



NZ TRANSPORT AGENCY
WAKA KOTAHI

Future Direction of NZ Legislation

IRTEENZ - Transport Technology and Productivity 2010
Rotorua 27-29 July

Bruce Currie (Manager Heavy Vehicles)

Presentation Outline

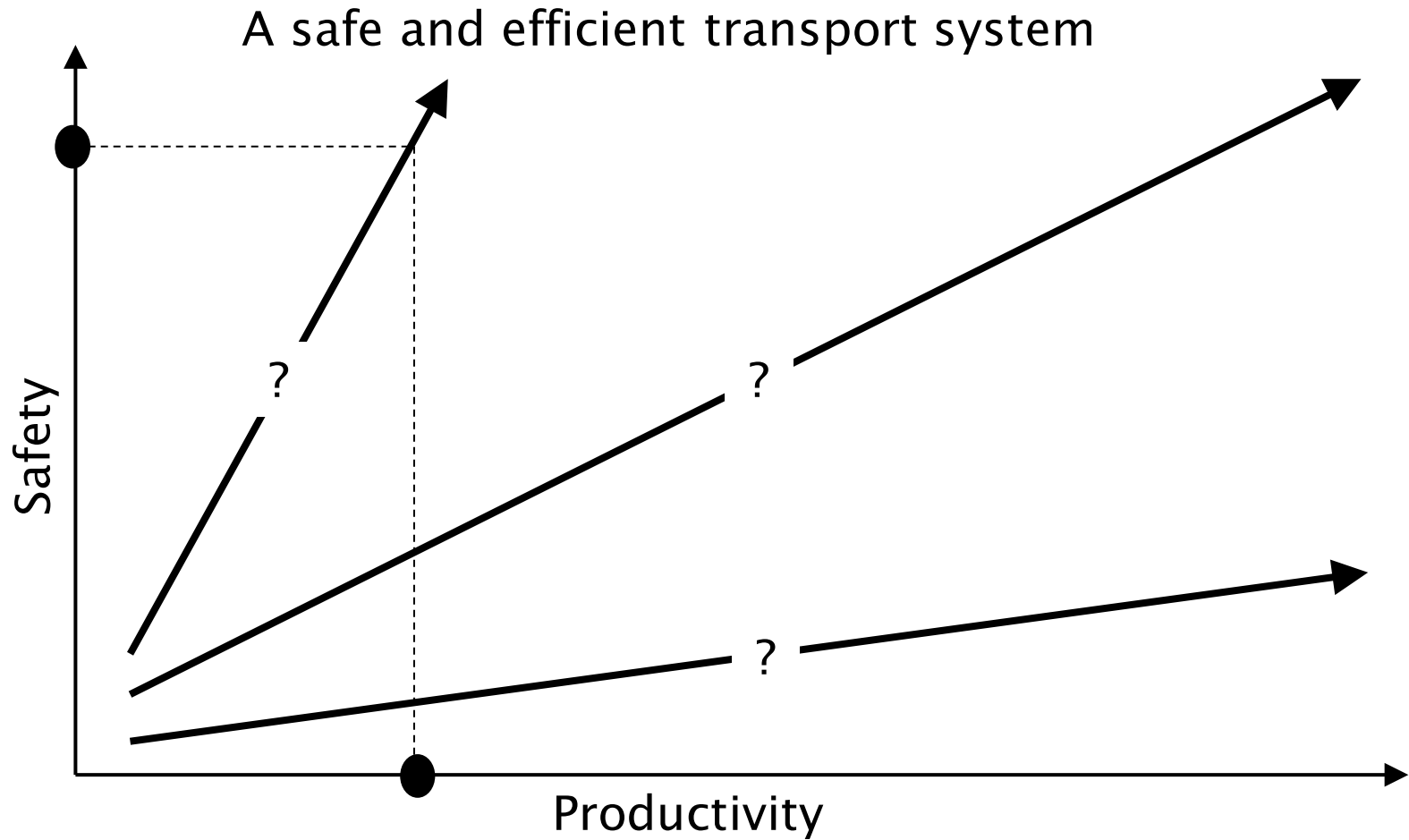
General

- The legislative role
- Quick review of past legislative changes
- Current state
- Future state

Specific

- Changes to Road User Charges (RUC)
- High Productivity Motor Vehicles (HPMVs)
- Safe system approach
- Tackling the rollover problem

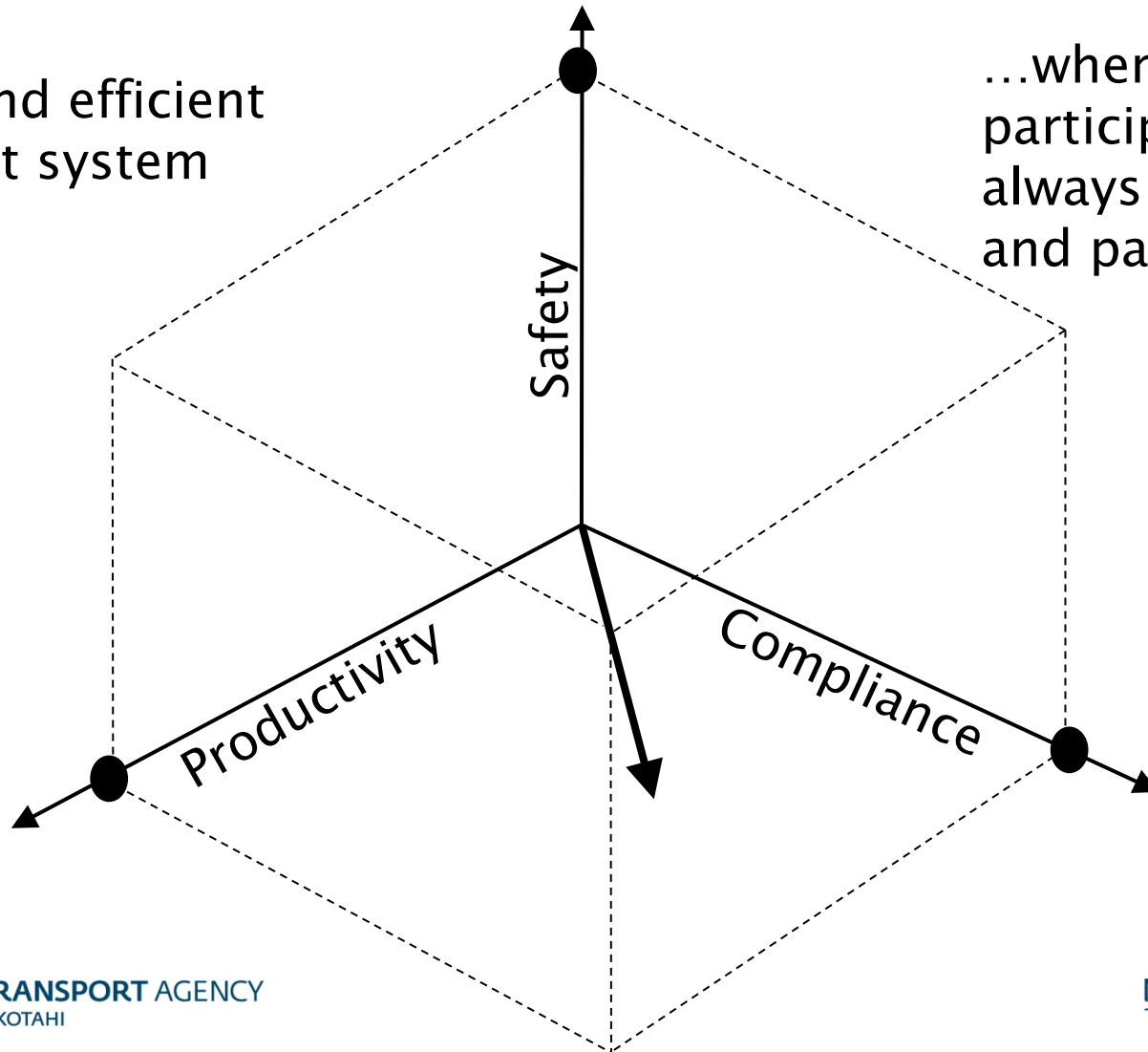
Legislative Role



Legislative Role

A safe and efficient transport system

...where those who participate are always compliant and pay their way



Past Legislative Changes

- o Heavy Motor Vehicle Regs 1974
- o Traffic Regs 1976
- o Brake Code 1991 and 1997
- o MoT Policy Statements
- o Etc.

- Prescriptive
- Out dated
- Ambiguous & fragmented
- Not linked to implementation

- o E.g. Braking: *stop in 7m from 30km/h*
 - o Measured how?
 - o Tested at CoF how? empty, partial laden, normal max. By what method? extrapolation, simulated load, actual load



Current State

- **Regs etc. have been converted to Rules in consultation with industry**
- **Rules have:**
 - consolidated requirements
 - clarified requirements (eg stopping distance)
 - future-proofed requirements
 - linked legislation more directly to what is required during periodic inspection (CoF) eg Brake Testing Protocol
- **Conversion to Rules now complete**
 - VDAM, HV, HVB, ORS
- **Ongoing updates will occur but will be relatively minor**



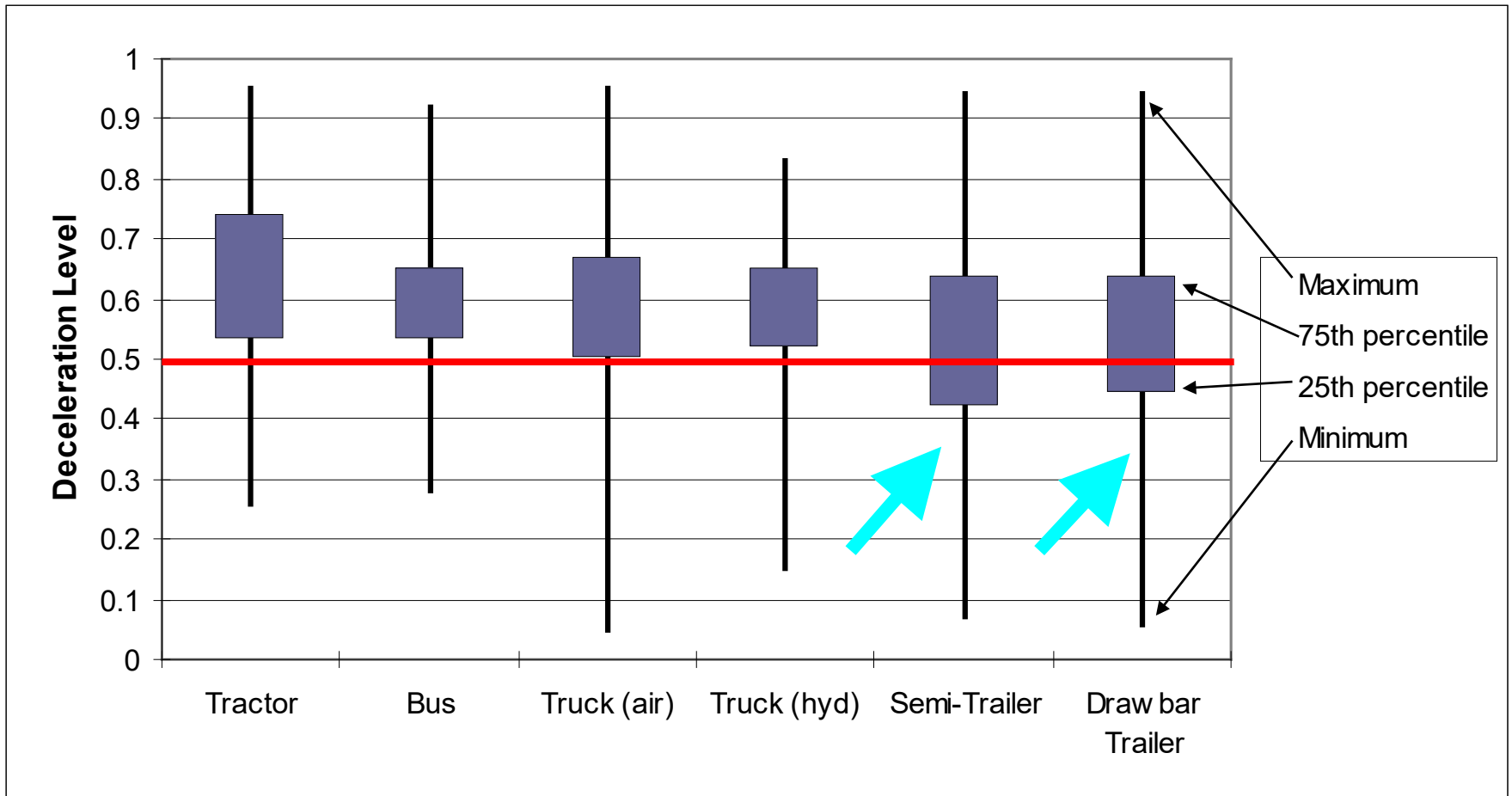
Future State

Smarter use of the tools we already have (example):

- 2005 B-train, Brake Coded with brake efficiency of 60% when new and enters the fleet
- Passes CoF January (semi-laden brake test applied) - passes
- Vehicle covers 1200 km/24hr ~ 200,000 km in 5-6 mths
- No or minimal brake maintenance carried out between CoFs
- Involved in crash May of same year
- Combined trailer brake efficiency just 14% at VDAM limits and 20% at 44 tonne combination mass (normal maximum)
- Minimum legal efficiency at all times = 50%
- NZTA response => increase laden roadside testing of vehicles between CoFs to instil continuous compliance approach



2005 National Brake Survey Results



Road User Charges (RUC)

- Independent review of the RUC system completed March 2009
- Minister agreed need for system change but not all recommendations
- Cabinet has approved that changes to RUC legislation be prepared
- Proposed changes will go before Select Committee 2010/2011
- Select Committee provides an opportunity for formal comment, however the MoT is consulting with industry on the changes and welcomes feedback and suggestions prior to the Select Committee process
- Enacted by mid 2011
- Coming into force mid 2012
- It will be the most significant change to RUC since its introduction in 1978
- RUC evasion - conservatively estimated at \$30 million a year - reforms will need to address this



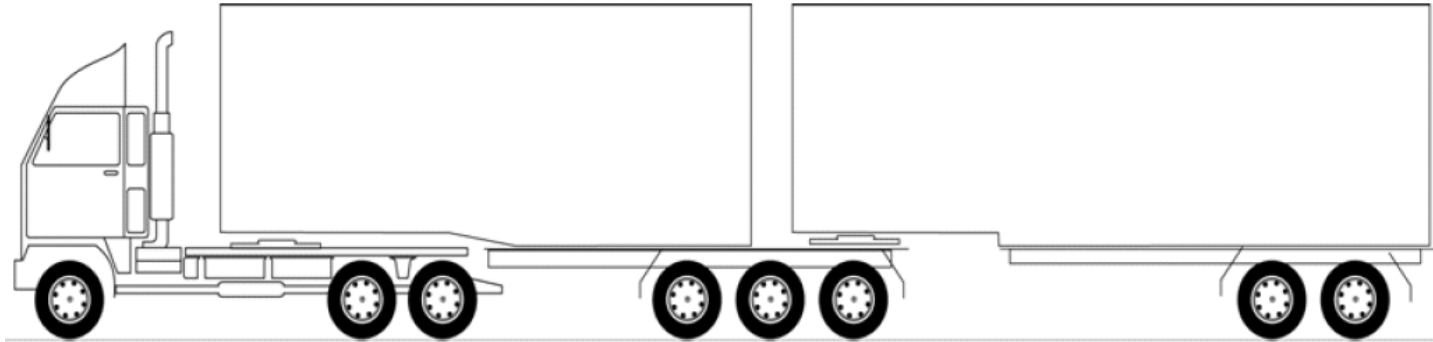
Road User Charges (RUC)

- **Some reform details:**
 - From operator nominated weight to permanent vehicle type rating
 - New regulatory framework for electronic management systems
 - A fairer, simpler and less costly structure for offences and penalties
 - Ability for the Chief Executive to issue binding assessments for unpaid RUC (with a right of review, and then appeal to the Court)
 - Review of Cost Allocation Model (CAM) to ensure RUC is allocated appropriately between users
 - Transition from RUC optimization to VDAM optimization to be carefully managed
 - Under these changes there will be no RUC offence for exceeding weight
 - Vehicle overloading still has to be enforced and penalties are likely to be higher because of increased potential for structure damage

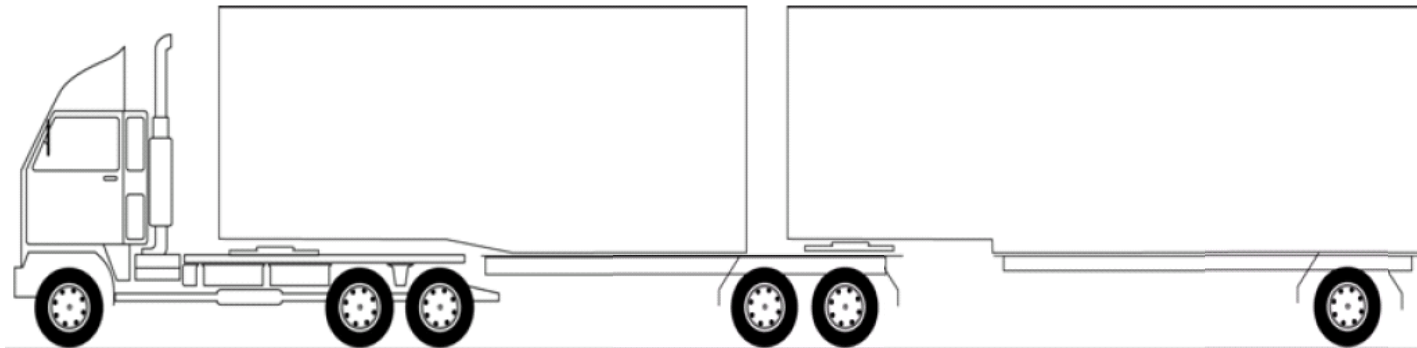


RUC Change Implications

44 tonne RUC optimized B-train



44 tonne VDAM optimized B-train



High Productivity Motor Vehicles (HPMV's)

- o As-of-right mass increases below 44 tonnes removed because of insufficient bridge data and assessments, especially local networks (the 'first and last miles' of high productivity routes)
- o Current 44 tonne vehicles still able to access higher mass limits via route permits
 - ≈ 400 quads (if single steer axle)
 - ≈ 1300 four plus axle B-trains
 - ≈ 2500 2+2 full trailers

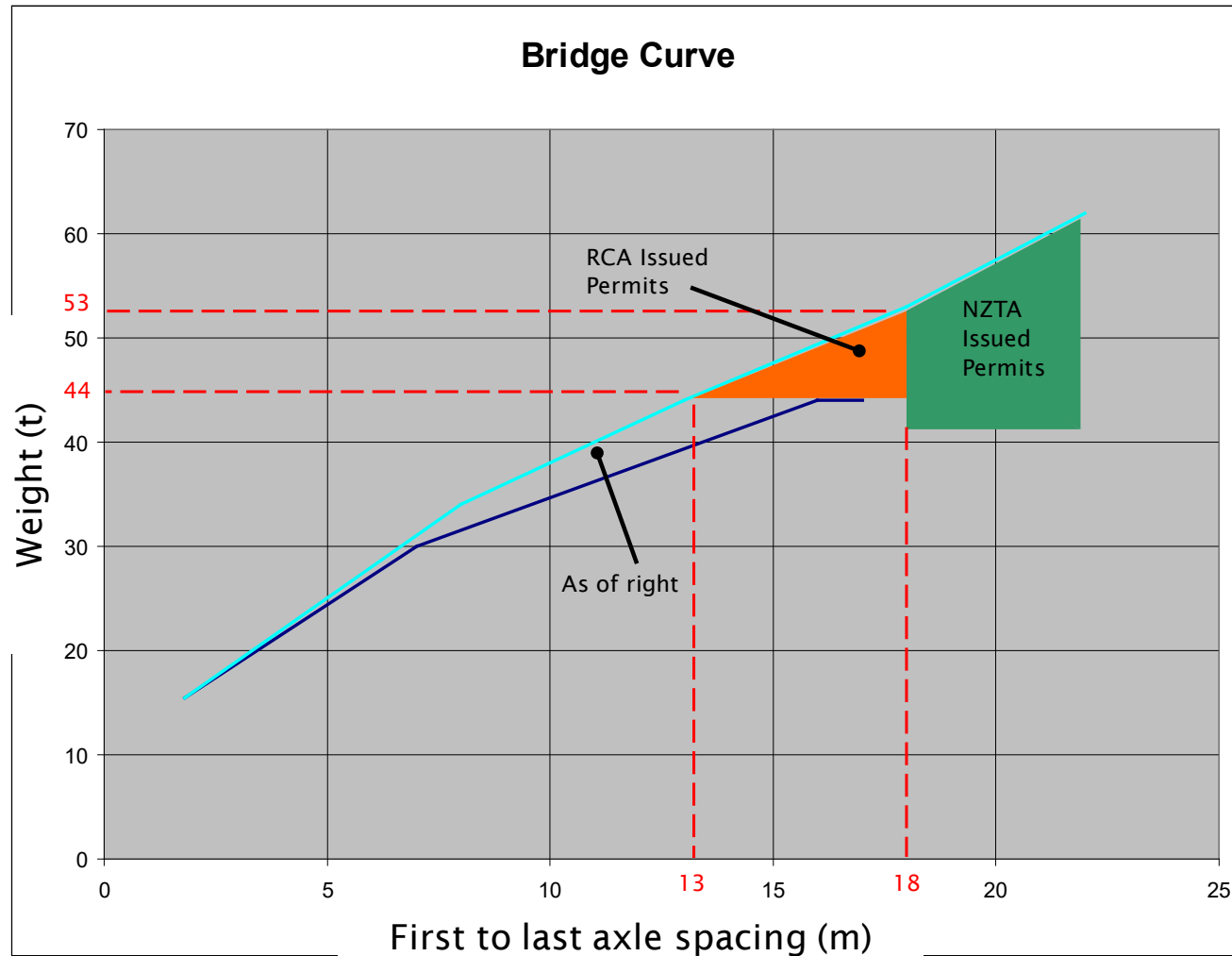


Axle Limit Increases

Description	Current (tonnes)	Proposed (tonnes)
Single axle single tyres	6.0	6.0
Single axle dual tyres	8.2	8.8
Tandem axle 1 single 1 dual	12.0	13.3
Tandem axle 2 dual	15.0	16.0
Tri axle SL or dual	18.0	19.0
Quad axle SL or dual	20.0	22.0



Bridge Curve – Gross Mass Critical

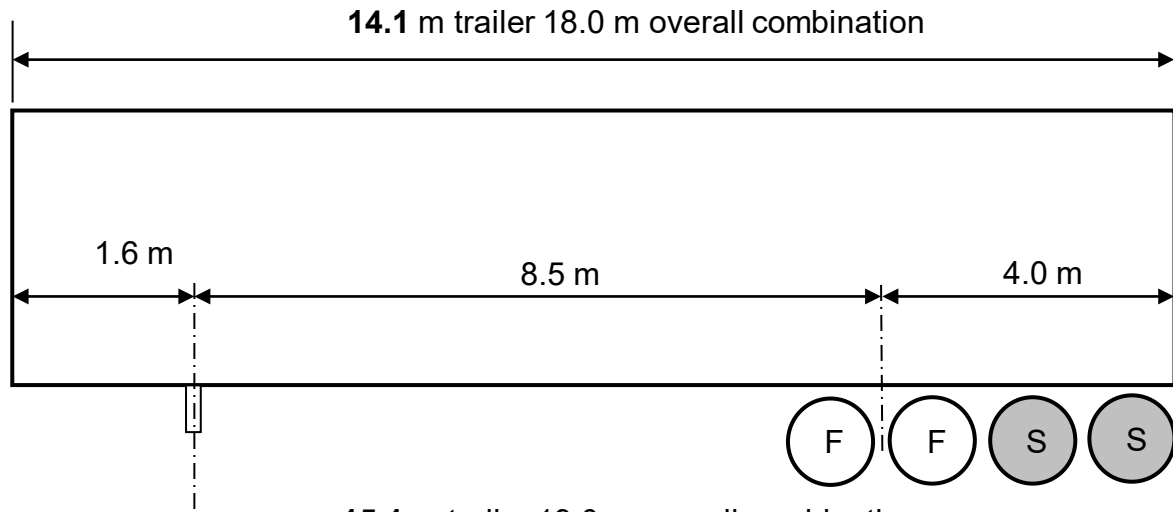


Type 2 Quad-Semi (Single Steer Axle)

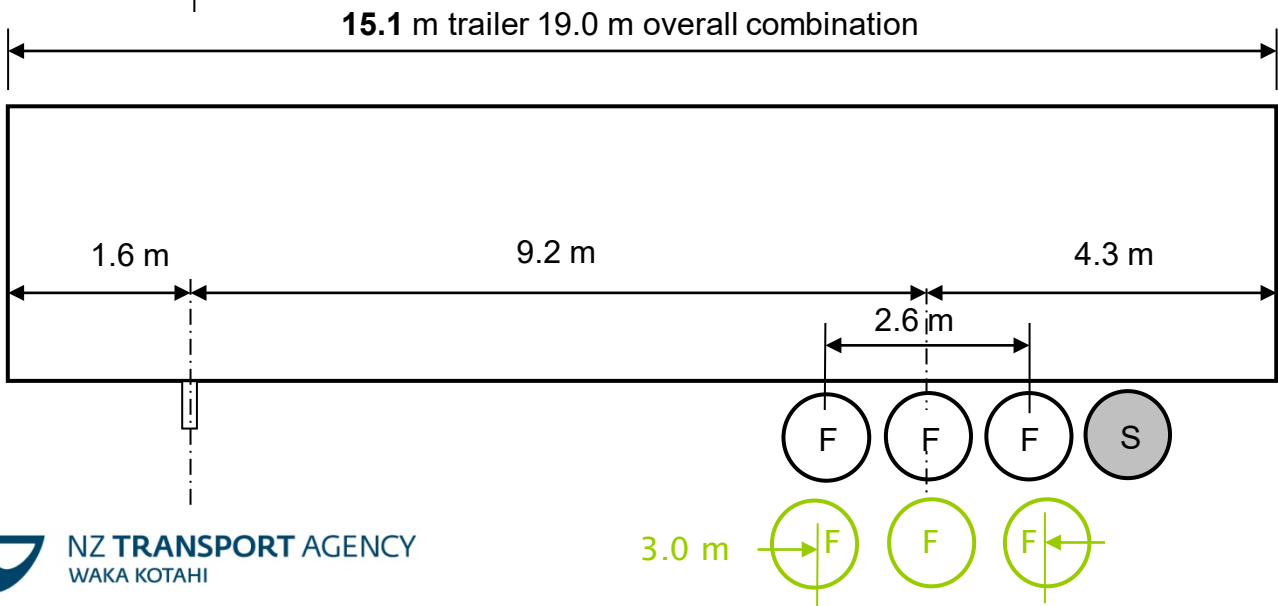
- o Tractor-semi safer than B-train and truck-trailer
- o 3 fixed front axles, single rear steer axle
- o Trailer length up from 14.1 to 15.1 m
- o Overall combination length up from 18.0 to 19.0 m
- o Rear axis on second axle. FD limit 9.2 m; RO limit increased to 4.3 m/50% FD for better weight distribution
- o HPMV permit weight 22 t (c.f. 20 t)



Type 2 Quad-Semi (Single Steer Axle)



20 t

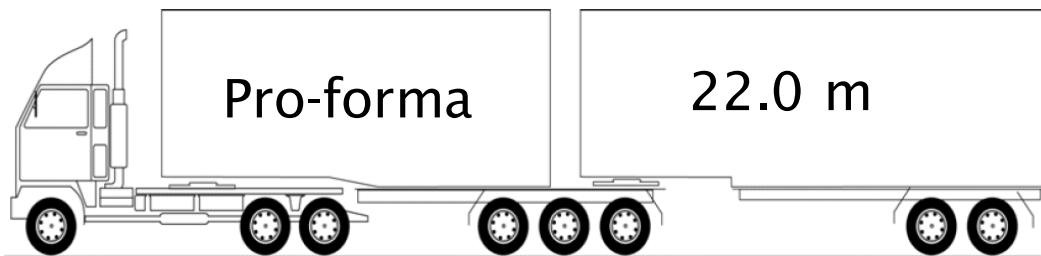
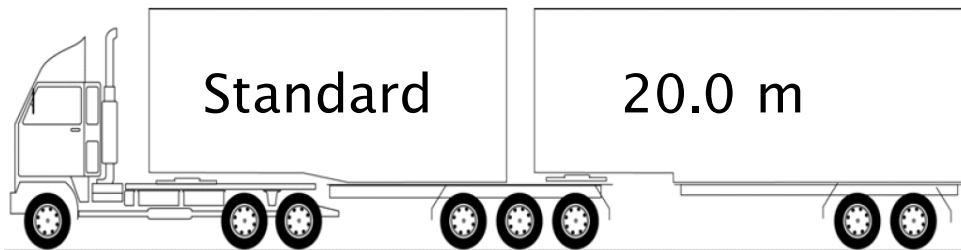


20 t AOR
22 t permit

18 t AOR
19 t permit

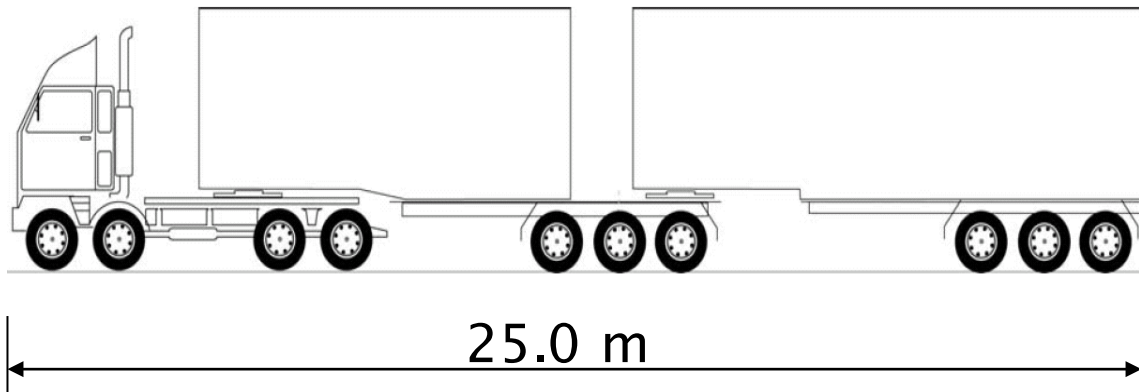
HPMV's - Current

- o **Standard** size HPMV at **higher** mass limits need **local RCA permit** for travel on local roads and **NZTA permit** for travel on State Highways (Mass permits only, route restricted)
- o **Pro-forma** size HPMV at **standard** mass limits need **NZTA permit** for general access; at **higher** mass limits need **local RCA permit** for travel on local roads and **NZTA permit** for travel on State Highways (separate permits)



HPMV - Future

- o **Over-length** HPMV (up to 25.0 m) are possible but need **NZTA approval** - PBS assessment with PBS criteria selected based on vehicle configuration
- o If operated at **higher mass limits**, **local RCA permit** for local roads, and **NZTA permit** for travel on State Highways

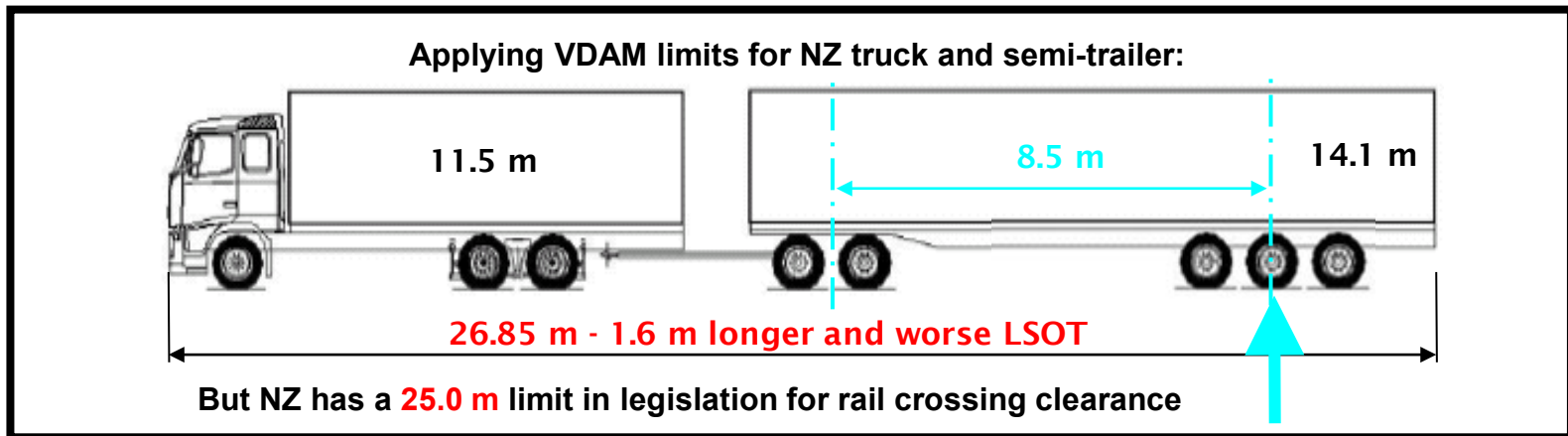
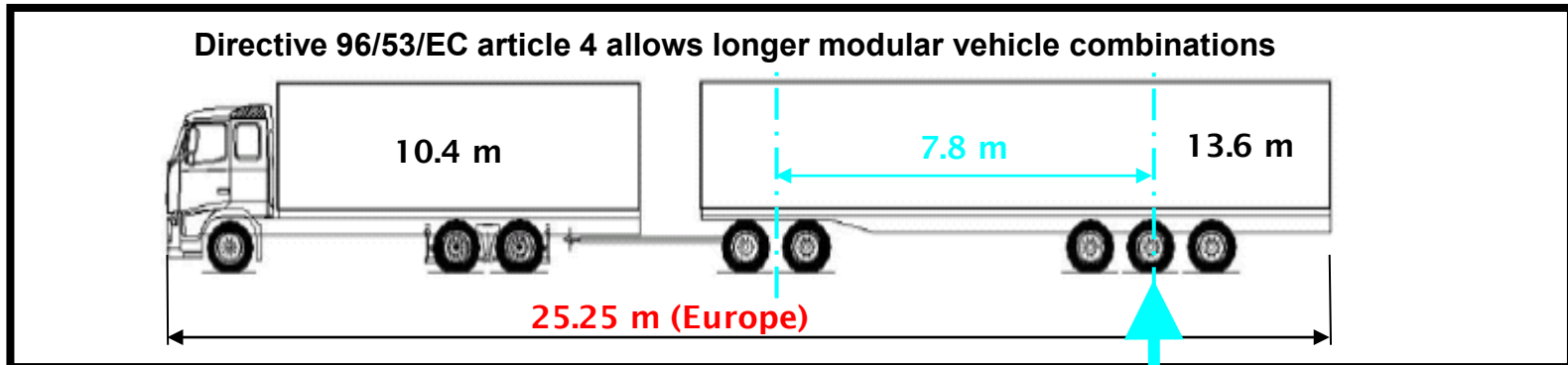


Modular HPMVs



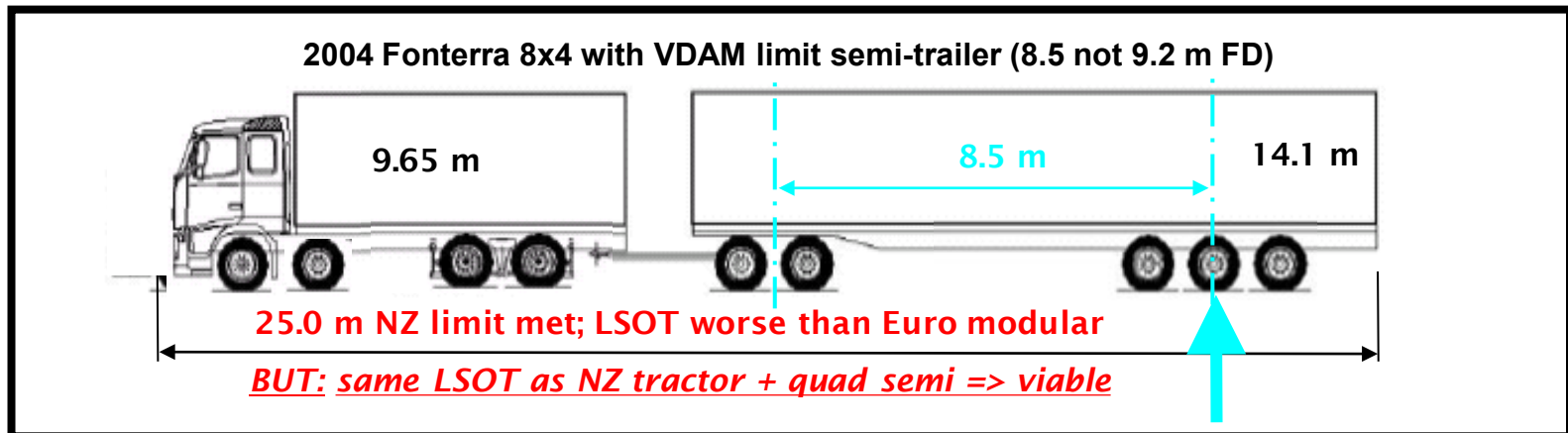
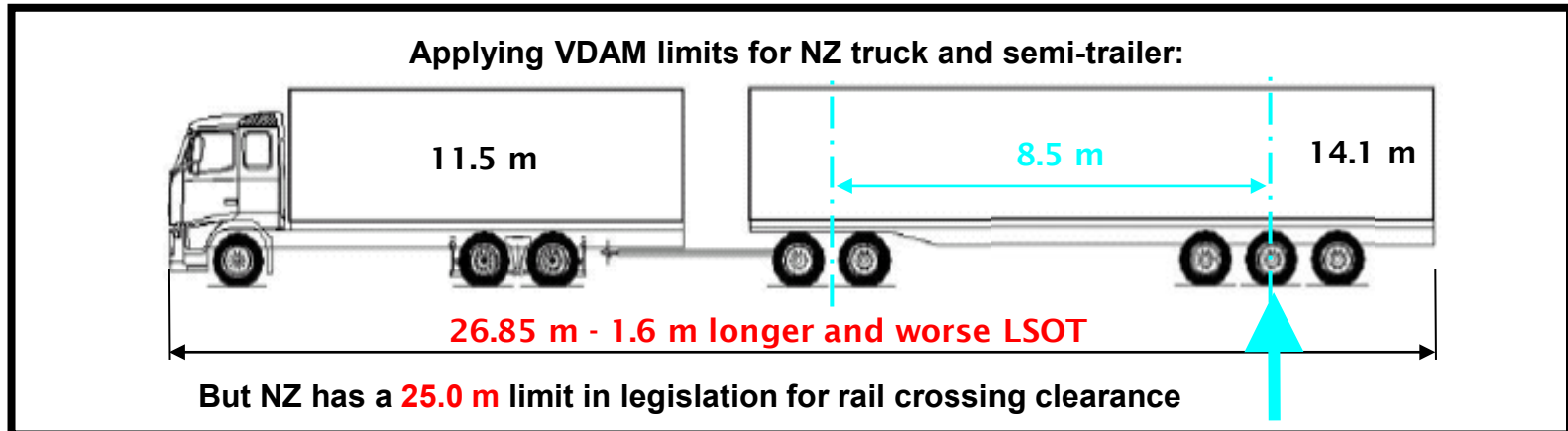
HPMV's - Modular Concept

Standard truck + converter dolly + standard semi-trailer



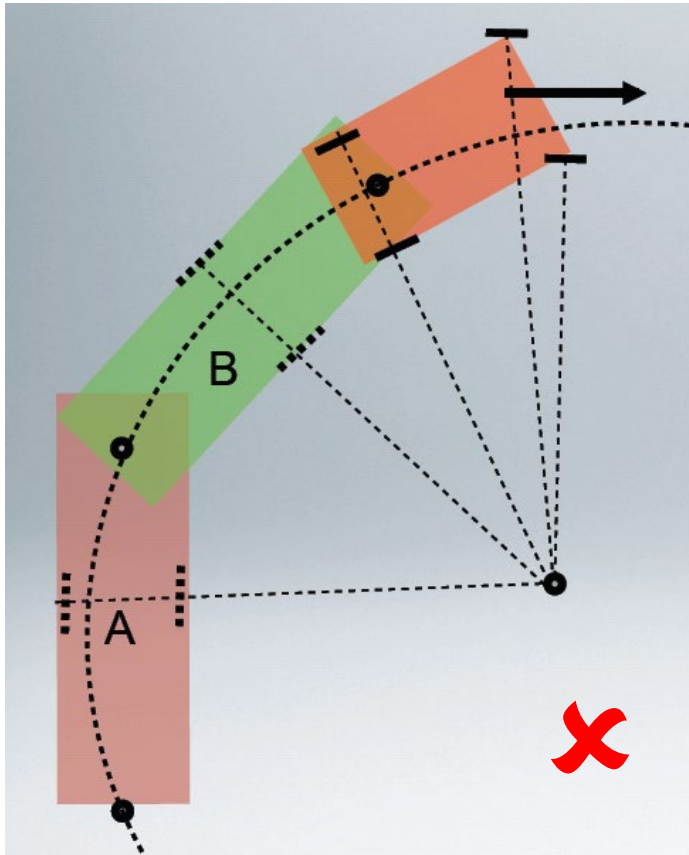
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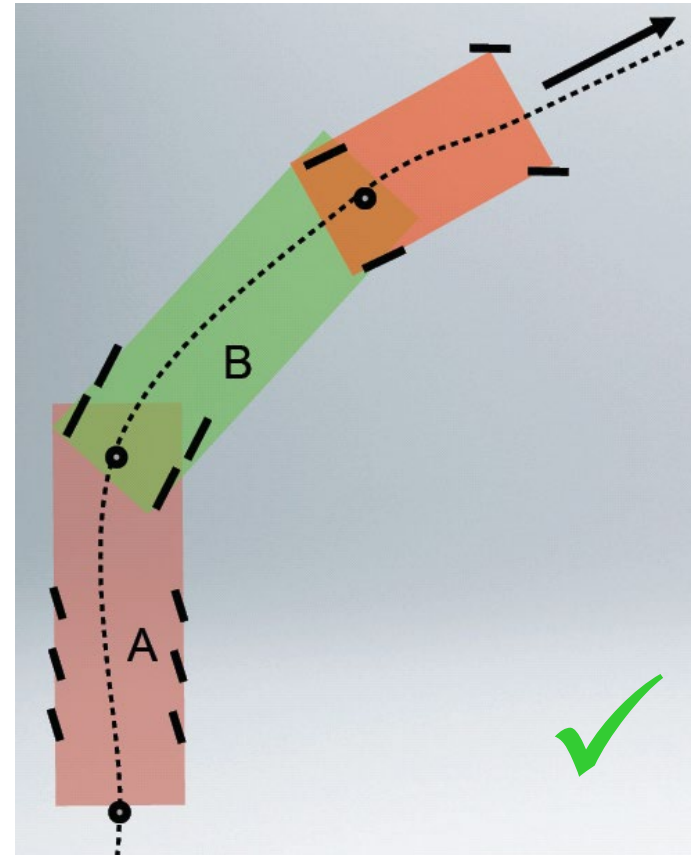


The Key to Longer HPMVs

Axle following



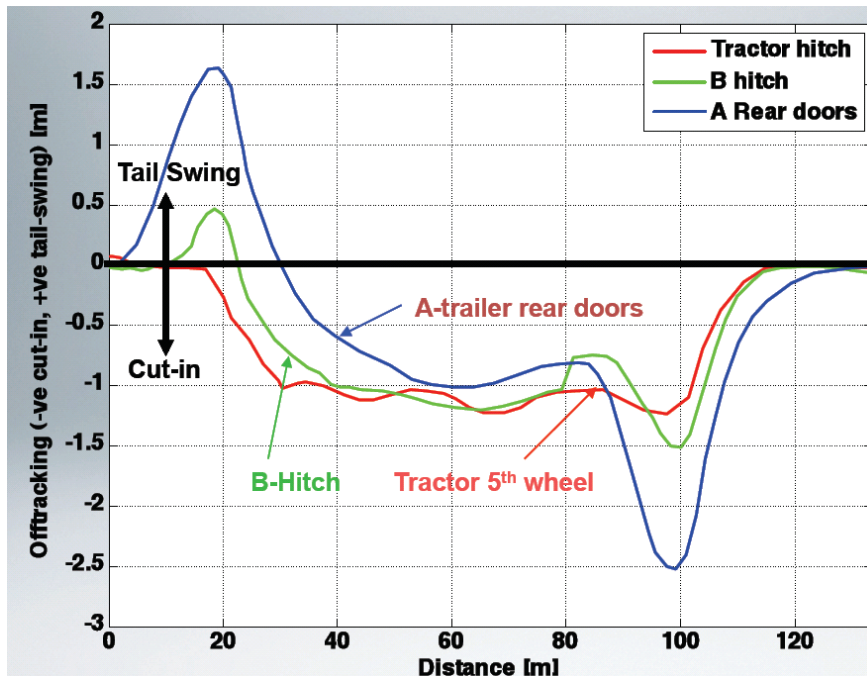
Path following



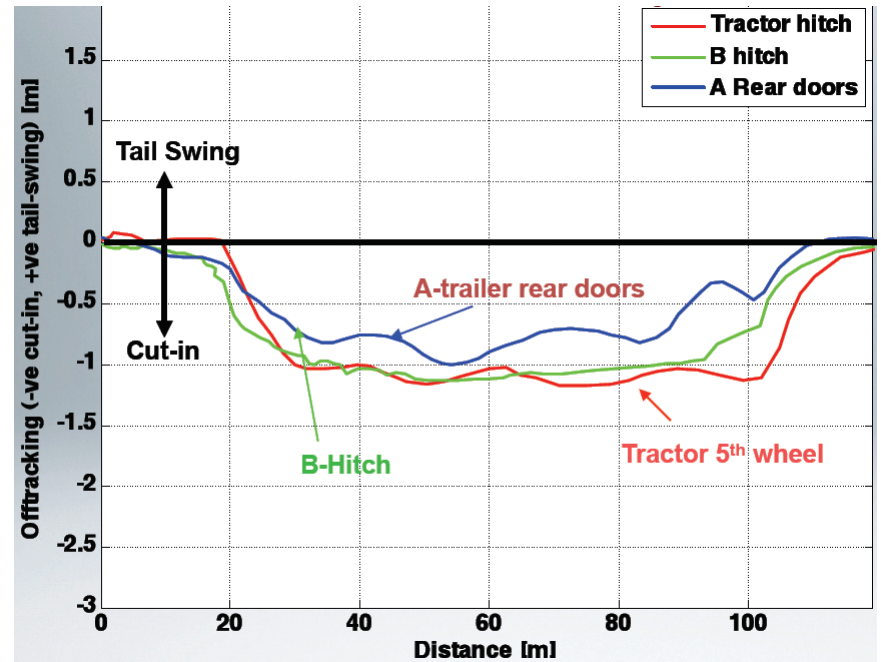
Source: Cebon, HVTT11, Melbourne 2010

Longer HPMVs

Axle following



Path following



Source: Cebon, HVTT11, Melbourne 2010

Safe System Approach (in NZ)

- Working closely with MoT to implement the [Road Safety to 2020 Strategy](#)
- Strategy = '*a safe road system increasingly free of road deaths and serious injuries*'
- Shifts the emphasis from targets to a '*safe system approach in which death or injury should not be expected and tolerated as a result of driver error*'
- This system's approach aims to integrate all road safety aspects, targeting:
 - safer speeds
 - safer use
 - safer roads and roadsides
 - safer vehicles



Addressing the Rollover Problem

- SRT (Compliance and Certification) is important but the ‘closed-loop’ benefit of stability control is needed
- 3000 plus trailers fitted with roll stability systems in NZ
- Estimated that 50% have NOT been activated!
- Some system sensitivity issues apparent; but feedback from drivers “I didn’t realise how close to rolling over I was”
- Culture about safe cornering speed must be addressed
- Manufacturers (overseas parent companies) can’t believe the way NZ trucks are driven – some regard NZ as vehicle proving ground!



Addressing the Rollover Problem



Addressing the Rollover Problem



Future Legislation

Speeds, Use, Roads, Vehicles

Safety

- Stability Control - RSC, ESC, (roll, roll + jack-knife)
- Adaptive Cruise Control (ACC) Distance control
- Lane assist/lane departure warning
- Drive cams (internal and external)
- Event recording linked to GPS with SMS notification
- Blind spot detection warning

Productivity

- Active steering path following for LCV
- Electronic suspension control (ECAS)



NZ Transport Agency

Thank you for your attention