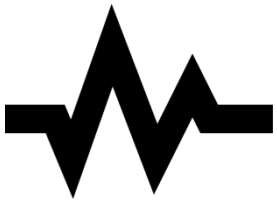
National Roadworthiness Baseline Survey

Industry Information Session

Prepared by:
National Heavy Vehicle Regulator (NHVR)
www.nhvr.gov.au

Agenda

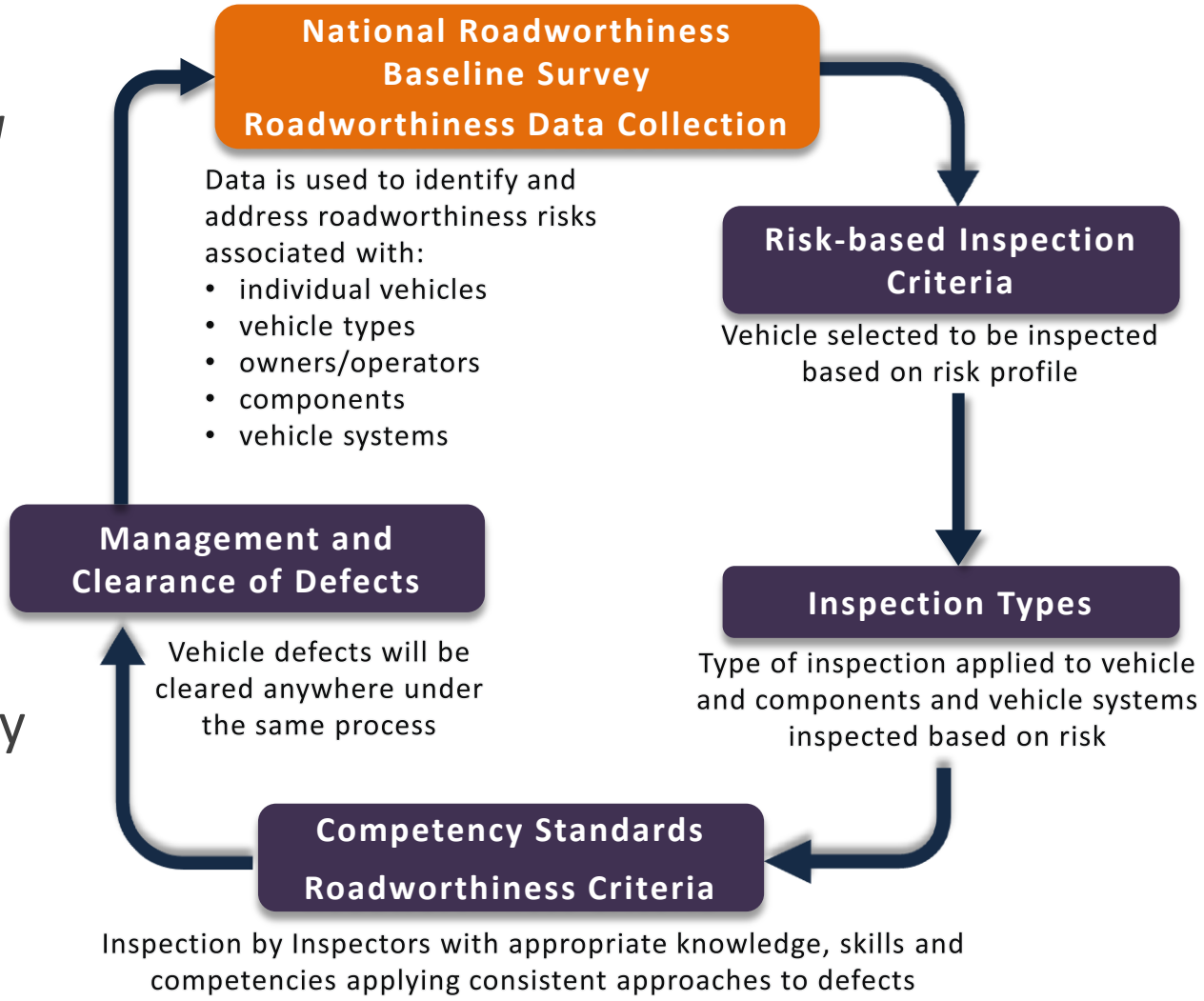
- The Roadworthiness Program
- NRBS Introduction
- NRBS Detail



Introduction

A key part of the NHVR Roadworthiness Program

This project is a key part of the *National Heavy Vehicle Roadworthiness Program* aimed at reducing the safety, economic, and environmental impacts caused by unroadworthy heavy vehicles.



For more information, see www.nhvr.gov.au/roadworthiness

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What is the NRBS and why are we doing it?

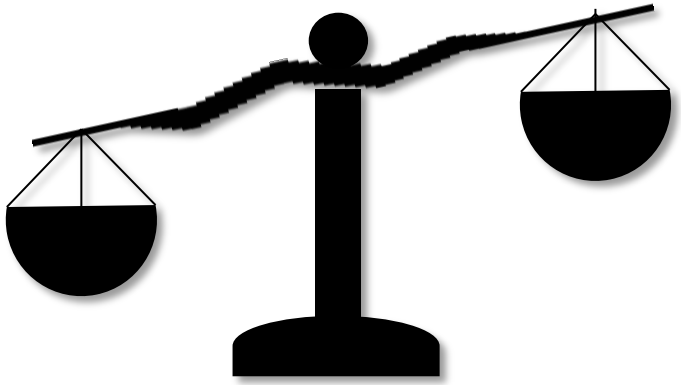
Australia's Heavy Vehicle Health Check

- We need the *National Roadworthiness Baseline Survey (NRBS)* to better understand the condition of the national heavy vehicle fleet.
- This health check is the first step toward a nationally consistent inspection approach.
- It will be the first time that the same inspection procedure will be used to inspect heavy vehicles.
- The data collected is aligned with the National Heavy Vehicle Inspection Manual (NHVIM).

- ☑ Data on heavy vehicles, operators and the national fleet has been collected by different jurisdictions, but there has never been a uniform national approach.
- ☑ Without a single database based on identical criteria and standards we can't determine how well the national heavy vehicle fleet complies with the vehicle standards.

Creating a baseline

- NRBS will be the broadest, most well-resourced and comprehensive assessment of the condition of the Australian heavy vehicle fleet ever undertaken.
- It will enable us to compare existing state inspection regimes.
- It will provide a benchmark against which future reforms can be measured and to ensure that we are achieving our goals.



☑ The NRBS will deliver a clear picture of the current condition of Australia's heavy vehicle fleet to report on maintenance performance trends, identify roadworthiness risk factors and aid in the creation of a nationally consistent inspection approach.

When and where?

- NRBS inspections will be performed at roadside, depots and transport inspection stations **across every state and territory in Australia** from **August** to **September 2016**.
- Locations have been determined by each jurisdiction in collaboration with the Survey Partner.
- The survey maybe conducted again in a few years time, it will not be done annually.

☑ Northern Territory and Western Australia's participation provides us with a national snapshot of the condition of the heavy vehicle fleet.

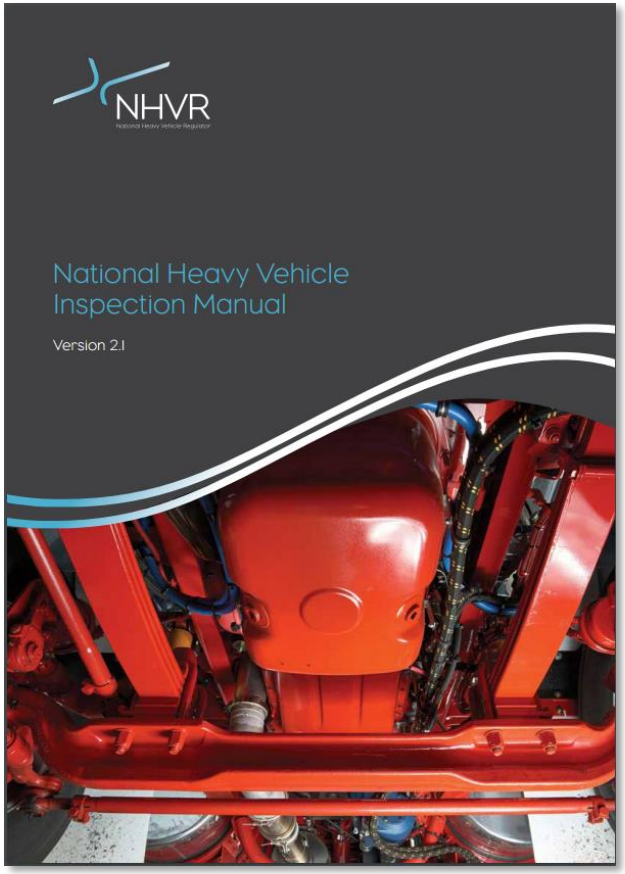
Who is involved?

- NRBS is overseen by the NHVR and AMR (survey partner) is coordinating the survey.
- The operational requirements are managed by each jurisdiction.
- NRBS inspections will be performed by Inspectors across the country.
- Inspectors may travel to other jurisdictions to assist you achieve the required number of intercepts (Visiting authorised officers – VAOs).

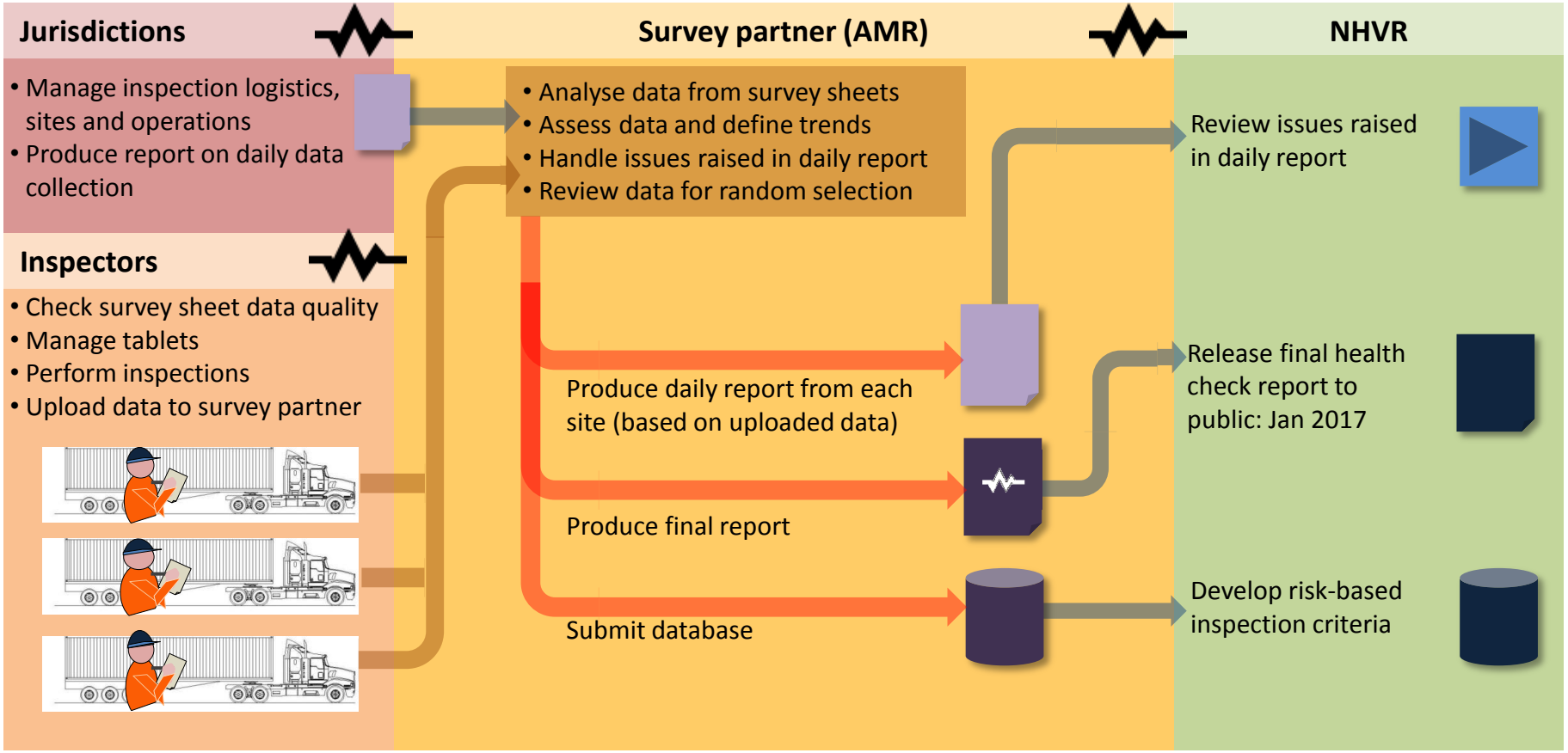
Getting the methodology right - NHVIM

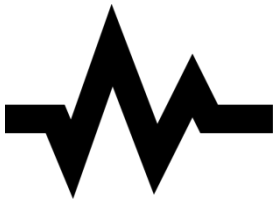
The best way to get quality data is to ensure processes used to obtain it are consistent. Consistent data is critical for setting a baseline.

- The National Heavy Vehicle Inspection Manual v2.1 is the basis of the health check inspection.
- All inspections conducted in line with NRBS Inspection Procedure and results categorised in line with NHVIM standards.
- To find the latest copy of the NHVIM online:
  - http://www.nhvr.gov.au/nhvim



Survey management process





Overview of the Survey

Getting the methodology right - Samples

- NHVR engaged a statistician to recommend a sample size and sampling methodology to ensure the data collected is valid and reliable.
- The survey sample details vehicle types, number of vehicles and preferred regions where heavy vehicle inspections will be conducted.
- These regions consist of metropolitan and non-metropolitan areas within each of the jurisdictions except for the Tasmania, NT and ACT.
- NRBS will examine approximately 1.7% of the Australian Heavy Vehicle fleet.

Nation-wide quotas for vehicle types:

Vehicle Type	Quota
Rigid	3,615
Semi-trailer	1,365
B-double	850
Road train	355
Bus/Coach	1,110
Plant	1,075
Total	8,270

- Road train inspections will mostly take place in non-metro regions.
- Other vehicle types will be spread between metropolitan and non-metropolitan areas.

Vehicle type sample quotas per region

State	Region	Rigid Truck	Semi-trailer	B-Double	Road Train	Bus/Coach	Plant	Total Region
NSW	Metropolitan	380	130	60	0	135	70	770
	Non-metropolitan	360	150	85	60	115	90	865
	Total NSW	**740**	**280**	**145**	**60**	**250**	**160**	**1,635**
VIC	Metropolitan	390	150	130	0	105	95	870
	Non-metropolitan	340	170	140	10	95	105	860
	Total VIC	**730**	**320**	**270**	**10**	**200**	**200**	**1,730**
QLD	Metropolitan	330	130	80	0	135	70	745
	Non-metropolitan	370	135	105	60	100	70	840
	Total QLD	**700**	**265**	**185**	**60**	**235**	**140**	**1,585**
SA	Metropolitan	205	70	50	15	85	85	510
	Non-metropolitan	185	100	80	40	50	85	540
	Total SA	**390**	**170**	**130**	**40**	**135**	**200**	**1,050**
WA	Metropolitan	315	115	35	0	120	150	735
	Non-metropolitan	290	105	35	145	70	160	805
	Total WA	**605**	**220**	**70**	**145**	**190**	**310**	**1,540**
NT	Non-metropolitan	115	30	10	40	30	30	255
	Total NT	**115**	**30**	**10**	**40**	**30**	**30**	**255**
ACT	Metropolitan	75	20	10	0	40	25	170
	Total ACT	**75**	**20**	**10**	**0**	**40**	**25**	**170**
TAS	Non-metropolitan	160	60	30	0	30	10	290
	Total TAS	**160**	**60**	**30**	**0**	**30**	**10**	**290**
	TOTAL	**3,515**	**1,365**	**850**	**355**	**1,110**	**1,075**	**8,270**

Estimates of inspection times

Vehicle Type	Average time for complying vehicle *	Average time for defective vehicle *	Sample required	Estimated time for survey
Rigid	26 mins	42 mins	3515	1955 hours
Semi-trailer	29 mins	47 mins	1365	836 hours
B-double	40 mins	56 mins	850	651 hours
Road train	37 mins	73 mins	355	318 hours
Bus/Coach	23 mins	35 mins	1110	477 hours
Plant	24 mins	41 mins	1075	533 hours
			Total Hours	**4771 hours**

* these averages have been calculated across the 2012 and 2015 NSW compliance surveys

- Vehicles are to be inspected by combination.
- Survey will continue within a jurisdiction until all quotas for vehicle types by location are met.

- Based on NSW data, the 2016 NRBS inspections should take a minimum of 4940 hours nationwide.
- This is based on actual inspection time and does not include travel to and from the site, setup and pack down, meal breaks and other periods of downtime.

Types of survey inspections

There will be:

- **roadside intercept surveys** for rigid trucks and trailers, as well as articulated vehicles and trailers.
- **present-for-inspection surveys** for buses, coaches and plant heavy vehicles.
- **supplementary present-for-inspection surveys** for vehicles in-scope of the roadside intercept survey.

Visiting Authorised Officer (VAO)

VAOs will be available to jurisdictions to perform inspections and to help ensure timely completion of the survey.

Roadside intercept surveys

Inspectors:

- located at numerous inspection sites across the country
- intercept vehicles during their travels
- focus on all vehicle types (except bus and coach)
- conduct inspections and collect data at the time of intercept.

Jurisdiction arranges sites, equipment and personnel.

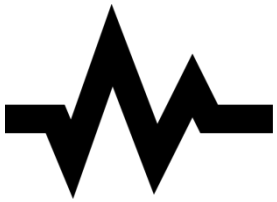
Survey partner liaises with jurisdictions to ensure administrative requirements are in place and manages and monitors data collection in conjunction with inspection service provider.

Present-for-inspection surveys

- Focus on vehicle types such as buses, coaches and plant/SPV that are more difficult to stop on road by random intercept.
- Jurisdictions manage the way these surveys are conducted.
- Inspections of buses, coaches and plant/SPV vehicles pre-booked at depot or at an agreed inspection station (e.g. through annual inspections).
- Vehicles need to be selected by sampling from a comprehensive list of all in-scope vehicles.
- Vehicles may be intercepted roadside if the intercept is in accordance with your normal practice, and if it is safe to do so.

Supplementary present-for-inspection surveys

- Undertake these inspections to mitigate against risks of in-scope vehicles other than bus or coach and SPV/plant not being intercepted.
- Jurisdictions manage the way these surveys are conducted.
- Vehicles need to be selected by sampling from a comprehensive list of all in-scope vehicles.
- Quotas for the complementary survey are 7-10% of the sample size of each category (except bus and coach or plant/SPV).
- Jurisdictions book with operators in order to facilitate these inspections (e.g. through annual inspections, where the additional NRBS components will be added to the inspection).

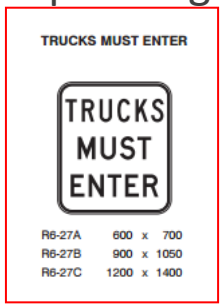


Detail of a NRBS inspection

Selecting vehicles at intercept sites

At intercept sites, Inspectors select and sample heavy vehicles as follows:

1. Intercept the first heavy vehicle that comes along using site specific standard operating procedures (e.g. electronic signage, hand signals).
2. Perform the inspection in accordance with the NHVIM.
3. Complete the tablet form and save electronic data before the vehicle leaves.
4. Release the vehicle.
5. Perform procedures to intercept the next heavy vehicle.



Random selection by continuous sampling

- ☑ If heavy vehicle cannot leave the site for any reason (e.g. it has broken down) site supervisor determines if it is safe to continue operations.
- ☑ At intercept sites with screening lanes select vehicles manually for NRBS.
- ☑ If more than one vehicle enters intercept site, inspect the first vehicle that enters, and direct other vehicles to continue on their way.

NRBS will not use existing risk-based screening to select vehicles

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Selecting vehicles by mobile intercepts

During mobile intercepts, Inspectors select and sample heavy vehicles as follows:

1. Establish and prepare the inspection site.
2. In accordance with applicable legislation, the Inspector intercepts the first heavy vehicle that can be stopped safely while observing road rules, intercept policies and procedures and WH&S processes.
3. Redirect the vehicle to the inspection site.
4. Perform the inspection in accordance with the NRBS Inspection Procedure.
5. Complete the tablet form and save electronic data before the vehicle leaves.
6. Repeat steps 2 to 5.

Random selection by continuous sampling

Inspection procedure

We will gather data from the NRBS that will be used to help develop a risk-based approach to heavy vehicle inspection.

Data is obtained from:

- roller brake test (RBT)
- shaker plate test for every axle of the vehicle or combination (where applicable)
- visual inspection, supported by use of hand tools if escalation is required.

Carry out each mechanical inspection using the proposed Inspection Procedure and record defective items in accordance with the NHVIM.

We're doing it right, not rushed. It's a thorough inspection to make sure we get an accurate picture.

Roller brake test

To capture brake performance results:

- Conduct a roller brake test on every axle on every vehicle except where it is unsafe to do so.

  Unsafe is…

  A vehicle is over mass or width capacity of the roller brake tester or where an initial assessment of the mechanical condition suggests it would be unsafe to proceed.

- Use the roller brake tester as a screening tool to examine signs of wear in suspension bushes and joints that may lead to an escalation and to assess steering play.

Shaker plate test

Use shaker plates on all axles examined.

- Pay particular attention to the steer axle and to kingpins, steering and suspension components.
- When visually checking the steering system ask the driver of the vehicle to help, for example, by turning the wheel back and forth to assess steering play.

Visual inspection

After RBT and shaker plate test, conduct intensive visual inspection to assess:

- tyre tread depth and condition of tyre.
- functionality and condition of windscreen, wipers and mirrors.
- condition of couplings, either by tug-testing where they are in use, or by direct inspection where not in use.
- condition of safety chains or attachment points.
- seat and seatbelt mount and seatbelt condition.
- function of lights, reflectors and markings
- condition of frame, body and body mounting
- existence of air or fluid leaks.

- ☑ Not every inspection will need examination of the complete underbody beyond what is possible by a careful visual inspection (e.g. a pit or lift is not considered required equipment).
- ☑ Not every inspection needs opening of bonnets or tilting of cabs unless there is a concern that justifies more detailed inspection

Escalation

If you have concerns over the condition of an item and you think it requires further investigation, then undertake further testing as WH&S controls permit; e.g:

- chock the vehicle to allow a more detailed underbody inspection to take place
- open bonnets
- tilt cabs.

Use other resources such as hand tools, torches or measuring devices if necessary.

Defect categories

WA and NT do not have the same defect categorisation as HVNL based jurisdictions.

VAOs need to be aware of the difference between HVNL defect categorisation and WA and NT procedures.

WA and NT have three defect categories:

- formal warning
- defect
- lift and tow (equivalent to major, grounded).

For data recording in NRBS, you need to record defect categorisation on the tablet as if you were in a HVNL participating jurisdiction.

☑ Enter data using four defect categories used in HVNL.

☑ Help your colleagues in WA and NT to categorise defect into minor and major for the purpose of data collection.

Inspection of SPV and plant vehicles

Types of vehicles

NRBS requires you to sample quotas of plant vehicles and SPVs.

Included:

Yes	truck-based SPVs and plant that incorporate a substantial road travel mode, such as mobile cranes, truck and trailer mounted drill rigs.	
No	construction, materials handling and earthmoving equipment not intended for extensive road travel such as wheel-loaders, telehandlers, forklifts and scrapers.	

A SPV is a motor vehicle that is built or fitted with specialist equipment to perform a function other than the transporting people or goods. Common SPVs include:

- cranes
- concrete pumps
- drill rigs
- elevated work platforms
- trailer mounted plant and equipment

Some vehicles such as garbage trucks and road sweepers, are built to perform a special purpose, but are not considered as SPVs because they also carry a load.

Inspection of SPV and plant vehicles

What to do

- Jurisdictions will liaise with industry to sample quotas of these vehicles through scheduled inspections at facilities or at operator depots.
- Due to the construction of the SPV, you may be limited to visual inspection of road components such as steering, suspension, brakes, tyres, wheels, glazing, seats, seatbelts, electrical, body and air, oil, fluid or exhaust leaks.
- Roller brake tests should be performed unless it is unsafe to do so.

Communicating with the driver

1. Show or display your HVNL or Authorised ID.
2. Use your normal introduction
3. Advise the driver that:
   - they have been stopped for a road side inspection as part of the National Roadworthiness Baseline Survey
   - it will be an intensive mechanical inspection with the use of RBT and shaker plates
   - the inspection is estimated to take an average of 45 minutes with their help and cooperation.

Feedback about NRBS and the inspection

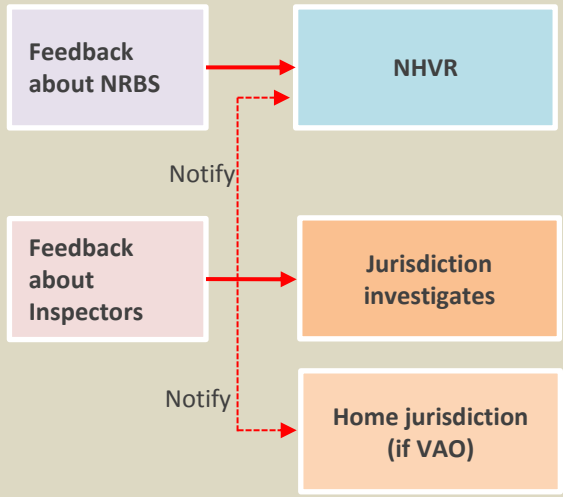
Feedback about NRBS

- Refer any feedback regarding the NRBS process or operation to the NHVR.

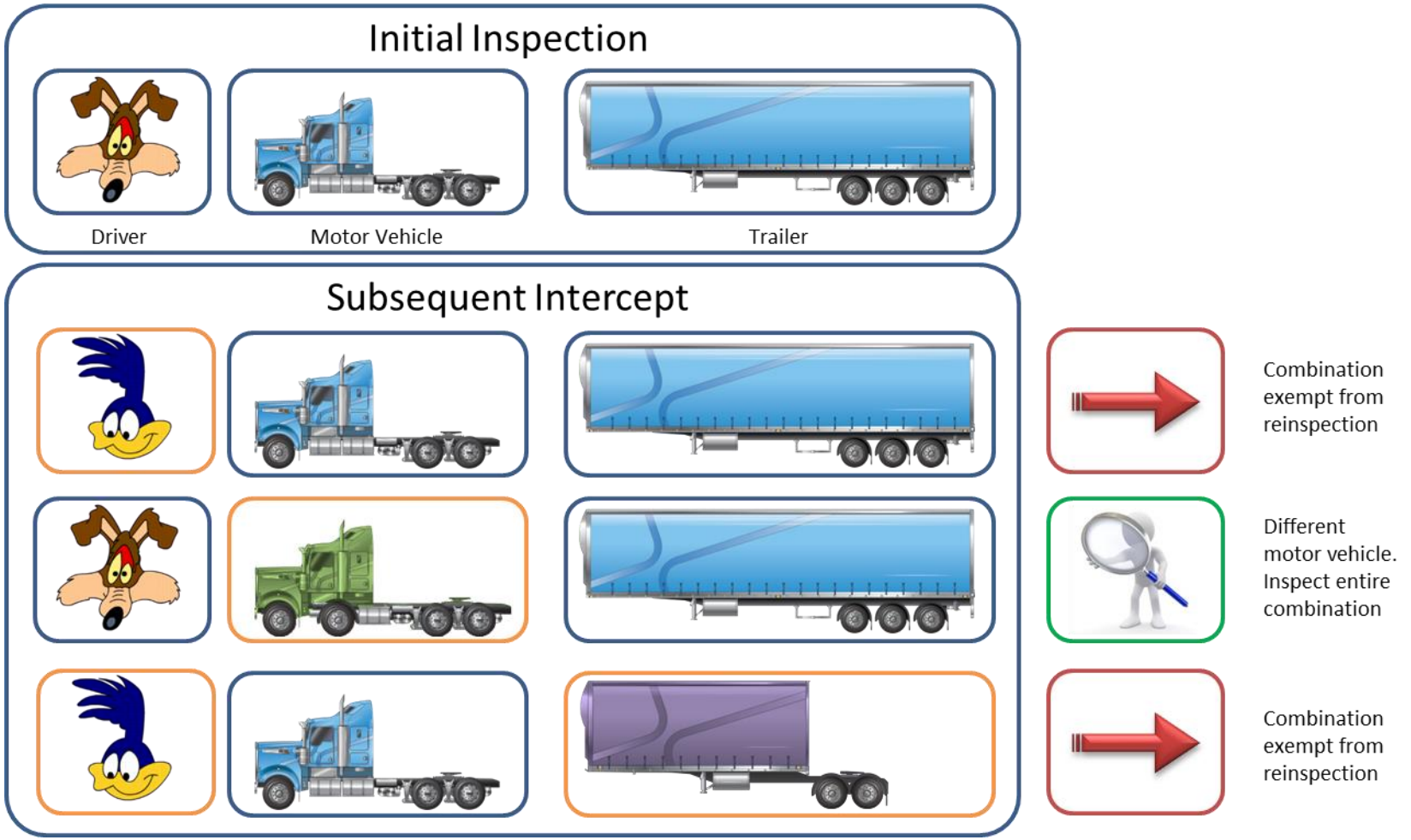
Feedback about Inspectors

- Refer any feedback regarding the NRBS process or operation through the relevant feedback process within the applicable jurisdiction.

☑ Feedback requiring NHVR notification should be escalated to your site supervisor to be sent to the National Roadworthiness Program Team.



Exemption from re-inspection



Responding to non-compliance issues

Assessing permits, driver's license or mass

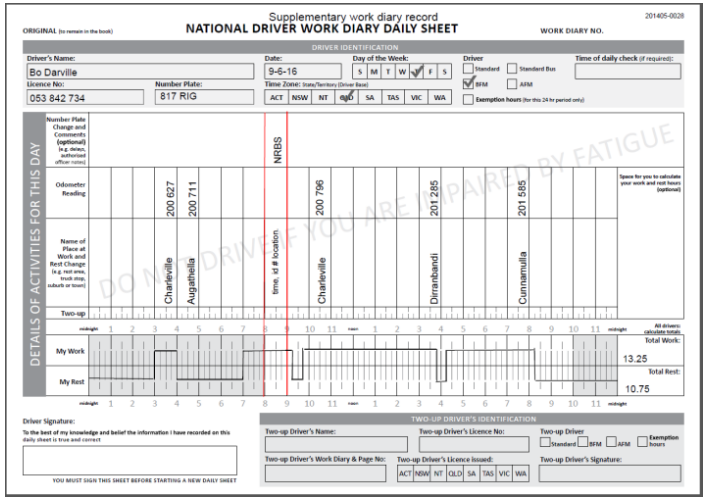
- The purpose of the inspection is to **identify vehicle standards compliance issues**.
- The inspection form does not require you to assess or record the mass of the vehicle.
- **The roller brake test** provides you with an approximation of the mass.
- **Where there are specific grounds for concern about compliance with load restraint, dimensions, access permits, and licensing** perform a relevant testing after you fully complete the inspection form.

Checking the driver's work diary

The focus of the inspection is to identify vehicle standards compliance, so the inspection procedure does not require the officer to check the driver work diary.

Where applicable, ensure that you record the intercept in the work diary.

If you think the driver is in breach of fatigue conditions, check their work diary after you fully complete the inspection forms.


Supplementary work diary record
NATIONAL DRIVER WORK DIARY DAILY SHEET
201405-0028
ORIGINAL (to remain in the book)
WORK DIARY NO.
DRIVER IDENTIFICATION
Driver's Name: Bo Darville
Date: 9-6-16
Day of the Week: S M T W T F S
Licence No: 053 842 734
Number Plate: 817 RIG
Time Zone: ACT NSW NT QLD SA TAS VIC WA
DETAILS OF ACTIVITIES FOR THIS DAY
Odometer Reading: 200 627, 200 711, 200 796, 201 285, 201 585
Name of Place at Work and Rest Change: Charleville, Augathella, Charleville, Dirranbandi, Cunnamulla
NRBS
Two-up
My Work
My Rest
Total Work: 13.25
Total Rest: 10.75
DO NOT DRIVE IF YOU ARE IMPAIRED BY FATIGUE
Driver Signature:
YOU MUST SIGN THIS SHEET BEFORE STARTING A NEW DAILY SHEET
TWO-UP DRIVER'S IDENTIFICATION

Thank you for contributing to this project

Questions?

Comments?

Roadworthiness@nhvr.gov.au

www.nhvr.gov.au/roadworthiness

To provide anonymous feedback on today's session, please go to:

https://www.surveymonkey.com/r/XSSB93N