Draft Freight PASS

Operational Guide

October 2023

BETA RELEASE

For consultation purposes only.

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Draft Freight PASS

Introduction

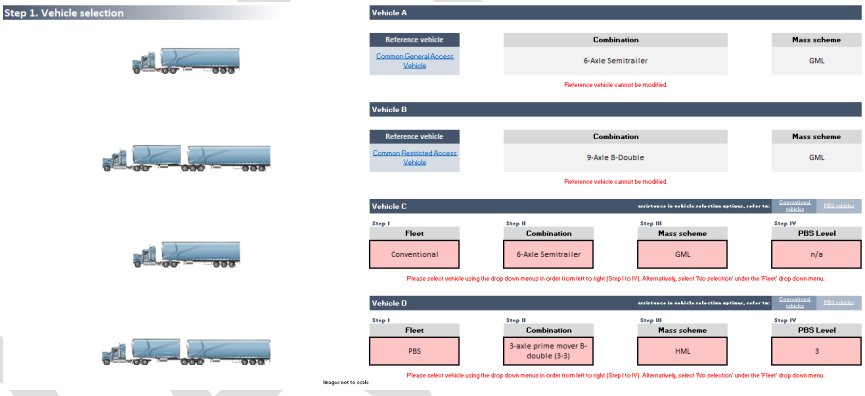
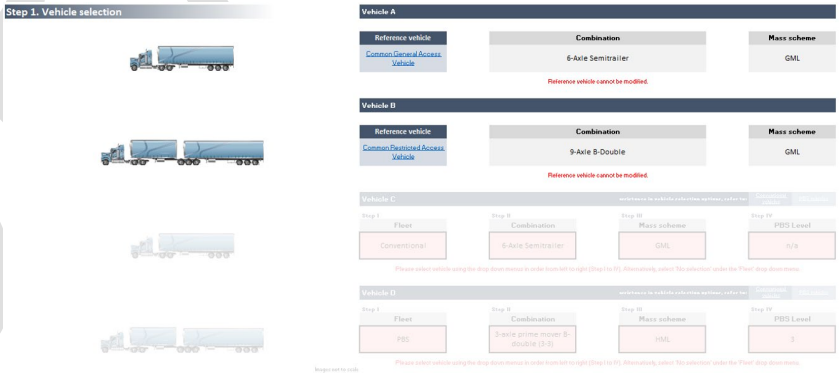
This operational guide aids the operation of the Freight PASS (Productivity and Safety/Sustainability) tool. This operational guide should be read in conjunction with the user guide, which guides the interpretation of the tool.

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

Instruction	
Navigate to Step 1. Vehicle selection	
Vehicles A and B cannot be modified. This allows for a standardised comparison to a common as-of-right general access vehicle (GAV) and a common restricted access vehicle (RAV): • Vehicle A: 6-axle semitrailer at GML • Vehicle B: 9-axle B-Double at GML	

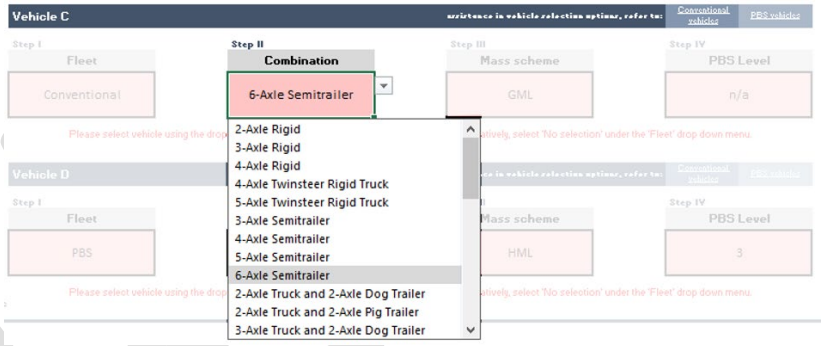
For Vehicle C, click the ***fleet filter*** (Step I) and select the desired fleet type from the dropdown menu.

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

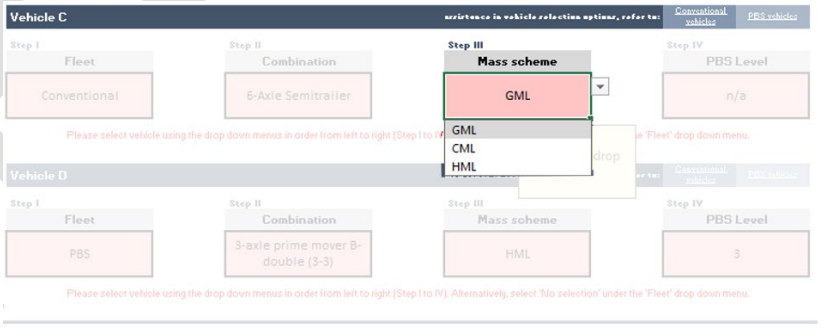
Alternatively select *no selection if* user wants to reduce the number of vehicles.

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.



For Vehicle C, click the ***mass scheme filter*** and select the desired mass scheme from the dropdown menu.



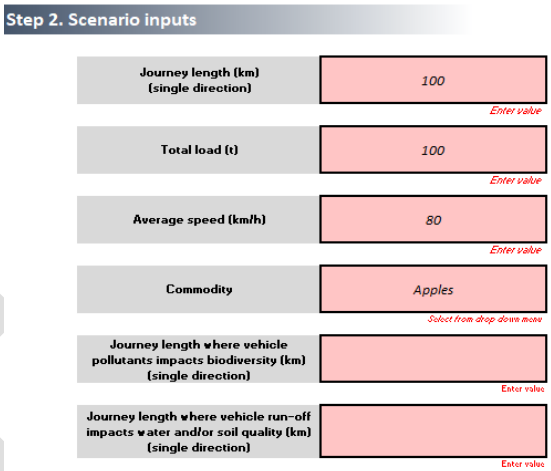
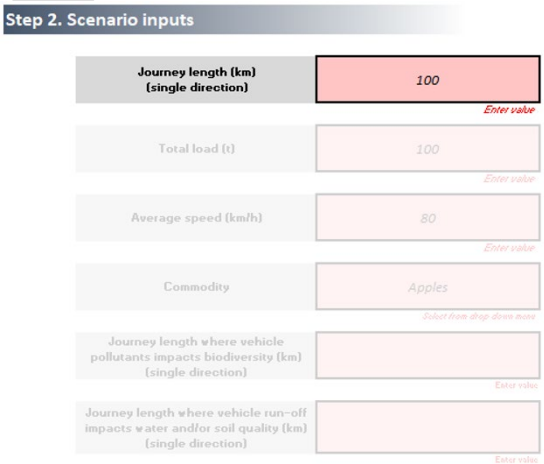
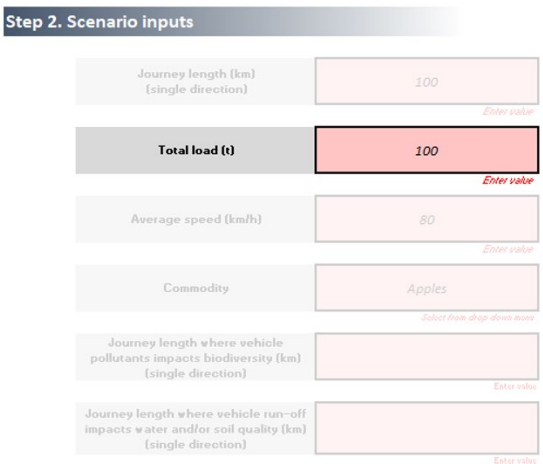
For Vehicle C, click the ***PBS level filter*** and select the desired PBS level from the dropdown menu.

If a conventional vehicle, select **n/a**.

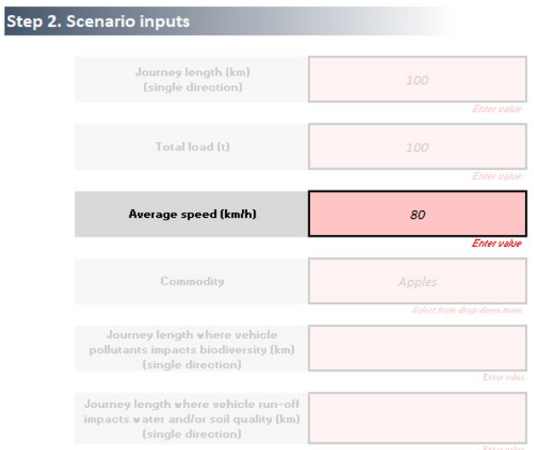
Repeat steps 1 – 4 for Vehicle D if the user would like to compare another vehicle.

Step 2 – Scenario inputs

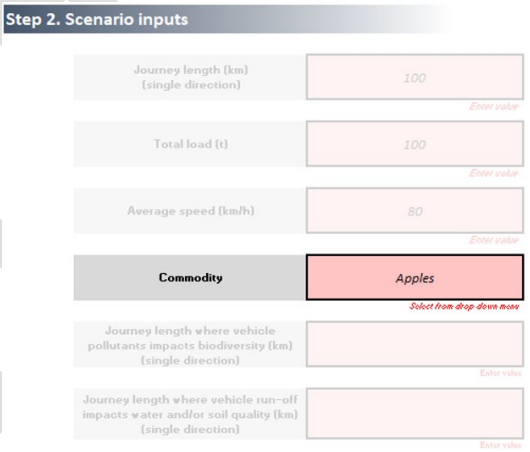
Table 2. Step 2. Scenario inputs

Instruction	
Navigate to Step 2. Scenario inputs	
Set 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).*	

Set the ***average speed*** in km/h by typing in a value of interest.



Click on the ***commodity filter,*** and select a commodity from the dropdown menu.

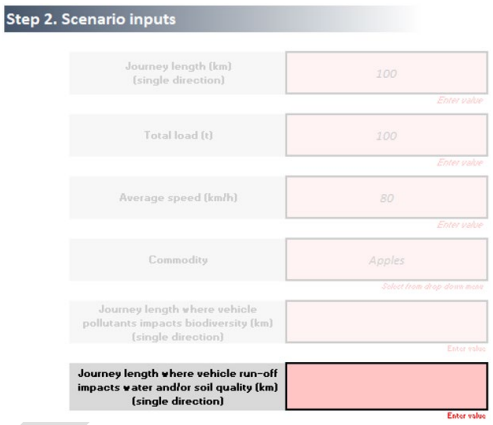


Set the ***length of journey impacting biodiversity*** in km by typing in a value of interest.

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

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 3 – Commodity calculator (optional)

Table 3. Step 3. Commodity calculator (optional)

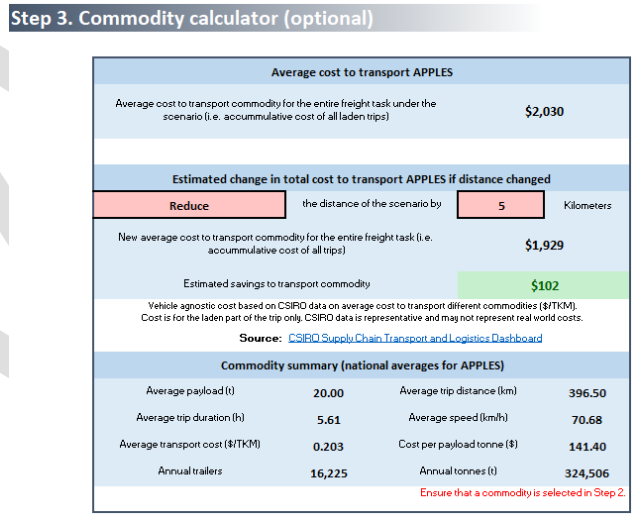
Instruction

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.

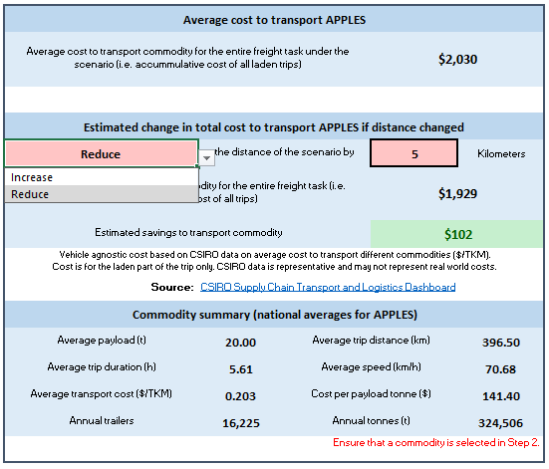
CSIRO data is representative based on average cost per tonne km for the commodity, is vehicle agnostic and may not represent real world costs.

This step relates to the commodity selected in Step 2.



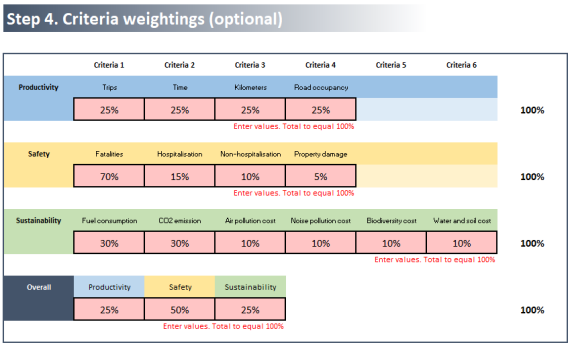
Using the drop down menu, select whether the distance of the trip will increase or reduce compared to the trip distance identified in Step 2.

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



Step 4 – Criteria weightings (optional)

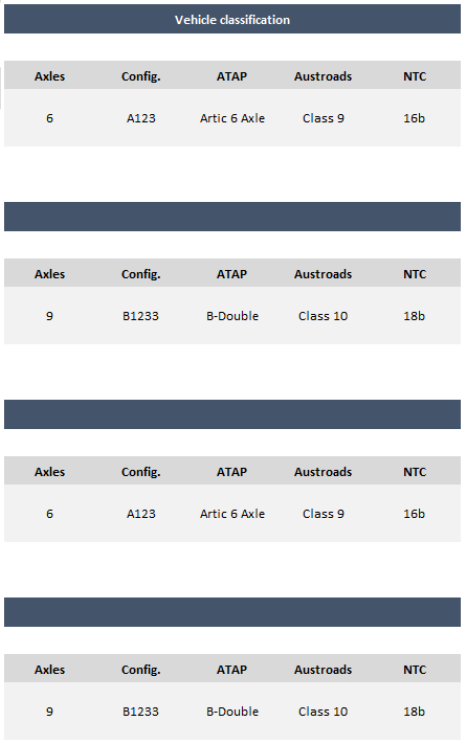
Table 4. Step 4. Criteria weightings (Optional)

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

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), will result in the identification of vehicle classifications for vehicles A to D. This presents the number of axles, configuration code and vehicle equivalencies from the ATAP Guidelines, Austroads and the National Transport Commission.	

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.

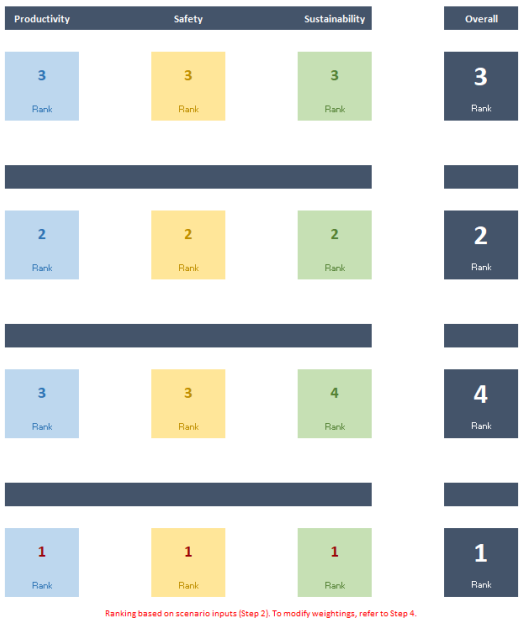
Each score card will identify the best vehicle for the respective criteria. Beneath the card includes a graph illustrating the results in context. A to D in the X-axis of the graph refers to vehicles A to D.

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.

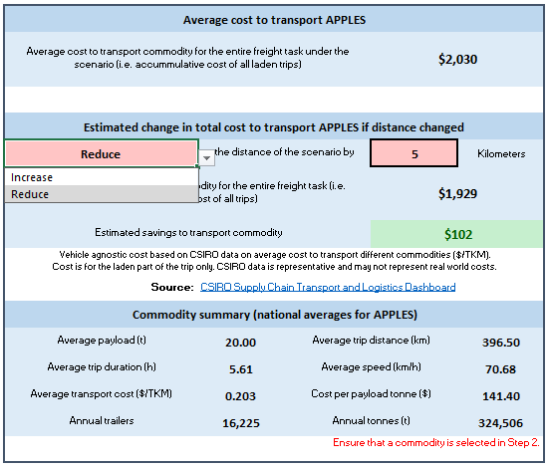
Calculation is based on CSIRO's cost per tonne kilometer.

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.



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 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.	Recommence the vehicle selection using the drop down menus from left to right. 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 instructions and prompts in Step 1.	This error message will occur if one or more of the vehicles selected do not align with the NHVR common configuration charts. 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 Under 100%. Review weightings.	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%). This error message occurs if the total is greater than or less than 100%.