

Hobart Traffic Origin-Destination Report

April 2024



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Introduction

Hobart has a complex and dynamic traffic system. The CBD and surrounds attract a large volume of traffic particularly during the morning and afternoon peaks. Hobart's CBD relies on three major arterial roads for access: Tasman Highway; Brooker Highway; and Southern Outlet. These arterials are connected via the Davey Street / Macquarie Street couplet, which connects various major collector roads along its length, providing access into the city. The Tasman Bridge, one of the busiest links on the Hobart road network, has a unique and significant impact on these three arterials, the couplet and consequently, Hobart's road network.

Over the past decade, traffic volumes in Hobart have grown and the demand on the road network now regularly matches or exceeds capacity during peak times, which has led to increased congestion.

There has been growing community concern regarding traffic congestion due to increased travel times and the unpredictability in travel times across Hobart. While congestion is experienced throughout the greater Hobart region, the Hobart CBD is a focal point, with lower travel speeds and increased travel times experienced by those traveling on CBD roads.

The Department of State Growth is focussed on keeping people moving, particularly in peak periods. Understanding how the network is utilised, provides context to the topic of congestion and is necessary to assess the likely success of management strategies. A number of integrated initiatives are being employed to manage vehicle movements. Standby incident response tow-trucks, variable speed limits and active operational management of traffic signals are some of the techniques used to manage transport movements.

In May 2023, the department conducted a survey of traffic movements on the inner Hobart road network and the Tasman Bridge. The survey determined the following.

- During the morning peak, about one third of trips that approach inner Hobart (approximately 25,000 vehicles over two hours), cross inner Hobart to reach their destination. The other two thirds have a destination within inner Hobart region, including about 15% that return, within a short period of time, to their region of origin, and about 50% that stay in inner Hobart.
- The reverse is seen during the afternoon peak. Of trips that exit the inner Hobart region (approximately 35,000 vehicles over a three-hour period), roughly one third of trips cross inner Hobart and have an origin on another side of the city. Close to half have an origin within inner Hobart and 15% - 20% start and finish in the same region after passing through inner Hobart.

A similar study was conducted in 2016. While the results suggest that travel patterns have changed between 2016 and 2023, a direct comparison between the two studies is not appropriate due to differences in survey locations, data quality and time periods surveyed.

As part of the 2023 survey, trips using the Tasman Bridge were also observed. The survey made the following findings.

On the western side of the bridge during peak periods:

- 59% to 76% of Tasman Bridge users use the Tasman Highway to and from the city and southern suburbs
- 24% to 41% use the Domain Highway.

On the eastern side of the bridge during peak periods:

- 12% to 16% enter or exit at the East Derwent Highway
- 26% to 28% enter or exit at Rosny Hill Road
- 34% to 42% enter or exit at the Mornington interchange
- 19% to 25% enter or exit the Tasman Highway from areas further east.

This report details travel patterns for vehicles that:

- enter inner Hobart during the morning peak time between 7:00 am – 9:00 am
- enter inner Hobart during the afternoon peak time between 3:00 pm – 6:00 pm
- travel across the Tasman Bridge between 7:00 am and 9:00 am, and between 3:00 and 6:00pm.

This information provides insight into traffic movements in and around Hobart, as well as informing future transport management strategies.

The survey

Method

On a Wednesday in May 2023 a number plate survey was used to observe the movements of cars passing through Hobart and across the Tasman Bridge. This day was chosen for being representative of typical peak hour traffic, on the day typical traffic volumes were observed.

A number plate survey involves placing cameras at selected locations, and the number plates of passing vehicles are observed. Within the survey bounds, origins and destinations of vehicle trips can be determined by observing vehicles at multiple camera locations. Although number plates are used to observe movements throughout the study area, all data is de-identified before the department receives it and no individual vehicles can be identified. The overall capture rate for the survey was 98.9%.

Sites

Camera locations 1 to 12 (Figure 1) allowed cars entering and exiting inner Hobart to be observed and creates four general regions:

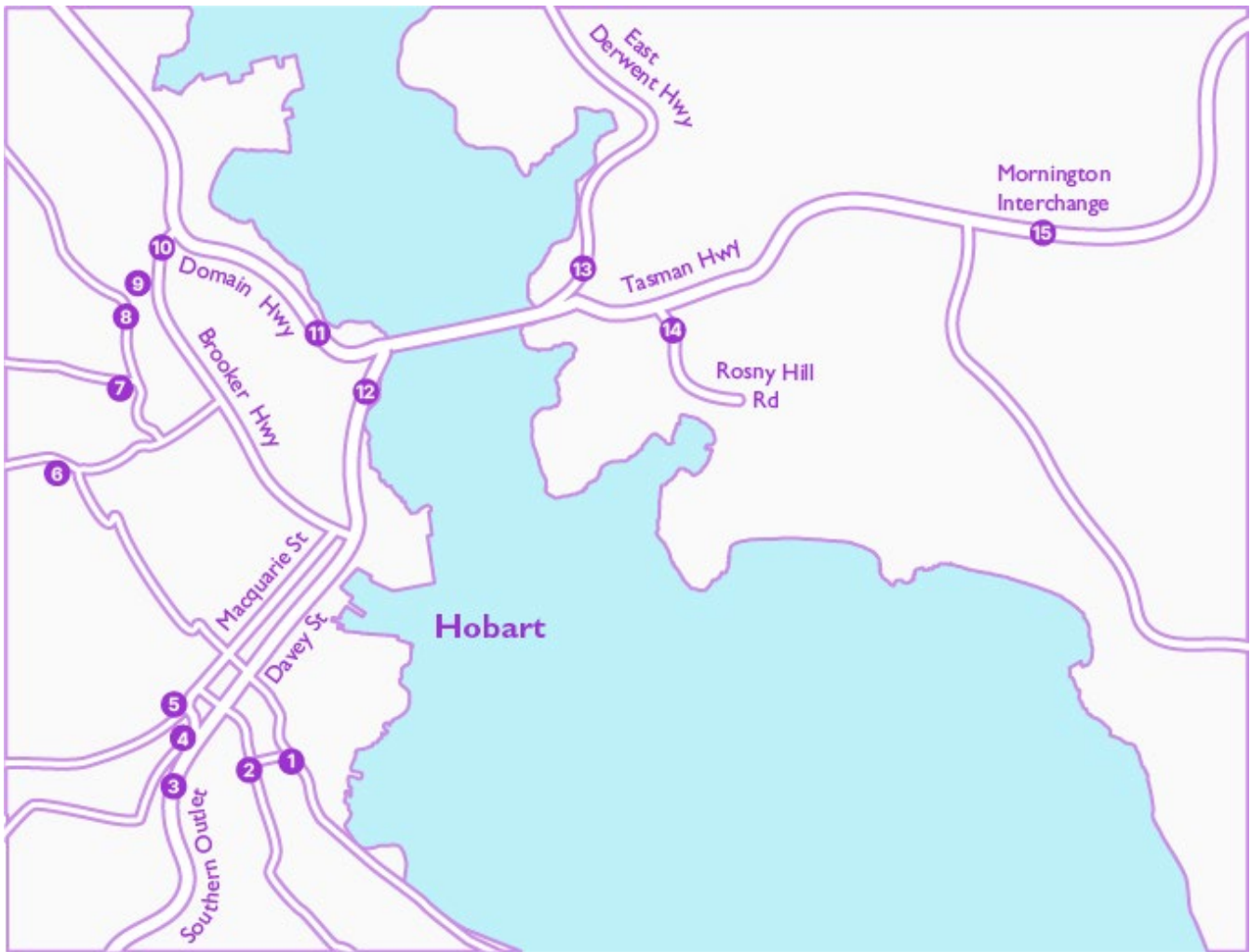
- Inner Hobart
- North
- South
- East.

This allows the origin and destination of trips that go to and through inner Hobart to be identified.

Camera locations 11 to 15 allowed cars using the Tasman Highway to be observed, and origins and destinations of Tasman Bridge users to be identified. Bridge users on the western side were split between the Domain Highway and the Tasman Highway. On the eastern side of the bridge regions were grouped as follows:

- East Derwent Highway
- Rosny Hill Road
- Mornington interchange
- further east of Mornington.

Figure 1: Camera locations used in the number plate survey.



Results

Trips to and from inner Hobart

Table 1: Results from the 2023 Hobart Traffic Origin Destination survey

Morning peak (7:00 am – 9:00 am)

Origin	Destination (%)			
	Inner Hobart	North	South	East
North	52%	16%	16%	16%
South	52%	22%	13%	14%
East	50%	23%	16%	11%

Vehicles entering the cordon: 25,306

Afternoon peak (3:00 pm – 6:00 pm)

Destination	Origin (%)			
	Inner Hobart	North	South	East
North	49%	21%	15%	15%
South	43%	22%	21%	14%
East	46%	26%	15%	14%

Vehicles exiting the cordon: 34,510

These results are summarised graphically below in the following six figures:

- Figure 2 – Northern traffic morning peak
- Figure 3 – Northern traffic afternoon peak
- Figure 4 – Eastern traffic morning peak
- Figure 5 – Eastern traffic afternoon peak
- Figure 6 – Southern traffic morning peak
- Figure 7 – Southern traffic afternoon peak

Northern traffic

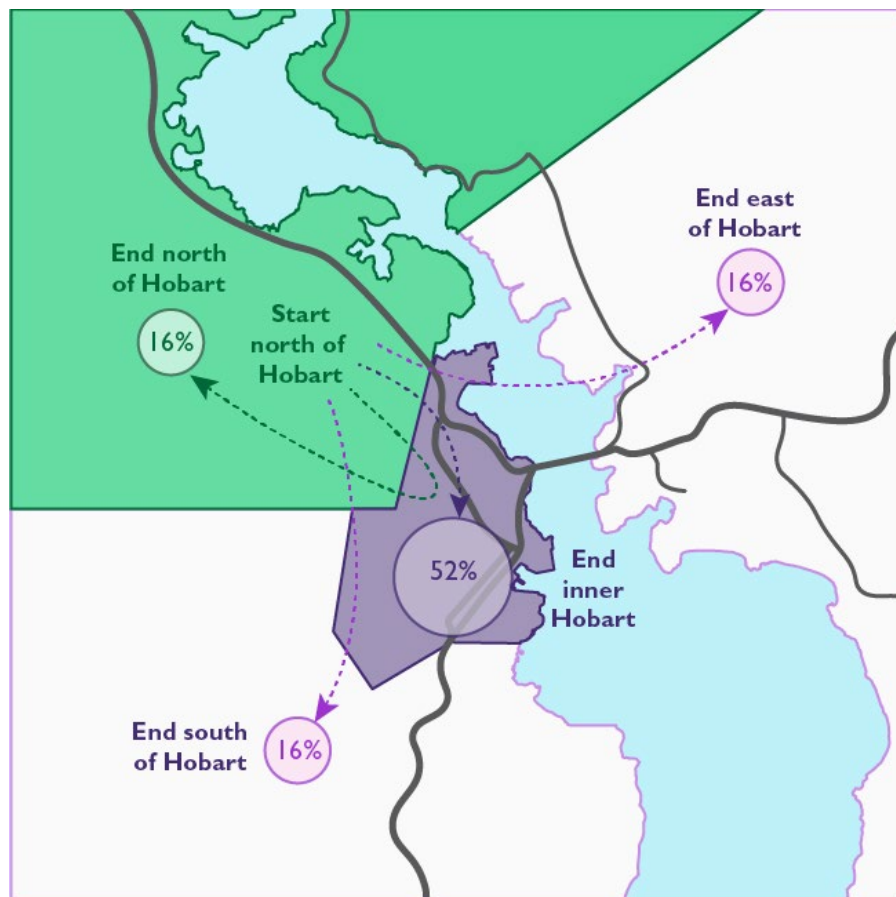


Figure 2

Of trips entering inner Hobart from the north in the morning peak, 68% went to inner Hobart including those returning to the north.

32% crossed inner Hobart, with 16% to the east and 16% to the south.

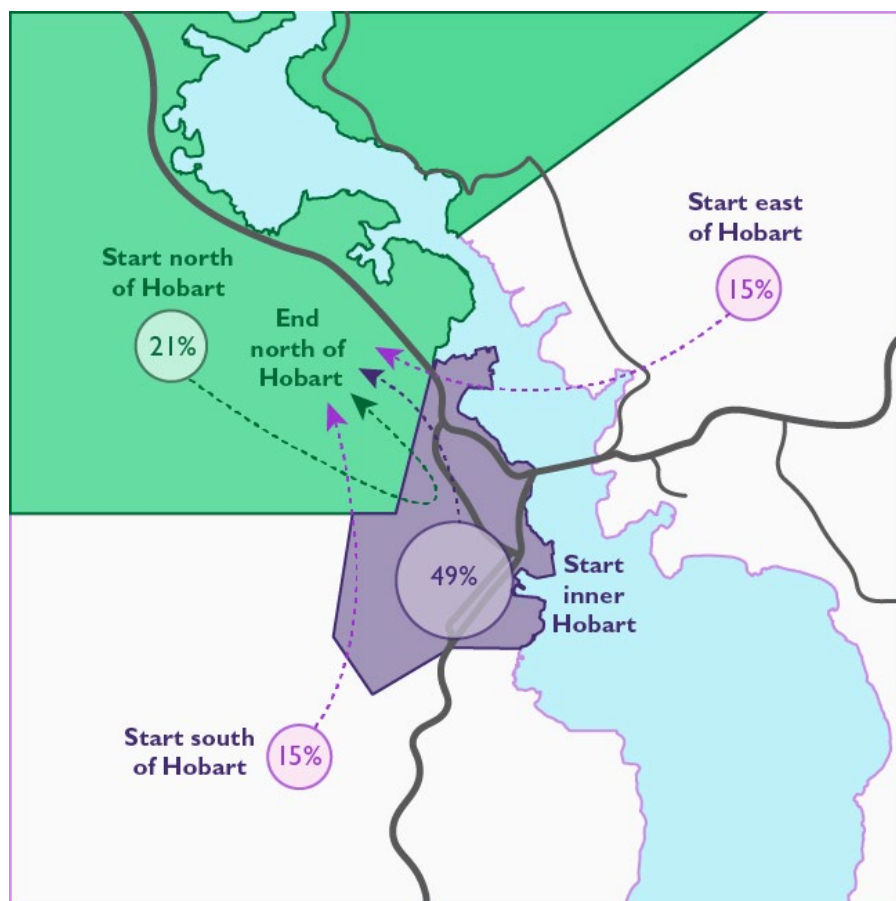


Figure 3

Of trips ending north of Hobart in the afternoon peak, 70% came from inner Hobart including those returning to the north.

30% crossed inner Hobart, with 15% from the east and 15% from the south.

Eastern traffic

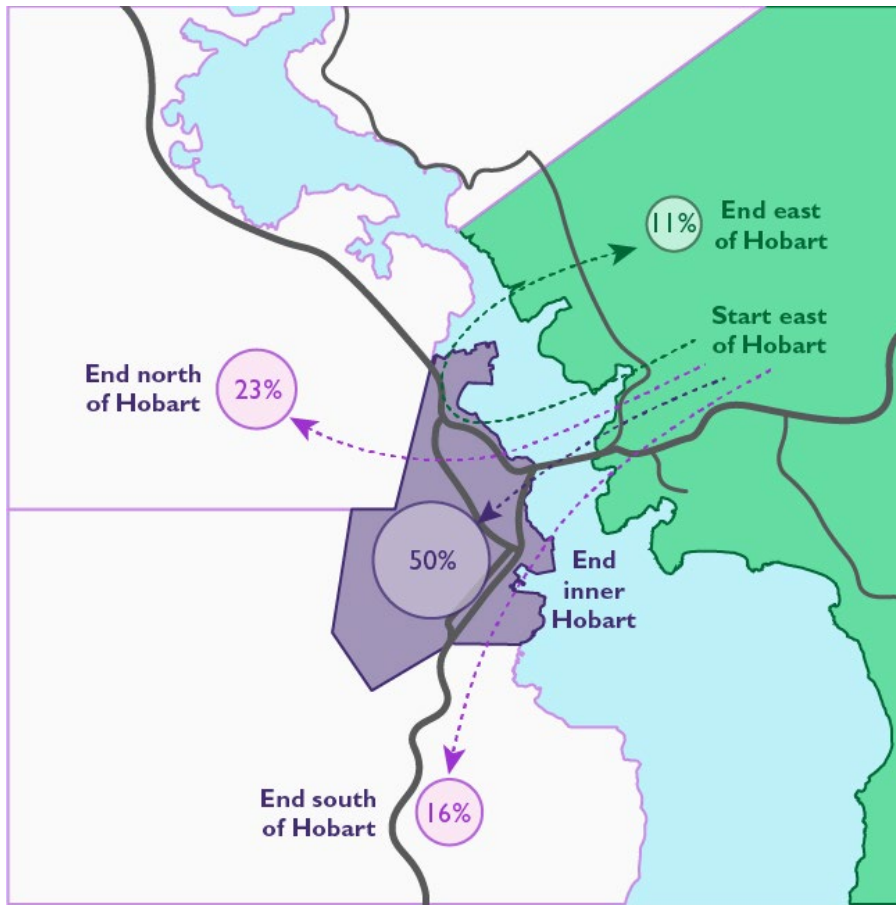


Figure 4

Of trips entering inner Hobart from the east in the morning peak, 61% went to inner Hobart including those returning to the east.

39% crossed inner Hobart, with 23% to the north and 16% to the south.

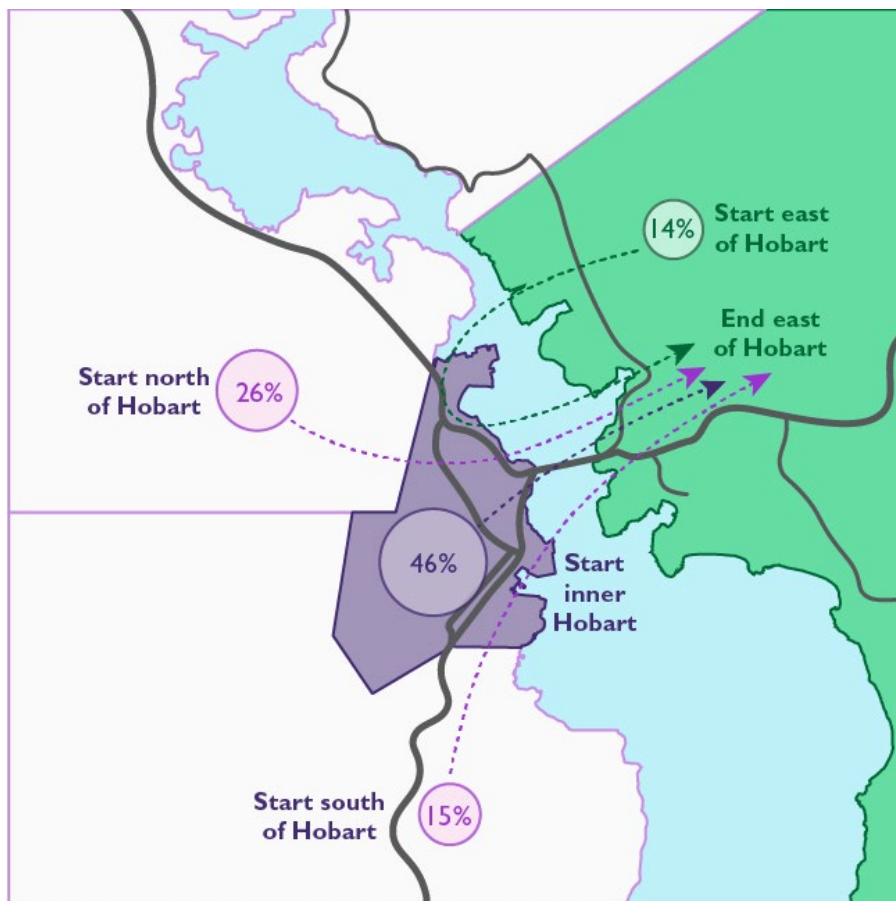


Figure 5

Of trips ending east of Hobart in the afternoon peak, 60% came from inner Hobart including those returning to the east.

40% crossed inner Hobart, with 26% from the north and 14% from the south.

Southern traffic

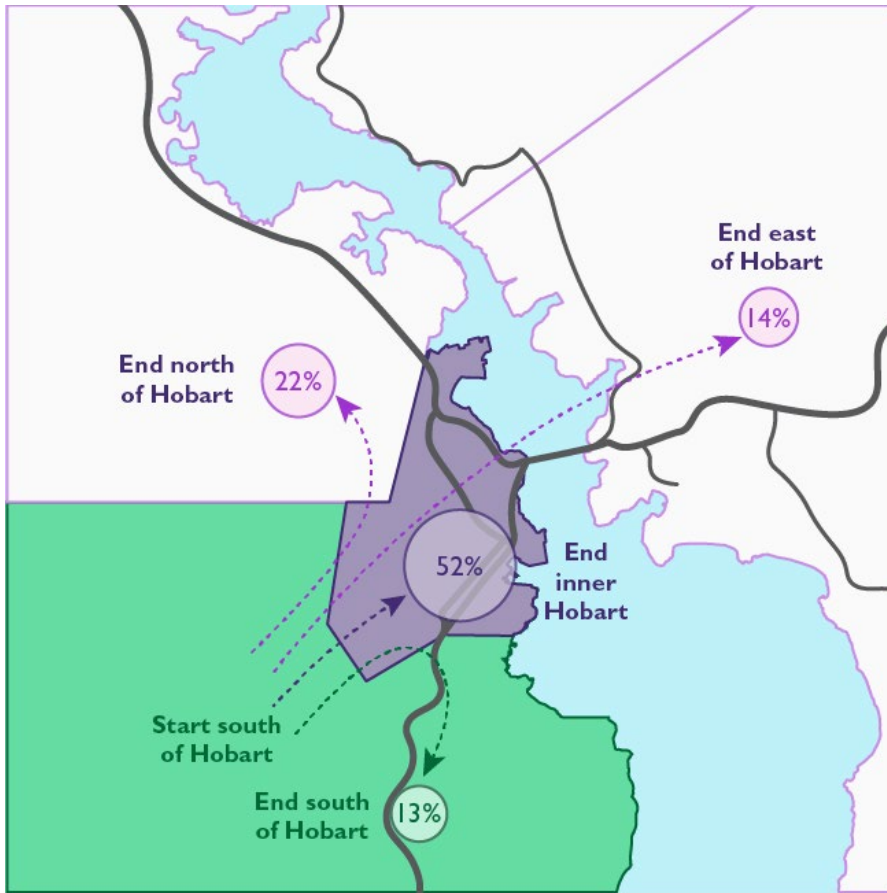


Figure 6

Of trips entering inner Hobart from the south, in the morning peak, 65% went to inner Hobart including those returning to the south.

36% crossed inner Hobart, with 22% heading to the north and 14% to the east.

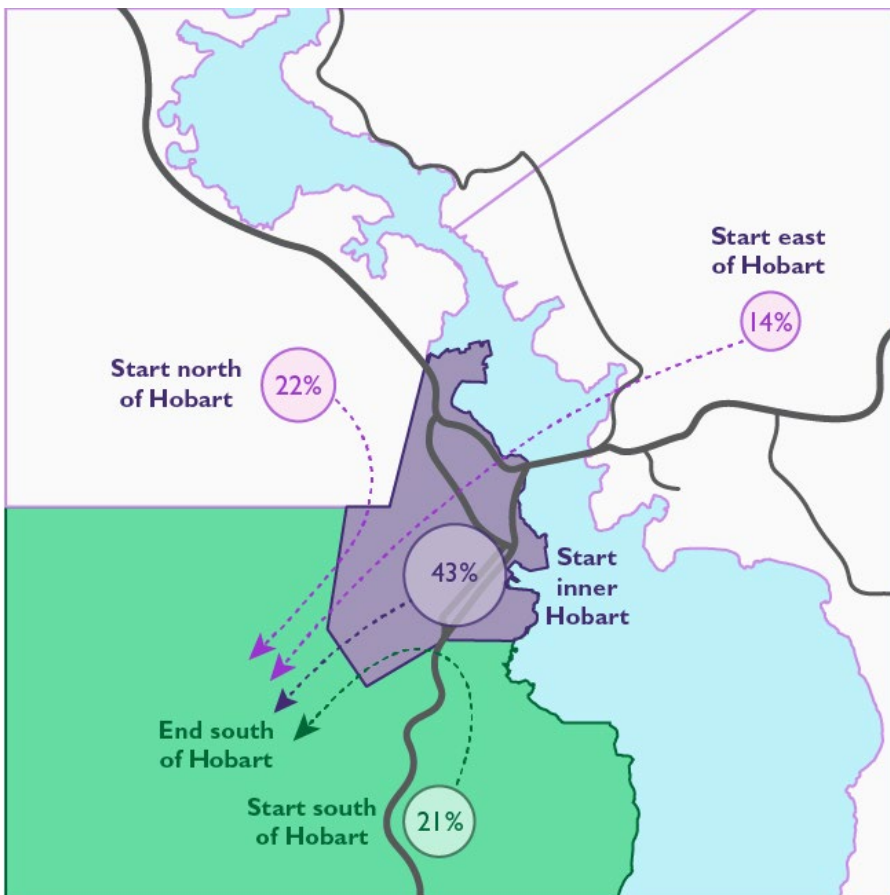


Figure 7

Of trips ending south of Hobart in the afternoon peak, 64% came from inner Hobart including those returning to the south.

36% crossed inner Hobart, with 22% from the north and 14% from the east.

Trips using the Tasman Bridge

The Tasman Bridge is the busiest section of road in Tasmania. This important asset is critical to the efficient operation of the Greater Hobart road network and links the CBD, northern and southern suburbs to the eastern shore for people and goods.

The origin destination survey provides a range of insights into how the Tasman Bridge is utilised on a typical weekday, with a summary of key data provided below.

Morning peak, westbound

Figure 8: Origins and destinations of westbound trips across the Tasman Bridge in the morning peak

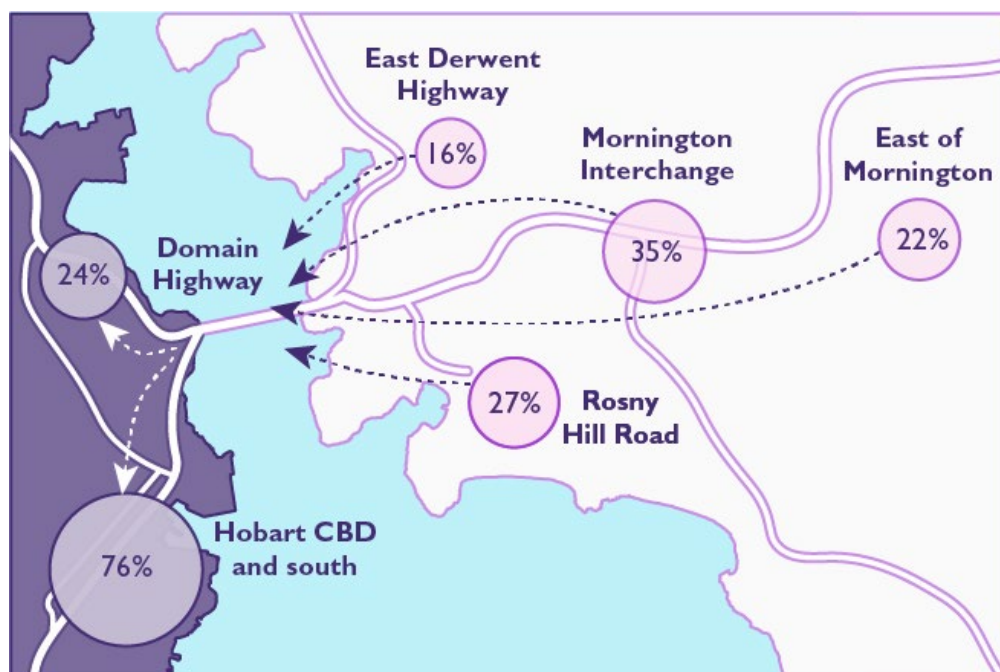


Table 2: Origins and destinations of westbound trips across the Tasman Bridge in the morning peak

Origin	Proportion (volume) of vehicles	Destination	Proportion (volume) of vehicles
East Derwent Highway	16% (1,391)	Hobart CBD and South	76% (6,635)
Rosny Hill Road	27% (2,365)		
Mornington interchange	35% (3,059)	Domain Highway	24% (2,102)
East of Mornington	22% (1,922)		
Total	100% (8,737)		100% (8,737)

During the morning peak, of traffic heading west across the Tasman Bridge 16% originates on the East Derwent Highway, 27% on Rosny Hill Rd, 35% from the Mornington interchange and 22% from Cambridge and further east. Of this traffic 24% exit onto the Domain Highway and 76% stay on the Tasman Highway to head towards the Hobart CBD and further south.

Morning peak, eastbound.

Figure 9: Origins and destinations of eastbound trips across the Tasman Bridge in the morning peak

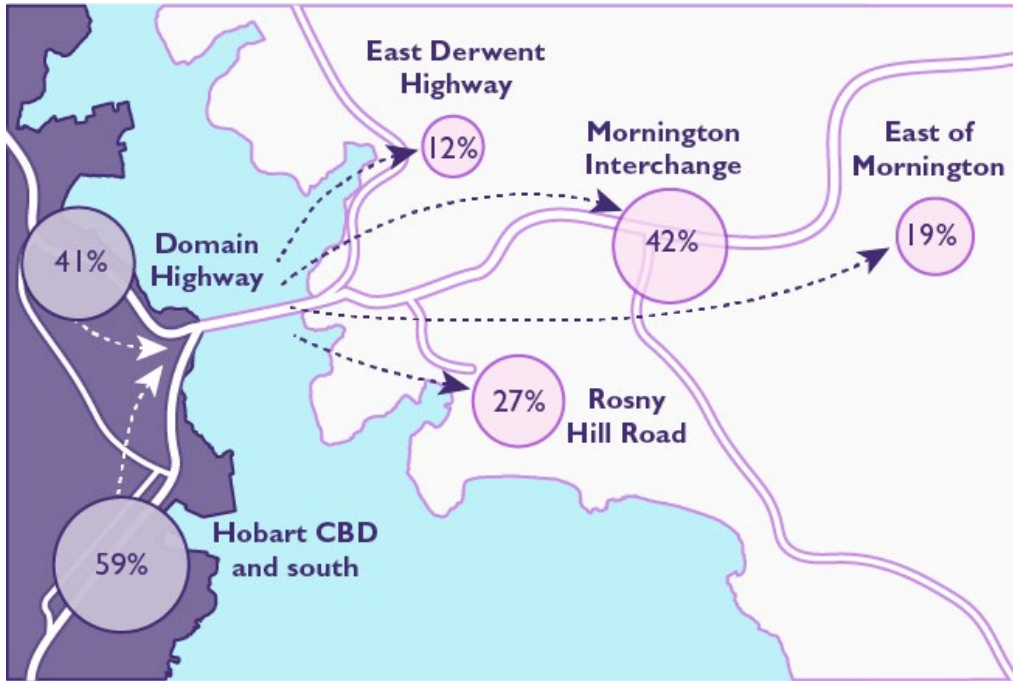


Table 3: Origins and destinations of eastbound trips across the Tasman Bridge in the morning peak

Origin	Proportion (volume) of vehicles	Destination	Proportion (volume) of vehicles
Hobart CBD and South	59% (2,756)	East Derwent Highway	12% (536)
		Rosny Hill Road	27% (1,265)
Domain Highway	41% (1,890)	Mornington interchange	42% (1,954)
		East of Mornington	19% (891)
Total	100% (4,646)		100% (4,646)

During the morning peak, of traffic heading east across the Tasman Bridge, 59% originates from the Hobart CBD and further south along the Tasman Highway, and 41% from the Domain Highway. Of this traffic, 12% exits onto the East Derwent Highway, 27% to Rosny Hill Road, 42% to the Mornington interchange and 19% to Cambridge and further east.

Afternoon peak, eastbound.

Figure 10: Origins and destinations of eastbound trips across the Tasman Bridge in the afternoon peak

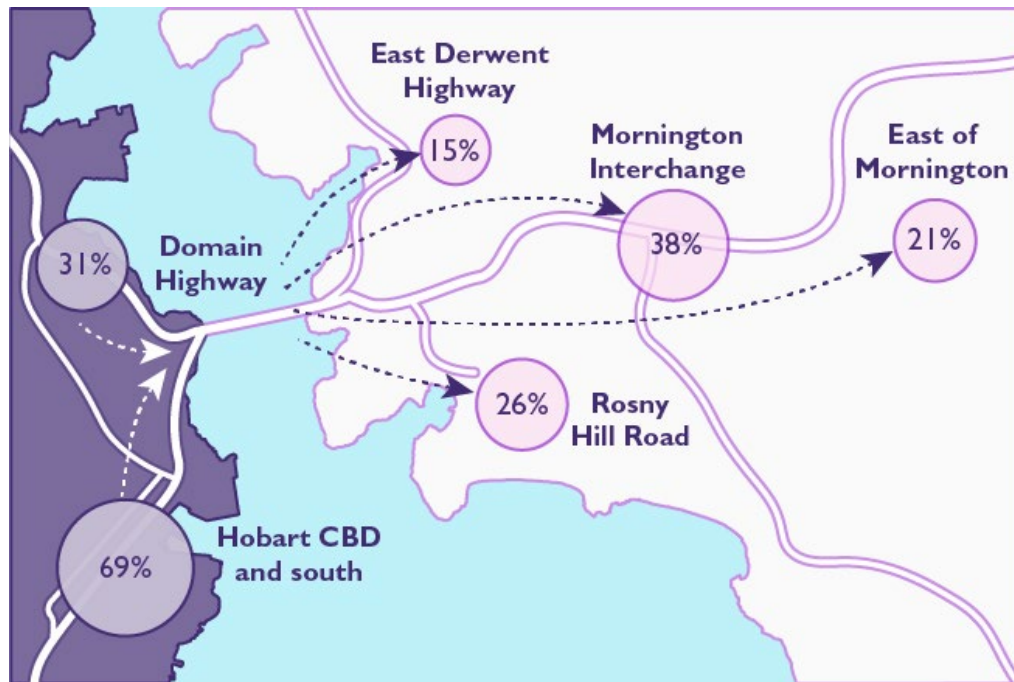


Table 4: Origins and destinations of eastbound trips across the Tasman Bridge in the afternoon peak

Origin	Proportion (volume) of vehicles	Destination	Proportion (volume) of vehicles
Hobart CBD and South	69% (8,617)	East Derwent Highway	15% (1,832)
		Rosny Hill Road	26% (3,179)
Domain Highway	31% (3,834)	Mornington interchange	38% (4,776)
		East of Mornington	21% (2,664)
Total	100% (12,451)		100% (12,451)

During the morning peak, of traffic heading east across the Tasman Bridge, 69% originates from the CBD and further south along the Tasman Highway and 31% from the Domain Highway. Of this traffic, 15% exits onto the East Derwent Highway, 26% to Rosny Hill Road, 38% to the Mornington interchange and 21% to Cambridge and further east.

Afternoon peak, westbound.

Figure 11: Origins and destinations of westbound trips across the Tasman Bridge in the afternoon peak

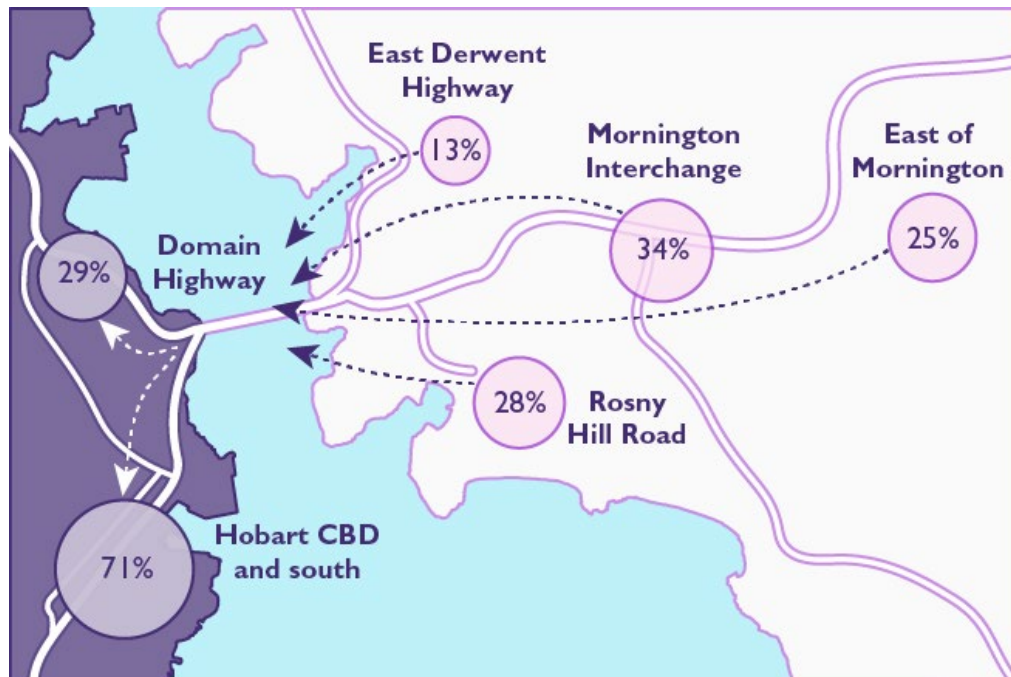


Table 5: Origins and destinations of westbound trips across the Tasman Bridge in the afternoon peak

Origin	Proportion (volume) of vehicles	Destination	Proportion (volume) of vehicles
East Derwent Highway	13% (958)	Hobart CBD and South	71% (5,326)
Rosny Hill Road	28% (2,075)		
Mornington Interchange	34% (2,561)	Domain Highway	29% (2,124)
East of Mornington	25% (1,856)		
Total	100% (7,450)		100% (7,450)

During the afternoon peak, of traffic heading west across the Tasman Bridge, 13% originates on the East Derwent Highway, 28% on Rosny Hill Road, 34% from the Mornington interchange, and 25% from Cambridge and further east. Of this traffic 29% exit onto the Domain Highway and 71% stays on the Tasman Highway to head towards Hobart CBD and further south.

Conclusion

This data shows that, during peak times, the majority of trips, across all regions, that use the inner Hobart road network, are travelling to and from inner Hobart. Between 60% and 68% of journeys made in morning peak time have a destination of inner Hobart, and in the afternoon peak, between 60% and 70% begin in inner Hobart.

The Tasman Bridge is a highly utilised section of road, with vehicles travelling from all regions into and out of the city, as well as to and from the north and south. On the eastern side of the bridge, during peak times, of trips that cross the Tasman Bridge, between 12% and 16% come to or from the East Derwent Highway, between 26% and 28% come to or from Rosny Hill Road, between 34% and 42% come to or from the Mornington interchange, and between 19% and 25% travel to or from further east of the Mornington interchange. On the western side of the Bridge, roughly one third enter or exit using the Domain Highway and two thirds using the Tasman Highway towards the city and southern suburbs.

This information will help inform the actions being progressed as part of the Tasmanian Government's proposed Keeping Hobart Moving – Transport Solutions for our Future transport plan, and the Department of State Growth's current and future road upgrade and network capacity projects, as well as congestion management strategies.

This data can be used in future to compare changes in traffic movements across Hobart over time.

This survey will complement data collected in the Greater Hobart household travel survey, with the 2019 results available on the Tasmanian Transport website – visit www.transport.tas.gov.au and search on the words 'Greater Hobart travel survey.'

A more recent Greater Hobart household travel survey was conducted between July and November 2023, and results are due to be available in the second half of 2024.



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