DMF	Dead Man’s Feature Brake
Metrorail	An Operating Division of the Passenger Rail Agency of South Africa
RSR	Railway Safety Regulator

BACKGROUND

At around 07h00 on 13 November 2006, a scheduled commuter train departed from Faure station near Stellenbosch en route to Cape Town.

It was a clear day with a strong north-west wind blowing. The track was in good condition and the train driver accelerated to the section speed of 90km/h and then coasted. As the train entered the long right hand curve at the village of Croydon, the driver saw the level crossing about 500 metres ahead. The crossing was unobstructed.

At the 400 metre whistle board she sounded the siren as prescribed in the Metrorail Operating Instructions. She then saw a truck moving onto the level crossing. The truck jerked and came to a stop in the centre of the crossing.

The Train driver became concerned and she sounded the siren again. The truck remained stationery in the path of the train. She sounded the siren a third time and then saw people trying to jump off the back of the truck. Panic ensued as she realised that a collision was imminent. She let go of the controls and ran into the corridor. The DMF brake engaged but the train collided with the truck, pushing it 500 metres until it came to a stop.

The truck was carrying 31 farm workers. 20 people travelling on the truck were killed and 11 were injured. The train did not derail but the truck was completely destroyed.

The road access had signage but did not have flashing lights of barriers.

Figure 1: Train came to a stop 500 metres from the point of impact

1. The RSR Investigation

1.1 Fact Sheet – Rail

The Eerste River – Firgrove section is a single bi-directional track cape gauge (1065mm)
The section speed limit is 90km/h and train control is by local panel, semaphore signals
Whistle boards are situated 400m and 125m from the crossing
Train was an 11-coach 5M2A type with vacuum brakes
Train driver's sight distance to level crossing is >500m
Train driver's sight distance to approach road to crossing is nil
Most recent accident at crossing was in 2002
Gradient of track in direction train travel slight downgrade

Figure 2: This is the view that the train driver would have had of the crossing from the second whistle board (125m). A vehicle, which has stopped at the crossing, can be seen in the distance

The 40km/h speed board was erected after the accident on the instruction of the RSR

1.2 Fact Sheet – Road

Rural road provides access to farms and local houses
Road width 4m tarmac surface
Speed limit on road 60km/h
Protection level 3A – advance warning at 120m, stop sign 5,2 m from crossing
No booms or flashing lights
Alignment not perpendicular to track – slight kink in road
Gradient approximately 1:10 close to track
Sight distance from stop line to train >700m
Sight distance from approach road to train nil
Type of vehicle – Mitsubishi Canter

Figure 3: The road approach to the crossing is lined with walls and vegetation

Figure 4: The sight distance to approaching trains from the road stop line is excellent

1.3 Findings of the RSR Investigation

- Road and rail signage complied with the applicable prescripts
- The train driver did sound the train's siren as prescribed
- From the stop line the truck driver's view of oncoming trains is good
- Responsibility for averting a collision lies with road user alone
- No special requirements for train driver when approaching crossing except siren
- Train exceeded allowable speed by approximately 6km/h (96km/h)
- Train driver disobeyed standard operating procedures (did not apply emergency brake)
- Energy of impact would have been reduced by 40% if driver had applied emergency brakes
- The section speed of 90km/h is too high for this unprotected crossing
- This crossing is considered high risk. Risk at unprotected crossings needs to be reduced

- The road vehicle stopped at the crossing, moved forwards and stalled on the track
- The existing signage was effective in that the truck driver did stop the vehicle prior to moving onto the crossing
- This was the truck driver's first trip over this crossing

Primary Cause – Human error on the part of the truck driver

Culpability – The RSR does not seek to apportion blame. Rather it seeks to identify primary and contributory causes so that future occurrences of this type can be prevented.

1.4 RSR instructions to Metrorail

- **Carry out a comprehensive Risk Assessment at this crossing**
- **And in the interim to impose an immediate speed restriction on this line of 40km/h**

The reason for choosing the figure of 40km/h was that if a train driver does an emergency brake application at the second whistle board (125m) while travelling at 40km/h, the train will come to a stop before the crossing. See figure 5 below.

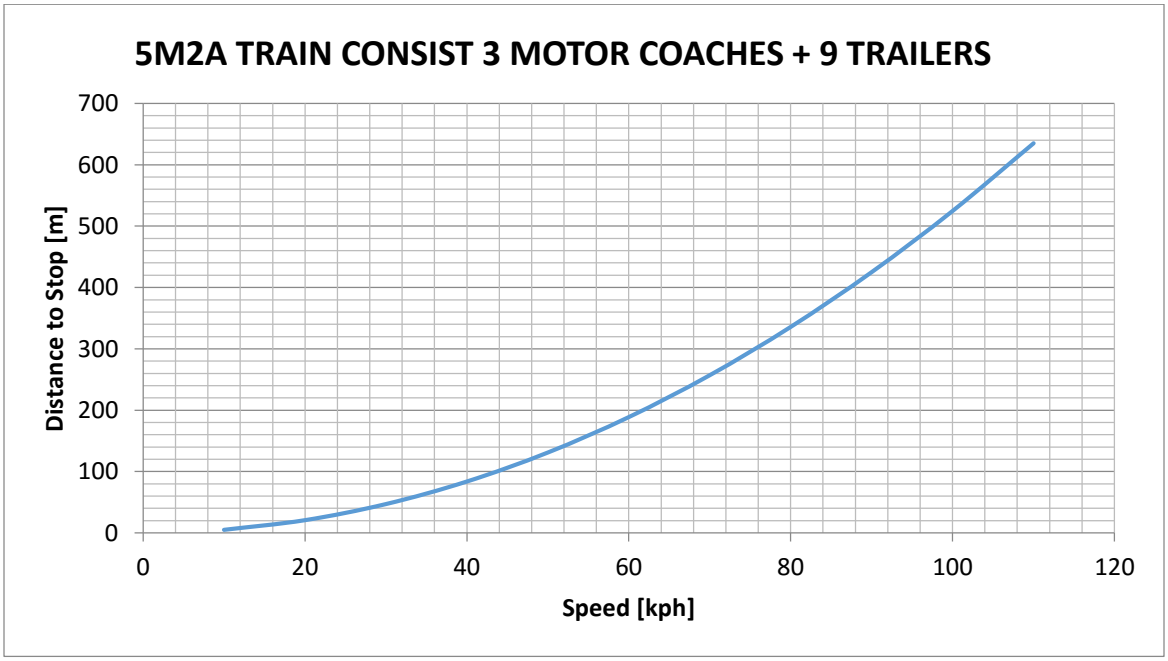

Figure 5: Train Stopping Distance vs Speed

2. Western Cape High Court Civil Case

Two of the injured passengers instituted a Civil Claim against Metrorail which was heard in the Western Cape High Court in October 2012. A further claim against the owner of the truck was handled primarily by the Road Accident Fund.

2.1 Plaintiff's pleadings

Vicarious liability for negligence on the part of Metrorail:-

2.1.1. Collision was caused as a result of the train driver's negligence:-

- Failed to warn truck driver of approaching train
- Drove the train at excessive speed
- Failed to maintain proper lookout
- Failed to act with due care
- Failed to apply brakes timeously, adequately or at all
- Failed to avoid the collision

2.1.2 Collision was caused by Metrorail:-

- Failure to install mechanical boom
- Failure to ensure that mechanical boom was lowered
- Prevailing speed limit was excessive
- Failure to install speed restriction signage as prescribed
- Failed to act with due care
- Failed to avoid the collision

2.2 Findings of High Court

Case law Williams vs Transnet Limited

"It is the duty of the traveller to look out and wait for the train"

"If he does not use his senses, and so fails to observe a train approaching, he himself is primarily responsible for any injury he may sustain"

Case law Pretoria City Council vs SAR&H

"A train driver is under no duty to travel at such a speed that in the event of the crossing being obstructed, he can stop…"

The High Court found that neither the train driver nor Metrorail was negligent in that:-

- Train driver did give adequate warning by sounding the siren
- The truck driver was negligent in crossing without satisfying himself that no train was approaching

- The train driver's conduct in not applying the emergency brakes was not negligent. There was little time to perceive and react
- The speed at which the train was travelling was not the cause of the accident
- The fact that the speed at the crossing was reduced to 40km/h after the accident does not imply that the original speed of 90km/h was excessive
- Metrorail took reasonable steps to guard against foreseeable harm to the public by installing signage in line with applicable prescripts
- The failure to install booms is not sufficiently linked to the accident that ensued

2.3 High Court Judgment

The High Court's Judgement was that the Plaintiffs' claims were dismissed but they were given leave to appeal. The parties were ordered to pay their own costs.

3. Supreme Court of Appeal

In August 2014 the Supreme Court of Appeal heard the appeal.

3.1 Appellants Grounds for the Appeal

The Appellants endeavoured to establish negligence on one or more of the following grounds:-

- The speed or 90km/h was inappropriate and excessive for this crossing
- Road signage was inadequate to warn motorists
- Metrorail failed to erect a boom or barrier
- Vicariously, through the train driver's failure to sound warning and failure to engage emergency brake

3.2 Findings of Appeal Court

Case law on Negligence - Kruger v Coetzee 1996

The test for blame rests on two bases, namely reasonable foreseeability and reasonable preventability of damage.

The appeal court found that the foreseeability of harm at a place where rail and vehicular traffic intersect is unquestionable.

Furthermore, the low level of protection and high train speed presented a substantial risk of very serious harm:-.

- It was uncontrolled with no booms or barriers
- The overhanging foliage and concrete wall obscured the views of train and vehicle drivers
- 90km/h is at the highest end for trains on a railway line

- Had Metrorail reduced the speed limit to 40km/h the collision would not have occurred
- The crossing carries a fair amount of vehicular traffic
- The RSR considered the crossing to be high risk and directed Metrorail to implement a reduced speed

The Appeal Court criticized the High Court for not probing the reliability of the expert witnesses regarding the appropriate rail speed for this crossing. The Court found Metrorail's expert witness to be biased and was very critical of his report. In contrast the Appeal Court praised the RSR's extensive investigations and detailed report and concurred with its findings relating to risk.

3.3 Outcome of Appeal Court Hearing

The Supreme Court of Appeal upheld the appeal and awarded damages to the appellants.

4. CONCLUSION

This level crossing accident was investigated by the RSR and a full report produced. Civil action was instituted against Metrorail by two of the injured persons which was heard in the Cape High Court. The matter was then taken on appeal to the Supreme Court of Appeal. The findings of the RSR were never disputed by the courts – in fact there was a high degree of alignment regarding the facts but each institution contextualised the facts differently and produced unique findings.

4.1 The RSR found that:-

- The signage was adequate in that the truck driver stopped the vehicle before the crossing
- The root cause was human error on the part of the truck driver.
- The crossing is high risk and directed the operator to impose a severe speed restriction (from 90km/h to 40km/h).

4.2 The High Court found that Metrorail was not negligent in that:-

- It had provided appropriate signage
- The speed of the train did not cause the collision
- The actions of Metrorail's train driver did not cause the collision
- Failure to provide a boom is not sufficiently linked to the accident

4.3 The Appeal Court found that Metrorail was negligent in that:-

- The foreseeability of harm posed by the crossing was unquestionable

- And the low level of protection and high speed of trains presented a substantial risk of very serious harm

The Appeal Court's Ruling sets a precedent which is binding in all Provinces of South Africa.

In summary, the fact that rail operators have complied with current prescripts relating to level crossings does not make them immune from civil claims against them.

The risks at level crossings need to be adequately assessed and appropriately mitigated, failing which, in the event of a collision, the rail operator can be held liable for damages incurred and /or injuries suffered.