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# ***State Transit Authority of New South Wales***

***Combined strength: Each link  
in 'chain' helps fight fatigue***

***Fleet: Over 2,100 buses***

***Passengers: More than 600,000 daily***



**NRSP**  
NATIONAL ROAD SAFETY

**PARTNERSHIP**  
PROGRAM

**Organisation:** State Transit Authority of New South Wales

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**Transport**  
State Transit

## Case Study:

***Fighting the fatigue factor: Comprehensive approach involves each link in the chain***

### **Key Outcomes:**

- Fatigue is a significant safety risk for all transport operators but becomes even more important when you carry thousands of passengers each day
- Involving all links in the chain of responsibility, from the CEO to the driver, makes efforts to address fatigue more effective
- Each employee who can influence fatigue is properly trained – in accordance with State Transit's Fatigue Management Plan – and is aware of their responsibilities
- Giving drivers input into operational matters that influence fatigue, such as work rosters, increases buy-in and effectiveness of measures
- Drivers taking responsibility for presenting to work 'fit for duty' is critical in supporting company measures to combat fatigue
- A comprehensive approach to fatigue gives drivers confidence their health and wellbeing is important to their employer
- A holistic focus on individual health and workplace conditions, such as addressing sleep disorders, scheduling and rostering AFM shifts and providing quiet rooms and comfortable cabins, supports efforts to combat fatigue and increases acceptance

### **Synopsis:**

Fatigue is a major issue for all transport operators. It's even more important when you carry thousands of public transport passengers every day. The NSW State Transit Authority takes a proactive and comprehensive approach to managing fatigue to ensure safety of its drivers, its 'customers' and other road users.

## PARTNERSHIP PROGRAM

### Organisation overview

The State Transit Authority of New South Wales (State Transit) is a government-owned authority that provides bus services in Sydney, operating as Sydney Buses, and Newcastle, operating as Newcastle Buses and Ferries.

Servicing over 300 routes in Sydney and 26 in the Greater Newcastle area, including the Newcastle-Stockton Ferry, State Transit operates more than 15,000 services a day and carries more than 600,000 passengers to their destination. State Transit has a fleet of more than 2,100 buses, making it one of the largest bus operations in the world.

Sydney Buses operates almost 100,000 services a week on more than 300 regular routes across the Sydney metropolitan area, ranging from local community connections to commuter services operating into the Central Business District. It also operates more than 5,000 school bus services on more than 700 routes each week.

Metrobus services provide direct cross-city and cross-harbour links to a wide range of locations in and around Sydney.

Newcastle Buses operates 7,000 regular services a week over a large part of the cities of Newcastle and Lake Macquarie, with an additional 1,400 school bus services on 149 routes. Newcastle Ferries operates a service across Newcastle Harbour to Stockton.

Buses acquired within State Transit's large and modern fleet feature 'kneeling' suspension for level entry and a flat no-step floor to make it easier for the elderly and less mobile to access buses. Within the fleet, buses also include an extending wheelchair ramp, accommodation for two wheelchairs, additional priority seating and increased interior lighting.

### Safety is a must

Safety is a multi-faceted challenge for State Transit. To maximise the safety of employees and consumers using their services, the organisation ensures its drivers are safe operators. It prioritises the safety of the equipment and infrastructure it's responsible for to ensure safety of its patrons while on board, as well as considering their safety at bus stops while waiting for services.

Reflecting its commitment to 'Health and safety is our number one priority', State Transit has introduced several initiatives aimed at keeping passengers safe on board, such as installing digital CCTV systems on buses within the fleet, safety programs such as travel tips for seniors, and reviewing interior bus layouts to reduce the risk of passenger falls. State Transit undertakes route risk assessments to identify hazards and promote safety at bus stops.

Delivering safe services and 'building a safety mindset' are clearly outlined in the organisation's Health & Safety Policy as well as its core safety values:

- Health and safety is our number one priority
- Health and safety must be included when making decisions
- The demands of a job are never too great to jeopardise safety
- Every worker is accountable for safety performance
- Worker involvement is essential
- Working safely is a condition of employment
- Regular training of workers to work safely is essential.

## PARTNERSHIP PROGRAM

The Health & Safety Policy aim of 'Putting People First', which is signed by the CEO, shows 'State Transit is committed to safety being the number one priority and aims to put people first in everything that we do. This includes workers, visitors, passengers, pedestrians and other road users. Safety involves everyone and, working together, all injuries can be prevented. The objective of our Safety Management System (SMS) is to ensure the health and safety of all people involved in our organisation and affected by our operations.'

***Safety involves everyone and, working together, all injuries can be prevented.***



### Fatigue procedures

State Transit leaves nothing to chance in managing fatigue, designing and implementing a comprehensive range of policies and procedures to manage this safety challenge.

Its Fatigue Management Policy outlines its commitment to proactively measure, mitigate and manage the risks associated with fatigue and how combating and managing fatigue is incorporated into daily operations.

Fatigue can be caused by both non-work and work related activities and can impact an employee's state of alertness with consequential impacts on employee work performance and wellbeing.

Reflecting its core values, particularly those focussed on consultation with employees and safety being everyone's responsibility, everybody in the organisation – from the CEO to depot managers and roster clerks to bus operators – is aware of their safety responsibilities and the organisation's expectations, including fitness for work.

Each employee is trained in carrying out those responsibilities, and employees are consulted where practices may impact fatigue management, such as changes to rosters.

Work instructions relating to fatigue detail how bus operators can help identify risk factors for fatigue and contribute to ensuring the risk is minimised.

Rather than being a burden on operations, State Transit's approach to fatigue means bus operators know they are looked after by the organisation and each person in the 'chain'. Consequently their customers, the travelling public who put their safety in bus operators' hands, can have the same confidence.



## PARTNERSHIP PROGRAM

### Chain of Responsibility

A strong focus on ensuring everybody 'in the chain' actively contributes to fatigue management is a key foundation of State Transit's safety practices.

There are several parties in the bus and coach industry identified as being part of the Chain of Responsibility. These parties share responsibility and legal liability to ensure fatigue laws are complied with and must take reasonable steps to prevent bus operator fatigue and ensure operators do not drive while impaired by fatigue.

State Transit's focus extends right to the CEO, whose responsibility includes ensuring the organisation has a Fatigue Management Program in place, and the General Manager of Safety, Assurance and Communication, who must ensure policies, procedures and instructions covering all activities of the program are up to date, clearly defined and available to all relevant personnel, and that quarterly reviews of fatigue are undertaken and tabled at the organisation's Senior Executive Committee (SECOM).

Further along the 'chain', the General Manager of People & Bus Systems ensures all managers, supervisors, schedulers and employees are properly trained in fatigue management.

The role of all employees in the fatigue management chain is clearly outlined (see Table 1 for a selection of the responsibilities of selected operational staff, key in managing fatigue) including 'Administrators of Fatigue'. This includes schedulers, roster clerks, fleet and service managers, supervisors and Network Control Centre staff.

Every employee is expected to "report to work in a fit state, free from fatigue and the influence of alcohol and other drugs".

*State Transit's approach to fatigue means bus operators know they are looked after by the organisation and each person in the 'chain'.*



## PARTNERSHIP PROGRAM

*Table 1: Selected operational staff and their role in managing fatigue*

Role	Responsibilities
Depot managers and manager scheduling services	<ul style="list-style-type: none"> <li>• Ensure compliance with all standards in fatigue procedures</li> <li>• Monitor, identify, report, investigate and record non-compliances and take necessary corrective action to prevent further occurrences</li> <li>• Ensure all incidents are investigated to determine whether fatigue was a contributing factor</li> <li>• Ensure records of bus operators are current and include individual driving hours (e.g. rosters, schedules)</li> <li>• Ensure relief/casual bus operators are made aware of the Fatigue Management Program and that they are fit for duty according to the company's policy and procedures</li> <li>• Ensure FORM 778 – Fitness for Duty is posted next to the areas where employees sign on for duty</li> </ul>
Administrators of fatigue, including schedulers, roster clerks, duty officers and managers; service managers and coordinators; regional fleet managers; leading hands; staff supervisors; depot managers; safety staff; network control centre staff; and any other employee involved in administration of the implementation of fatigue management, including relief staff	<ul style="list-style-type: none"> <li>• Schedule and roster within fatigue and rest limits</li> <li>• Ensure schedules and rosters are reasonable and achievable under legislated driving limits</li> <li>• Verify bus operators' level of accreditation with regard to driving hours and competency classification of Advanced Fatigue Management (AFM) in the internal rostering and scheduling system (HASTUS)</li> <li>• Keep schedules and rosters as regular and predictable as possible</li> <li>• Ensure no schedules and rosters are planned to extend beyond approved frequencies</li> <li>• Ensure increased fatigue risk for heavy vehicle operators returning from leave is considered in rostering and scheduling</li> <li>• Complete FORM 707 in consultation with the bus operator where a fatigue issue may be identified</li> </ul>
Staff supervisors	<ul style="list-style-type: none"> <li>• Perform all responsibilities as Administrator of Fatigue</li> <li>• Coordinate Advanced Fatigue Management medical assessment process</li> </ul>
Rostering and special schedules coordinator	<ul style="list-style-type: none"> <li>• Regularly monitor HASTUS for any fatigue breaches</li> <li>• Generate corrective actions for breaches that occur and alert management to fatigue breaches</li> </ul>
All employees	<ul style="list-style-type: none"> <li>• Report to work in a fit state, free from fatigue and the influence of alcohol and other drugs</li> <li>• Declaration of secondary employment</li> </ul>

## PARTNERSHIP PROGRAM

### Am I safe?

State Transit ensures time off is provided for employees to help address fatigue. In return, workers are required to report to work fit for duty and free of fatigue, and should use time off to responsibly prepare their sleep patterns for a return to work.

Employees are expected to consider the impact of activities such as recreational activities and personal life on their wellbeing and capacity to work safely, and use time off responsibly to prepare for, or to recover from, the fatigue effects of work.

Employees must be in a fit and healthy state when presenting for work. In particular, those working with heavy vehicles must be well rested before attending work to safely undertake working and driving activities.

Employees must tell their supervisor if they believe they are unfit for duty due to any lifestyle, health or medical issue both before and during work. By signing on, employees are declaring they are fit for work and understand the factors that contribute to fatigue and their legal obligations in regard to work and rest hours.

State Transit has introduced the "I'm Safe" method to help employees self-assess their own fitness for work. This involves employees asking themselves six questions (see breakout box) and being able to answer yes to all.

Supervisors are responsible for ensuring that this FORM 778 – Fitness for Duty is posted next to the sign on area so all employees know they need to check their own fitness for duty and declare any identified issues before sign on.

Employees found, on a one-off occasion, on the basis of observation and following an interview process, to be fatigued will be immediately suspended from duty until sufficient rest is obtained to be ready to safely undertake assigned tasks.

All employees should also be alert for any signs of fatigue or tiredness while driving. If a driver feels fatigued or tired, State

Transit requires the vehicle to be stopped at the nearest safe location and the driver to contact the Network Control Centre, which will arrange for a relief driver. The driver then obtains sufficient sleep before starting any further driving tasks.

*Since State Transit implemented its fatigue intervention review and management strategies, there has been a significant decrease in breaches.*

#### I'M SAFE

Illness	Am I physically well?
Medication	Am I free from the effects of medication?
Stress	Am I free from significant stress?
Alcohol	Am I free from the effects of alcohol and drugs?
Fatigue	Have I had enough rest?
Eating	Have I eaten properly?

## PARTNERSHIP PROGRAM

### Scheduling in fatigue management

State Transit's Fatigue Management Program aims to proactively measure, mitigate and manage the risks associated with fatigue issues that may arise in its operations. A key component of this is compliance with prescribed legislated hours of work as mandated by legislation, the Transport for NSW Bus Operator Accreditation Scheme (BOAS) and the National Heavy Vehicle Regulator's (NHVR) Advanced Fatigue Management (AFM) Standards.

State Transit is able to measure employees' 'work time' hours through their scheduling and rostering software, HASTUS. In addition to time spent driving, this includes all tasks related to the operation of a heavy vehicle, such as loading and unloading, inspection and servicing or repair work, attending to passengers, cleaning or refuelling, recording information, and undertaking marketing tasks such as way-finding.

State Transit uses determined operating limits to allow operators and drivers to plan, monitor and manage work and rest times to minimise the impact of fatigue. Approved normal operating limits are monitored to ensure they are still relevant through an annual review of internal assessments and documentation, including policies, procedures, work instructions, forms and fatigue risk assessment processes.

Drivers have input into schedules to ensure trip plans are reasonable and schedules and rosters are kept as regular and predictable as possible. Bus operators are provided with flexibility to alter trip schedules within the normal operating limits and outer limits to maximise rest opportunities and minimise fatigue risk.

### Going the extra mile

State Transit further supports drivers in managing fatigue by having operations staff on duty and an accident/emergency response available 24 hours a day. Duty staff determine the amount of driving time available and the level of bus operator fatigue before assigning driving tasks and relief staff are used to allow time off for bus operators.

State Transit's scheduling and rostering processes also ensure trip schedules and bus operator rosters are planned and assigned in accordance with the legislated and State Transit's approved operating limits. The roster coordinator regularly reviews compliance with work and rest limits and raises a non-conformance for each breach.

Internal and external audits and internal safety system audits are also regularly conducted along with compliance assessments. State Transit has an internal electronic system that flags breaches, with internal breaches reported to the Senior Executive Committee (SECOM). Employee's health and potential fatigue is a consideration in all on and off road investigations.

The increased fatigue risk for a driver returning from leave, including after holiday periods such as Christmas and Easter, is also considered. While on leave, people who normally sleep during the day to perform night shifts, for example, may revert to the traditional pattern of sleeping at night. This may lead to an increased risk of fatigue for those workers returning to night shifts after leave because the body needs time to adjust to the change in sleeping pattern.

Where there are major disruptions to the rail network, State Transit may be required to provide additional services. When this happens, schedules and rosters are still modified to ensure compliance with fatigue work and roster limits.



## PARTNERSHIP PROGRAM

### Training and education

Fatigue knowledge and awareness is essential to ensure all employees and managers understand fatigue management issues and have the knowledge and skills to comply with procedures to address fatigue.

State Transit undertakes formal training and competency based assessments for employees working within Advanced Fatigue Management work and rest limits and all administrators of fatigue are trained to 'Administer the Implementation of Fatigue Management Strategies'. Current administrators of fatigue can be promoted to a scheduler subgroup after proven competency. Once promoted, if the scheduler does not follow the procedures, they're re-trained.

At recruitment, in addition to a medical and drug and alcohol testing, a bus operator questionnaire advises candidates on fatigue demands of the role and the physical and mental demands of shift work. Fatigue hazards are also outlined in workplace induction and training in fatigue within four days of beginning work with State Transit.

Existing employees are also assessed as competent in fatigue procedures and if fatigue is encountered, action is taken, including the operator being rested at home or at depot facilities, with appropriate counsel given to avoid a repeat. Any fatigue breaches are entered into the corrective action process by the roster coordinator and investigated by the depot manager.

An employee found on an ongoing basis to be suffering from fatigue that inhibits their ability to safely undertake duties as a heavy vehicle driver will be immediately suspended from duty until subsequent medical advice indicates their condition is either under control or will no longer affect their ability to undertake their duties.



### Examples of fatigue symptoms

- Lack of alertness
- Inability to concentrate
- Reduced ability to recognise or respond to external stimuli
- Poor judgement or memory
- Making more mistakes than usual
- Drowsiness, or falling asleep, at work (including micro sleeps)
- Finding it difficult to keep eyes open
- Needing more frequent naps
- Not feeling refreshed after sleep
- Excessive head nodding or yawning
- Blurred vision
- Mood changes, increased irritability or other changes to mental health
- Changes to health or fitness

*Source: State Transit Fatigue Management Program*

## PARTNERSHIP PROGRAM

### Health and consultation

State Transit also focuses on individual health and workplace conditions to help operators manage fatigue. It has a health management system, for example, that addresses sleep disorders, medical history, substance abuse and diet, and conducts an annual health week, which includes individual health checks, and other health promotion programs to help bus operators maximise health.

Buses are optimised for operator comfort by providing safe, reliable and comfortable vehicles and State Transit sites have facilities for rest and recuperation, including showers, quiet rooms and tea/coffee facilities.

Depots encourage employees to live healthy lifestyles and exercise at depots by providing an exercise room and equipment. The organisation has a designated Health and Service Officer at each depot and some regional offices and employee health is also incorporated in monthly Health and Safety Representative meetings.

Consultation within the workplace is important for fatigue compliance as well as having a safe and well-designed working environment with high morale and efficiency.

Management practices are also designed to minimise the risks relating to bus operator fatigue and support effective communication between management and employees on matters that affect the safe operation of State Transit services.

Health and Safety Committee meetings are one method of sharing information between management and staff, along with newsletters, notices, letters and emails. State Transit communicates using tools such as the 'We're moving Sydney/Newcastle' newsletter and CHATS in the depot.

### Implementation and results

Since State Transit implemented its fatigue intervention review and management strategies, there has been a significant decrease in breaches.

Implementation of the Fatigue Management Program, by State Transit's Safety division, was undertaken in consultation with Health and Safety Representatives, Learning and Development and the Scheduling divisions. The program has been developed into a nationally recognised training program in line with nationally accredited standards.

In addition to implementing the 'I'm Safe' self-disclosure process, the organisation enlisted champions in the business to drive fatigue related conversations. These champions regularly interact with daily frontline staff.

It is critical to take a holistic approach to employees' health and creating a self-reporting culture drives implementation more so than a focus on compliance.

