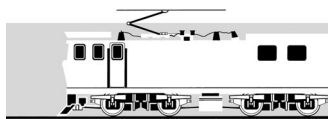
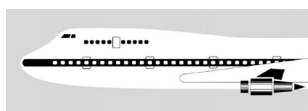


## RAILWAY OCCURRENCE REPORT

03-101      express freight Train 226, person injured while stepping down      7 January 2003  
from wagon, Paekakariki



TRANSPORT ACCIDENT INVESTIGATION COMMISSION  
NEW ZEALAND

The Transport Accident Investigation Commission is an independent Crown entity established to determine the circumstances and causes of accidents and incidents with a view to avoiding similar occurrences in the future. Accordingly it is inappropriate that reports should be used to assign fault or blame or determine liability, since neither the investigation nor the reporting process has been undertaken for that purpose.

The Commission may make recommendations to improve transport safety. The cost of implementing any recommendation must always be balanced against its benefits. Such analysis is a matter for the regulator and the industry.

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## **Report 03-101**

**express freight Train 226**

**person injured while stepping down from wagon**

**Paekakariki**

**7 January 2003**

### **Abstract**

On Tuesday, 7 January 2003, at about 1928, a passenger who had alighted from an electric multiple unit train at Paekakariki was injured as she got down off a wagon of an express freight train. The freight train was berthed at the platform at Paekakariki and blocking access via a pedestrian crossing over the railway line to the public car park. The injured passenger was one of a number of passengers who climbed over the flat deck wagon to gain access to the car park beyond.

The passenger suffered a serious ankle injury, which required hospital treatment.

Had the train moved while the passengers were crossing the wagon, multiple injuries or fatalities could have resulted.

The safety issues identified were the berthing of a freight train to block the pedestrian crossing during peak commuter travel time, and the unlawful actions of members of the public in crossing over the wagons to exit the platform and access the public car park.

In view of the safety actions taken by the operator following the accident no safety recommendations were made.



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## Abbreviations

CTC	centralised traffic control
EMU	electric multiple unit
km	kilometre(s)
m	metre(s)
NIMT	North Island Main Trunk
t	tonne(s)
Tranz Rail	Tranz Rail Limited
UTC	coordinated universal time
VDU	visual display unit

## Data Summary

<b>Train type and number:</b>	express freight Train 226
<b>Date and time:</b>	7 January 2003 at about 1925 <sup>1</sup>
<b>Location:</b>	Paekakariki
<b>Persons on board:</b>	crew: 1
<b>Injuries:</b>	crew: nil member of 1 public:
<b>Damage:</b>	nil
<b>Operator:</b>	Tranz Rail Ltd (Tranz Rail)
<b>Investigator-in-charge:</b>	D L Bevin

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<sup>1</sup> Times in this report are New Zealand Daylight Saving Times (UTC+13) and are expressed in the 24 hour mode.





# 1 Factual Information

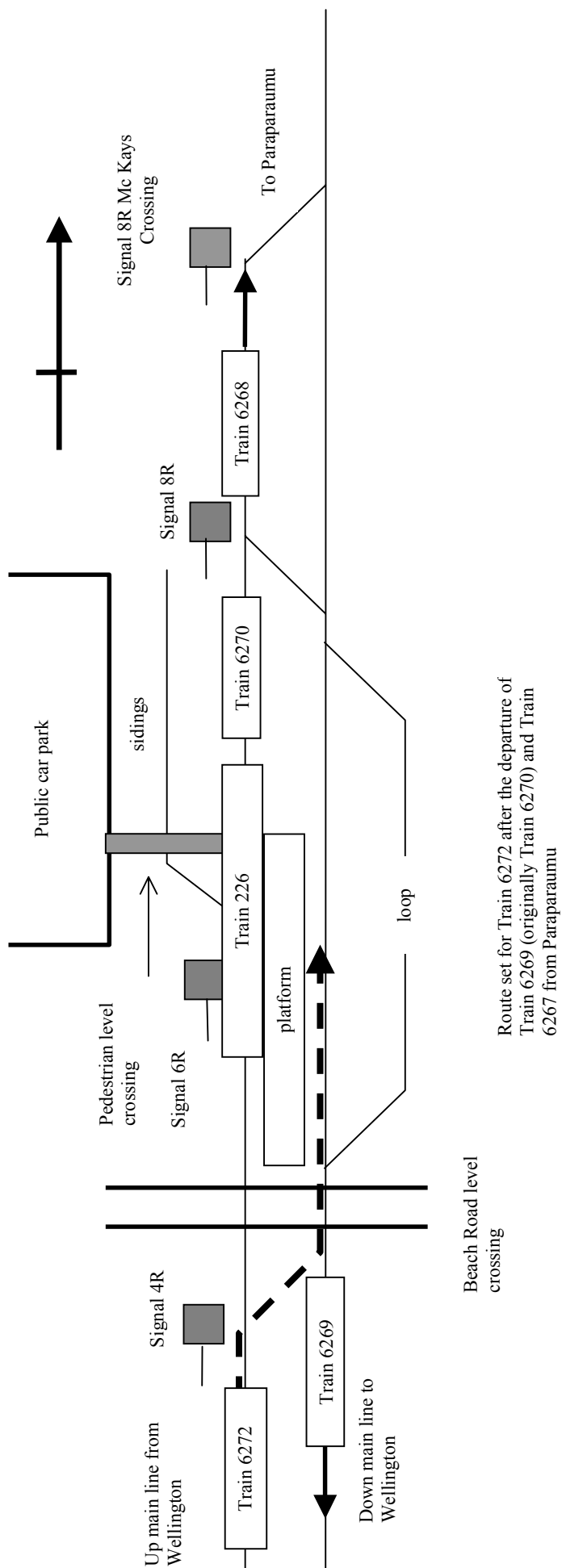
## 1.1 Narrative

- 1.1.1 On Tuesday 7 January 2003, Train 226 was a northbound express freight train travelling from Wellington to Auckland and consisted of a DFT locomotive and 30 wagons for a total gross tonnage of 642 t and a length of 509 m. The train was crewed by a locomotive engineer and a trainee locomotive engineer, who was driving at the time.
- 1.1.2 Train 226 departed from Wellington at 1747 and followed Train 6270, a rescheduled 1740 Tranz Metro<sup>2</sup> electric multiple unit (EMU) passenger service, north to Paekakariki.
- 1.1.3 At about 1825 a signalling equipment fault between McKays Crossing and Paraparaumu caused Signal 8R<sup>3</sup> at McKays Crossing to become defective. Because of the congestion caused by the signal failure, the train controller decided to terminate Train 6270 at Paekakariki, bus the passengers to Paraparaumu, and return the service to Wellington as Train 6269. Train 6270 was waiting at Signal 8R at Paekakariki prior to crossing over to the down main line, when Train 226 arrived and stopped at Signal 6R (see Figure 1).
- 1.1.4 The crew of Train 226 conversed by radio with the train controller, and were given a signal indication permitting Train 226 to enter, at low speed, the section which was occupied by Train 6270. The locomotive of Train 226 stopped about 400 m past Signal 6R, but the length of the train was such that there was insufficient room for all the wagons to be clear of the platform and several flat deck wagons were left straddling the pedestrian crossing.
- 1.1.5 On this day, because of the risk of heat buckles from high rail temperatures, a 40 km/h temporary speed restriction was imposed on the North Island Main Trunk (NIMT) between Wellington and Otaki. Train 6272, the scheduled 1808 Tranz Metro EMU passenger service from Wellington to Paraparaumu departed from Wellington at its scheduled departure time, but had been rescheduled to incorporate additional stops enroute. Because of this rescheduling, the speed restriction and the congestion at Paekakariki, Train 6272 was about 37 minutes behind schedule when it eventually berthed on the down main line platform at Paekakariki at about 1925.
- 1.1.6 One of the passengers who alighted from Train 6272 at Paekakariki made her way towards the northern end of the platform, to a pedestrian crossing that provided access to the car park on the western side of the station. As she got closer to the end of the platform she saw that the pedestrian crossing was blocked by the rear wagons of a stationary freight train. The empty decks of the wagons were level with the platform and presented an opportunity to get across the train to the car park. As she stood on the platform she saw other passengers walking across the wagon deck and decided to do the same.

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<sup>2</sup> Tranz Metro was the group within Tranz Rail charged with the responsibility for the operation of suburban train services in Wellington.

<sup>3</sup> The departure signal controlling the entry of trains into the single line section from McKays Crossing.



Route set for Train 6272 after the departure of Train 6269 (originally Train 6270) and Train 6267 from Paraparaumu

**Figure 1**  
Site plan of Paekakariki (not to scale)

- 1.1.7 The height between the wagon deck and the ground on the off-platform side was about one metre, so the passenger sat on the edge of the wagon and lowered herself down but as she made contact with the ground she twisted her ankle and rolled in the ballast, finishing up lying between the up main line, and the tracks leading to the sidings (see Figure 2).



**Figure 2**  
**Approximate location of the injured person**

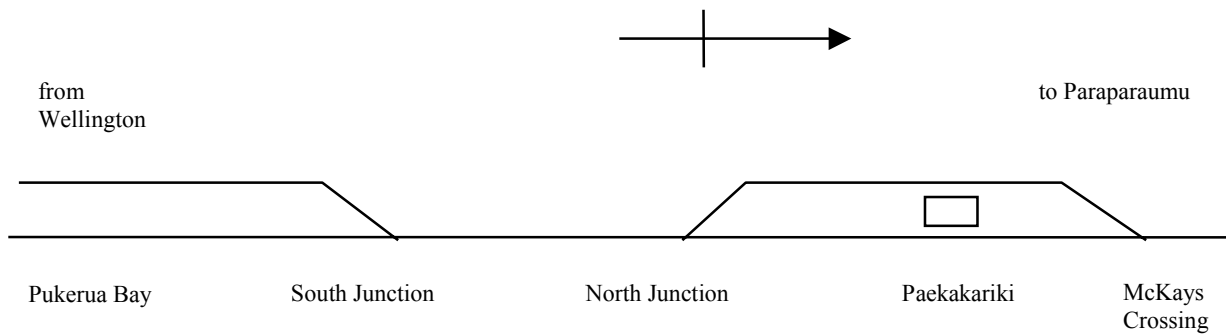
- 1.1.8 The injured passenger was initially assisted by other passengers but a Tranz Metro employee who had just completed his shift at Paekakariki was advised of the situation and he went to provide additional assistance. When he saw how close the injured passenger was to the track he contacted train control and asked that Train 226 not move but, despite his request, it subsequently moved about 20 m before stopping again, which caused additional stress to the injured passenger.

- 1.1.9 The injured passenger had been made comfortable by the Tranz Metro employee and, when the ambulance arrived, she was attended to by medical staff and taken to hospital in Wellington.

## **1.2 Site information**

### **Signalling**

- 1.2.1 The NIMT from Wellington to South Junction (about 32 kms) and from North Junction to McKays Crossing (about 6.5 kms) was double line and controlled by automatic signalling (see Figure 3).
- 1.2.2 The track from South Junction to North Junction (3.2 kms) and north of McKays Crossing was single line, the signalling for which was remotely controlled from the train control centre in Wellington by computerised centralised traffic control (CTC). The train controller could see points and signals indications on a visual display unit (VDU) and monitor the progress of trains as they passed through the track sections.



**Figure 3**  
**Route from Pukerua Bay to McKays Crossing (not to scale)**

- 1.2.3 Northbound trains approaching South Junction on the up main line became visible on the VDU at Pukerua Bay, about 2 kms before South Junction, to indicate their approach. After clearing the single line section at North Junction, northbound trains were no longer visible on the VDU until they reappeared again on the VDU about one kilometre south of Paekakariki. Apart from these locations, double line track within the Wellington metro area was not generally monitored on the VDU.
- 1.2.4 Paekakariki was an island platform with the up main and down main lines on either side. Northbound EMU passenger services were usually berthed on the up main line side of the platform while southbound EMU services were berthed on the down main line side, although these arrangements could be changed to meet operational requirements. There was a loop line, about 915 m long, which ran parallel to the down main line. Because the loop was not electrified it could not be used by EMU services, but it was available for berthing trains hauled by diesel locomotives and was accessible from both the up and down main lines.
- 1.2.5 The signalling at Paekakariki was automatic but it could be remotely controlled from the train control centre in Wellington although manual control was usually only taken by the train controller to meet operating exigencies such as altered berthings or routings.
- 1.2.6 Signal 8R at Paekakariki was about 650 m north of the pedestrian level crossing but, because Train 6270, a 4 car EMU was already stopped at that signal, 84 m was already occupied. This left about 566 m available for Train 226 to berth between the pedestrian level crossing and the rear of Train 6270.

### **The pedestrian level crossing**

- 1.2.7 Pedestrian access to the public car park was from the north end of the platform via a pedestrian level crossing (see Figures 2 and 4). This crossing was also regularly used when passengers were transferred from trains to buses. There was no signage in place directing passengers to an alternative level crossing at the south end of the platform if the pedestrian crossing at the north end was obstructed. From the south end of the platform a pedestrian access way ran from the end of the platform for about 40 m to where it connected with Beach Road level crossing.
- 1.2.8 The design and construction of the pedestrian level crossing complied with the requirements of Tranz Rail's Infrastructure Code Q517, as part of the company's Land Transport Safety Authority approved safety system. Similar requirements were also contained in Section 8 of the Land Transport Safety Authority "Road Signs and markings for railway level crossings." As required by the Codes, a risk analysis and a cost benefit analysis were conducted before the design was determined. The pedestrian level crossing met the requirements of both Tranz Rail and the Land Transport Safety Authority and did not require bells or flashing light warning devices.

- 1.2.9 Tranz Rail advised that during 2003 there had been 7 pedestrian fatalities in the combined Auckland and Wellington metropolitan areas up to 1 December, of which 6 had involved trespassers and one had occurred at a pedestrian level crossing.
- 1.2.10 When questioned about the replacement of existing pedestrian level crossings with either a pedestrian overbridge or subway Tranz Rail responded:

Tranz Rail's primary concern is always the safety of the public and its staff where there is an interface with the rail corridor. However Trans Rail and local authorities have limited budgets for this sort of expenditure and the cost of any expenditure must be balanced with the safety benefit that can be demonstrated to be achieved.

Tranz Rail has always recommended that the access to passenger stations be grade-separated wherever possible. However, because pedestrian collisions at level crossings are so rare it is usually difficult to financially justify the construction of pedestrian footbridges or subways ahead of higher priority safety projects. For this reason the construction of new stand-alone pedestrian level crossings is permitted providing that the level of protection complies with Tranz Rail standards taking into account the level of both foot traffic, rail traffic, the number of railway tracks and the unobstructed views of approaching trains.

Unfortunately pedestrians prefer to cross the tracks by the shortest route, which is usually on the road level crossing. If minimum lengths of secure fencing parallel to the railway are not included to enforce the use of a bridge or subway, then pedestrians will avoid using these safety features. There have been numerous near miss incidents in the Auckland and Wellington Metro areas where pedestrians continue to cross the track on the level crossing and holes are often cut in boundary fences. In many cases shortcuts such as these are wilfully made to avoid using the safety cribs, overbridge or underpass that has been provided.

Furthermore, there is little justification for concentrating on replacing stand-alone pedestrian level crossings by footbridges or subways when two thirds of pedestrian collisions occur at footpaths alongside road crossings. It must also be noted that a feature of the recent collisions at pedestrian level crossings has been distraction on the part of the pedestrian, such as mobile phone, CD Walkman or conversation with friends, all of these incidents are outside the control of Tranz Rail. Perhaps it would be prudent for the LTSA to conduct a safety campaign for pedestrians, given that this is the governmental body charged with Land Transport Safety.

## **Staff**

- 1.2.11 Although some Tranz Metro drivers and train managers used Paekakariki for shift book-on and book-off purposes, the station was unattended from a public interface perspective. There were no Tranz Metro staff on duty at Paekakariki during the disruptions but this was not unusual.



**Figure 4**  
**The pedestrian level crossing at the north end of the Paekakariki platform**

### **1.3 Operational information**

- 1.3.1 EMU passenger services between Wellington and Paraparaumu were extensively delayed by the speed restriction. In an effort to recover some of this lost time, Tranz Metro had been terminating Paraparaumu EMU services at Paekakariki and using a shuttle bus service to transfer passengers between Paekakariki and Paraparaumu. The last bus connection departed from Paekakariki at about 1805, after which through train services resumed.
- 1.3.2 At 1730 the speed restriction between Paekakariki and Paraparaumu was lifted following an inspection by track staff. However, by this time Tranz Metro had replaced the scheduled peak hour timetable with a reduced service in an effort to reduce the congestion and resulting late running.
- 1.3.3 As a result of the signalling fault at 1825 further congestion and delays were incurred. The train controller issued Mis 59<sup>4</sup> authorities for trains to enter the affected section, which compounded the delays. When Train 6270 arrived at Paekakariki at about 1850, an earlier northbound EMU, Train 6268, was waiting ahead at McKays Crossing for a preceding northbound train to clear the single line section to Paraparaumu. There was also a southbound EMU, Train 6267, waiting to return from Paraparaumu to McKays Crossing. The presence of these trains at Paraparaumu meant that there was no remaining platform space, so Train 6270 could not be advanced and the decision was made to terminate it at Paekakariki and return the service to Wellington as Train 6269.

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<sup>4</sup> If a departure signal failed to operate, train control may authorise the passing of the signal at “Stop”. The authority to pass the departure signal at “Stop” was given on a Mis 59 form that was the locomotive engineer’s authority to enter the block section.

- 1.3.4 Train 6272 arrived at Signal 4R at Paekakariki at about 1913 at which time, because of the congestion on the up main line between Paekakariki and McKays crossing, all EMU services in either direction were required to be routed via the down main line. Train 6272 could not berth because the down main line was occupied by Train 6269 and after that by Train 6267, so it was held at Signal 4R for another 12 minutes until the down main line platform was clear.
- 1.3.5 Passengers who detrained from Train 6270 boarded Train 6272 at Paekakariki for the continuation of their journey to Paraparaumu.

## **1.4 Personnel**

### **The passenger**

- 1.4.1 The passenger had thought it unusual when her train berthed at the opposite platform to normal, because she knew that was the platform that was used by trains going to Wellington.
- 1.4.2 When she alighted she could not see the freight train on the other side of the platform because her vision was obscured by the station building, although she could see a large group of people at the northern end of the platform. Once she was clear of the station building, she saw that the pedestrian crossing was blocked by the flat deck wagons of the train, and as she got nearer she saw people making their way across the wagons to get to the car park on the other side of the train. After waiting a few minutes she decided to do the same, although she was uncomfortable about doing so. She found out later that the reason there had been so many people standing around on the platform was that they had arrived at Paekakariki on Train 6270, which had then terminated, and they were waiting for transport to Paraparaumu.
- 1.4.3 After she fell when getting down from the wagon, several people came to her assistance and one of them rang for an ambulance. She was sitting close to the stationary train and, because she was unable to stand up, she was concerned that the freight train might move while she sat there. A Tranz Metro staff member told her that he had arranged for the freight train to remain stationary but about 5 minutes later it did move about 20 m without warning, causing her further distress.

### **The Tranz Metro employee**

- 1.4.4 An EMU driver who had just finished work at Paekakariki was walking along the platform when a member of the public told him that a lady had fallen beside the freight train and injured her leg. At his request this person took him to where the injured person lay, close to but clear of the freight train, supported by other members of the public.
- 1.4.5 The Tranz Metro employee was not sure how long the injured lady had been there but he was told that an ambulance had been called so he used his cellular telephone to call train control and advised them of the situation. He asked the train controller to contact the locomotive engineer of the freight service and instruct him not to move his train because, although the injured passenger was clear of the line, she was still reasonably close and could have been further upset if the train moved.
- 1.4.6 A few minutes after he had made the call, the freight train unexpectedly moved away from the platform. This upset the injured passenger and the Tranz Metro employee called train control again, and was told that the train controller had been unable to contact the locomotive engineer prior to the train moving.
- 1.4.7 The Tranz Metro employee stayed with the injured passenger until the ambulance arrived. After the ambulance departed he called train control to advise that normal operations could recommence on the up main line.

## **The train controller**

- 1.4.8 The train controller's duties included directing the movement of all trains, re-arranging crossings when necessary and making suitable arrangements in connection with all train failures, train mishaps, signal/communications failures or other emergency situations which arose. He was responsible for operations on the NIMT between Wellington and Otaki, the Wairarapa Line from Wellington to Masterton and for trains running between Palmerston North and Gisborne. The train controller had dispatched Train 226 from Wellington at 1747 to follow EMU Train 6270. He subsequently decided to terminate Train 6270 so it discharged its passengers at Paekakariki and moved forward past Signal 6R to Signal 8R where it stopped, clear of the up main line platform.
- 1.4.9 The signalling at Paekakariki was operating automatically at this time and, after Train 6270 had cleared Signal 6R, Train 226 passed Signal 4R and moved forward to Signal 6R where it stopped. The train controller then received a radio call from the locomotive engineer. He told the locomotive engineer that Train 6270 was occupying the section ahead and that he would give him a low speed light to pass the signal and enter the section. The train controller then took manual control of Paekakariki and signalled Train 226 accordingly.
- 1.4.10 About 15 minutes later the train controller cleared Signal 8R for Train 6270 to pass and once the train had done so he set the route and signals for the train to set back and position at the down main line platform in readiness for its departure to Wellington as Train 6269.
- 1.4.11 The train controller recalled that a short time later he received a call from a Tranz Metro employee who told him of an injured passenger lying beside the track and asked that the locomotive engineer of Train 226 be instructed not to move his train. However, the train controller said with all the other activity he was involved in, Train 226 had moved forward before he could get a message to the locomotive engineer. A playback of the train control voice tape did not reveal any radio call between the train controller and the locomotive crew of Train 226 regarding the movement of the train.
- 1.4.12 From the indications on the VDU the train controller was aware that Train 226 had moved towards Signal 8R at Paekakariki. He said he knew that Train 226 could not advance beyond Signal 8R, so he did not bother to pass on the message to the locomotive engineer. Some time later, the train controller received another call advising him that the injured lady had been taken from the site by ambulance and that normal operations could now resume on the up main line.
- 1.4.13 The train controller said that he had not initially considered berthing Train 226 on the loop at Paekakariki because, on its anticipated progress from Wellington, there was sufficient track availability for it to run through the McKays Crossing to Paraparaumu single line section without any delays. However, the subsequent "dropped track"<sup>5</sup> signal failures in that section meant that his programme became unworkable. He had become aware of the dropped tracks when they appeared on the VDU at about 1825 and he made an appropriate endorsement on the train control diagram at that time. The fault was finally cleared at about 2010.
- 1.4.14 The train controller was aware that there was a pedestrian level crossing at Paekakariki but was not sure of its precise location.

## **The locomotive crew of Train 226**

- 1.4.15 Although the trainee locomotive engineer was driving Train 226 at the time, the locomotive engineer was still responsible for its operation.

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<sup>5</sup> "Dropped track" was rail jargon for a track circuit failure. A track circuit was a detection system connected to the rails which indicated train presence between specific points to the signalling system. Track circuits were designed to fail to a safe state in the event of a broken electrical connection (or other equipment fault) so that the signalling system is protected and relevant signals held at Stop.



- 1.4.16 After the locomotive crew of Train 226 received a low speed indication on Signal 6R they moved forward and stopped the train “about 3 EMU lengths” from Train 6270, which was stopped ahead of them.
- 1.4.17 About 30 minutes later Train 6270 pulled forward past Signal 8R, so the trainee locomotive engineer sounded the locomotive warning device and moved Train 226 closer to Signal 8R. However, the locomotive engineer instructed him to stop again after they had moved about one locomotive length, to leave room between the locomotive and Signal 8R in case the train controller’s plans changed.
- 1.4.18 The locomotive engineer recalled that after Train 226 had moved nearer to Signal 8R and stopped, they received a radio call from the train controller who told them not to move the train. He said they responded that the train was stationary and the train controller then told him that “a woman has broken her leg but was clear of the train”. He also remembered that the train controller had asked if they could see anything from where they were but, after looking back, he said he could not. As previously noted the train control tape playback did not reveal any such calls.
- 1.4.19 About 20 minutes later the locomotive crew was again contacted by the train controller and told that they could proceed. After the locomotive engineer confirmed that the injured person was clear of the track, Train 226 departed Paekakariki at about 1953.

## **1.5 The duties of the train controller**

### **The train control diagram**

- 1.5.1 The train control diagram showed the timetables of all scheduled trains, printed in green, on the route where they ran. Train controllers drew plot lines on the diagram to show the anticipated progress of trains.
- 1.5.2 A red line was drawn on the diagram to show the actual movement of each train from one station to the next against time and should closely follow the black pencil plot lines with which the train controller had plotted the anticipated progress of the train.

### **Planning of train movements**

- 1.5.3 Tranz Rail’s Operating Code Section 6, clause 3.3 Forward Planning stated in part that:

All train movements and crossings must be anticipated for some hours ahead and be plotted in pencil on the diagram. This forward planning is vital to good train controlling.

It enables the TC to sum up the situation quickly and avoids the necessity for hasty decisions as problems can be foreseen earlier.

## **1.6 Legislation**

- 1.6.1 Clause 24 paragraph (g) of the Railway Safety and Corridor Management Act 1992 stated that every person commits an offence who, not having lawful authority to do so, knowingly enters upon any part of a railway line or rail service vehicle<sup>6</sup>.

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<sup>6</sup> Any vehicle, including wagons, that operates on or uses a railway line.

## 2 Analysis

- 2.1 When Train 226 departed from Wellington, the train controller's plan for it to travel north without disruption, despite the speed restriction and the slow running of preceding trains, was appropriate. However, the subsequent signal failure between McKays Crossing and Paraparaumu resulted in additional delays to other trains and impacted on the planned passage of Train 226. There were several trains waiting to travel through the single line section and the predicted available track occupancy between McKays Crossing and Paraparaumu when Train 226 departed from Wellington, was now being utilised by other services.
- 2.2 The changed circumstances resulting from the dropped tracks should have prompted the train controller to reassess and re-plot his programme, especially in light of the additional delays. However, at the time Train 6270 first became visible on the VDU the train controller was issuing a Mis59 authority to the first service affected by the defective signal at McKays Crossing, and had a second EMU service waiting at Paekakariki to advance to McKays Crossing once the first train departed. While it was possibly too early at that time to have accurately assessed the impact of the "dropped tracks" on his programme, it would still have been prudent for him to take manual control of the signalling at Paekakariki as a precaution and hold Signal 4R at "Stop" until the developing situation at McKays Crossing became clear.
- 2.3 Had the train controller taken manual control he would have kept open the option of alternative berthings for Train 6270 and Train 226 at Paekakariki. He could have berthed Train 6270 directly to the down main line from the south end in preparation for its return to Wellington and berthed Train 226 on the loop, clear of both main lines, until such time as it could be advanced. However, the signalling at Paekakariki remained set for automatic so, after Train 6270 had cleared Signal 6R, Train 226 was advanced up to that signal.
- 2.4 The accident occurred during a long period of disruption to commuter trains and it was not surprising that the train controller struggled with the workload. Because of this he had probably overlooked the approach of Train 226 to Paekakariki until the locomotive engineer contacted him when the train was stopped at Signal 6R, by which time it was berthed alongside the up main platform. Although Train 226 was not yet obstructing the pedestrian crossing at the north end, it was blocking the south end level crossing so the train controller had no option but to advance it beyond Signal 6R to clear that level crossing.
- 2.5 The speed restriction meant that EMU services were already running up to 30 minutes late before the signal failure, which added a further delay of between 10 and 15 minutes to services. With the additional work load created by these delays added to that already generated by slow running, alterations to schedules and train terminations, it was probably not surprising that the train controller missed the opportunity to consider alternative berthing arrangements when Train 6270 appeared on the VDU at Pukerua Bay, about 12 minutes before it arrived in Paekakariki.
- 2.6 The berthing of Train 226 on the up main line was carried out under normal automatic signalling procedures but, unknown to the train controller, it created a dangerous situation with potentially serious consequences once the passengers started walking across the wagon decks to get to the car park. The position of the locomotive of Train 226 meant that the locomotive engineer could not see the rear of the train, or what was happening at the platform, so there was the additional risk that he could have moved his train at any time.
- 2.7 If the locomotive engineer of Train 226 had pulled up closer to the rear of Train 6270 after passing Signal 6R, the rear of the train would probably have cleared the pedestrian level crossing by about 50 m. However, his decision to leave a gap of about 120 m between his train and Train 6270 was appropriate, given the operational disruptions and uncertainties in effect at the time.
- 2.8 The options available to the passengers were to wait until Train 226 departed or walk to the level crossing at the southern end of the station, a distance of about 260 m, to cross the line then

walk back along the road to the car park. There were no Tranz Metro staff on-site to give information about how long Train 226 would be at the platform. Even though it was the safest option, the use of the alternative level crossing at the south end was probably not considered by the passengers after the frustrations of travelling on late running trains regardless of the risks.

- 2.9 The actions of the passengers in crossing the wagon decks probably arose from frustration and dissatisfaction at:
- the long, slow and hot trip from Wellington they had experienced
  - the additional delay to their train at Paekakariki while waiting for a berth
  - the lack of organisation at the station
  - their desire to get home.
- 2.10 Crossing the wagons was unlawful and dangerous and could not be justified under any circumstances. While the consequences resulting from this accident were serious, had the train moved while people were on the wagons, or dismounting, the outcome could have been tragic.
- 2.11 Neither the train controller nor the locomotive crew was aware of the exact location of the injured passenger, therefore the need to ensure that Train 226 did not move was paramount. The recollections of the train controller and the locomotive engineer vary as to whether or not an instruction was given or received for the train not to move, and it has not been possible to accurately determine this. However, after his train had moved the initial 20 m nearer to Signal 8R, the locomotive engineer was obviously aware of the situation, and he was adamant that such advice could only have come via the radio from train control, although no evidence of such a call could be found on the train control tape.
- 2.12 The pedestrian level crossing met all code requirements and guidelines, was fit for purpose and did not contribute to the accident. However, this accident has raised the issue of freight trains stopping and obstructing pedestrian level crossings, particularly in the Auckland and Wellington metropolitan areas, and it is considered that the siting of such level crossings in relation to signals etc, should be included in an independent review of pedestrian level crossings recommended to the Director of Land Transport Safety.
- 2.13 There were no Tranz Metro staff in attendance at Paekakariki during the afternoon to supervise passengers during the train / bus changeovers. It was usual for passengers on northbound units to be given information regarding the changeover prior to arrival at Paekakariki while passengers departing from Paraparaumu were advised of the changeover prior to their departure by bus. Such changeovers had not been uncommon in the Wellington suburban area during the summer period and were not usually supervised. The last programmed transfer at Paekakariki on this day occurred at about 1805 hours.
- 2.14 Only by coincidence was a Tranz Metro employee on the platform soon after the accident. After being notified, he directed his attention to the wellbeing and safety of the injured passenger, which was the appropriate action to take, but in so doing he could not then also supervise activities at the pedestrian level crossing. However, by the time he was involved most, if not all, of the passengers, had probably walked across the wagons anyway.
- 2.15 Although there was no signage in place directing passengers to the south end level crossing if the north end pedestrian crossing was obstructed, it was probably unlikely that even if such signage had existed, it would have been obeyed under these circumstances. It is therefore questionable if the safety action taken by Tranz Rail as defined in section 4.1 of this report would have any effect in a similar situation.

### **3 Findings**

Findings are listed in order of development and not in order of priority.

- 3.1 The berthing of Train 226 on the up main line at Paekakariki created a potentially dangerous situation when the rear wagons blocked the pedestrian crossing and access to the car park.
- 3.2 Train 226 could have been re-routed from the up main line at Paekakariki but the opportunity to do so was missed by the train controller.
- 3.3 There was sufficient space available between Train 6270, stopped at Signal 8R, and the pedestrian crossing for Train 226 to be berthed. The locomotive engineer's decision to stop about 60 m short of the train ahead of him was consistent with normal operating practice but, unbeknown to him, resulted in the rear of his train obstructing the pedestrian level crossing.
- 3.4 The members of the public who climbed across the wagons probably considered their actions to be justified given their disrupted and delayed journey home, but such actions were unlawful and accompanied by the possibility of serious injury, particularly had the train moved.
- 3.5 The Tranz Metro employee at Paekakariki responded appropriately in tending to the wellbeing and safety of the injured passenger.
- 3.6 The location, design and construction of the pedestrian level crossing met appropriate standards and did not contribute to the accident.

### **4 Safety Actions**

- 4.1 Tranz Rail advised that signage was installed on 10 February 2003 at the pedestrian crossing at the north end of Paekakariki directing passengers to Beach Road level crossing should the pedestrian crossing be obstructed.
- 4.2 Tranz Rail advised that from 28 February 2003 berthing arrangements had been altered at Paekakariki so that freight trains would not be routed via the up main line when passengers were using the north end pedestrian crossing to transfer from trains to buses.
- 4.3 In view of these actions no safety recommendations regarding these issues are made to the Chief Executive Officer of Tranz Rail.

Approved for publication 25 February 2004

Hon W P Jeffries  
Chief Commissioner







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