

No. 93-109
Train 141
Collision with motor vehicle
Te Hana, Northland
19 July 1993

ABSTRACT

This report describes a collision between Train 141 and a motor vehicle at a level crossing at Te Hana, Northland on 19 July 1993. The crossing was protected by flashing lights and bells, which were confirmed to be operating at the time of the accident. The driver of the motor vehicle was killed in the collision and his passenger sustained serious injuries. A safety issue identified during the investigation was the restricted view of the road to the east of the crossing, which could have been a significant distraction for the driver as he emerged from a gateway adjacent to the crossing. It was recommended that an additional set of warning lights be added to the existing installation.

TRANSPORT ACCIDENT INVESTIGATION COMMISSION

RAIL ACCIDENT REPORT NO 93-109

Train Type and Number:	Express Freight, 141
Locomotive:	DF 6029
Date and Time:	19 July 1993, 1047 hours *
Location:	North Auckland Line, 124.62 km, Silver Hill Road crossing, Te Hana
Type of Occurrence:	Collision with motor vehicle
Persons on Board:	Crew:2 Passengers: Nil
Injuries:	Crew: 2 Nil Passengers: Nil Other#: 1 Fatal 1 Serious
Nature of Damage:	Locomotive: Minor Motor vehicle: Substantial
Information Source:	Transport Accident Investigation Commission field investigation
Investigator in Charge:	Mr A J Buckingham

Motor vehicle occupants

* All times in this report are NZST (UTC + 12 hours)

1. NARRATIVE

1.1 New Zealand Rail Limited's Train 141 was a scheduled express freight from Whangarei to Huntly, and consisted of DF locomotive 6029 hauling eight empty bulk coal wagons, a total train weight of 216 tonnes. The train was crewed by two locomotive engineers, one of whom was acting as "train operator", seated on the left-hand side of the cab.

1.2 Nearing the Silver Hill Road level crossing, the locomotive crew sounded the air horn, in accordance with normal practice. Closer to the crossing, the train operator observed a car emerging from a recycling depot beside the railway line, on the north side of the road. He shouted a warning to the locomotive engineer, and they both sounded the locomotive's air horn again; but the car continued onto the crossing apparently with its occupants totally unaware of the train's approach.

1.3 The car was struck from its right rear quarter and shunted to the east side of the line, coming to rest about 28 m from the point of impact. The locomotive engineer applied emergency braking immediately, but given the speed (reported by the engineer as about 65 km/h) and mass of the train, the stopping distance was of the order of 200 m. The locomotive in this instance did not have an event recorder installed.

1.4 The crossing was protected by flashing lights and bells, the operation of which was confirmed by the staff of the recycling depot and later by a NZRL signals team. Two sets of lights faced the approach from the intersection of State Highway 1, 32 m to the west of the crossing, and one set faced east along Silver Hill Road. The latter set was located on the left-hand, or south side of the road.

1.5 The gateway from which the car had emerged was, at its western extremity, 4.6 m from the centreline of the railway, and about 6 m wide. It appeared that the car had "cut the corner" on exiting from the yard, driving close to the right-hand side (the side nearer to the railway) and entered the crossing at an angle of about 40° to the railway line. As he drove out of the right hand side of the gateway, the driver would not have had a full-on view of the crossing warning lights on the eastern side of the crossing, but rather an almost "edge-on" view of their lenses. It would still have been possible to see if they were operating, but only if the

driver had looked directly at them. At the shallow viewing angle obtained, they would have been unlikely to attract the driver's attention via his peripheral vision.

1.6 The view of the road to the driver's left was restricted by a sharp curve in the road immediately to the east of the yard, and by the road's descent into a dip to cross a stream. Traffic from the east was difficult to see until within about 30 m of the yard exit, and as the driver was familiar with this problem, he may have concentrated his attention on ensuring that the road was clear in that direction before exiting from the yard. The presence of his passenger in the left front seat may have required greater than normal concentration on that approach. The angle of crossing the railway line would have required the driver to look to his "5 o'clock" position to check for the approaching train, as opposed to a look simply to his right, had he approached the crossing at right angles.

1.7 The crossing surrounds on the north side of the road had been cleared of vegetation by the proprietor of the recycling depot in order to improve the view of the railway line from the crossing approaches. His efforts also extended to topping trees and other vegetation in the dip to the east of the crossing, to make eastbound road traffic more visible from the yard exit.

1.8 The location of the gateway was discussed with the proprietor during the on-site investigation, and it was noted that it had been moved about 10 m west to its current location closer to the railway line in order to increase the sighting distance of traffic approaching from the east on Silver Hill Road. In view of the relative traffic densities on the road and rail, it appeared that the position of the gateway was a best compromise, given the restricted view of the road to the east. The District Council indicated that it had long-term plans to replace the bridge at the bottom of the dip, and the possibility of road realignment would be addressed in conjunction with that project.

1.9 Damage to the car, a Ford Telstar wagon, was substantial. The reduction of the occupiable space on the driver's side rendered the accident unsurvivable for the driver. The locomotive sustained only minor damage. The train was delayed, however, while a damaged air brake fitting was repaired by a locomotive fitter.

1.10 The car driver was a company representative, who had visited the recycling yard on a monthly basis for a number of years. He was thus familiar with the area,

and on this occasion was accompanied by his manager, on a courtesy visit to the company's clients.

2. FINDINGS

2.1 The train was being operated correctly.

2.2 The locomotive crew were unable to prevent the collision.

2.3 The level crossing was protected by flashing lights and bells, which were operating normally with the approach of the train.

2.4 The car driver may have been distracted by the need to check the road to his left on emerging from

the recycling yard.

2.5 The view of traffic on the road to the driver's left was limited by a curve and a dip in the road.

2.6 The car driver did not notice the train or the warning devices in time to avoid a collision.

2.7 The damage to the car rendered this accident unsurvivable for the driver.

3. SAFETY RECOMMENDATION

3.1 As a result of the investigation into this accident, it was recommended to New Zealand Rail Limited that they:

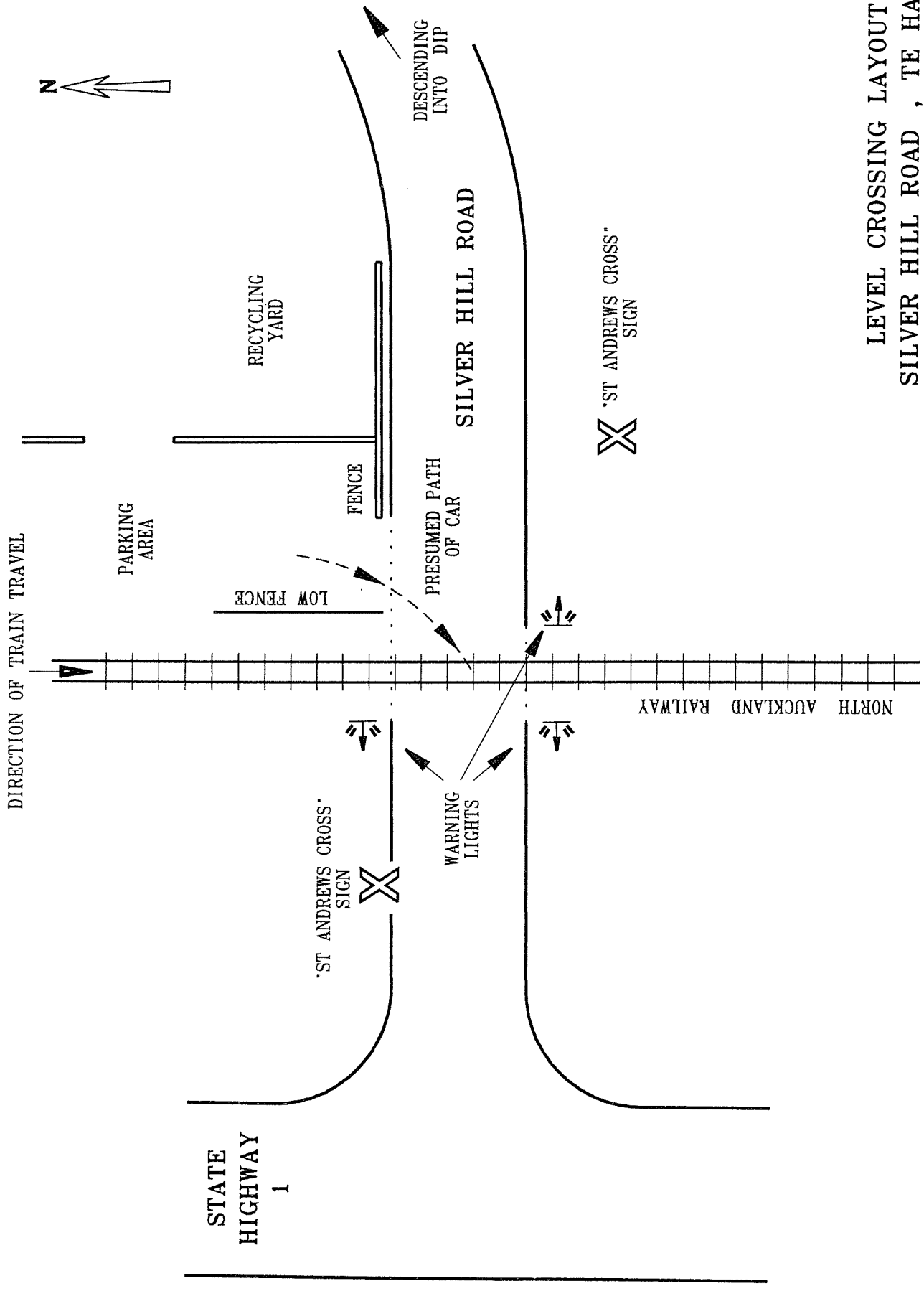
Consider mounting a second set of warning lights on the existing installation to the east of the Silver Hill Road level crossing, to face the yard exit on the north side of the road (059/93).

New Zealand Rail Responded as follows:

"An extra set of flashing lights attached to existing light standards has been programmed to be provided."

3 December 1993

M F Dunphy
Chief Commissioner



LEVEL CROSSING LAYOUT
SILVER HILL ROAD , TE HANA