

# Telematics Industry Group Forum

*Hosted by*  
***Transport Certification Australia***  
26 November 2019



# Agenda

1. Introductions and welcome
2. National Transport Commission update
3. National Heavy Vehicle Regulator update
4. Transport for New South Wales update
5. Intelligent Mass functionality
6. Update on new applications

# Progress in 2019

Delivery of new applications and schemes:

- Hill Descent Monitoring (Level 2 assurance)
- Telematics Monitoring Application (Level 2 assurance)
- Road Information Management (Level 1 assurance)

New data ingestion and analytics capability

Intelligent Mass functionality

# National Transport Commission

- Heavy Vehicle National Law Update
- Government Access to Vehicle Generated Data
- Workshop on data user personas

 **Heavy Vehicle National Law Review**  
 **Telematics Industry Group**  
26 November 2019



# Issue paper phase complete



## Risk-based regulation

Consultation now open →



## Effective fatigue management

Consultation now open →



## Easy access to suitable routes

Consultation now open →



## Safe people and practices

Consultation now open →



## Vehicle standards and safety

Consultation now open →



## Assurance models

Consultation now open →



## Effective enforcement

Consultation now open →

- Seven issues papers released
- Consultation now closed
- We are now moving from identifying problems to solutions



# Summary of outcomes released

- Summary of outcomes being published on microsite

Visit [hvnreview.ntc.gov.au](https://hvnreview.ntc.gov.au) to read what we heard



**We received 200+ formal submissions on issues papers**

**We received 300+ informal submissions**



# Policy development

- Suggested Policy Options (SPOs)
  - 2 page policy proposal
  - Have your say on over 40 SPOs

## SPO-F05 – Two-tier compliance: prescriptive and performance-based

Author: National Transport Commission

21 October 2019

### Issue addressed:

The Heavy Vehicle National Law (HVNL) is highly prescriptive: almost two-thirds of the HVNL contain prescription. Feedback from stakeholders has indicated that the HVNL is inflexible and focuses on inputs rather than outcomes.

While there is support for a move towards a risk-based approach to regulation, there is recognition that a prescriptive approach may provide clarity and is more appropriate under some circumstances.

The NTC has recognised that a two-tier model which provides operators increased flexibility by way of choosing between prescriptive and performance-based regulation.

### Relationships and dependencies:

This suggested policy option is related to the three-level regulatory structure option but is not dependent on it. There could be a relationship with an assurance scheme (eg accreditation).

### Policy summary

A two-tier compliance model would provide operators the flexibility to select either prescriptive regulation or performance-based regulation depending on the nature, size and risk profile of their operations.

The first tier (the default option) would consist of simple, prescriptive rules. Clear and simple rules would make it easier to comply with the law and may be favoured by smaller operators. Essentially, this would allow for a black letter law approach to regulation.

The second tier would provide operators the flexibility to opt in to a voluntary, safety-based system that is performance-based. This would allow sophisticated risk-management systems and compliance tools (such as fatigue monitoring devices, safety management systems) to be recognised under the law. This would also provide flexibility to adapt to changes in risk, technology and industry needs.

The two-tier model would be established recognising the following principles:

- Regulatory authorities should be given the tools to be as flexible as possible to meet

operator and public expectations, while ensuring that non-negotiable safety considerations are still met.

- Performance-based standards may be legislated to provide clarity to operators on compliance by way of rules and/or guidance documents.

The two-tier framework may be set up to be modular so operators can opt in for specific pre-defined parts. That is, to comply with prescriptive rules in some areas and with performance-based requirements for others.

The prescriptive rules could be linked to the performance-based approach either by:

- Establishing the prescriptive rules as a deemed-to-comply option for the performance standards, or
- Setting each tier up to deliver a comparable safety outcome.

Either way, compliance with either tier should deliver substantially the same safety outcome.

The opt-in process could relate to an assurance scheme – that is, accredited operators would be able to access the performance standards option.

*This suggested policy option is not agreed policy and is not binding. It is published for review and discussion to help develop a policy suite that will be subject to regulatory impact assessment. It does not necessarily represent the views of the author or any consultees. See [www.hvnlreview.ntc.gov.au](http://www.hvnlreview.ntc.gov.au) for more suggested policy options.*

### Advantages

- The two-tier option recognises diversity of operators and that some want flexibility to manage risk, whereas others want certainty and simplicity.
- This model moves away from a “one size fits all” approach to regulation.
- Operators are best placed to identify and treat risks specific to their business.
- Performance-based regulation supports innovation and new technology.

### Challenges

- Establishing a two-tier model will result in a significantly different approach to regulation and enforcement. Enforcement will need to be supported to understand and apply the two-tiers.
- The change of compliance approach may require the regulator to produce new guidance.
- This new approach may require sufficient time for transition.

### How this policy option might affect –

#### Drivers

A two-tier model will provide clarity or flexibility, depending on the tier they operate under.

#### Operators

Establishing a two-tier model may provide those with simpler operations with certainty and confidence.

Performance-based regulation will enable more sophisticated operators to manage risks in ways that best suit their operations.

#### Others in the chain of responsibility

The establishment of a two-tier model is likely to have negligible impacts on others in the chain of responsibility.

#### Enforcement

The establishment of a two-tier model may require additional training and support be given to enforcement to understand and apply the two regimes.

May result in greater priority for enforcement and penalties that have an impact on safety.

#### Administrators

The establishment of two-tier model will change the focus of regulator activities and result in a risk-based approach to compliance.

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Visit [hvnlreview.ntc.gov.au](http://hvnlreview.ntc.gov.au) to have your say





# Where we're up to

- 4 policy development workshops

**Fatigue**  
Canberra, 19 November

**Fundamentals**  
Melbourne, 21 November



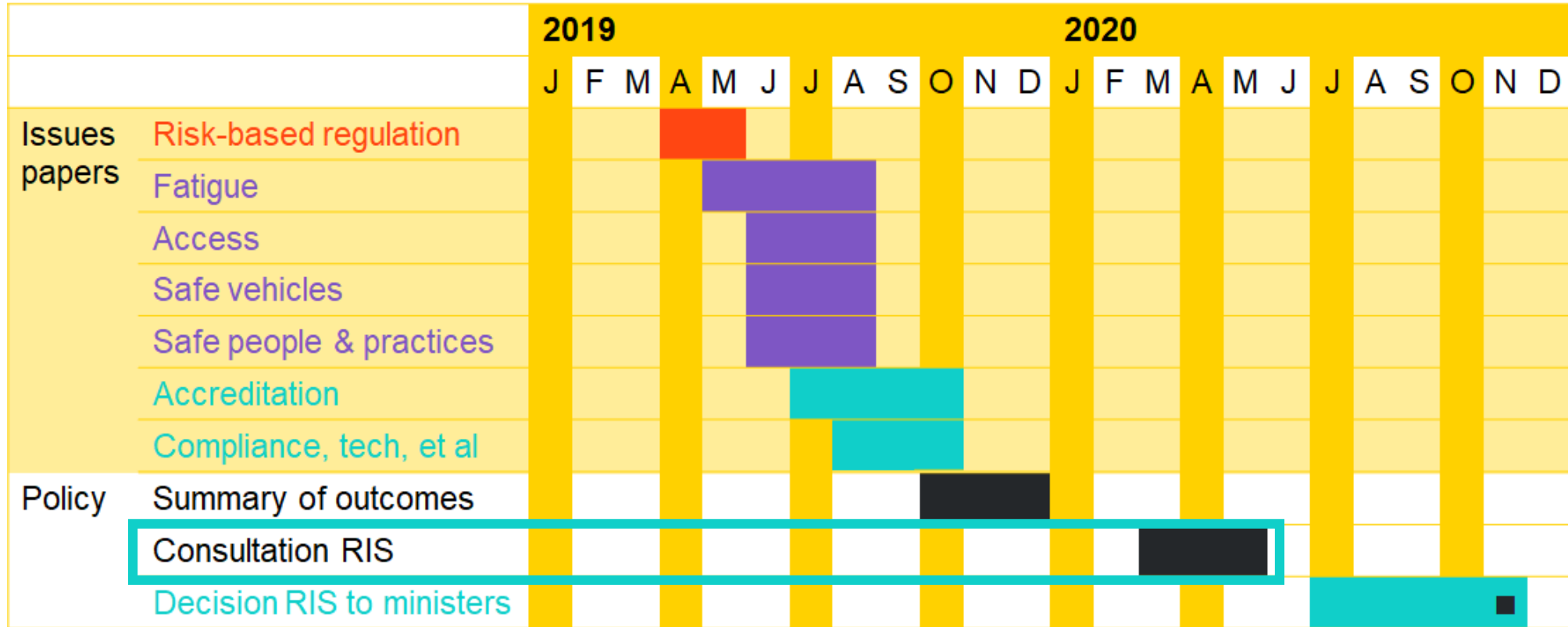
**Enforcement and Technology**  
Brisbane, 2 December

**Access and safe vehicles**  
Brisbane, 3 December

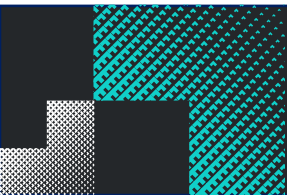
Visit [hvnireview.ntc.gov.au](https://hvnireview.ntc.gov.au) to read the workshop communiques



# What's next



\*Regulatory Impact Statement (RIS)



 **Government Access to Vehicle Generated Data**

# Mandate and purpose

At its August 2019 meeting, Australia's transport ministers agreed that:

*the NTC should work with jurisdictions, the Commonwealth and Austroads to analyse future government access and use of Cooperative-Intelligent Transport Systems and automated vehicle data, including for network efficiency, infrastructure investment and road safety.*

*National Transport Commission's purpose:*

Develop policy options for government access and use of vehicle generated data for the purposes of network operations, investment, maintenance, planning and road safety.

*What are connected vehicles:*

- Connected vehicles are already in the Australian vehicle market
- By 2022, 90 per cent of cars will be connected (IHS Markit, 2019)
- V2X systems that generate safety messages (CAM, DENM) may also soon be available



## Key policy themes

### What are the key themes that will drive the design of any policy options?

User value of connected vehicle services – will customers opt-out if government accesses data for the sensitive purposes?



User privacy



Cost of generating data, carriage, storage, analysing, generating new services – building the refinery



Vehicle security/safety



Commercial value of vehicle generated data



National uniformity and consistency



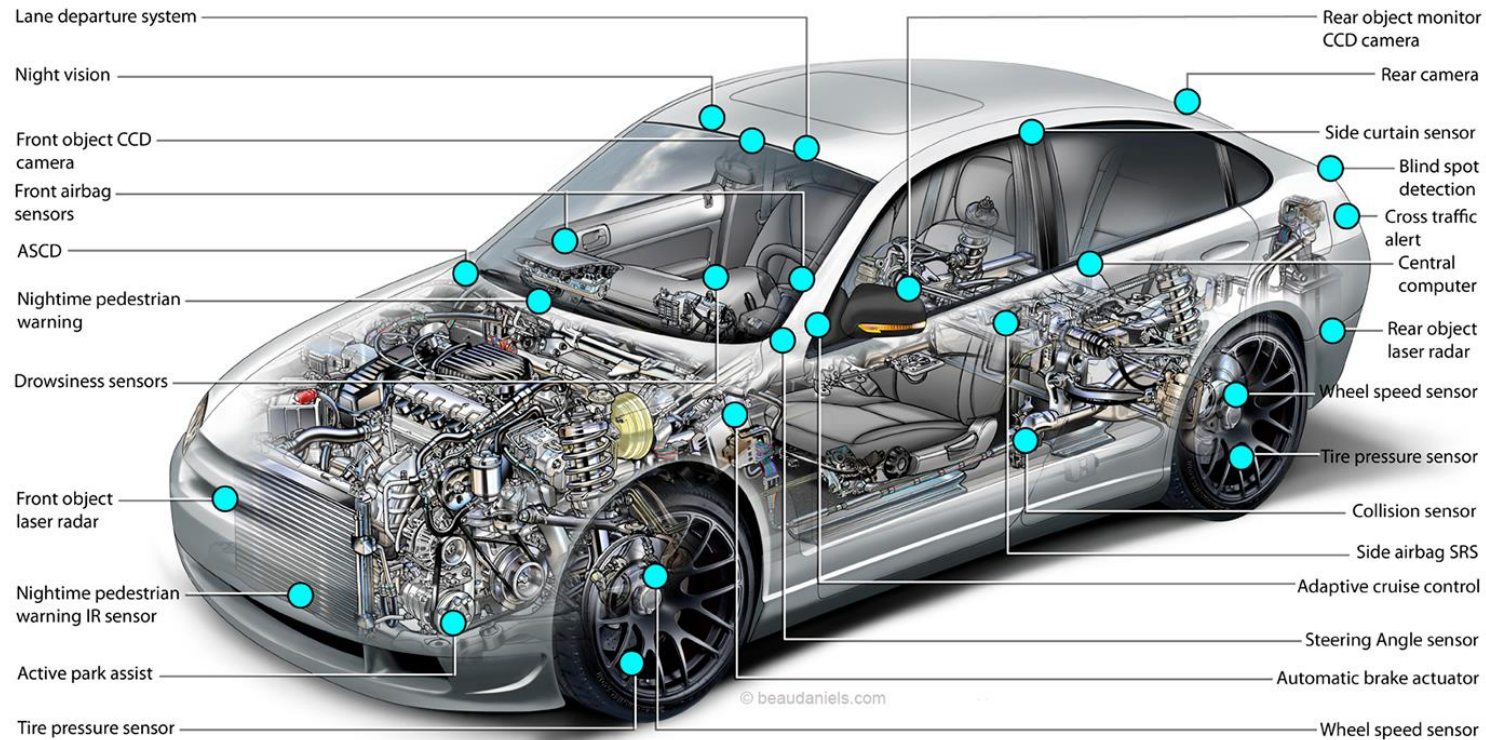
Which policy options will provide value to all participants and encourage data exchange? (win/win)





# Potentially 4 terabytes of data per day

## Vehicle Sensors

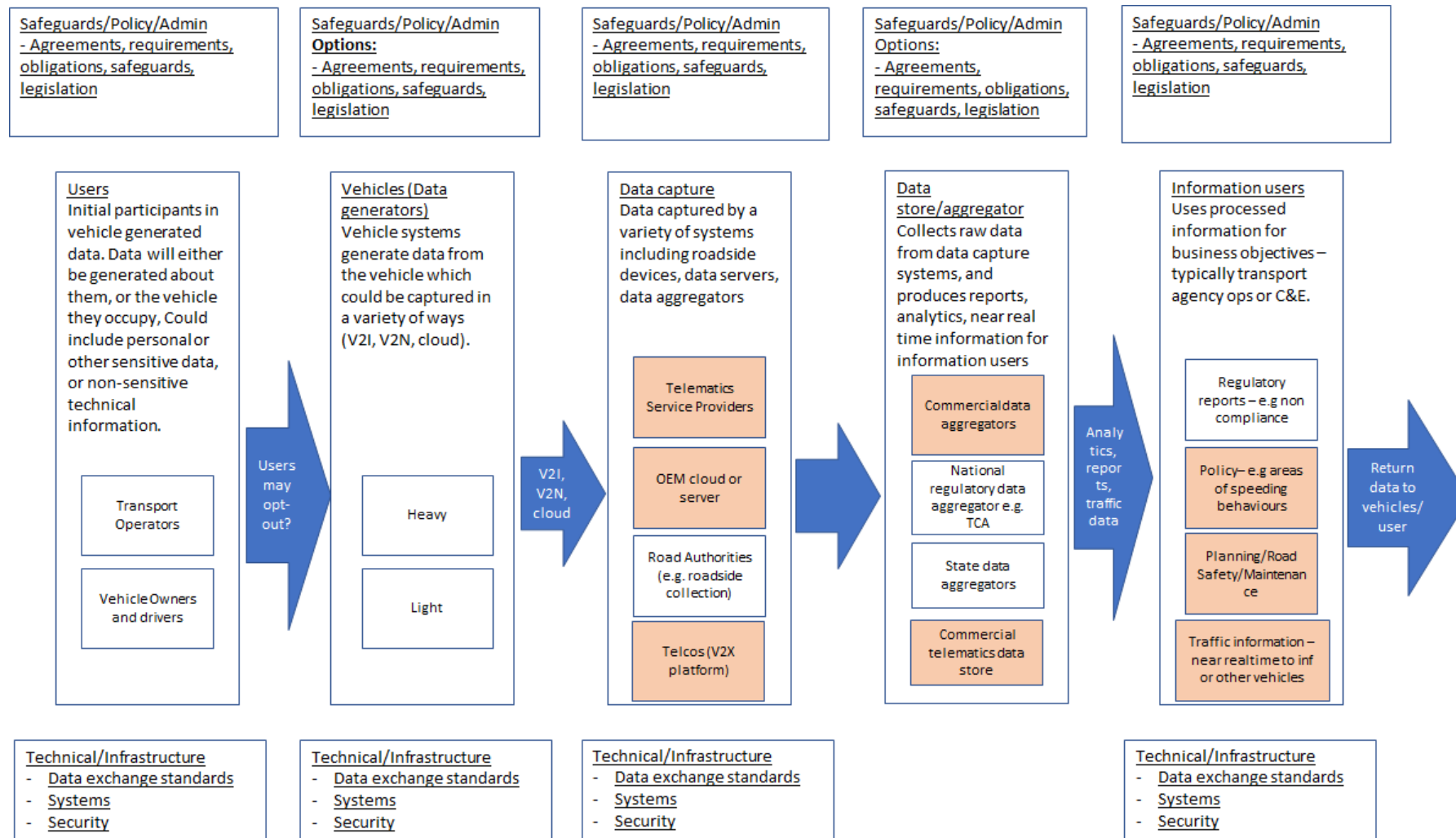


# Data practitioners workshop – Dec 2019

Purposes	What is the problem?	What data do we use today?	Gaps could be addressed by vehicle generated data? New services?	What data is actually shareable?	What are the priorities (core, desirable, optional)?	What are the gaps to exchange (\$/systems) – industry and gov
Investment/Planning						
Network efficiency						
Road Safety	<ul style="list-style-type: none"> <li>- FSI on rural roads</li> <li>- VRU increasing</li> <li>- Distraction increasing</li> <li>- Speed still problem</li> </ul>	<ul style="list-style-type: none"> <li>- Police reported crash</li> <li>- Speed counts</li> <li>- Volume counts</li> <li>- Safety eq in vehicles</li> <li>- Road attributes – e.g. ANRAM. pavement</li> </ul>	<ul style="list-style-type: none"> <li>- Pedestrian near misses</li> <li>- More accurate speed/volume</li> <li>- ESC events</li> <li>- Lane departure events</li> <li>- Speed sign change</li> </ul>	<ul style="list-style-type: none"> <li>- Cost e.g. live stream of ADAS camera vs record of LDW warning event</li> <li>- Aggregated/deidentified</li> <li>- Timeliness</li> <li>- Personal/Brand sensitive</li> </ul>	<ul style="list-style-type: none"> <li>- Prioritisation exercise</li> <li>- What are we ready to consume/use?</li> <li>- What could be produced now, in the future?</li> </ul>	<ul style="list-style-type: none"> <li>- Data ingestion – systems, capability, IT</li> <li>- Data production (e.g. data carriage)</li> <li>- What public benefits could be created?</li> </ul>
Compliance and enforcement						
Maintenance						
Road User Charging						



# Data governance workshop – Feb 2020



Source: S.Ballingall (Modified)

# Personas

- To better understand the needs and concerns of stakeholders we've created 18 personas.
- Personas are fictional characters used to represent a user type in a similar way such as their goals, and frustrations. They're often used in user-centred design to better understand the need of users.
- For this project we've designed personas around all the potential users of in-vehicle data.
- We've tested these personas with a range of stakeholders and we'd like to test them out today with you.

**TITAN AUTOMOTIVE**

**GOALS**

- Access to vehicle is secure and in alignment with existing architecture (Extended Vehicle as an example)
- Receive value in exchange for data e.g. transport agency data in return or revenue
- Regulations not overly burdensome – encourage technology to be fitted
- Regulation does not impede consumer adoption by causing consumers to opt-out, switch off/lampers default
- Government access to anonymized data does not reveal/damage brand
- Potentially create public benefits beyond individual brand by supplying some data access
- Ensure any data that is generated and provided is used for beneficial services to ensure customers see value

**ATTRIBUTES**

- 20% market share
- Market leader for innovative features
- Large development budget
- Strong understanding of current regulatory environment

**MOTIVATIONS**

- Be a market leader now
- Create new services and generate revenue from data to offset system/data collection costs and make profit

**FRUSTRATIONS**

- Cost to provide connected vehicle services is very high
- Some use-cases may be cost prohibitive if too much data is required
- Challenging to plan future business models when model for government access is not clear – e.g. 3rd party neutral server or access to data within OEM server – different cost/hybrid
- Same data that is used for beneficial use is also not used for purposes that cause users to opt-out e.g. speed cameras on wheels
- Current regulatory environment is uncertain with regard to privacy
- Do not want to service a data request from transport agencies for the same or similar data
- Reduce interface costs with transport agencies by having consistent means of transfer
- Protect commercial value of data e.g. open data for road safety is not used by other brands/data aggregators/3rd parties
- Ensure transport agencies only use for intended purpose e.g. one data type is not used for another service
- Sell products in a global market and Australia is <1 percent of sales

**PRESTIGE AUTOMOTIVE**

**GOALS**

- Similar to Titan Automotive, with key differences
- Regulation does not favour economies of scale, i.e. no more burdensome for small manufacturers
- Government access to anonymized data does not reveal/damage brand
- Potentially create public benefits beyond individual brand by supplying some data access
- Ensure any data that is generated and provided is used for beneficial services to ensure customers see value
- Minimize amount of data exchanged to reduce costs
- Only provide de-identified data

**ATTRIBUTES**

- 0-5% market share
- Minimal Australian staff
- Limited capability to interface with all Australian State and Territory legislation and systems

**MOTIVATIONS**

- Bring products from parent company to Australia with minimal additional costs
- Provide services customers want without additional burden/ not be left behind in the market

**FRUSTRATIONS**

- Cost to provide connected vehicle services may be a barrier to development. Some use cases may be cost prohibitive if too much data is required
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- Australian requirements/obligations in line with international standards
- Do not want CAM to be aggregated and used for enforcement

**RICK**

**GOALS**

- Similar to Emma, however, with some exceptions:
- No interference from Government
- Potentially understanding the technology

**ATTRIBUTES**

- Late adopter Hesitant to use any new technology, feels using is too risky
- Will likely turn off if any risk of breach of privacy
- Does not factor benefits of such technology into new car purchase

**MOTIVATIONS**

- Access to as much data as possible for new business models and revenue streams

**FRUSTRATIONS**

- Fear of 'spied cameras on wheels'
- Not knowing what happens to their data
- Regulation may slow down roads with speed cameras on wheels
- Australian requirements/obligations in line with international standards
- Do not want CAM to be aggregated and used for enforcement

**LARGE JURISDICTION - DATA MANAGER**

**GOALS**

- Would prefer analysis rather than raw data
- Data is processed for the lowest cost
- The right data is accessed and used
- Data is well defined and structured
- Least amount of data is consumed, and greatest amount of information is produced e.g. spend less on building data refinery

**ATTRIBUTES**

- Some capabilities and infrastructure to consume data, but still challenged by potential volume
- Small budget
- May not have regulatory powers

**MOTIVATIONS**

- Maximize the benefits of vehicle generated data for policy and programs

**FRUSTRATIONS**

- Potential volume of data – e.g. 'driving from a fire hose'
- Potential to completely 'blow out' from data ecosystem
- Unstructured or amount of data is produced which adds costs to store/analyze
- No sure way to access data – may be on the horizon
- Not aware of what data may be available in future
- No clarity on how data would be structured or provided

**TELEMATICS SERVICE PROVIDERS**

**GOALS**

- Access to vehicle is secure and in alignment with existing architecture (Extended Vehicle as an example)
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**ATTRIBUTES**

- Provides telematics services for clients for both commercial and compliance purposes

**MOTIVATIONS**

- Expand services to more vehicles
- Minimal regulatory barriers to market entry

**FRUSTRATIONS**

- Cost to provide connected vehicle services is very high
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- Ensure transport agencies only use for intended purpose e.g. one data type is not used for another service
- Sell products in a global market and Australia is <1 percent of sales
- Do not want CAM to be aggregated and used for enforcement

**EMMA**

**GOALS**

- Share data for some purposes where it creates personal benefits e.g. travel time reduction or enhanced road safety
- Adopt new technology as it is released
- Achieve value from connected services
- Opt-out of collection services if she wants to
- Privacy is protected
- To have some control and receive access to personal data in return e.g. can use travel trip information
- May use a public benefits in sharing data

**ATTRIBUTES**

- Early adopter
- Has no issue with handing over data for some purposes, potentially including personal data if it adds value
- Sees and utilizes the benefits data sharing

**MOTIVATIONS**

- Access to as much data as possible for new business models and revenue streams

**FRUSTRATIONS**

- Regulations resulting in not all services available in Australia
- Loss of control over data
- Not knowing what happens to their data
- Unlikely to share data where purposes do not create personal benefits – e.g. potential for surveillance and enforcement applications to be built from vehicle data e.g. 'speed camera on wheels'
- Regulation may increase costs which are passed on to consumer



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## LARGE JURISDICTION – DATA MANAGER

### ATTRIBUTES

-  Some capabilities and infrastructure to consume data, but still challenged by potential volume
-  Small budget
-  May not have regulatory powers

### MOTIVATIONS



- Harness the benefits of vehicle generated data for policy and programs

### GOALS

- Would prefer analysis rather than raw data
- Data is accessed for the lowest cost
- The right data is accessed and used
- Data is well defined and structured
- Least amount of data is consumed, and greatest amount of information is produced e.g. spend less on building data refinery

### FRUSTRATIONS

- Potential volume of data – e.g. ‘drinking from a fire hose’
- Potential to be completely locked out from data ecosystem
- Unstructured or unused data is produced which adds costs to store/analyse
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- Share data for some purposes where it creates personal benefits e.g. travel time reduction or enhanced road safety
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### MOTIVATIONS



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### GOALS

- Similar to Emma, however, with some exceptions:
- No interference from Government
  - Potentially understanding the technology

### FRUSTRATIONS

- Fear of 'speed camera on wheels'.
- Loss of control over who can access their data
- Not knowing what happens to their data
- Regulation may increase costs which are passed on to consumer, paying higher cost for no extra benefits





## Contact

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# Telematics Industry Group (TIG)

November 2019



# Access instruments - Notices

128

Notices



Tasmania SPV Notice  
NSW Port Botany  
Container Notice  
NSW SPECTs

## Corporate direction

**Reduce the need for permits**

**Transparent and  
Seamless cross-border operations**

# Implementation

**Ensuring notices are current**

**Identify opportunities for rationalisation**

**Find ways to provide access**

# Enablers

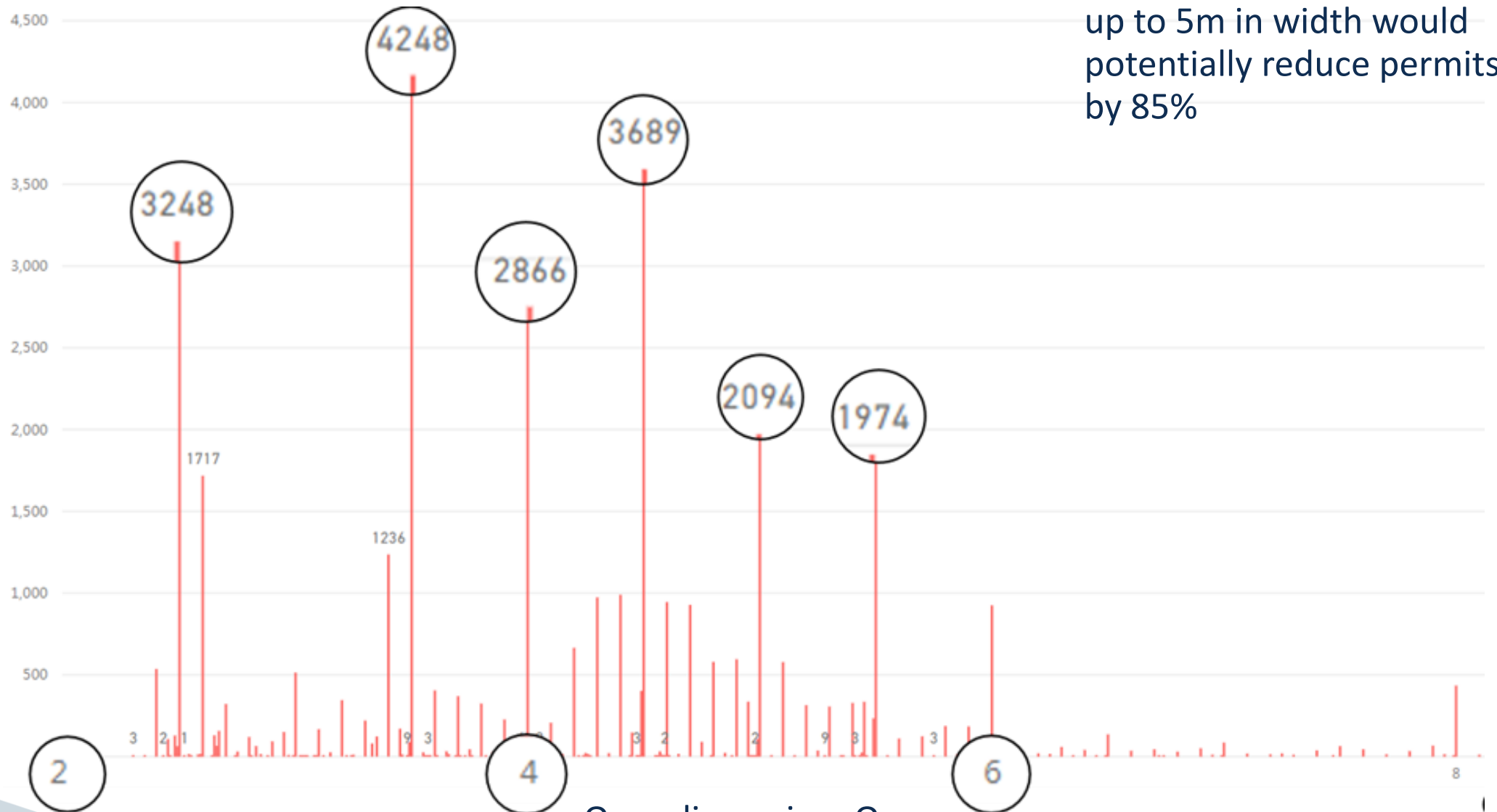
**Role of road manager - education**

**Role of information (data)**

**Role of technology**

# Example of data mining

A notice covering vehicles up to 5m in width would potentially reduce permits by 85%



Over-dimension, Over mass vehicle width

**Or**  
**identifying**  
**road**  
**damage**





# Dangerous Goods Movement Study

**Transport for NSW**

New RIM and TMA schemes being deployed in NSW

TfNSW using RIM to collect data on the movement of dangerous goods (DG) vehicles.

# Background

Industry calls for improved access

Dangerous Goods Industry Consultation Workshop

- Identify and protect current access
- Adequate and appropriate rest areas
- 'First and last mile' access
- Local Government planning

Dangerous Goods Movement Study

TCA DG Telematics Trial

Select and engage consultant

# DG Movements Study

Identify and protect DG movements road network

Analyse / Prioritise network problems & issues

Optimisation analysis of network

- Surface v's Tunnels
- Safety, efficiency & productivity

Austrroads DG in Tunnels Risk Assessment  
Methodology (ART6122)

Evidence based policy analysis / reform

- Rigorous analysis of safety and efficiency gains

# Approach / Key Participants



## TCA DG Telematics Trial

- Advantages of telematics data
- Benefits to industry and road managers

## Engage industry

- NBTA, RF NSW and GEA
- Individual RTOs

Focus on Telematics – Class 2.1 (Flammable Gas), 3 (Flammable Liquid) and Class 8 (Corrosives)

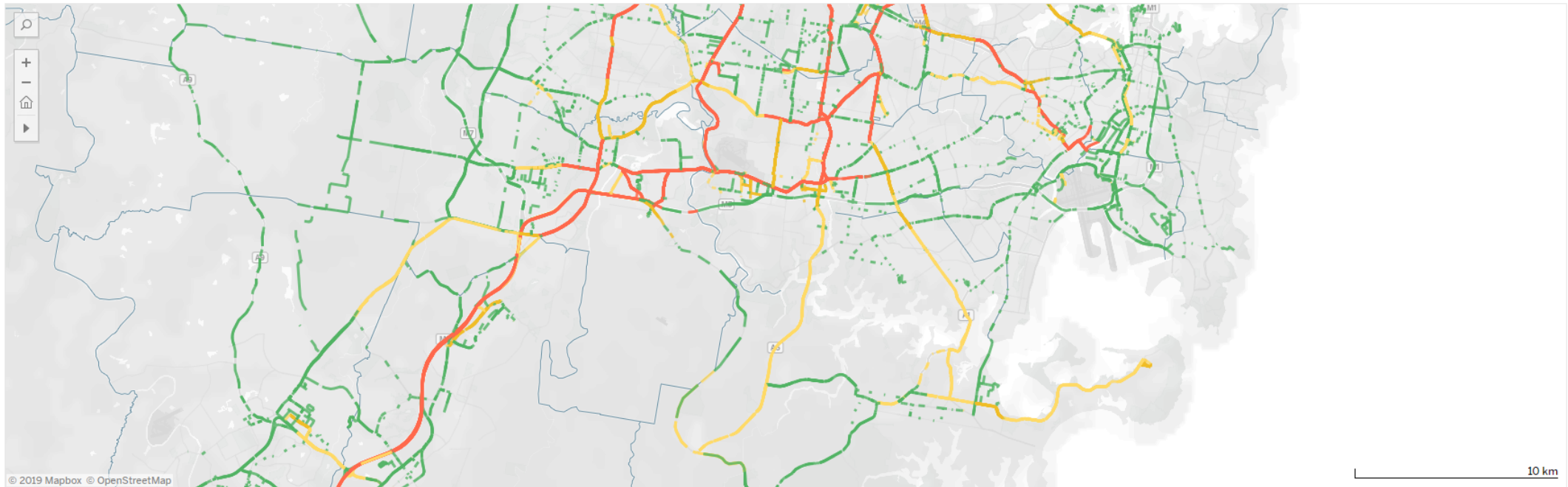
Variable success with transport operators and DSPs

- Building relationship and engagement

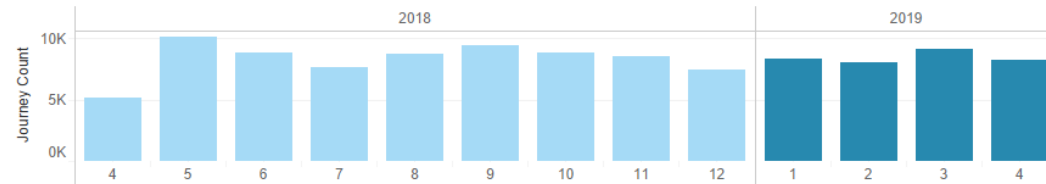
# Actual analytics view



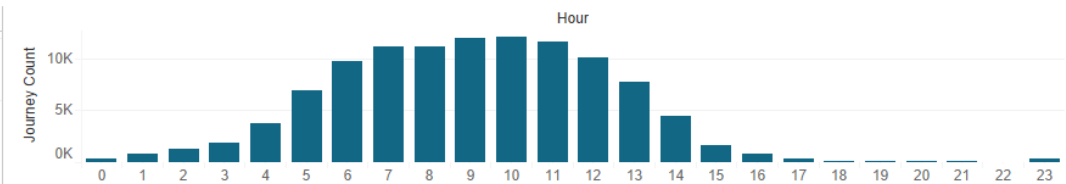
## Dangerous goods vehicles: journey heatmap



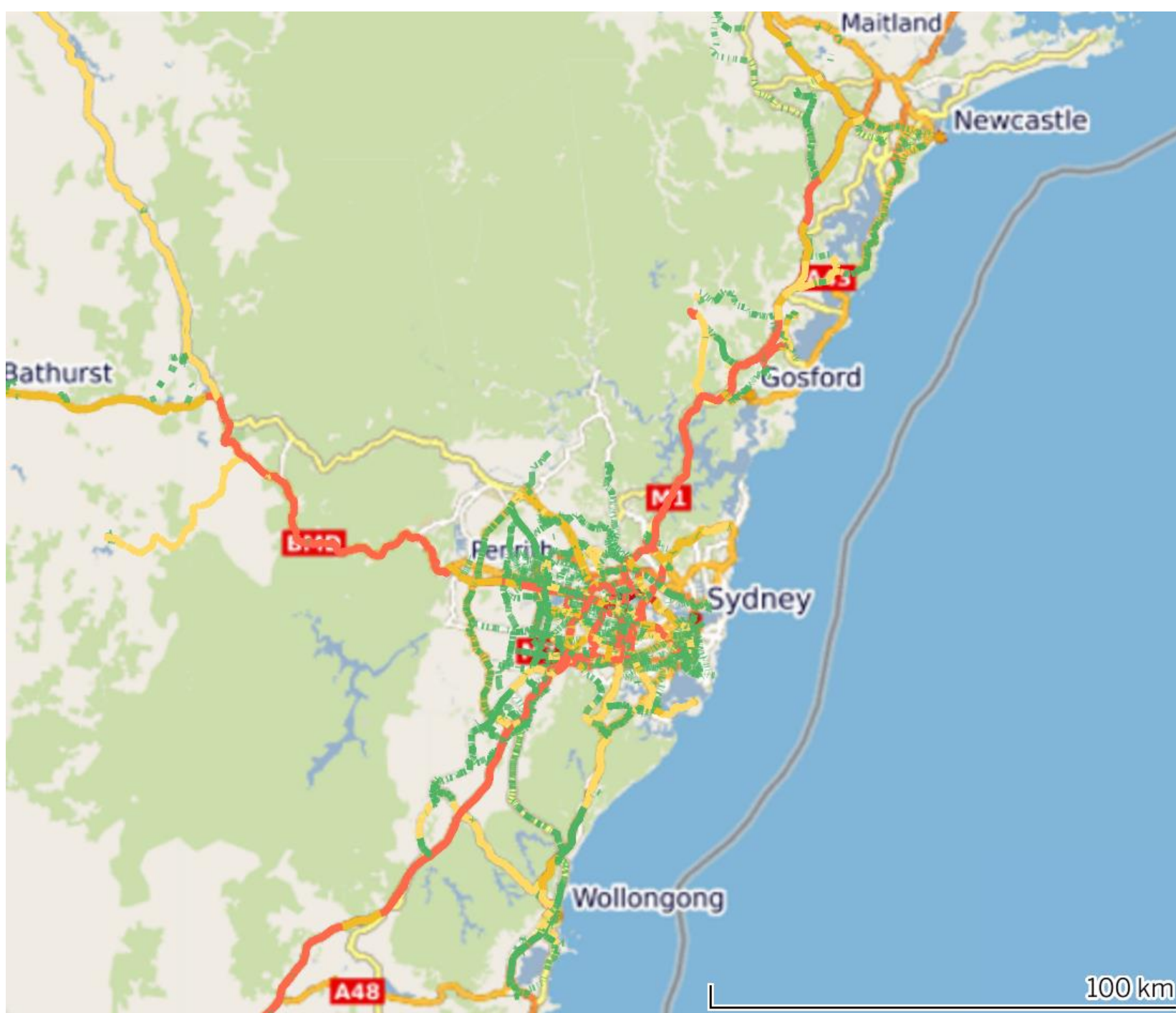
**Journeys per month**  
(use only when a single road segment is selected)

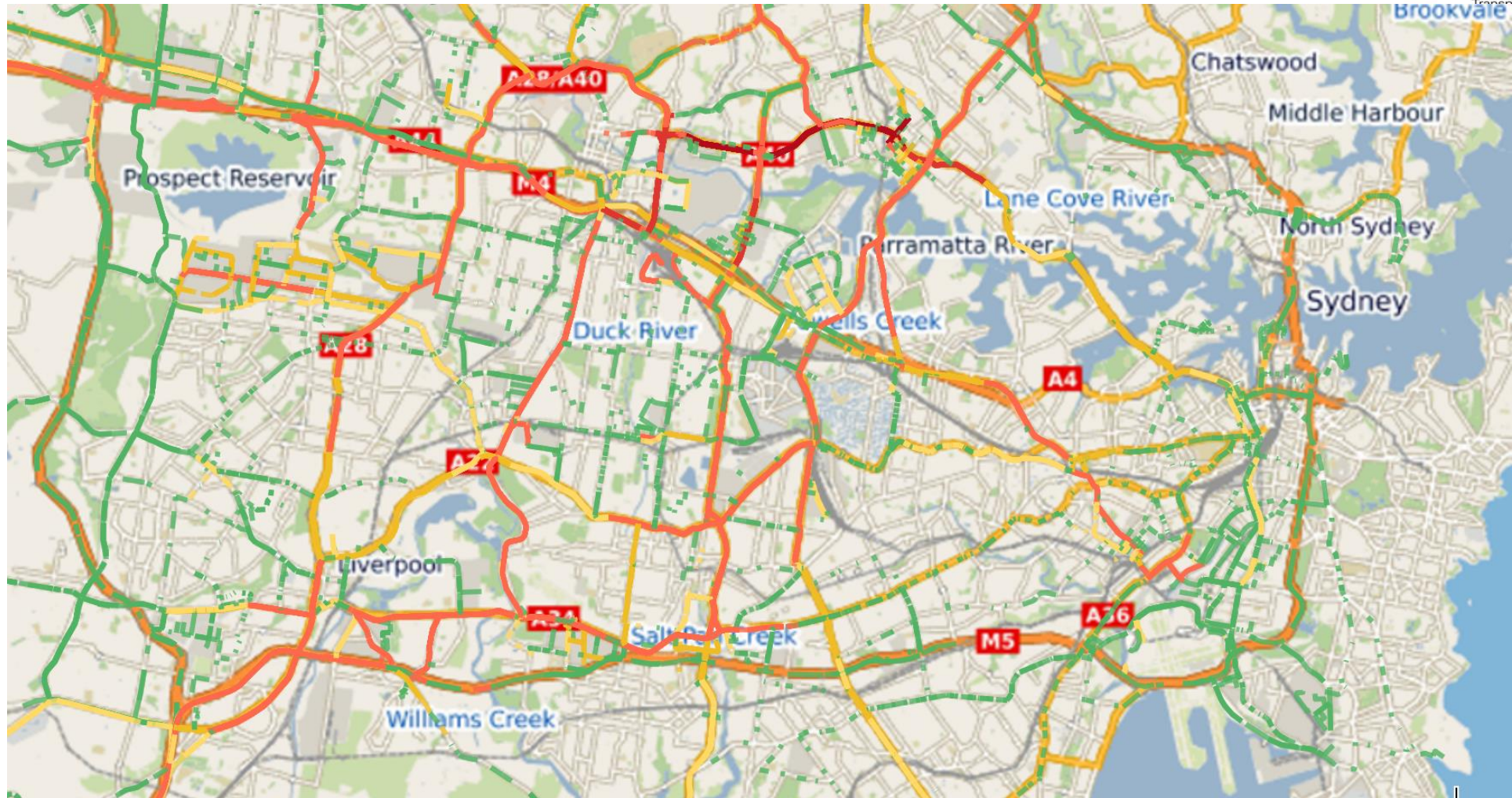


**Journeys by hour of day**  
(use only when a single road segment is selected)



This dashboard was prepared by Transport Certification Australia using data supplied by a third party. Data shown is indicative and does not identify individual vehicles. August 2019.







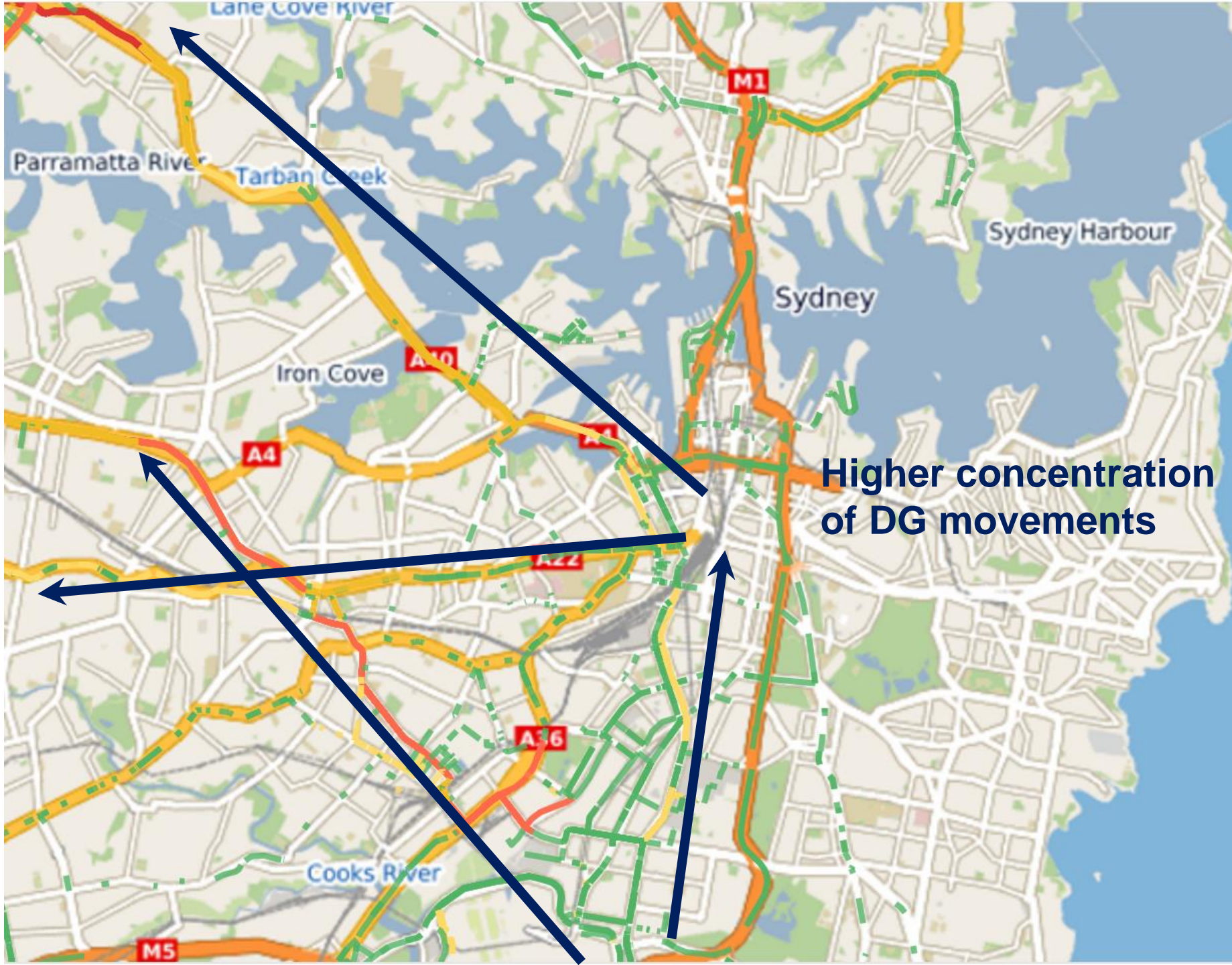


# Port Botany precinct



**Stoney Creek Road  
(diversion around M5 Tunnel)**

**Captain Cook Drive, Kurnell**



**Higher concentration  
of DG movements**

# Dangerous Goods movement analytics



Currently providing analysis of:

Key DG routes for the Sydney basin

Movements by:

- Month, date time
- Class
- Speed

Congestion hotspots

Rest locations

# Intelligent Mass

Type-approvals for Category B On-Board Mass (OBM) systems are underway

Delivery of Intelligent Mass functionality in Victoria and Tasmania.

- Victorian HPFV vehicles will require approved OBM systems in 2020 (from 1 January, with phasing in)
- Tasmania to phase in OBM as a requirement from early 2020

Proposed migration of Interim OBM scheme to Intelligent Mass.

# New applications and schemes

Application	Road Manager / Regulator	Scheme	Timing
<b>Road Infrastructure Management (RIM)</b>	Transport for NSW	Safety, Productivity, Construction and Environment Transport Scheme (SPECTS)	<b>Commenced</b> 08 July 2019
		Port Botany Container Management Efficiency Scheme	December 2019
		Dangerous Goods Monitoring Scheme	<b>Commenced</b> 01 July 2019
<b>Telematics Monitoring Application (TMA)</b>	Department of State Growth (Tasmania)	Performance Based Standards (PBS) Vehicle Monitoring Scheme	February 2020
	Transport for NSW	Special Purpose Vehicle Monitoring Scheme	April 2020
		Potential deployments under consideration: <ul style="list-style-type: none"> <li>• 30m+ PBS vehicles</li> <li>• Higher risk OSOM</li> <li>• HML loadings</li> <li>• Road Occupancy Licensing (ROLs)</li> </ul>	Progressively from April 2020
VicRoads	High Productivity Freight Vehicles (HPFVs) and OBM	2020 for fitment of Category B/C type-approved OBM Systems to HPFVs	
<b>Hill Descent Monitoring (HDM)</b>	Main Roads Western Australia	Category 7 (A) AB-Triple combinations	<b>Commenced</b> September 2019

# Close and questions

