SUPPLY CHAIN PERSPECTIVE

FAST-MOVING CONSUMER GOODS (FMCG)

QTLC

QUEENSLAND TRANSPORT AND LOGISTICS COUNCIL

Overview

The Australian retail sector generates $265b a year in sales and employs 1.2 million people. In Queensland, the sector comprises more than 12,000 businesses and generates $57b annually[1]. The sector can be broadly categorised as fast moving consumer goods (FMCG), with a number of discrete sectors such as:

- supermarket, grocery and department stores
- liquor
- specialised foods
- furniture and housewares
- electrical and electronic goods
- hardware and building products
- newspapers and books
- recreational supplies
- pharmaceutical, cosmetic and toiletries
- cafes, restaurants and takeaway foods.

Food products make up 50% of all retail and wholesale sales[2]. Two of the major retail chains control approximately 70% of the retail spend for groceries, liquor, clothing, fashion, fuel and electronic goods.

The sector is dominated by a small number of large retailers who operate using global supply chain practices. The sector is characterised by a large international supply chain task, with retailers maximising the use of global sourcing and off-shore manufacturing.

➲ FMCG - Typical process

The following case study outlines the logistics of a large FMCG retailer in Australia, representing the typical operation of an FMCG distribution network. Information is courtesy of industry sources.

1 ABS 501011 Queensland Retail
2 www.retail.org.au/about-ara.aspx

Case study: large FMCG national retailer

Each store receives deliveries of chilled, fresh and ambient products daily, with freezer products delivered approximately four to five times a week. Direct-to-store deliveries are still used for a small range of products, for example bread, as recent attempts to eliminate the practice were not found to provide a viable outcome.

Nationally, store transport expenditure comprises:

- ambient, including movements through the NDC: 55% of total transport task
- chilled and frozen: 30%
- fresh produce: 15%.

Also note:

- The retailer maximises the size of delivery vehicles to its stores to optimise efficiency and productivity. The target payload is, on average, 20 pallets per vehicle. The retailer's new fleet is based around vehicles capable of a payload of 24 pallets.
- The retailer is also looking to consolidate its primary freight task, with fewer and larger vehicles being received at distribution centres. This is expected to achieve a 17% reduction of the inbound task, a best practice approach derived from overseas models.

The total transport task is a $600m a year expense, comprising approximately 50% inbound and 50% outbound. Queensland's share of the sample retailer's pallet volume is 19.5%. Its annual transport figures are as follows.

- 8.3 million pallets a year move from distribution centres to stores, nationally:
  - ambient: 4.5 million pallets
  - chilled and frozen: 2.5 million pallets
  - produce: 1.3 million pallets.
- Approximately 820 TEUs move into North Queensland each week, comprising a mix of 40-foot ambient and 41 foot 6 inches refrigerated TEUs. Heavy bottled merchandise is moved in 20-foot TEUs.

The sample retailer's Queensland market share is estimated at 27%, Based on that figure, FMCG supply chain activity is forecast as follows:

- Annual pallet movements in Queensland are estimated at 1.6 million, with more than162,000 truck movements covering both inbound and outbound transport.
- Total Queensland FMCG-related movements are estimated at 33 million pallets, with more than 1.6 million truck movements annually, or 4,500 daily truck movements. This covers both inbound and outbound transport.

People working in FMCG

1.2 million people are employed in the FMCG sector[3]:

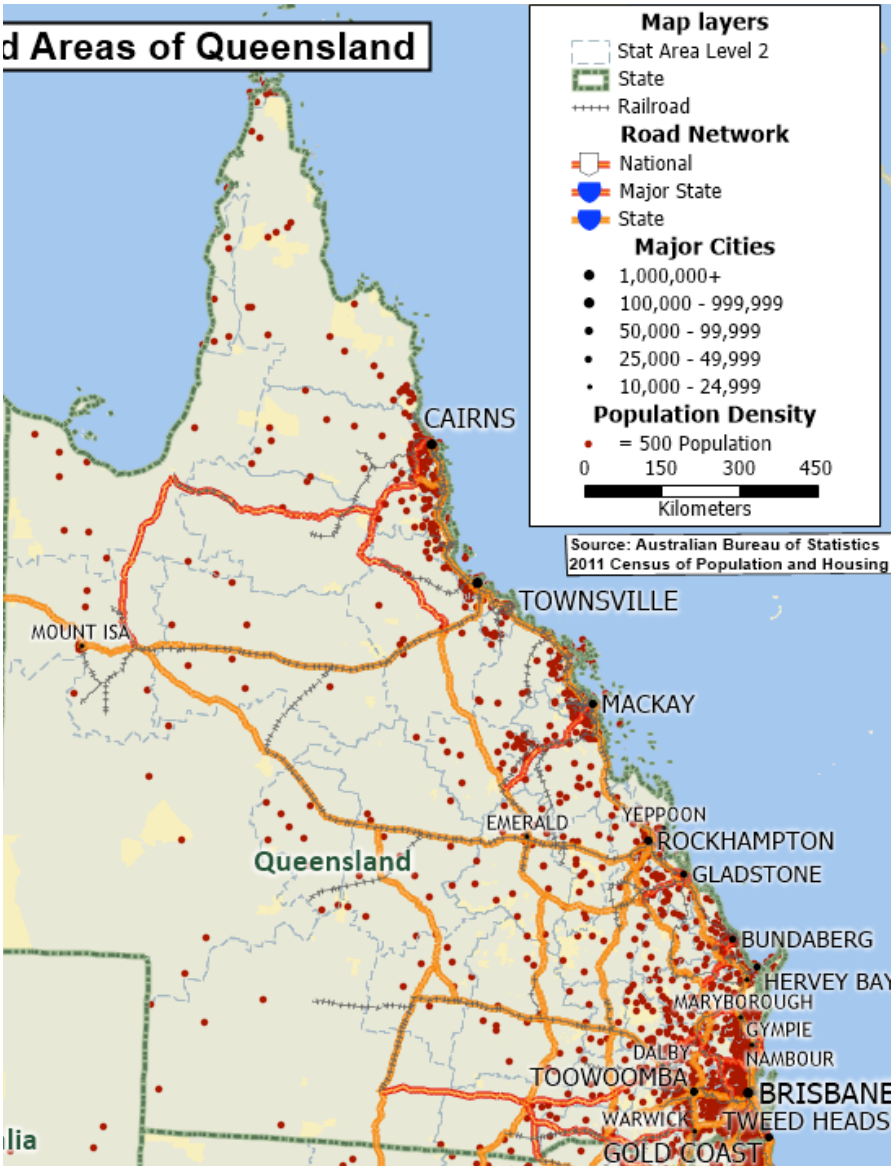
- 10,724 businesses have 19 or less employees
- 1,381 have between 20 and 199 employees
- 59 employ 200 or more staff
- 2,784 businesses have a turnover greater than $2m a year.

3 ABS 816501 Number of Australian Businesses 30 June 2012

Points of value add, transformation and consumption

Areas and level of FMCG product consumption in Queensland is directly proportional to population. Figure 1 displays the population distribution and the major roads network of Queensland.

Figure 1: Population distribution and routes



Distribution centres play a major role in the FMCG supply chain. Typical supply chain tasks at these centres include:

- receipt of stock
- storage, management and security of stock
- processing of store order information
- selection and assembly of store orders
- dispatch of the store orders
- consolidation of multiple product categories into a single store delivery (ambient, chilled, frozen, fresh)
- manage inbound and outbound transport operations.

Major retailer distribution centres are up to 90,000 square metres in area, and service stores in Queensland and northern New South Wales. Typically, a major retailer's distribution centre services up to 200 stores.

Road transport is typically used to service stores in southern Queensland and into New South Wales, using dry and refrigerated hard-sided vans, also known as pans (short for pantechnicon).

Most retailers use rail to move their goods from distribution centres to stores north of Rockhampton. Perishable goods delivered from North Queensland distribution centres are moved direct to stores by road.

Figure 2 displays major retailer distribution centres in South East Queensland.

Figure 2: South East Queensland distribution centres

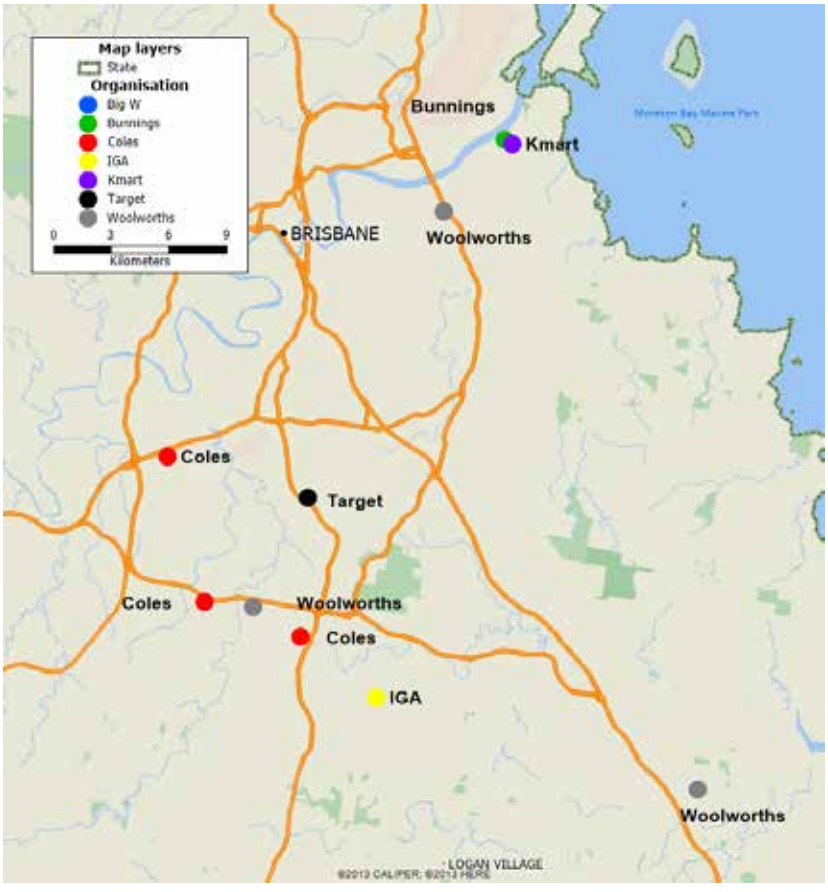
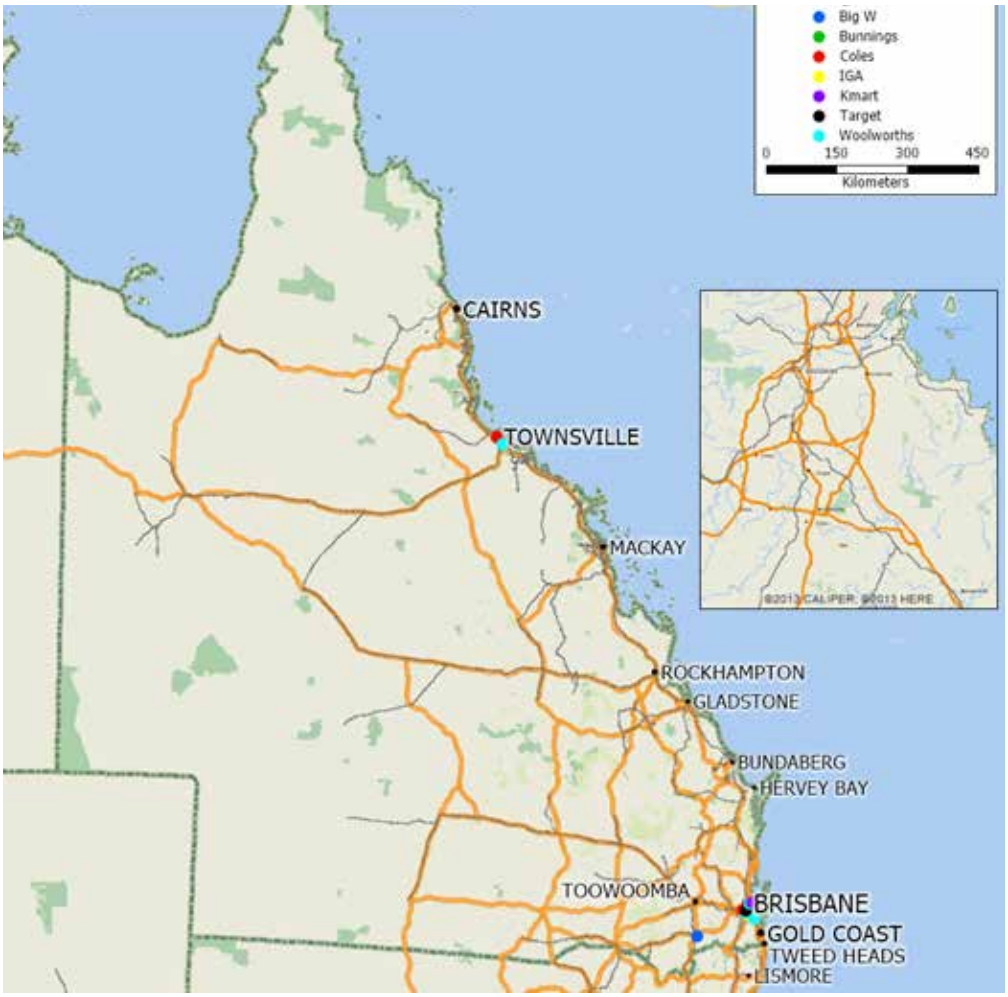


Figure 3 displays major retailer distribution centres in regional Queensland

Figure 3: Regional distribution centres



Main routes

Figures 1, 2 and 3 show that all national, state and local routes are used to distribute FMCG consignments. While the major retailers represent a very significant portion of the FMCG sector, there are also smaller retailers, distributors and agents all servicing the same population spread.

Transport mode

The FMCG industry uses a mix of medium and large rigid, standard articulated, and B-Double ambient and temperature-controlled configurations. B-Double and standard articulated hard-sided and curtain-sided trailers move consolidated product loads – either being imported or locally produced – from source to FMCG distribution centres. Once orders are selected and consolidated, hard-sided ambient and temperature-controlled units are used for store delivery.

The size of the unit is dictated by the store delivery location, and access and egress constraints. Rigid body trucks, often with twin steer, are required to deliver between 10 and 14 pallets. Shorter length trailers, carrying 14 to 18 pallets, are used where required. Typically, to-store trailers have a capacity of 20 to 24 pallets.

For longer rail-based consignments, skeleton type TEU-carrying trailers move the 20 foot and 40 foot containers to a rail intermodal terminal for line haul to the regional locations.

Key nodal infrastructure

Product is sourced domestically and internationally and moves through the network as follows:

- import product arrives at ports and/or moves on to local value adding or processing steps
- the vast majority of volume is directed to distribution centres, with some direct-to-store deliveries
- individual store orders for delivery are dispatched from distribution centres either by road or to rail intermodal terminals
- delivery is made to stores.

Change in the supply chain

There are two significant changes under way in FMCG supply chains. The first relates to the introduction of 24-pallet trailers. Until recently, trailers have been a maximum of 22 pallets, so this size increase is expected to provide a productivity gain of 9% in payload.

The second relates to changes in the retailer network design. Distribution centres are being configured around regional networks and national networks. These distribution centres provide a channel to market based on the relative speed at which the product moves, also taking into account the handling characteristics.

Due to global sourcing and offshore manufacturing, major retailers are positioning their networks closer to ports to handle their increasing international logistics task. This allows TEUs to be imported into Queensland, processed at the port, and then moved into the retail distribution networks quickly, reducing overall cycle times.