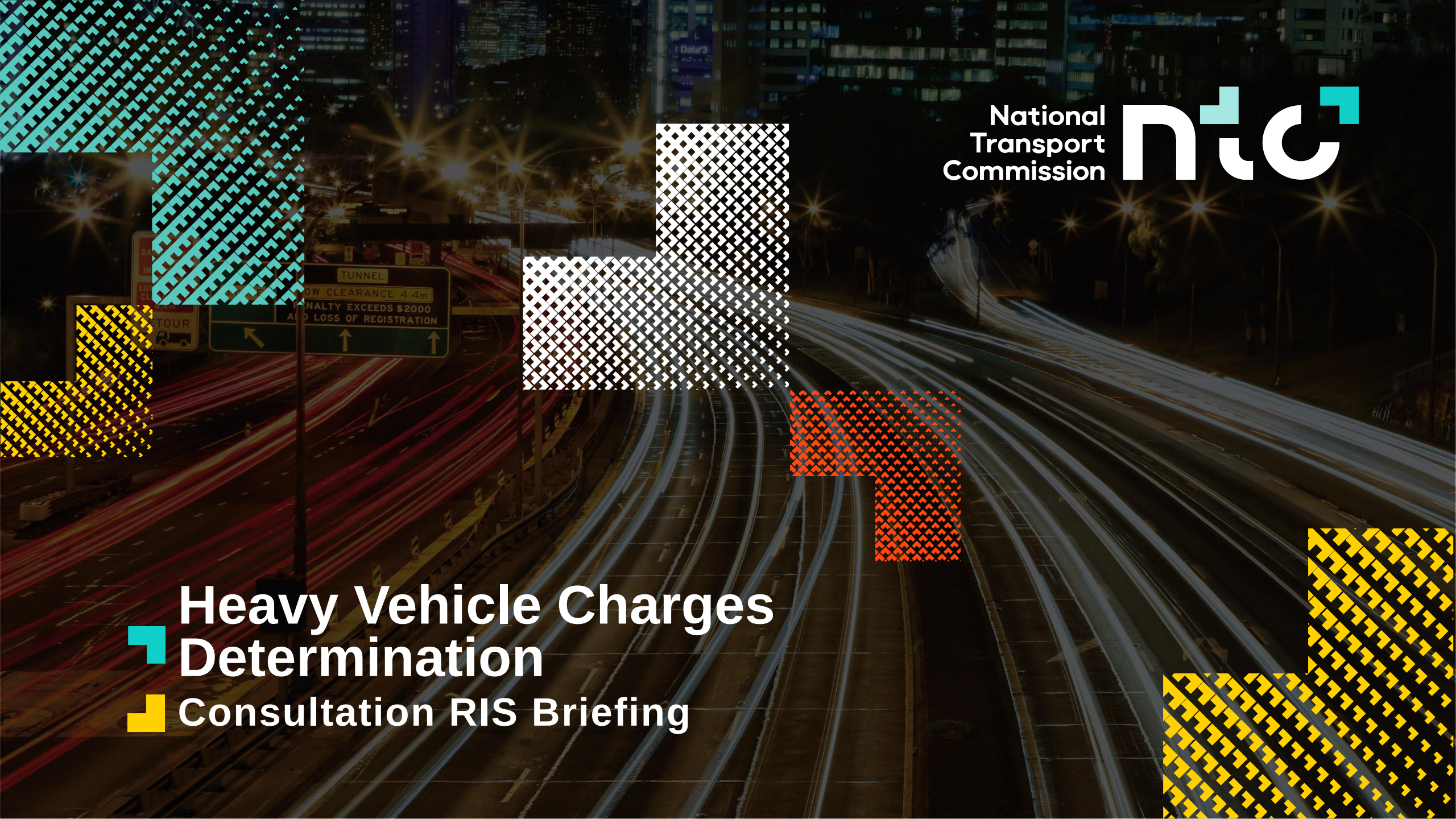


National Transport Commission

Heavy Vehicle Charges Determination

Consultation RIS Briefing

Contents

Introduction

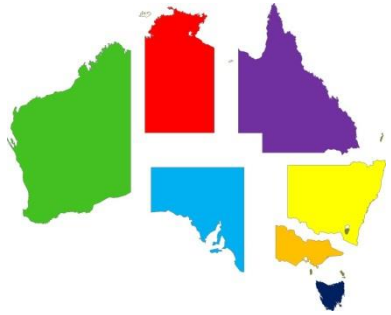
- In November 2019, the Infrastructure and Transport Ministers' Meeting (ITMM) directed the NTC to undertake a heavy vehicle charges determination
- The NTC has explored a range of technical, cost allocation and implementation options in a Consultation Regulation Impact Statement (C-RIS)
- We published this C-RIS on 29 June 2021 for public consultation
- The public consultation period runs to 24 August 2021
- The purpose of this workshop is to present the options explored in the C-RIS, answer questions and gather feedback

PAYGO overview

- The PAYGO model is used to calculate the heavy vehicle cost base and set heavy vehicle charges
- While the model and its inputs are being reviewed, the basic architecture of the model will remain unchanged
- Before looking at the potential changes, we need to understand how the model works in general

How charges are set

1 Road agencies



Jurisdictions report <u>historic</u> road expenditure

2 NTC

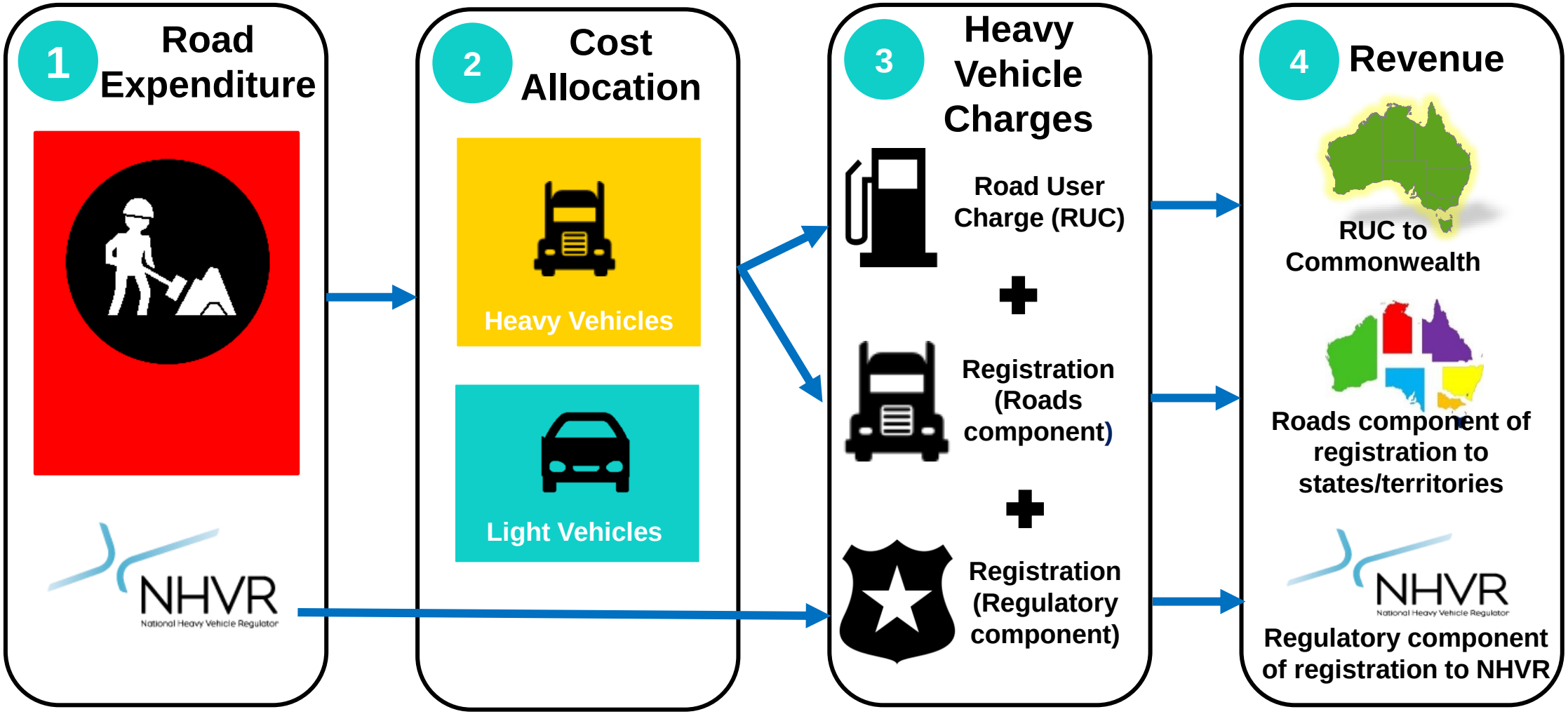
National Transport Commission

NTC calculates cost base and provides advice on heavy vehicle charges

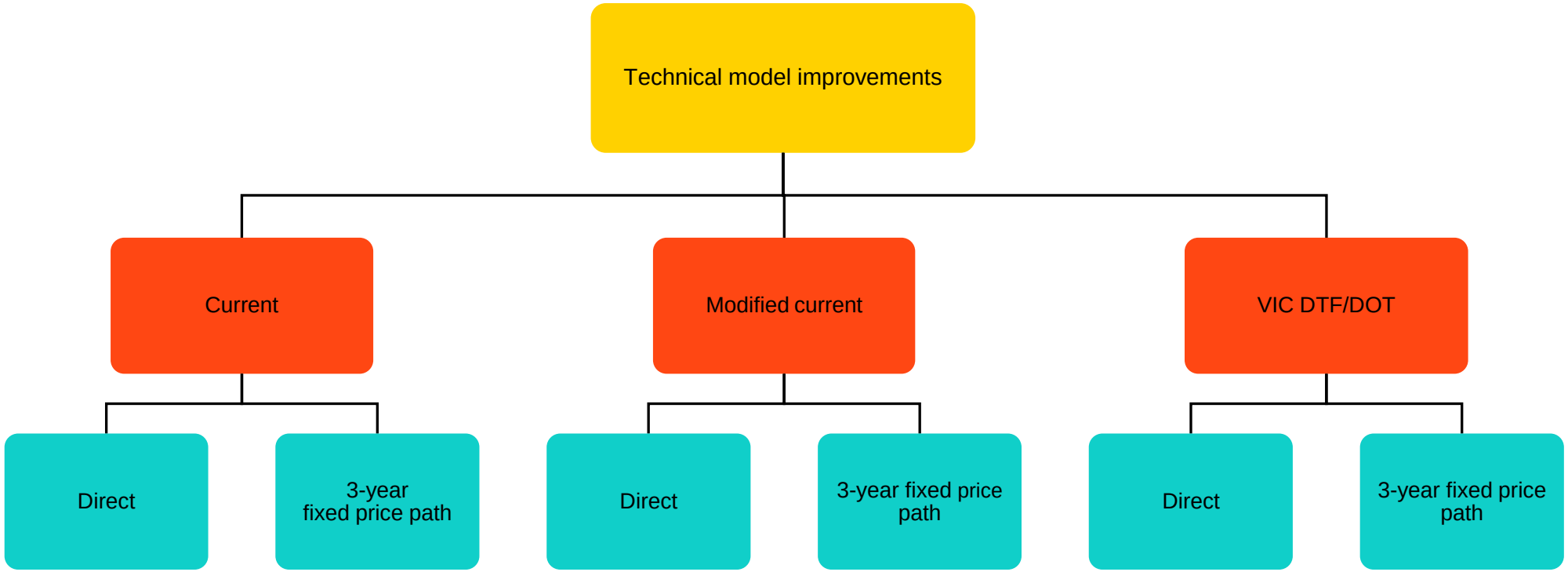
3 ITMM

Ministers decide on national heavy vehicle charges

How does the PAYGO model work



Structure of the determination



Technical changes – no change recommended

Topic	
Trust in expenditure data	No changes recommended because no cost-effective mechanism to address the issue has been identified. This issue will be better addressed as part of HVRR.
Expenditure categories	No change recommended because there is no clear advantage to changing expenditure categories under PAYGO and there is no certainty on the categories that would be used under HVRR.
Electric vehicle fleet	No action recommended as part of this determination as the number of electric vehicles is still very small. Regular reporting and monitoring recommended.

Treatment of innovative funding and financing methods - issue

- Increasingly, governments are using innovative financing and funding methods to construct, operate and maintain roads
- There is no one single model that has emerged as the dominant, or preferred model
- The current PAYGO guidelines instruct road agencies to not report expenditure for roads that have a toll; however, governments may still incur costs on these roads as the toll revenue may not fully recover costs
- Governments may also receive revenues through tolls, value capture, etc

Treatment of innovative funding and financing methods - analysis

The NTC has proposed five high-level principles to address this:

1. The principal aim is to achieve cost recovery
2. All costs incurred by road agencies in building, maintaining and operating the road network for providing road services should be included in the cost base
3. All revenue received by governments through tolls or other charges (or from value capture) on assets used to provide road services should be counted against the cost base
4. The treatment of PPPs and toll roads should not distort government decisions on financing and funding road infrastructure
5. Where necessary, pragmatic, implementable solutions that build on available information should be used (with the view that some aspects may need to be revisited in the future)

Treatment of innovative funding and financing methods - recommendations

- C-RIS recommends changing expenditure guidelines to properly account for tolled roads and any other types of innovative funding or financing models used by governments
- Certain PPP/toll road projects will be unique, meaning that despite the proposed high-level principles, the treatment of these projects for modelling purposes may need to be assessed on a case-by-case basis
- C-RIS recommends collecting relevant data as part of the regular collection of road expenditure data for the 2020–21 financial year—allows the financial impact to be quantified before ITMM considers the D-RIS in November 2021

Usage data - issue

- The ABS has discontinued the Survey of Motor Vehicle Use after its final survey in 2020
- The NTC's only source of road use and fuel use data – in particular vehicle kilometres travelled, fuel use and gross tonne kilometres by vehicle type and area of operation
- No other alternative data sources are available

Usage data - analysis

- No replacement in place to substitute for the SMVU
- Telematics could provide the required information in the long run, but timing uncertain
- It is possible that a short-term solution would involve contracting with an organisation other than the ABS to undertake the SMVU or equivalent in future
- An ongoing source of funding will be required

Usage data - recommendations

- We recommend that we explore, as a first step, the feasibility of contracting with another agency to provide the usage data necessary to operate PAYGO into the future
- The NTC will then provide final recommendations to ministers as part of the final RIS in November 2021

Review of ESA values - issue

- ESA values are a key cost allocator in the PAYGO model
- ESA values used in the PAYGO model were last revised in 2013
  - Based on data for 1995 to 1997
- A review of a sample of five heavy vehicle classes in 2019 found there had been sufficient change in ESA values to warrant a full review of ESA values for all heavy vehicle classes

Review of ESA values – analysis

- The NTC contracted Pekol Traffic and Transport (PTT) to undertake the most extensive review of ESAs yet undertaken looking at all the PAYGO motor vehicle classes
- PTT used weigh in motion (WIM) data covering a three-year period from 2017 to 2019 for all available States and Territories for most vehicle types except light vehicles
- Methodology included data cleansing, weighting by VKT and redistribution of WIM data to minimise data bias

Review of ESA values - analysis

- Revised ESA values resulted in:
  - Share of ESA-km attributable cost allocated to heavy vehicles up to 99 per cent from 94 per cent
  - Heavy vehicle cost base increased by $93m
  - Cost allocated by ESA-km rose by $101 million for articulated trucks and by $67 million for buses
  - Cost allocated by ESA-km fell by $73 million for rigid trucks and $1m for non-freight trucks

Review of ESA values - recommendations

- That the revised ESA values be used in this determination

Cost allocation - issue

- Cost allocation matrix drives cost allocation between light and heavy vehicles, and between different types of heavy vehicles
- Current matrix has been used for some time
- Review by Houston Kemp highlighted possible improvement
- Victorian DTF and DOT developed an alternative, engineering based approach
- Three options – current, modified current and VIC DTF/DOT
- Is change required?
- What are implications of a possible change?

Cost allocation - analysis

- No clear and objective way to identify a ‘superior’ approach
- All options provide plausible outcomes from an economic perspective
- Significant financial implications

Estimated revenue gap 2021–22	$m	Gap ($m)	Gap (%)
Estimated revenue from 2020–21 heavy vehicle charges in 2021–22	3,449		
2021–22 heavy vehicle cost base – current	3,817	368	10.7
2021–22 heavy vehicle cost base – modified current	3,934	485	14.1
2021–22 cost base VIC DTF/DOT	4,184	735	21.3

Cost allocation - recommendations

- Recommendation to build options for this determination around the three possible cost allocation approaches being:
  - current
  - modified current
  - VIC DTF/DOT

MaxMan - issue

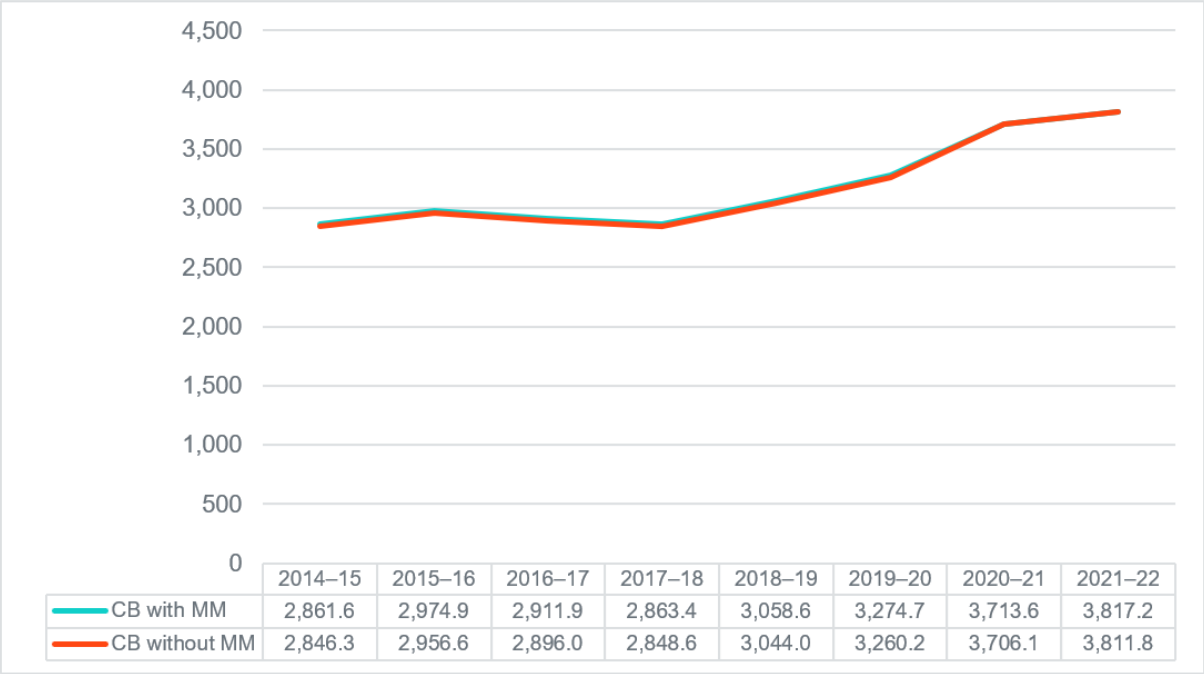
- MaxMan is a separate module of the PAYGO model designed for road trains
- In use since the second HV charges determination in 1998
- Name comes from MAtriX MANipulation software originally used for the calculations
- Original rationale for MaxMan:
  - Cost allocation process should reflect road trains' limited use of the road network and try to reduce the costs allocated to them in the model (since the quality of roads that they operate on tends to be lower)

MaxMan - analysis

- Reasons in favour of retaining MaxMan include:
  - The module already exists in the PAYGO model, so need sufficient evidence to depart from the status quo
  - Road trains arguably have a more distinct use of roads relative to most other heavy vehicles
- Reasons against retaining MaxMan include:
  - Original rationale for MaxMan was to give a discount to road trains to reflect the lower quality of roads that they may use. It is not achieving this objective, given it results in higher costs being attributable
  - Data on road usage for calculations is unreliable
  - The ‘sub-set’ of the network assumed to be used by road trains and included in the MaxMan calculations is not entirely accurate
  - Adds significant complexity to the model, with relatively immaterial effects

MaxMan - analysis

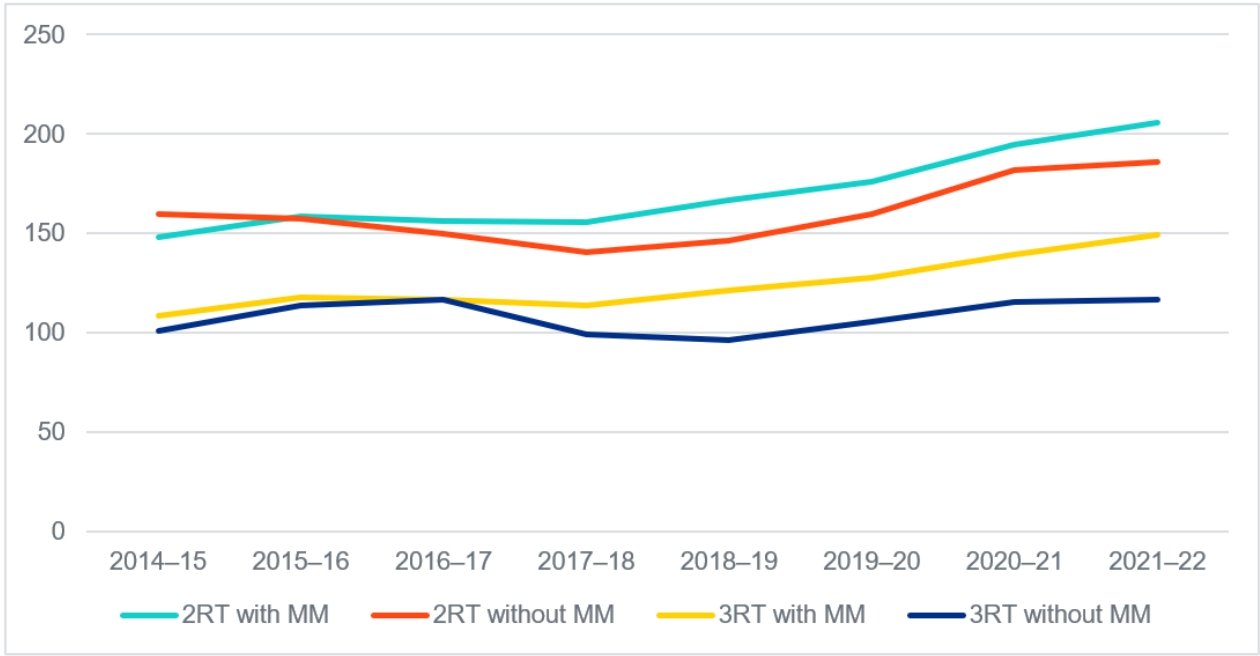
Heavy vehicle cost base with and without MaxMan ($m)



	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22
CB with MM	2,861.6	2,974.9	2,911.9	2,863.4	3,058.6	3,274.7	3,713.6	3,817.2
CB without MM	2,846.3	2,956.6	2,896.0	2,848.6	3,044.0	3,260.2	3,706.1	3,811.8

Note: CB is cost base; MM is MaxMan

Allocated costs, with and without MaxMan for double and triple road trains ($m)



Note: MM is MaxMan; 2RT is double road train; 3RT is triple road train

MaxMan - recommendations

- Based on the reasons outlined on the previous slides, in Table 14 of the C-RIS and following early consultation, the NTC recommends removing MaxMan from the PAYGO model

RUC leakages - issue

- The PAYGO model to date has assumed that heavy vehicle fuel revenue received is the equivalent of the road user charge on all fuel consumed
  - RUC rate multiplied by estimated heavy vehicle fuel use
- Court decisions since 2012
  - Introduced exemptions from paying RUC for fuel used to power auxiliary equipment and used off-road use
  - Fuel Tax Act 2006 – RUC on fuel used ‘for travelling’ on a public road
- SMVU fuel use estimate comprises all fuel used

RUC leakages - issue

- The total annual value of fuel tax exemptions for off-road and auxiliary equipment use cannot be accurately estimated by the ATO both in terms of
  - the exemption rates used by individual claimants or
  - the extent to which heavy vehicle operators make claims at all for off-road and auxiliary equipment use
- The net result of these exemptions is that the PAYGO model currently overstates the real amount of RUC revenue being received

RUC leakages - analysis

- The NTC has undertaken its own analysis of the impact of the RUC leakage issue in the absence of an alternate authoritative source
- This analysis looked at the heavy population by body type and using SMVU average fuel consumption rates combined with ATO fair and reasonable exemption rates to approximate the leakage impact
- This analysis found that approximately $90 million in potential RUC revenue is leaked
- This is equivalent to 4.8 per cent of the total RUC revenue the PAYGO model estimates

RUC leakages - recommendations

- Use best estimate of RUC exemptions/ leakages – based on jurisdictions' detailed registration data and the SMVU – to recalculate RUC rate based on the fuel that is actually subject to RUC
- Use a conservative approach based on ATO 'fair and reasonable' standard exemption rates
- That a 4.8 per cent factor be applied to estimated fuel use in PAYGO model to ensure that RUC revenue takes account of these RUC exemptions, so that RUC revenue is not overestimated
- The RUC rate would need to increase by a similar percentage, or approximately 1.2 cents per litre to recover the required revenue

Unsealed road travel discounts - issue

- Discounts for unsealed road travel by road trains were introduced into the PAYGO model in 2005 in response to industry feedback that road trains in particular did a considerable share of their annual travel on unsealed roads
- The PAYGO model cost allocators assume that all the road network is sealed
- The issue is whether the application of this discount is still appropriate and, if so, whether an updated industry survey on unsealed road travel is required

Unsealed road travel discounts - analysis

- Industry surveys in 2005 found that on average 30 per cent of double road train travel was on unsealed roads and 35 per cent of triple road train travel was on unsealed roads
- The unsealed discount is applied just to the ESA-km allocated cost to obtain an adjusted allocated cost overall. The discounted ESA-km element is then redistributed by VKT across the rest of the heavy vehicle and light vehicle fleets, with most going to the light vehicle fleet
- The unsealed road travel discounts result in a heavy vehicle cost base that is around $62 million (or 1.6 per cent) lower than would otherwise be the case

Unsealed road travel discounts - recommendations

- This discount addresses a legitimate issue concerning application of the ESA-km cost allocator and the PAYGO model assumption that all the network can be treated as being sealed
- That a review of this discount be undertaken based on a new survey of industry in time for application to the final decision RIS

CSO discount - issue

- In 2005 a Community Service Obligation discount was introduced to the PAYGO model in response to industry feedback on road trains servicing remote communities
- Road expenditure is often not warranted by traffic levels in remote areas but is necessary to support these communities
- The issue is whether this discount – which has not been reviewed since its inception – should be retained and, if yes, whether it should be reviewed with updated estimates

CSO discount - analysis

- The CSO discount rate was based on responses from relevant state and territory transport agencies
- The NTC adopted a rate of 5 per cent due, but there were differing interpretations of what constituted CSO expenditure
- The CSO discount is taken off the adjusted attributable allocated cost for road trains after the unsealed travel discount has first been applied. The cost is then reallocated on a VKT basis to the rest of the heavy and light vehicle fleets
- The application of the CSO discount results in a heavy vehicle cost base that is $14 million lower than would otherwise be the case

CSO discount - recommendations

- The main issue with the CSO discount has always been the ability to measure the CSO component of road expenditure because road authorities have difficulty isolating and judging whether road expenditure meets the CSO criteria
- Given the small impact it has on the cost base and the degree of uncertainty in its measurement, the NTC proposes that this discount be discontinued

Heavy vehicle concessions - issue

- Concessions - State/Territory discounts on national registration charges
- Typically provided for:
  - specific vehicle component
  - target group
  - combination of a specific vehicle component and a target group
- Purpose - alleviate registration charges impact for “special circumstances”, e.g. primary producers, not-for-profit operators

Heavy vehicle concessions – analysis and recommendations

- Financial impact of concessions is borne by the jurisdictions that offer them
- The decision to offer a concession resides with individual jurisdictions
- Previous Determinations have not incorporated concessions
- Concessions are not reflected in estimated revenue figures calculated using the PAYGO model
- The NTC proposes that concessions be excluded from this Determination

Recovery of regulatory costs - issue

- The cost of operating the National Heavy Vehicle Regulator have been recovered through the regulatory component of registration charges since 2016-17
- The current approach was developed as part of the 2014 determination
  - 25% - fixed $ per vehicle
  - 45% - AGM
  - 30% - VKT
  - Fixed charge per trailer ($55 in 2020-21)
- Yearly re-set required to reflect changes in NHVR budget and number/types of registered heavy vehicles
- Currently approved by ITMM each year

Recovery of regulatory costs - analysis

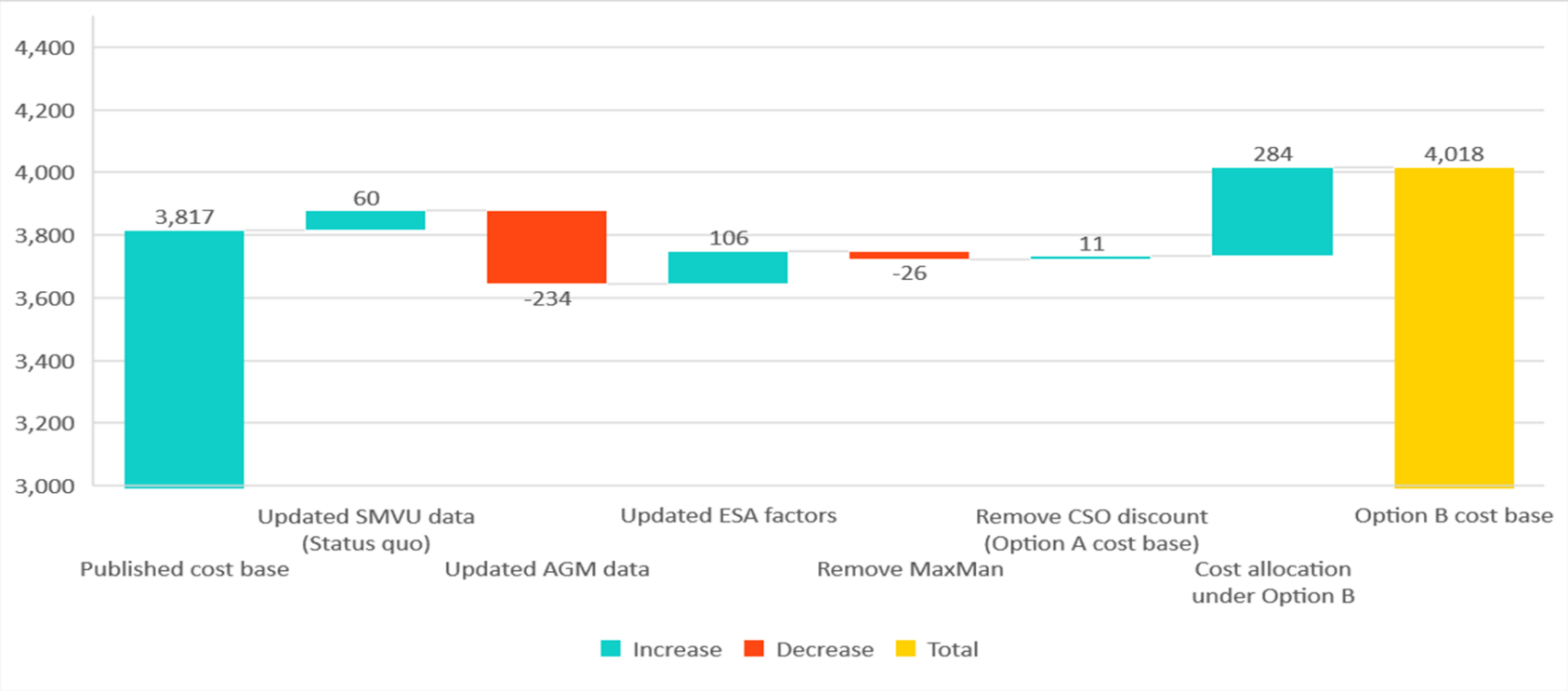
- Current approach has been successful in providing sufficient revenue to fund NHVR operations
- Arguably, formula is still OK, but AGM and VKT have changed
- Could provide for automatic adjustment each year to avoid need for ITMM approval

Recovery of regulatory costs - recommendations

- Recommendations
  - Keep current formula, but re-calculate using most recent data
  - Introduce annual adjustment process in Heavy Vehicle Charges Model Law

Technical changes - summary

- Technical changes recommended in a number of areas
  - Each change would affect the heavy vehicle cost base
  - Combined effect would reduce the heavy vehicle cost base



Determination options

- Three determination options
- Built around three alternative cost allocation approaches
  - Current (Option A)
  - Modified current (Option B) – use ESA-km to allocate 70% of cost category B2: periodic surface maintenance of roads
  - VIC DTF/DOT (Option C)

Determination options compared

	Status quo for 2020–21 heavy vehicle charges	Option A	Option B	Option C
Total road expenditure for allocation, 7-year EMA ($m)	**17,233**	**17,233**	**17,233**	**17,233**
Heavy vehicle cost base ($m)	**3,878**	**3,734**	**4,018**	**4,402**
Percentage of total expenditure allocated to heavy vehicles (%)	**22.5**	**21.7**	**23.3**	**25.5**

Note: Numbers in the status quo (2020–21) column use existing model settings from prior to the determination (e.g. applying MaxMan) but use updated usage data from the 2020 SMVU. This serves as a basis for comparison for options A, B and C.

Determination options - analysis

- Economic considerations – no clearly superior option
- Timing
  - Advantages and disadvantages of implementing change now
  - Changing as part of Land Transport Market Reform – options to manage impact of change
- Other
  - Data issues with economic approaches
  - Engineering approach based on Victorian data only – not tested nationally

Determination options - recommendation

Recommendation: That the cost allocation options, each combined with the recommended technical changes outlined in section 4, should form the three broad options for this determination

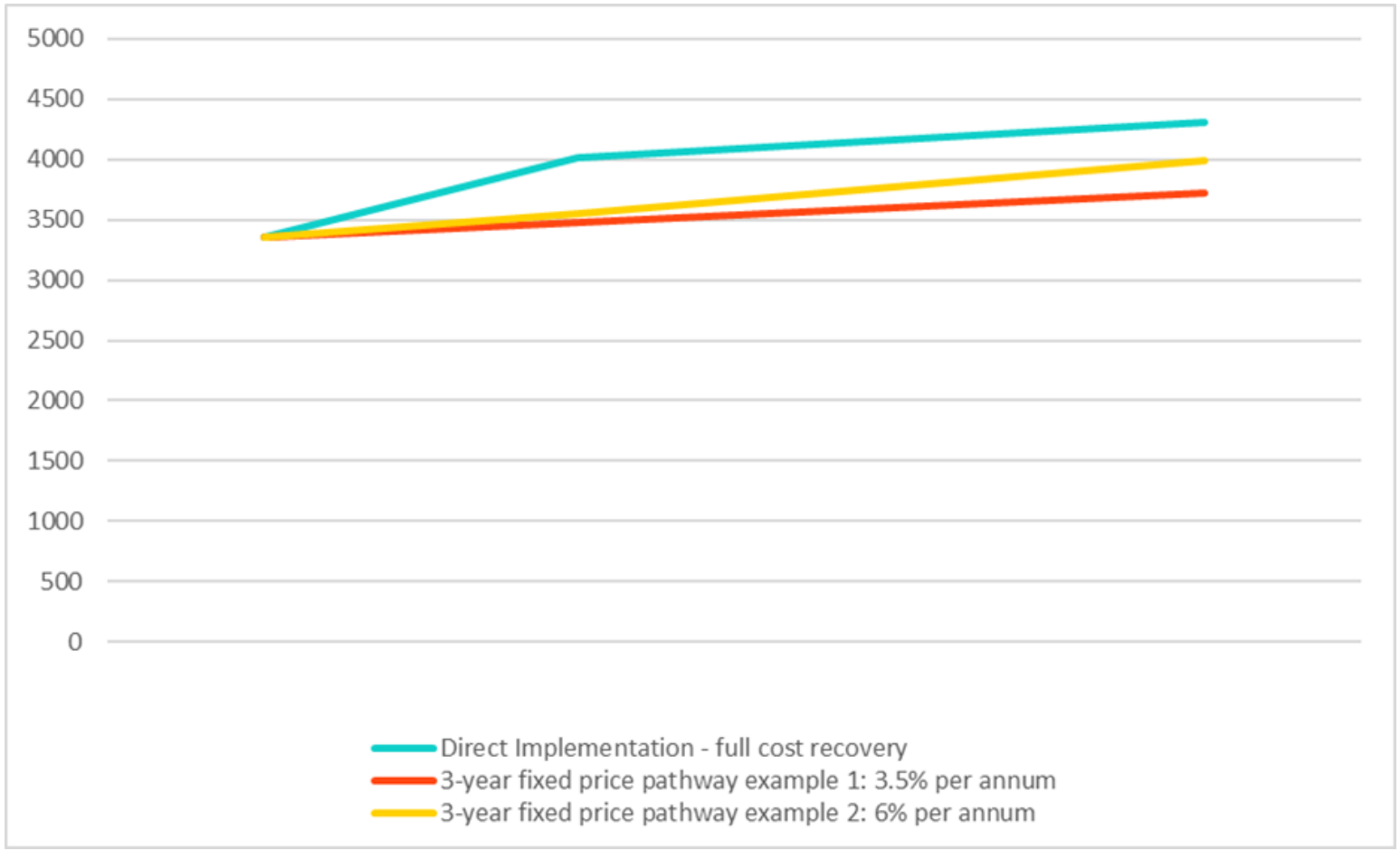
Implementation options - issue

- Standard approach has been to introduce new heavy vehicle charges resulting from a determination immediately
  - Some changes were phased in (e.g. A-trailer charge)
- Direct implementation of new heavy vehicle charges in 2022-23 would require estimated increases between 8.2% (current option) and 27.6% (VIC DTF/DOT option)
- Direct implementation may not be feasible:
  - ITMM historically reluctant to approve large increases
  - The economic consequences of a significant increase in heavy vehicle charges may be severe in the current economic climate
  - Heavy vehicle operators may not be able to pass on significant increases to their customers

Implementation options

- Three-year price path as option
  - Would involve ITMM agreeing to fixed percentage price increases for three years
  - Review approach after three years
  - Could choose any percentage increase
- Two examples
  - Example 1: Charges increase on average by 3.5 per cent each year
    - Approximately reflects historical cost base growth rate
  - Example 2: Charges increase on average by 6.0 per cent each year
    - Higher than historical cost base growth rate – may narrow gap

Implementation options – illustration

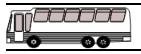
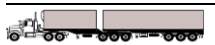
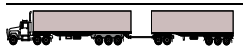


Implementation options - RUC

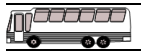
Current RUC rate: 26.4 cents/litre

	Year 1	Year 2	Year 3
Direct implementation	32.2	N/A	N/A
Three-year fixed price path example 1: 3.5% per annum	27.4	28.3	29.3
Three-year fixed price path example 2: 6% per annum	28.0	29.7	31.5

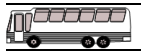
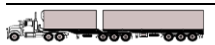
Implementation options - direct

Vehicle type	Mass rating for charging	Current (2021–22)	Year 1	Year 2	Year 3
	Up to 12.0 t	617	627	N/A	N/A
	Over 12.0 t	993	1,804	N/A	N/A
	Up to 42.5 t	2,334	3,150	N/A	N/A
	Up to 16.5 t	968	1,792	N/A	N/A
	Over 16.5 t	1,162	2,084	N/A	N/A
	Up to 42.5 t	3,135	4,060	N/A	N/A
	Over 42.5 t	11,713	13,143	N/A	N/A
	Over 42.5 t	12,342	13,780	N/A	N/A
	Up to 20.0 t	983	1,822	N/A	N/A
	Over 20.0 t	1,183	2,124	N/A	N/A
	Up to 12.0 t	521	517	N/A	N/A
	Over 12.0 t	651	2,606	N/A	N/A
		2,731	7,615	N/A	N/A
		6,369	6,420	N/A	N/A
		15,102	15,225	N/A	N/A
		15,158	15,281	N/A	N/A
		16,969	17,110	N/A	N/A

Implementation options – 3.5% for 3 years

Vehicle type	Mass rating for charging	Current (2021–22)	Year 1	Year 2	Year 3
	Up to 12.0 t	617	636	649	664
	Over 12.0 t	993	1,035	1,074	1,114
	Up to 42.5 t	2,334	2,405	2,486	2,568
	Up to 16.5 t	968	1,023	1,062	1,102
	Over 16.5 t	1,162	1,210	1,254	1,300
	Up to 42.5 t	3,135	3,222	3,329	3,438
	Over 42.5 t	11,713	12,227	12,769	13,336
	Over 42.5 t	12,342	12,876	13,439	14,027
	Up to 20.0 t	983	1,053	1,092	1,132
	Over 20.0 t	1,183	1,250	1,294	1,340
	Up to 12.0 t	521	524	534	545
	Over 12.0 t	651	688	704	722
		2,731	2,836	2,958	3,086
		6,369	6,541	6,732	6,930
		15,102	15,513	15,969	16,442
		15,158	15,569	16,025	16,498
		16,969	17,434	17,944	18,474

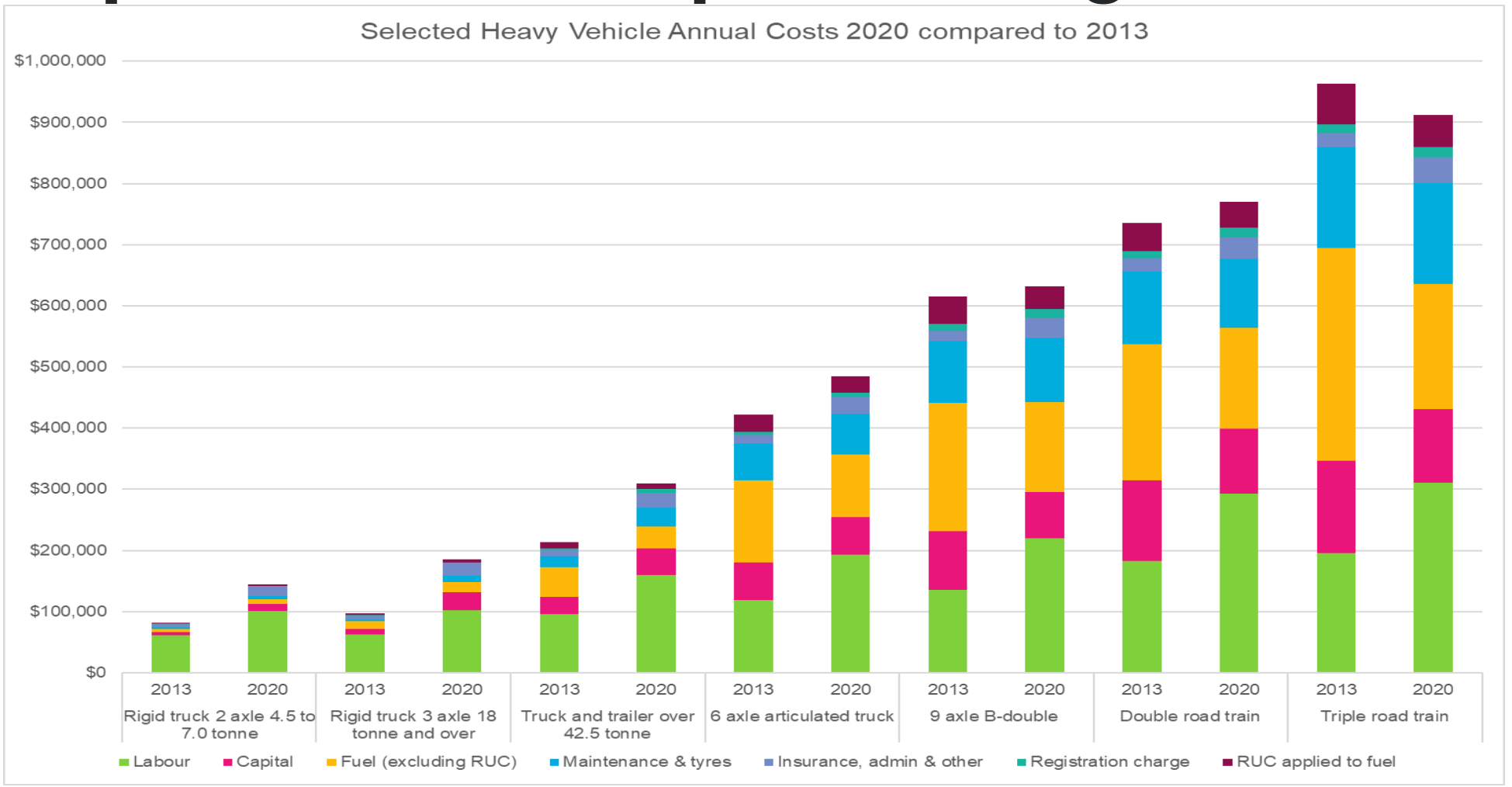
Implementation options – 6% for 3 years

Vehicle type	Mass rating for charging	Current (2021–22)	Year 1	Year 2	Year 3
	Up to 12.0 t	617	646	671	698
	Over 12.0 t	993	1,053	1,113	1,177
	Up to 42.5 t	2,334	2,455	2,589	2,733
	Up to 16.5 t	968	1,041	1,101	1,165
	Over 16.5 t	1,162	1,231	1,299	1,371
	Up to 42.5 t	3,135	3,291	3,470	3,662
	Over 42.5 t	11,713	12,503	13,350	14,261
	Over 42.5 t	12,342	13,168	14,052	15,003
	Up to 20.0 t	983	1,071	1,131	1,195
	Over 20.0 t	1,183	1,271	1,339	1,411
	Up to 12.0 t	521	532	551	571
	Over 12.0 t	651	695	721	748
		2,731	2,894	3,081	3,282
		6,369	6,688	7,042	7,416
		15,102	15,864	16,707	17,597
		15,158	15,920	16,763	17,653
		16,969	17,827	18,772	19,770

Implementation options – financial implications

	Estimated total heavy vehicle charges revenue 2022–23 ($m)
Estimated revenue from current heavy vehicle charges in 2021–22 before estimated RUC leakages are taken into account	3,449
Estimated revenue from current heavy vehicle charges in 2021–22 after estimated RUC leakages are taken into account	3,356
Direct Implementation 2022–23	4,018
Three-year fixed price path: Example 1 – 3.5% per annum 2022–23	3,481
Three-year fixed price path: Example 2 – 6% per annum 2022–23	3,566

Implementation options - significance



Implementation options – trade-offs

- Pricing principles – goals include cost recovery, avoidance of cross-subsidies, administrative simplicity, efficiency and equity (regional and remote communities / access)
- Currently, charges revenue below identified heavy vehicle cost base
- Likely to favour implementation path that shows some progress towards achieving full cost recovery
- Efficiency and equity considerations – against large changes
- Direct – scores highly on cost recovery, but low on efficiency and equity
- 3-year fixed price path
  - Example 1 (3.5% p.a.) minimises impact on industry, but may not close gap
  - Example 2 (6% p.a.) has higher impact on industry, but has potential to close gap faster

Questions and discussion

National Transport Commission

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