



## WHERE SHOULD YOUR PERTH DISTRIBUTION CENTRE BE LOCATED? A LOGISTICS MANAGEMENT PERSPECTIVE

Consider this scenario ..... your business operates a warehouse / distribution centre (DC) in Perth, WA. Perhaps you are considering relocating? Perhaps you are just wondering whether it is in the right location, or if you should relocate?

How do you determine what is the right location?

Our consultancy firm considered this question in 2016, **from a logistics cost perspective**, rather than a property cost perspective, and conducted a research project in search of the answer. These notes are intended to share the results of that research.

### OVERVIEW OF RESEARCH PROJECT METHODOLOGY

The research involved building a detailed theoretical model, to compare total transport costs, based on the following variables:

1. 8 x major industrial suburbs were selected for direct comparison, as potential locations for a new DC
2. 2 x major (real-life) retailers were used as the basis for Delivery-To locations from the DC. Retailer Scenario 1 has 28 x Delivery-To sites in the Perth metro area; Retailer Scenario 2 has 16 x Delivery-To sites. The specific addresses of each were loaded into the model, to identify geo-code co-ordinates
3. Assumptions were made, for the purposes of the model, on the source sites for Inbound deliveries. We nominated Fremantle Port and the Kewdale rail terminal as the theoretical source sites
4. Other modelling assumptions included providing metrics for variables such as:
  - Number of **Inbound** trips per day to the DC, from both source sites
  - Vehicle types, capacities, number of vehicles used, number of trips per vehicle per day
  - Number of pallets to the DC
  - Vehicle load and unload times
  - Whether a backload to source site required
  - And answers for the same variables as above for **Outbound** deliveries from the DC

### OVERVIEW OF RESEARCH PROJECT RESULTS

The key findings are summarised in the table below, which shows the comparative combined road transport costs for Inbound and Outbound trips; for both (retailer) scenarios. The cost comparison is shown against a base-index of 100, for ease of comparison (ie rather than total \$).

Jandakot has been used as base index of 100 in the table. For instance, the table shows that for every \$100 incurred in transport costs to operate the DC at Jandakot, the comparative costs for the DC in Kewdale are \$94 (Scenario 1) and \$99 (Scenario 2).

**Table: Comparative Transport Costs**

DC Location Suburb	Scenario 1 Transport Cost Index	Scenario 2 Transport Cost Index
Kewdale	94	99
Welshpool	93	97
Perth Airport	100	107
Hazelmere	106	115
Canning Vale	99	101
Jandakot	100	100
Hope Valley (Latitude 32)	111	113
Forrestdale	106	109
<i>Average of 8 x DC locations</i>	<i>101</i>	<i>105</i>

Kewdale and Welshpool have the lowest transport cost structures, as is to be expected. However, land availability in these older industrial suburbs is of course limited, in particular for larger lots.

Canning Vale and Jandakot have similar transport cost structures, and are close to the average of the 8 industrial suburbs analysed.

Hazelmere shows the widest variation between Scenario 1 and Scenario 2 results, ie 9 base-index points variation. Perth Airport also shows a wide variation between the two scenarios ie 7 base-index points.

The highest cost location of the 8 suburbs is Hope Valley, then interestingly followed by Hazelmere. The outer suburb of Forrestdale performs reasonably well compared to Hazelmere.



## COMMENTS

The purpose of the research project was to inform interested parties, including property developers and DC operators, of the general comparative road transportation metrics associated with decision-making on locating a DC in Perth.

The modelling was based on the Perth road network which existed prior to completion of the Gateway Project.

**The analysis, being based on theoretical data, is intended to only provide a generalised perspective. Supply Chain Services Australia is able to prepare tailored logistics analyses for specific organisations using their own data, in order to provide more specific road transportation metrics for particular sites, either in Perth, or any other Australian city.**