

Fatigue Regulation in Australia

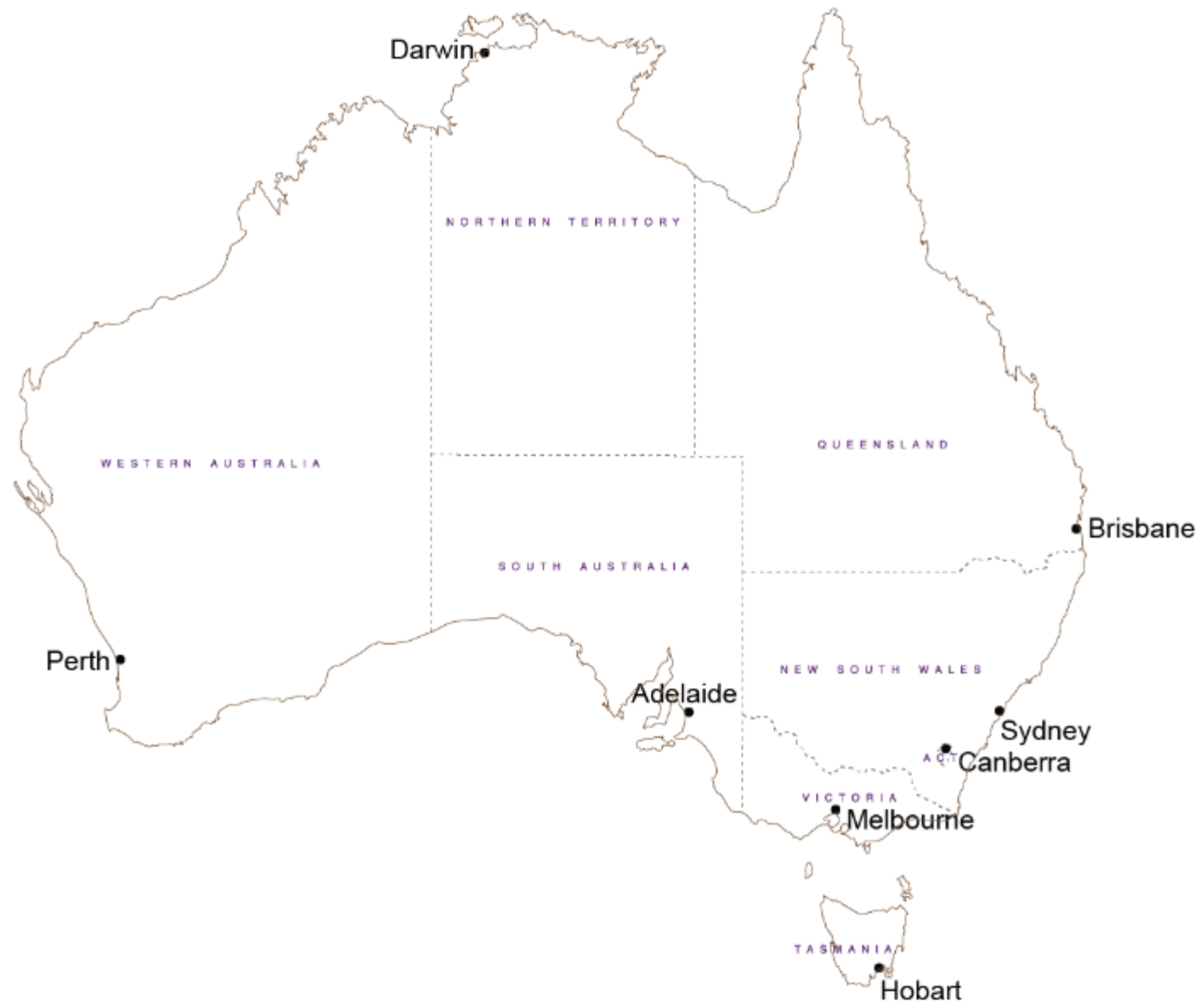
Julie Bullas

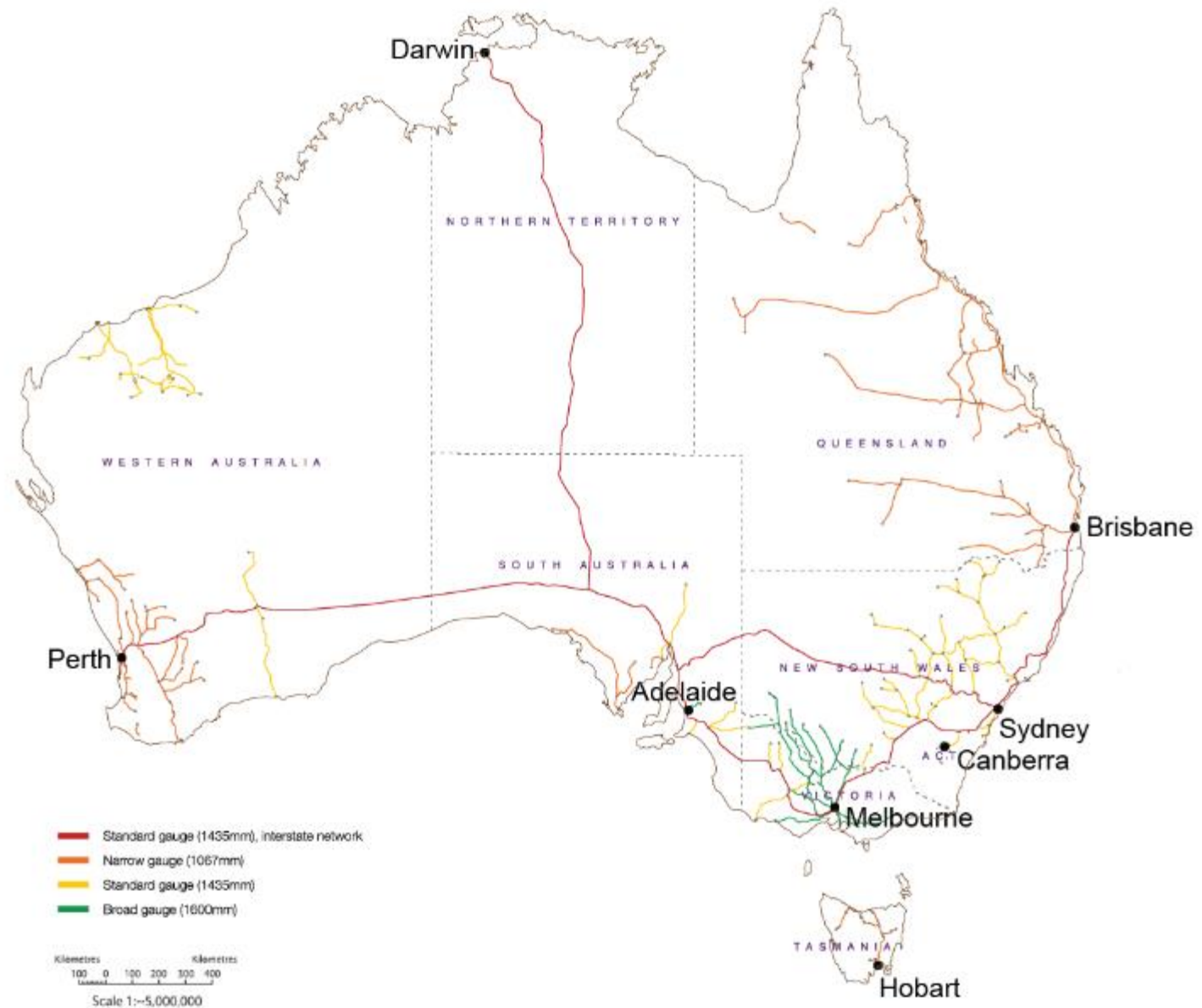
Executive Director, Policy Reform and Stakeholder Engagement

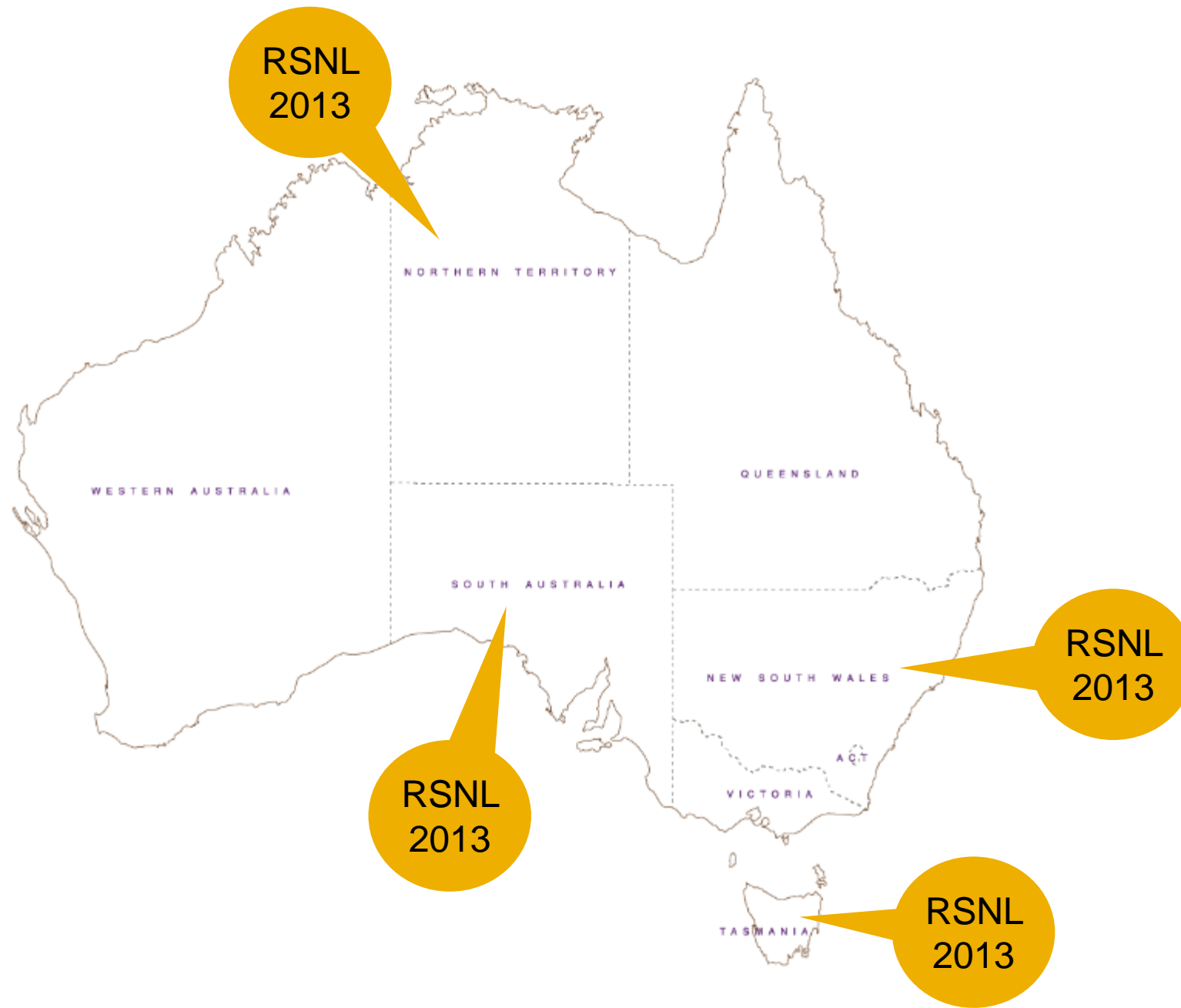
June 2018

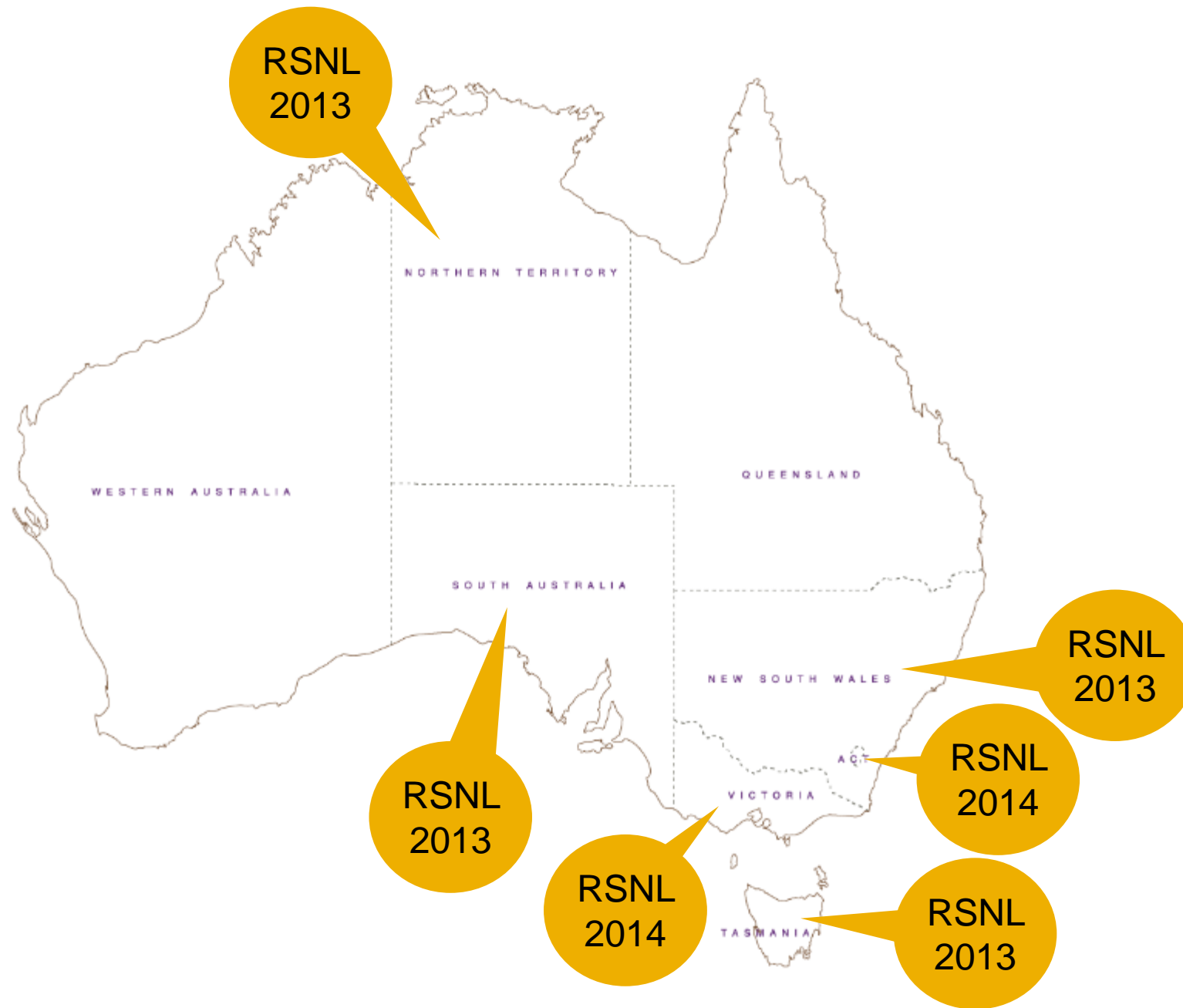


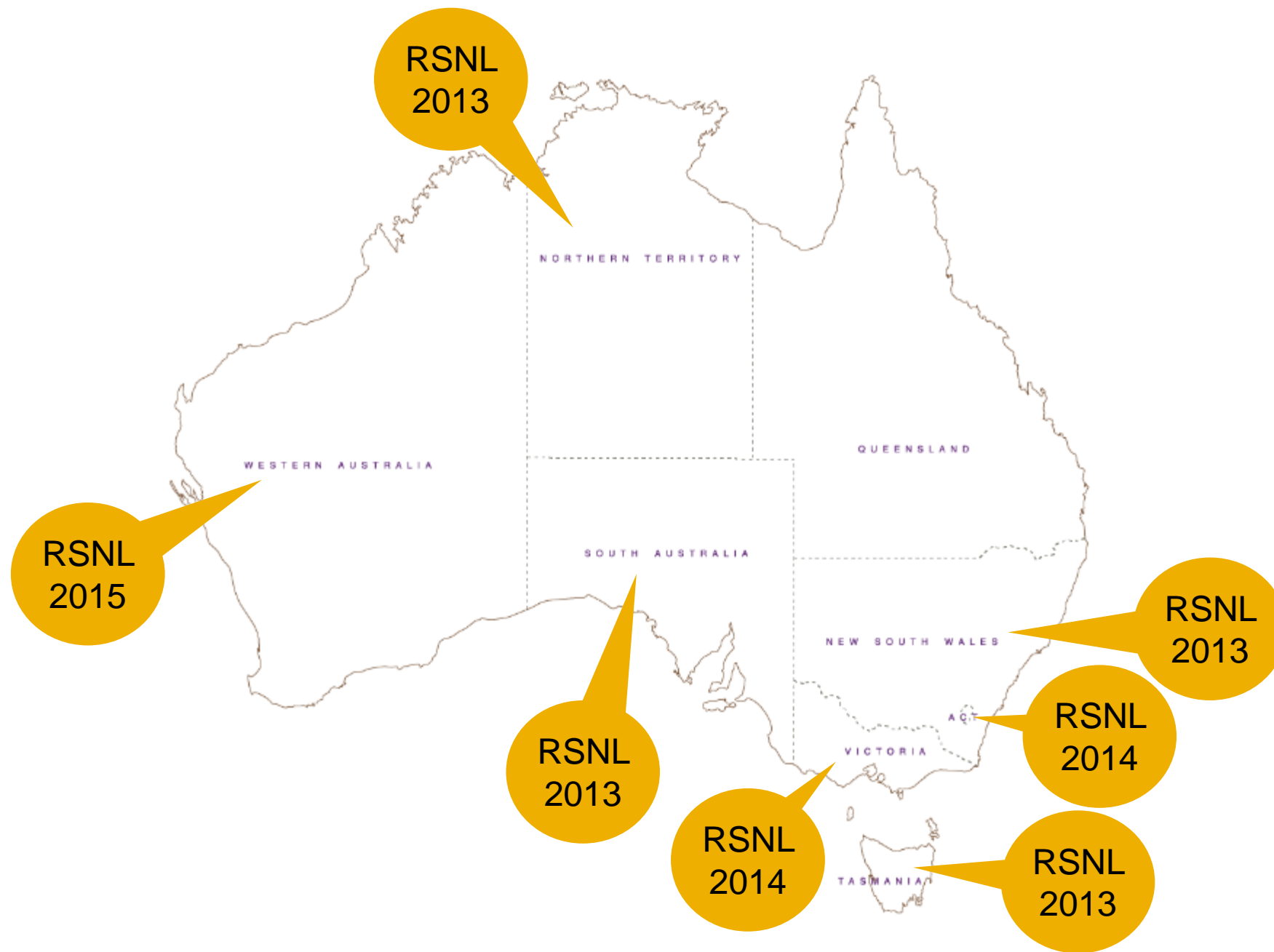


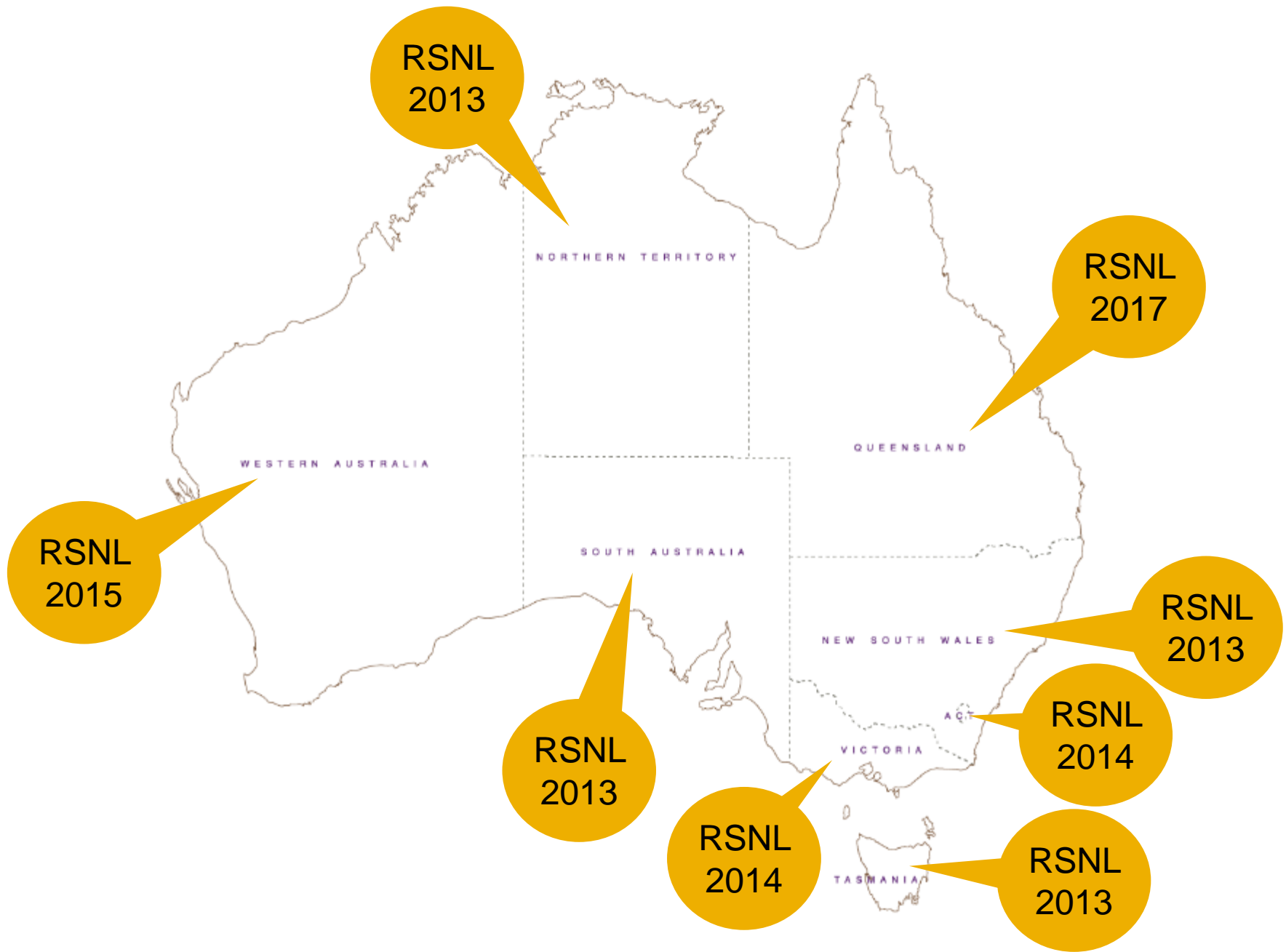


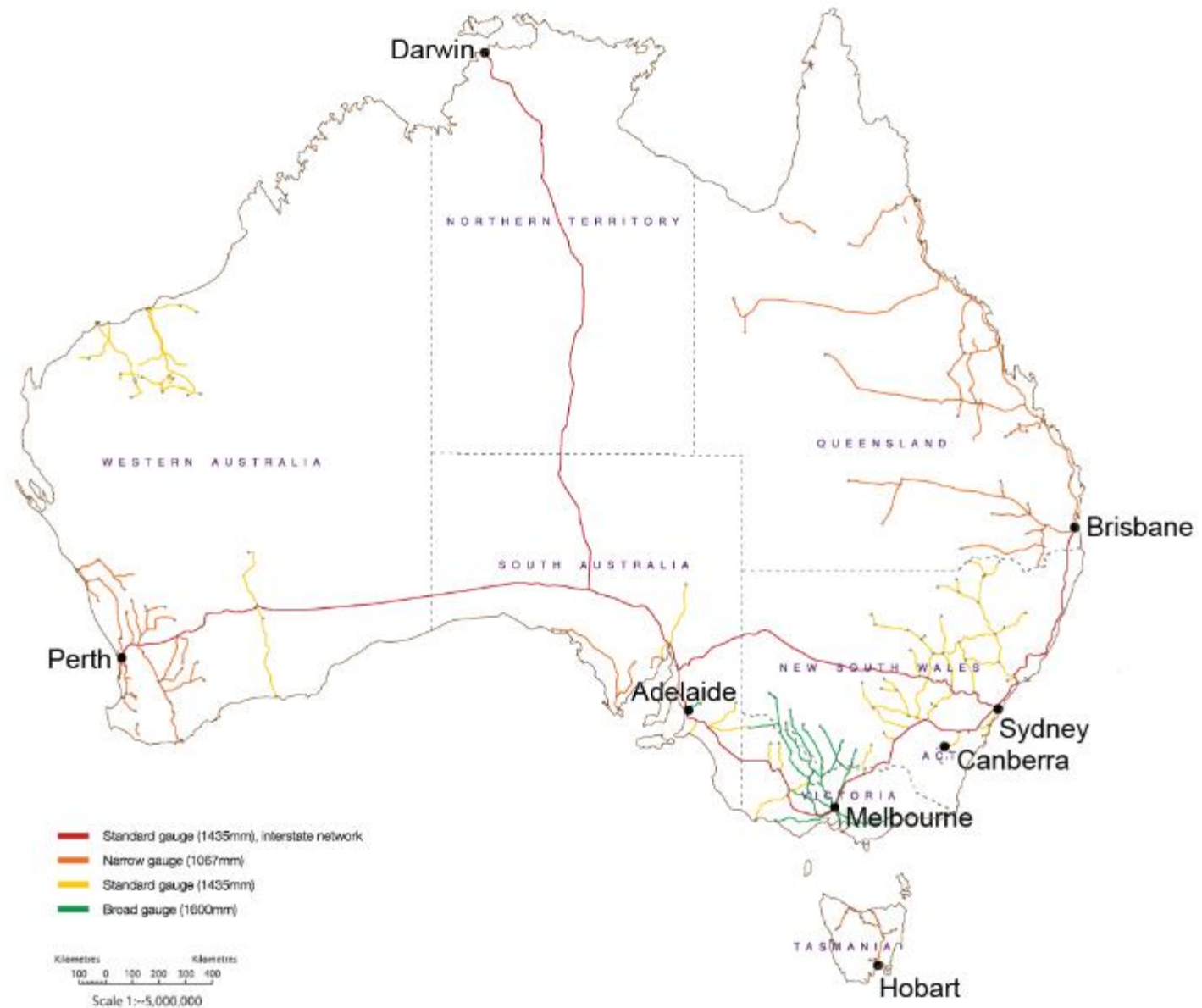








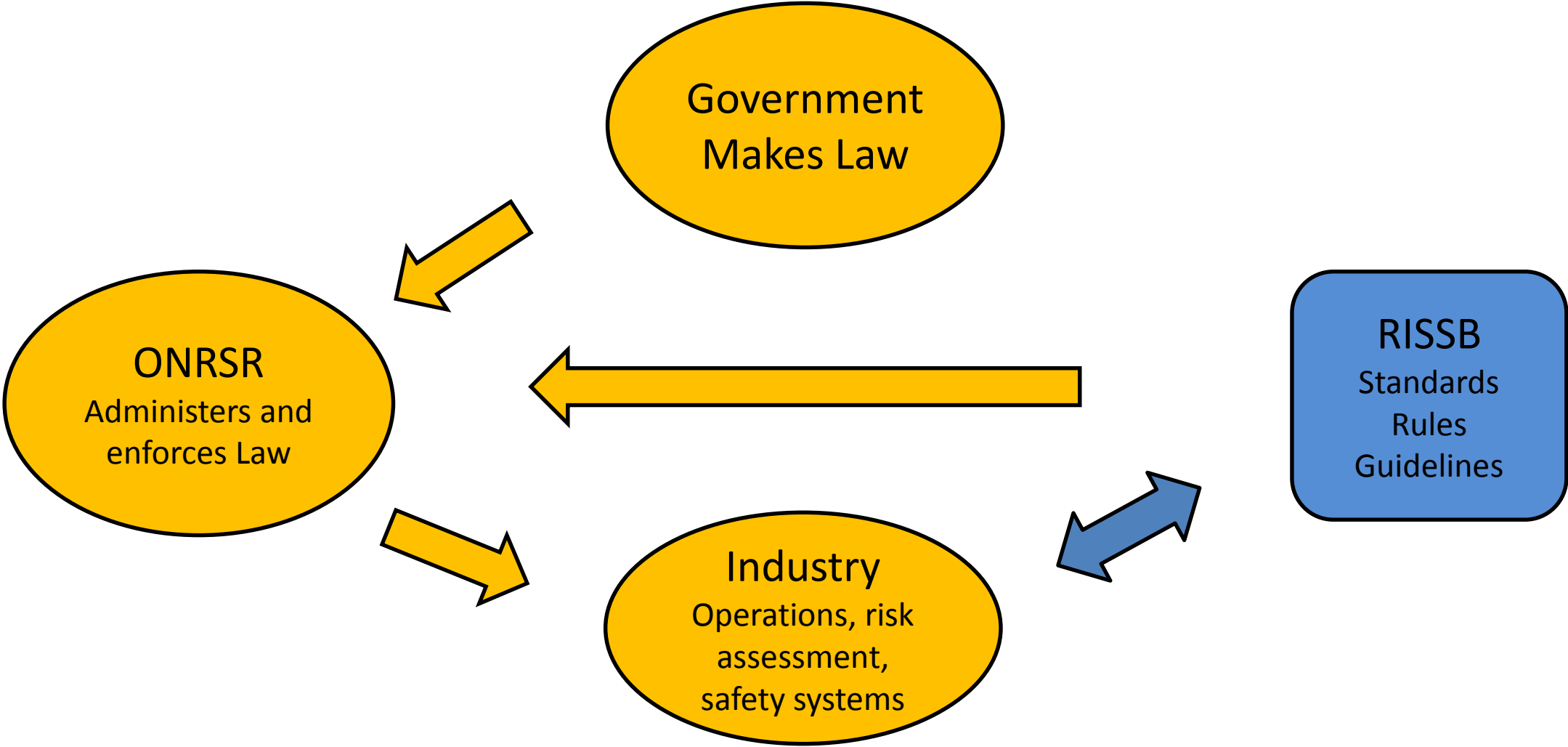




ONRSR's Functions and Objectives

- The main purpose of *Rail Safety National Law (RSNL)* is to provide for safe railway operations in Australia.
- The functions and objectives of ONRSR are:
 - Administering RSNL and its national scheme of accreditation
 - Working with operators, rail safety workers and others in industry to improve rail safety
 - Conducting research and collecting/publishing information relating to rail safety

Co-Regulatory Framework



RSNL Framework

RSNL

- Safety duties
- SMS & review
- Risk assessment & document
- Fatigue Risk Management Program

RSNL National Regulations

- Fatigue related risks

Fatigue Risk Management Program

- > Applies to all rail safety workers
- > An operator must prepare and implement a Fatigue Risk Management Program
- > Must be in accordance with 10 prescribed requirements
- > Must take into account, and assess, any fatigue-related risks to safety
- > Establish and maintain documented procedures to manage risks SFAIRP

Prescribed working hours for train drivers

- > Train drivers in New South Wales and Queensland only have prescribed hours of work and rest
- > Hours not identical
- > Variations lead to inconsistencies and regulatory burdens
- > 23% of nationally accredited operators have to work across two to three different localised legislative requirements

Fatigue Review under Rail Safety National Law

The review

- > Examine degree to which fatigue is a risk factor for rail incidents
- > Assess operators' effectiveness in managing fatigue risk to rail safety workers under national law and NSW/Qld specific provisions
- > Investigate current fatigue risk management frameworks and research and innovations
- > Develop options for an effective legislative framework to reduce safety risk
- > Assess current legislative framework against the recommended option

Observations

- **No evidence that national risk based system increases rail safety risks vs prescribed hours for drivers**
- **Enterprise bargaining agreements include hours of work**
- **Management of fatigue risk being handled in accordance with the risk based framework of RSNL**
- **Support and education for operators critical**
- **Discussion Paper**

DRAFT ONRSR Code of Practice: Fatigue Risk Management

The process

- > 6 steps supported by 7 principles of rest and recovery**
 - > Step 1 - Establish the context**
 - > Step 2 - Identify fatigue factors**


Step 2: Identify fatigue factors

PHYSIOLOGICAL & TASK FACTORS	SOCIAL AND PSYCHOLOGICAL FACTORS	ORGANISATIONAL FACTORS	INDIVIDUAL FACTORS
Circadian effects 29(1)(d)	Work schedule predictability & irregularity 29(1)(c)	Extended hours and overtime 29(1)(b)	RSW education and information in identifying and managing fatigue 29(2)(c)
Extended wakefulness 29(1)(d)	Control over work hours 29(1)(c)	Lift up and lay back 29(1)(b)	
Chronic sleep loss 29(1)(d)		Call in and on-call 29(1)(b)	
Sleep inertia (grogginess) 29(1)(d)		Commuting 29(1)(d)	
Scheduling of work and non work: time on task, rest opportunities, break length & frequency, total work time 29(1)(a)		Routes 29(1)(f)	
High cognitive demand 29(1)(e)(i)		Crew calling practices 29(1)(f)	
Monotony, boredom low cognitive demand 29(1)(e)(ii)		Work environment (climate, noise, vibration, fumes) 29(1)(h)	
		Rest environment (Barracks, rest houses, relay vans) 29(1)(g)	
		Abnormal, degraded, emergency conditions 29(1)(i)	


The process

- > 6 steps supported by 7 principles of rest and recovery**
 - > Step 1 - Establish the context**
 - > Step 2 - Identify fatigue factors**
 - > Step 3 - Analyse the impact of fatigue factors on rail safety risks**
 - > Step 4 - Evaluate options for reducing rail safety worker exposure to fatigue**


Seven principles of rest and recovery

Principle(s)	Lower fatigue likelihood		Higher fatigue likelihood
Work related rest breaks during shifts			
1. Ensure sufficient time off-task	Up to 80-85% of shift	Between 85 – 90% of shift	Over 90% of shift
2. Ensure regular rest breaks	At least once every 3hrs	At least once every 4hrs	At least once every 5hrs

Seven principles of rest and recovery


Principle	Lower fatigue likelihood  Higher fatigue likelihood		
Recovery breaks between shifts			
3. Ensure break provides opportunity for sufficient sleep	More than 10 hours	Between 8 and 10	8 hours or less
4. Maximise night sleep	All recovery breaks in sequence include 00:00 to 06:00 period	Half or more recovery breaks in sequence include 00:00 to 06:00	Less than half recovery breaks in sequence include 00:00 to 06:00
5. Minimise night work	No shifts end between 00:00 and 06:00	Half or less of shifts in sequence end between 00:00 and 06:00	More than half of shifts in sequence end between 00:00 and 06:00
6. Minimise very long shifts particularly those ending between 00:00 and 06:00	8– 10hr shifts	10 – 12hr shifts	More than 12hr shifts

Seven principles of rest and recovery

Principle	Lower fatigue likelihood		Higher fatigue likelihood
Reset breaks			
7. Prevent the accumulation of fatigue over a sequence of shifts	2-4 days (48-72 hrs) between reset breaks over a sequence of shifts		5-7 days (96-168 hrs) between reset breaks over a sequence of shifts
			8 days or more (192 hrs or more) between reset breaks over a sequence of shifts

Evaluate Options

Case study: Track work – re-railing

Measure	Lower fatigue likelihood		Higher fatigue likelihood
to reduce performance impairment due extended time-on-task			
Percentage of time in shift on tasks that require sustained attention	Up to 80-85% of shift	Between 85 – 90% of shift	Over 90% of shift
Time on task before a rest break of 15 minutes or more	At least once every 3hrs	At least once every 4hrs	At least once every 5hrs
to provide opportunity for sufficient sleep to perform the required tasks satisfactorily during subsequent shifts			
Length of recovery break between shifts	More than 10 hours	Between 8 and 10	8 hours or less
Proportion of recovery breaks in shift sequence (between reset breaks) that preserve night sleep opportunity 00:00-06:00	All recovery breaks in sequence include 00:00 to 06:00 period	Half or more recovery breaks in sequence include 00:00 to 06:00	Less than half recovery breaks in sequence include 00:00 to 06:00
Proportion of shifts in a sequence that end between the hours of 00:00 and 06:00	No shifts end between 00:00 and 06:00	Half or less of shifts in sequence end between 00:00 and 06:00	More than half of shifts in sequence end between 00:00 and 06:00
Shift length	8– 10hr shifts	10 – 12hr shifts	More than 12hr shifts
to provide shifts to prevent cumulative sleep loss and eliminate the build-up of unsafe levels of fatigue over an extended sequence of shifts			
Number of shifts in sequence prior to reset break of at least 34hrs which includes two night sleep periods, (00:00- 06:00) between shifts	2-4 days (48-72 hrs) between reset breaks over a sequence of shifts	5-7 days (96-168 hrs) between reset breaks over a sequence of shifts	8 days or more (192 hrs or more) between reset breaks over a sequence of shifts

Evaluate Options

Case study: Track work – re-railing cont....

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 - > Step 5 - Treat fatigue related risks**
 - > Step 6 - Monitor and review fatigue risk controls**

Next steps

- Stakeholder feedback on:
 - Discussion paper
 - Code of Practice
 - Evidence Paper
- Finalise reform options
- Report to Ministerial Council in May 2019

Further information

- > Visit our website: www.onrsr.com.au
 - > Discussion paper
 - > Code of Practice
 - > Evidence Paper (written by Professors Drew Dawson and Ann Williamson)
- > Twitter: [@ONRSRAustralia](https://twitter.com/ONRSRAustralia)
- > Email: Julie.Bullas@onrsr.com.au



Questions?