

## Draft Freight PASS

**Operational Guide** 

October 2023

## BETA RELEASE For consultation purposes only.

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## **Draft Freight PASS**

### Introduction

This operational guide aids the operation of the Freight PASS (Productivity and Safety/Sustainability) tool. This operational guide should be read in conjunction with the user guide, which guides the interpretation of the tool.

### **Operational guide**

Below outlines the recommended order of actions when using the Freight PASS. Users need to click and select the desired option from the dropdown menu and/or enter relevant information into the cell(s) as appropriate.

### Step 1 – Vehicle selection

#### Table 1. Step 1. Vehicle selection





For Vehicle C, click the *fleet* filter (Step I) and select the desired fleet type from the dropdown menu.

Refer to the NHVR common configuration charts for vehicle selection options. Links supplied in the Vehicle C banner.

Alternatively select no selection if user wants to reduce the number of vehicles.

If the vehicle does not exist an error message will be displayed.

For Vehicle C, click the *combination filter* and select the desired combination type from the dropdown menu.





Repeat steps 1 - 4 for Vehicle D if the user would like to compare another vehicle.



### Step 2 – Scenario inputs

### Table 2. Step 2. Scenario inputs

Instruction         Navigate to Step 2. Scenario inputs         Set Step 2. Scenario inputs         Set the journey length in kilometres by typing in a value of interest.         Note - this is the distance of a one-way trip.         Set the total load in tonnes by typing in a value of interest.         Set the total load in tonnes by typing in a value of interest.         Note - this is the total payload to be transported (e.g. 100t of apples),	Instruction		
Navigate to Step 2. Scenario inputs       step 2. Scenario inputs         Step 3. Step 2. Scenario inputs       Step 2. Scenario inputs         Step 3. S	Instruction		
Set the journey length in kilometres by typing in a value of interest.       Set the total load in tonnes by typing in a value of interest.       Set the total load in tonnes by typing in a value of interest.         Note - this is the total poyload to be transported (e.g. 100t of apples).       Set the total load in tonnes by typing in a value of interest.       Set the total load in tonnes by typing in a value of interest.	Navigate to Step 2. Scenario inputs st	ep 2. Scenario inputs	
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Set the journey length in kilometres by typing in a value of interest.       Amount of the set of the s		(single direction)	Enter value
Set the journey length in kilometres by typing in a value of interest.       Set 2 Secnario inputs       Journey length in kilometres by typing in a value of interest.         Note - this is the distance of a one-way trip.       Set 2 Secnario inputs       Journey length in the sector and set of additional (sector)         Set the total load in tonnes by typing in a value of interest.       Set the total payload to be transported (sector)       Journey length in to additional (sector)       Journey length in to additional (sector)         Set the total load in tonnes by typing in a value of interest.       Set 2 Second load (sector)       Journey length in to additional (sector)       Journey length in to additional (sector)         Set the total load in tonnes by typing in a value of interest.       Set 2 Second load (sector)       Journey length in to additional (sector)       Journey length in to additional (sector)         Note - this is the total payload to be transported (sector)       Journey length in to additional (sector)         Set the total load in tonnes by typing in a value of interest.       Set 2 Sector)       Journey length in to additional (sector)       Journey Length in to additional (sector)       Journey Length in to additional (sector)       Journey Length in to additional (sector)       Journey Length in to additional (sector)		Total load (t)	100
Set the journey length in kilometres by typing in a value of interest.     Step 2. Scenario Inputs     Journey Length in kilometres by typing in a value of interest.       Note – this is the distance of a one-way trip.     Step 2. Scenario Inputs     Journey Length in Length in the set of the set o			Enter value
Set the journey length in kilometres by typing in a value of interest. Note – this is the distance of a one-way trip. Set the total load in tonnes by typing in a value of interest. Note – this is the total payload to be transported (e.g. 100t of apples), the total load in tonnes by typing in a value of interest.		Average speed (km/h)	80
Commodity     Apples       Set the journey length in kilometres by typing in a value of interest.     Step 2. Scenario inputs       Note - this is the distance of a one-way trip.     Step 2. Scenario inputs       Set the total load in tonnes by typing in a value of interest.     Step 2. Scenario inputs       Set the total load in tonnes by typing in a value of interest.     Step 2. Scenario inputs       Set the total load in tonnes by typing in a value of interest.     Step 2. Scenario inputs       Set the total load in tonnes by typing in a value of interest.     Step 2. Scenario inputs       Set the total load in tonnes by typing in a value of interest.     Step 2. Scenario inputs       Note - this is the total payload to be transported (e.g. 100t of apples),     Step 2. Scenario inputs			Enter value
Set the journey length in kilometres by typing in a value of interest.       Step 2. Scenario inputs       Step 2. Scenario inputs         Note - this is the distance of a one-way trip.       Step 2. Scenario inputs       Step 3. Scenario         Set the total load in tonnes by typing in a value of interest.       Step 2. Scenario inputs       Step 3. Scenario         Set the total load in tonnes by typing in a value of interest.       Step 2. Scenario inputs       Step 3. Scenario         Set the total load in tonnes by typing in a value of interest.       Step 2. Scenario inputs       Step 3. Scenario         Set the total load in tonnes by typing in a value of interest.       Step 2. Scenario inputs       Step 3. Scenario         Note - this is the total payload to be transported (e.g. 100t of apples).       Step 3. Scenario inputs       Step 3. Scenario inputs		Commodity	Apples
pelduants ingate inducers (in)		Journey length where vehicle	Solect from drop down menu
Set the journey length in kilometres by typing in a value of interest.       Step 2. Scenario inputs       Step 2. Scenario inputs         Note – this is the distance of a one-way trip.       Journey length (ba) Single direction       Jo		pollutants impacts biodiversity (km) (single direction)	Enter value
Set the journey length in kilometres by typing in a value of interest.       Step 2. Scenario inputs         Note – this is the distance of a one-way trip.       Journey length timal 100         Journey length timal (1)       100         Average speed (keft)       00         Average speed (keft)       00         Consecutivy       Applied direction)         Set the total load in tonnes by typing in a value of interest.       Step 2. Scenario inputs         Note – this is the total payload to be transported (e.g. 100t of apples).       5		Journey length where vehicle run-off impacts water and/or soil quality (km) (single direction)	
Set the journey length in kilometres by typing in a value of interest.       Step 2. Scenario inputs         Note – this is the distance of a one-way trip.       Journey length (tim) (single direction)       100         Average speed (lamh)       80       Journey length (tim) (single direction)       200         Average speed (lamh)       80       Journey length (tim) (single direction)       200         Set the total load in tonnes by typing in a value of interest.       Journey length (tim) (single direction)       100       Journey (single direction)       Journey (s			Enter value
Note – this is the distance of a one-way trip.       idea way in the total load (i)       100         Note – this is the distance of a one-way trip.       idea way in the total load (i)       100         Average speed (kmh)       80       idea way         Idea way       idea way       idea way       idea way         Idea way       idea way       idea way       idea way         Average speed (kmh)       100 <td< th=""><th>Set the <i>journey length</i> in kilometres by typing</th><th>tep 2. Scenario inputs</th><th></th></td<>	Set the <i>journey length</i> in kilometres by typing	tep 2. Scenario inputs	
Note – this is the distance of a one-way trip. Note – this is the distance of a one-way trip. Total lead (1 100 Convolution Average speed (hinh) 80 Conmodity Apples Conmodity Apples Conmodity Apples Convolution Convol		Journey length (km) (single direction)	100
Set the total load in tonnes by typing in a value of interest.       Step 2. Scenario inputs       Journey length (Im) 100       Journey length (Im) 100         Note - this is the total payload to be transported (e.g. 1000 tof apples).       Step 2. Scenario inputs       Journey length (Im) 100       Journey length (Im) 100         Journey length ubere exhicle payload to be transported (e.g. 1000 tof apples).       Step 2. Scenario inputs       Journey length (Im) 100       Journey length (Im) 100         Journey length (Im) 100       Journey length (Im) 100       Journey length (Im) 100       Journey length (Im) 100	Note – this is the distance of a one-way trip.		Enter value
Set the total load in tonnes by typing in a value of interest.       Step 2. Scenario inputs         Note - this is the total payload to be transported (e.g. 100t of apples).       Step 2. Scenario inputs		Total load (t)	100
Set the total load in tonnes by typing in a value of interest.       Step 2. Scenario inputs       Journey length (km)       100         Note – this is the total payload to be transported (e.g. 100t of apples).       Journey length (km)       100       Interested			Enter value
Set the total load in tonnes by typing in a value of interest.       Journey length vhere vehicle run-off (single direction)       Step 2. Scenario inputs         Note – this is the total payload to be transported (e.g. 100t of apples).       Journey length (tan)       Journey length (tan)		Average speed (km/h)	80 Ealer value
Set the total load in tonnes by typing in a value of interest.       Step 2. Scenario inputs         Note - this is the total payload to be transported (e.g. 100t of apples).       Journey length (km) (single direction)       Journey		Commodity	Apples
Set the total load in tonnes by typing in a value of interest.       Step 2. Scenario inputs         Note - this is the total payload to be transported (e.g. 100t of apples).       Step 2. Scenario inputs		Soundary	Select from drop down ment
Set the total load in tonnes by typing in a value of interest.       Step 2. Scenario inputs       Step 2. Scenario inputs         Note - this is the total payload to be transported (e.g. 100t of apples).       Journey length (km)       100         Total load (t)       100       Enter other         Deter other       Total load (t)       100         Enter other       Enter other       Enter other		Journey length where vehicle pollutants impacts biodiversity (km)	
Set the <i>total load</i> in tonnes by typing in a value of interest. Note – this is the total payload to be transported (e.g. 100t of apples).		(single direction)	Enter value
Set the <b>total load</b> in tonnes by typing in a value of interest. Note – this is the total payload to be transported (e.g. 100t of apples).		Journey length where vehicle run-off impacts water and/or soil quality (km) (single direction)	
Set the <b>total load</b> in tonnes by typing in a value of interest. Note – this is the total payload to be transported (e.g. 100t of apples).			Enter value
Note – this is the total payload to be transported (e.g. 100t of apples).     100       Total load (t)     100       Enter value	Set the <b>total load</b> in tonnes by typing in a value	tep 2. Scenario inputs	
Note – this is the total payload to be     Energian       transported (e.g. 100t of apples).     Total load (t)		Journey length (km) (single direction)	100
Total load (t) 100	Note – this is the total payload to be		Enter value
Entervalue	transported (e.g. 1001 0J upples).	Total load (t)	100
		10.00	Enter value

Journey length where vehicle run-off impacts water andfor soil quality (km) (single direction)



Set the <i>average speed</i> in km/h by typing in a value of interest	Step 2. Scenario inputs	
value of interest.	Journey length (km) (single direction)	100
	Total load (t)	Enter salue 100 Frider value
	Average speed (km/h)	80
		Enter value
	Commodity	Apples
	Journey length where vehicle	Select from drop down menu
	pollutants impacts biodiversity (km) (single direction)	Enter value
	Journey length where vehicle run-off impacts water and/or soil quality (km) (single direction)	
		Enter value
Click on the <i>commodity filter</i> , and select a	Step 2. Scenario inputs	
commodity from the dropdown menu.	Journey length (km) (single direction)	100 Enter value
	Total load (t)	100 Foter usitur
	Average speed (km/h)	80 50
	Commodity	Apples
	Journey length where vehicle pollutants impacts biodiversity (km) (single direction)	Este solo
	Journey length where vehicle run-off impacts water and/or soil quality (km) (single direction)	Ling fang
		Enter value
Set the <i>length of journey impacting</i>	Step 2. Scenario inputs	
<i>biodiversity</i> in km by typing in a value of interest.	Journey length (km) (single direction)	100 Enter value
Note – this is the distance of a one-way trip.	Total load (t)	100
		Enter value
	Average speed (km/h)	80
	Commodity	Apples Solars from dawn mode
	Journey length where vehicle pollutants impacts biodiversity (km) (single direction)	Enter value



Set the *length of journey impacted by vehicle run-off* in km by typing in a value of interest.

Note – this is the distance of a one-way trip.

Step 2. Scenario inputs	
Journey length (km) (single direction)	100
Total load (t)	
Average speed (km/h)	80
Commodity	Apples
Journey length where vehicle pollutants impacts biodiversity (km) (single direction)	
Journey length where vehicle run-off impacts water and/or soil quality (km) (single direction)	
	Enter value

### Step 3 – Commodity calculator (optional)

#### Table 3. Step 3. Commodity calculator (optional)

#### Instruction

Navigate to Step 3. Commodity calculator. This step is optional and is used to measure changes in cost to transport different commodities if the distance of the trip was modified.

Cost is for the laden part of the trip only.

CSIRO data is representative based on average cost per tonne km for the commodity, is vehicle agnostic and may not represent real world costs.

This step relates to the commodity selected in Step 2.

Using the drop down menu, select whether the distance of the trip will increase or reduce compared to the trip distance identified in Step 2.

In the second box, identify, by typing a number, the kilometers the distance is changing by.







### Step 4 – Criteria weightings (optional)

#### Table 4. Step 4. Criteria weightings (Optional)

#### Instruction

Navigate to Step 4. Criteria weightings. This step is optional.

To change the weightings of the respective criteria, enter a percentage in the respective fields.

The user can determine the weightings with the productivity, safety and sustainability fields, in addition to an overall weighting.



### Results

Commission.

Note: Outputs identified in this section are for illustrative purposes only.

#### Table 5. Freight PASS outputs

#### Results Completion of Step 1 (refer to operational guide), Vehicle classificati will result in the identification of vehicle classifications for vehicles A to D. Axles Config ΑΤΑΡ Austroads NTC A123 Artic 6 Axle Class 9 16b This presents the number of axles, configuration code and vehicle equivalencies from the ATAP Guidelines, Austroads and the National Transport

Axles	Config.	ATAP	Austroads	NTC
9	B1233	B-Double	Class 10	18b

Axles	Config.	ATAP	Austroads	NTC
6	A123	Artic 6 Axle	Class 9	16b

Axles	Config.	ΑΤΑΡ	Austroads	NTC
9	B1233	B-Double	Class 10	18b



Completion of Step 1 (refer to operational guide), will result in the identification of vehicle masses for vehicles A to D.

This presents a breakdown of vehicle masses, including the GCM, load and tare mass.

	Vehicle mass		
GCM (t)	Load (t)	Tare (t)	
42.50	24.47	18.03	

GCM (t)	Load (t)	Tare (t)
62.50	37.28	25.22

GCM (t)	Load (t)	Tare (t)
42.50	24.47	18.03

GCM (t)	Load (t)	Tare (t)
68.50	43.28	25.22

Completion of Steps 1 and 2 (refer to operational guide), will result in the score cards across productivity (blue), safety (yellow) and sustainability (green) criteria.

Each score card will identify the best vehicle for the respective criteria. Beneath the card includes a graph illustrating the results in context. A to D in the X-axis of the graph refers to vehicles A to D.

Note:

a) Externality costs have been escalated to present year \$.

b) Where a PBS vehicle and conventional vehicle perform the same for a specific criterion, the PBS vehicle will be recognised in the score card. Where two vehicles of the same fleet perform the same, the score card will recognise the first vehicle in the order identified in the vehicle selection. The graph provides the performance of all vehicles in context, ensuring transparency.





Completion of Steps 1, 2 and optional Step 4 (refer to operational guide), will result in the rankings across productivity (blue), safety (yellow) and sustainability (green), along with an overall rank (dark blue).



Completion of Steps 1, 2 and optional Step 3 (refer to operational guide), will identify the change in cost to transport a commodity based on the journey length and total load for a specific scenario and a comparison scenario.

Calculation is based on CSIRO's cost per tonne kilometer.

Cost to transport commodity includes transport costs (maintenance, fixed costs, fuel costs, driver costs, capital cost and appreciation) and logistics costs (loading, unloading, decoupling, fatigue management).

The commodity calculator will also identify the following information for the respective commodity:

- Average payload (t)
- Average trip distance (km)
- Average trip duration (h)
- Average speed (km/h)
- Cost per TKM (\$)
- Cost per payload tonne (\$)
- Annual trailers
- Annual tonnes (t)

Information is a national average and based on historic CSIRO data for the specific commodity. There is no relationship to the scenario or vehicles.

Average cost to transport APPLES					
Average cost to transport commodity for the entire freight task under the scenario (i.e. accummulative cost of all laden trips)			\$2,030		
Estimated change in total cost to transport APPLES if distance changed					
Reduce	the distance of the scenario by		5	Kilometers	
Increase Reduce	dity for the entire freight task (i.e. ost of all trips)		\$1,9	129	
Estimated savings to transport commodity			\$102		
Vehicle agnostic cost based on CSIRO data on average cost to transport different commodities (\$YTKM). Cost is for the laden part of the trip only. CSIRO data is representative and may not represent real world costs.					
Source: CSIRD Supply Chain Transport and Logistics Dashboard					
Commodity summary (national averages for APPLES)					
Average payload (t)	20.00	Average trip distance (km) 396.50		396.50	
Average trip duration (h)	5.61	Average speed (km/h) 70.68		70.68	
Average transport cost (\$/TKM)	0.203	Cost per payload tonne (\$) 141.40		141.40	
Annual trailers	16,225	Annual tonnes (t) 324,506		324,506	
Ensure that a commodity is selected in Step 2					



## **Red text prompts**

### Table 6. Red text prompts

Location	Prompt	Explanation / resolution	
Step 1. Vehicle selection – Vehicle A and Vehicle B	Reference vehicle cannot be modified.	Two of the vehicles cannot be modified, allowing for a standardised comparison to a common as-of-right vehicle (GAV) and a common restricted access vehicle (RAV):	
		• Vehicle A: 6-axle semitrailer at GML	
		Vehicle B: 9-axle B-Double at GML	
Step 1. Vehicle selection – Vehicle C and Vehicle D	Please select vehicle using the drop down menus in order from left to right (Step I to IV). Alternatively, select 'No selection' under the 'Fleet' drop down menu.	Default message providing direction to the user.	
Step 1. Vehicle selection – Vehicle C and Vehicle D	Vehicle does not exist in the NHVR common configuration charts. To select a	Recommence the vehicle selection using the drop down menus from left to right.	
	vehicle, please use the drop down menus from left to right (Step I to IV). Refer to the NHVR common configuration charts for vehicle selection options.	Note: Each of the drop down menus in the vehicle selection is dependent on the previous selection. A selection out of order will cause this error message.	
Step 1. Vehicle selection – Vehicle C and Vehicle D	'No selection' has been identified. To select a vehicle, please use the drop down menus from left to right (Step I to IV)	Message confirming that no vehicle has been selected.	
Step 2. Scenario inputs	ERROR. Please ensure all vehicles in Step 1 are aligned with the NHVR common configuration charts. Please follow the	This error message will occur if one or more of the vehicles selected do not align with the NHVR common configuration charts.	
	instructions and prompts in Step 1.	Return to Step 1 and follow the instructions to determine Vehicles C and D.	
Step 2. Scenario inputs – Environmental inputs	Value must be less than journey length	The environmental inputs relate to a proportion of the journey length; therefore these values must be less than the journey length.	
Step 4. Criteria weightings	Exceeds 100%. Review weightings. Or	The weightings must equal to 100% for each respective row (e.g. all of the productivity weights must equal 100% and all of the overall weightings must equal 100%).	
	Under 100%. Review weightings.		
		This error message occurs if the total is greater than or less than 100%.	