

MEMORANDUM

TO: Beveridge Property Management Services Pty Ltd

CC: Sarah Horsfield – Urbis

FROM: Christian Griffith

DATE: 11 May 2020

CLIENT REF: BIFT-GTA-TR-MEM-0001 Rev C

OUR REF: V182070

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RE: **BEVERIDGE INTERSTATE FREIGHT TERMINAL: TRAFFIC AND TRANSPORT
IMPACT STATEMENT TO ACCOMPANY EES REFERRAL**

1. Purpose of this Memo

The Beveridge Interstate Freight terminal (BIFT or the Site) is proposed to be developed in the northern growth corridor of Melbourne. GTA Consultants (GTA) has been engaged to prepare a traffic and transport assessment of the Site in support of the planning and approvals process.

This memorandum sets out a high-level traffic and transport assessment to accompany the Environmental Effects Statement (EES) referral application.

Specifically, it responds to Item 15, social environments, whereby an estimate of the Project's likely generated volumes of road traffic are required during both construction and operational phases.

2. Project Context

BIFT is an 1,100-hectare site positioned approximately 40km north of the CBD in the suburb of Beveridge in the north-east growth corridor of Melbourne.

The Site is located strategically adjacent the Hume Freeway and the interstate North East Rail Line and future inland rail alignment. It provides convenient road and rail access to Melbourne's economic gateways at the Airport and Port of Melbourne, as well as the interstate and intrastate principal freight networks, and the industrial land supply across Melbourne, as shown in Figure 1a.

The Site is split into two precincts, Camoola and Mossrock, located to the north and south of Beveridge Road, respectively, as shown in Figure 1b.

Figure 1a: BIFT in Melbourne context

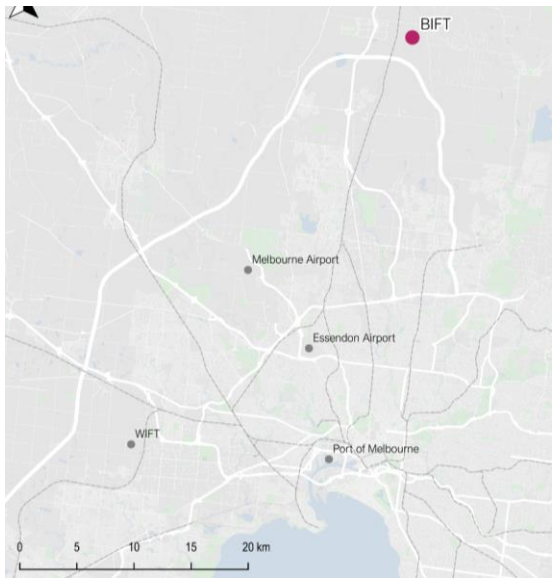
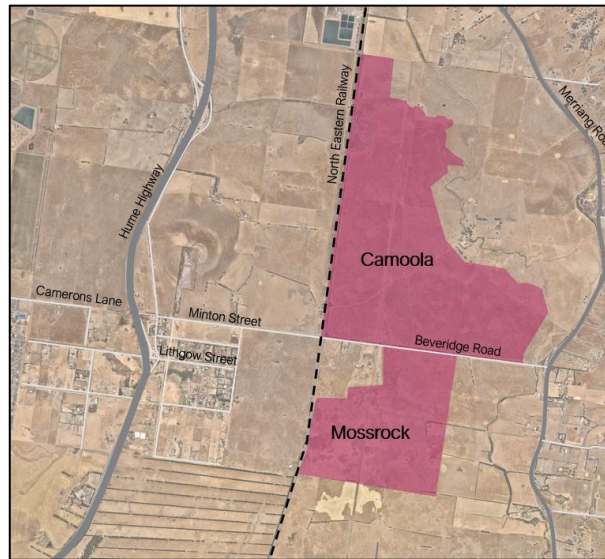


Figure 2b: BIFT in Beveridge local context



The *Victorian Freight Plan - Delivering the Goods*, identifies BIFT as an integral part of the freight and logistics network for Melbourne and Victoria, and necessary for the state's future economic prosperity and productivity.

BIFT is also consistent with other state planning strategies and plans such as (noting this is not an exhaustive list):

- Plan Melbourne Victorian State Government, 2017
- National Freight and Supply Chain Strategy and Action Plan, August 2019
- Delivering the Goods: Victorian Freight Plan Transport for Victoria, July 2018
- Port of Melbourne - Our Plan for Rail 2020, January 2020
- North Growth Corridor Plan, VPA
- Infrastructure Australia's Infrastructure Priority List Report, February 2019
- Mitchell Shire Beveridge Interstate Freight Terminal Fact Sheet
- Lockerbie North PSP Victorian Planning Authority, March 2012
- Beveridge Central PSP Victorian Planning Authority, May 2018

Other projects and initiatives are also of relevance, including:

- Inland Rail Project
- Port Rail Shuttle proposal at the Port of Melbourne
- Western Interstate Freight Terminal
- OMR/E6 and Hume Freeway transport corridors
- Melbourne Airport and Port of Melbourne plans

3. Project Description

At completion, BIFT is expected to contain an import-export (IMEX) rail terminal and an interstate rail terminal, which together are expected to handle a total of up to 2 million TEU (twenty-foot equivalent units) per annum at completion. Note that this trade estimate is at the upper end of the range of expected outcomes, therefore the reported impacts in this memo should be treated as conservative and likely to over-estimate traffic volumes.

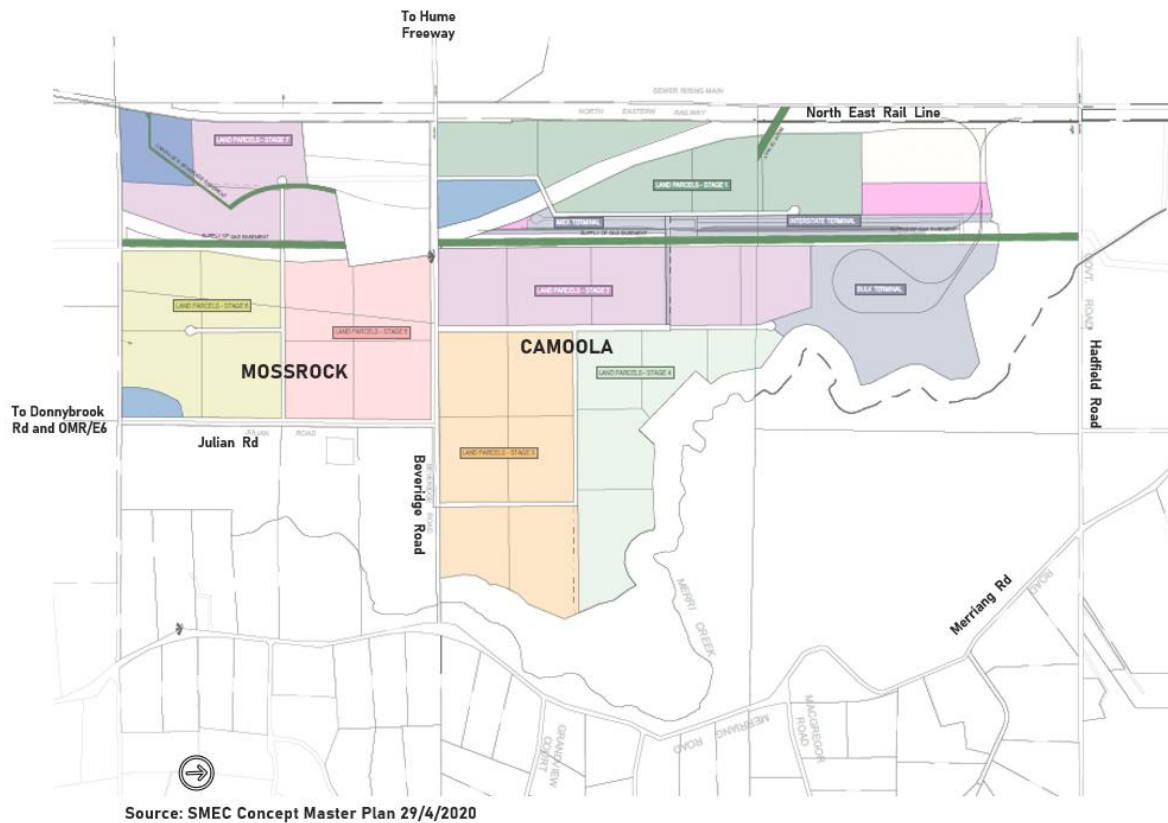
In addition, there are almost 600 hectares of developable land as part of the facility expected to be a mix of factories and warehousing, and related supporting uses such as office and showroom/bulky goods retail.

In the short term, development involves construction of an interstate rail terminal with supporting warehousing space adjacent to it in the Camoola precinct on the north side of Beveridge Road.

As trade throughput and market demand for industrial floorspace in Melbourne increases over time, the point will be reached where an IMEX rail terminal is constructed with additional supporting warehouse space.

The indicative Site masterplan at completion is shown in Figure 2 noting this may change over time.

Figure 3: Indicative site masterplan at completion (subject to change)



The Site will develop progressively over time and therefore three stages have been assumed for the purpose of assessing traffic volumes and impacts, and their relationship to expected trade volumes. Table 1 describes these stages noting that these are notional only and dependant on a range of factors relating to market demand and take up.

Table 1: BIFT notional land use and staging assumption for assessing traffic demands and impacts

Development Stage & Approx Timing – Dependant on Market Demand and Growth Rates	Approx. Rail Terminal Throughput (m TEU)	Approx. Land Developed (ha)
Short Term – Stage 1 Up to approx. 5 years after opening	Up to 0.4 [1]	Up to 120
Medium Term – Stage 2 Approx. 5-15 years after opening	Up to 0.8 [1]	Up to 300
Long Term – Stages 3/4/5 Approx. 15 years+ after opening	Up to 2 (completion) [1]	Up to 600 (completion)

[1] Conservative (high) trade volumes adopted for planning in this memo therefore traffic volumes should be treated as high estimates likely to reduce at planning application stage following further refinement

4. Operational Overview

An interstate terminal is a location for the transfer of freight from one transport mode to another, in this instance predominantly between road and rail. In addition, BIFT will function as an interstate and intermodal terminal and inland port

Intermodal hubs play an important role in easing the freight transport burden on the road network and supporting a city of Melbourne’s size. Rail-based intermodal hubs are integral to increasing the role of rail in satisfying Melbourne’s growing freight task.

A range of initiatives seek to increase the volume of freight carried on rail, focusing on Victoria’s three rail markets, namely:

- Interstate, mainly inter-capital city freight, which operates over long distances on the ARTC standard-gauge network
- Regional or intrastate, mainly export trade from regional Victoria and southern NSW, which generally operates over shorter distances on the V/Line controlled broad-gauge network although also uses the southern NSW regional rail network to get to the Port of Melbourne
- Metropolitan port-rail shuttles, which is a prospective market for rail and is currently handled almost exclusively by trucks on the arterial road network¹.

In the case of BIFT, freight trains will transport containers to and from the Site from interstate and regional locations and the Port of Melbourne. These containers are then handled at the rail terminals and transferred either onto another train or on to a truck to be distributed by road.

Distribution to and from the rail facilities by road can occur in two ways. It can occur as direct movement between the rail terminal and the road network (e.g. a truck delivering a container to a location in the west of Melbourne) or via storage facilities on the BIFT site (e.g. a truck delivering a container to an on-site warehouse to then be moved by another truck).

The facility is also expected to generate truck demand separate from the rail terminals associated with warehouses, factories, distribution centres and other uses.

This range of road and rail movements underpins the traffic and transport estimates and is set out below.

¹ <https://www.premier.vic.gov.au/full-steam-ahead-for-on-dock-rail/>

5. Existing Transport Situation

The Site is located to the east of the township of Beveridge, 40km's north of Melbourne's CBD. It comprises of two parcels of land totalling 1,100ha, with Camoola (898ha) to the north of Beveridge Road (Camerons Lane), and Mossrock (202ha) to the south. The land is currently rural in nature.

The location in Melbourne's north growth corridor and within the Urban Growth Boundary means that much of the surrounding land is subject to precinct structure planning by the Victorian Planning Authority (VPA).

BIFT integrates with Melbourne's rail freight system including interstate and intrastate services and port shuttle services via the existing rail reserve and track along the west boundary of the Site. Key existing and planned surrounding rail infrastructure includes Inland Rail, the Port of Melbourne/Port rail shuttles, the NE Rail Line Upgrade and the Craigieburn Line upgrade to a metropolitan service.

The main road network access is via the Hume Freeway with current access via Beveridge Road-Minton Street and the Old Hume Highway/Lithgow Street Interchange. The future Outer Metropolitan Road (OMR) / E6 Corridor is located to the south with these two key road links making up the spine of the principal freight network (PFN) in the corridor. Much of the existing local and sub-arterial road network near the Site is rural in nature or in relatively undeveloped form, and is to be upgraded over time in line with the development of neighbouring PSP's.

Existing daily traffic volumes and heavy vehicle proportions on the arterial roads in the vicinity of the Site were obtained from The Department of Transport's Open Data Portal and have been used to consider the impact of the Site on the road network.

In terms of public transport access, the Site is located to the east of the North East Rail Line. This is beyond Melbourne's metropolitan train network with V/Line services connecting Seymour, Shepparton and Albury to the north with Southern Cross Station to the south. Current planning within the surrounding PSP's indicates that a train station is proposed along this line south of Beveridge Road although it has not been fully committed to at this stage. When delivered the new railway station will form part of the wider metropolitan Melbourne rail network when the service is electrified in future.

The Site currently has limited access to active travel infrastructure given it is in a rural area. This will change over time as the surrounding PSPs are developed and occupied and residents and workers generate walk and cycle demands.

6. Freight Demands

BIFT freight demand in terms of container (TEU) movement has been projected at up to approximately 2 million TEU per annum² at completion noting that this trade will grow from zero and is expected to take more than 15 years to reach that level.

International and interstate freight demand will initially be handled through a shared terminal and as trade throughput increases and the site develops over time, interstate and international (import-export) operations will be separated.

The initial shared rail terminal will be repurposed as a dedicated Interstate Terminal whilst the new terminal will be used solely for Import-Export movements (IMEX Terminal). The long-term capacity of each of the two terminals is expected to be up to 1 million TEU per annum.

² Noting the conservative nature of the trade figures at this time

7. Traffic Generation for Operational Phase

This section describes the trip generating characteristics of each component of the BIFT for both heavy (truck) and light (car) vehicle activity, as well as trips expected to be generated on the adjacent passenger rail service.

The inputs and assumptions adopted are informed by the operational assessment of the Site, typical traffic generation rates for the proposed land uses, and comparisons against similar interstate/intermodal facilities.

Camoola and Mossrock are expected to operate differently with Camoola's operation linked closely to the rail terminals, while Mossrock is expected to be a more typical industrial subdivision.

Note that the Site layout includes the potential for a bulk facility for the handling of commodities such as grain and fertiliser, but this trade is typically seasonal in nature and serviced by rail between regional rail facilities and the Port of Melbourne, therefore generating little in the way of truck traffic.

Table 2 summarises the key inputs and assumptions adopted to estimate the operational phase traffic generation.

Table 2: Key traffic inputs and assumptions to calculate traffic estimates for operational phase

Item		Adopted Value	Reference(s)
Operating hours		Up to 24 hours per day, 7 days per week at completion	Project team
Rail terminal trade throughput		1,000 TEU/day at Camoola increasing to 3,850 TEU/day at completion	Project team noting conservative (upper value) estimates at this time
Rail mode share		Increasing from 5% at opening to 30% at completion	Project team, Moorebank, Port of Melbourne Plan
Backloading rate		Increasing over time to 40% at completion	Project team, Port of Melbourne surveys
Average TEU per truck (across total truck fleet including rigids, semi-trailers and B-doubles)		Up to 1.76 TEU/truck	Moorebank, Port of Melbourne surveys
Developable land as a % of total site area		Approximately 50% site coverage	Project Architect and typical industrial rate
Traffic generation rates [1]	Warehouse / Industry	Light	Employee density per unit floorspace x 2 trips per day [2]
		Heavy	TEU throughput for Camoola and per unit floorspace rate for Mossrock

[1] Traffic generation for ancillary uses (e.g. office and showroom) have been allowed for in the floor area estimates.

[2] Employee estimates have been compared for consistency to the job numbers in the Victorian Integrated Transport Model (VITM) zones occupied by BIFT.

The resulting estimated total vehicle demands (Truck and Car) for the operational phase are set out in Table 3 by precinct and timeframe.

Table 3: Total estimated daily vehicle trips by stage and vehicle type for operational phase assuming conservative (high) trade forecasts

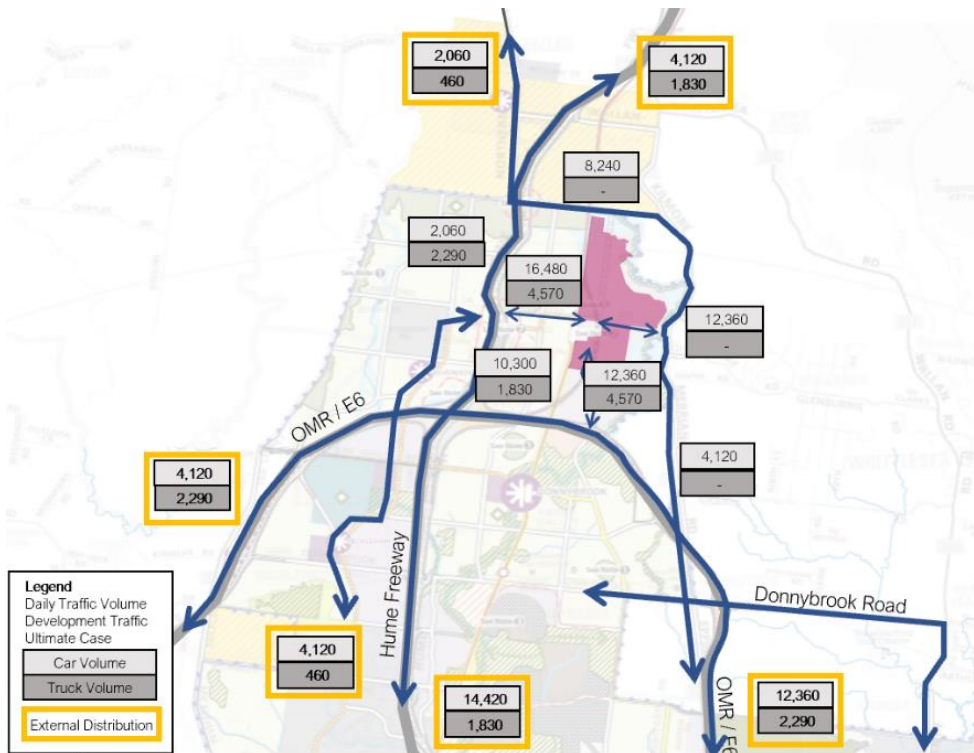
Use	Short Term (approx 0-5 years after opening)		Medium Term (approx 5-15 years after opening)		Long Term (approx >15 years after opening)	
	Trucks	Cars	Trucks	Cars	Trucks	Cars
Rail Terminals + Camoola	950	6,500	2,000	10,000	3,700	26,500
Mossrock	0	0	1,100	3,100	5,400	14,700
Total	950	6,500	3,100	13,100	9,100	41,200

The assessment results in a long-term daily traffic generation of approximately 9,100 truck movements and 41,200 car movements at completion.

There is also expected to be up to approximately 4,200 public transport trips and 800 active transport trips generated by BIFT in the long term adopting a 10% public transport mode share and a 2% active transport mode share. These trips could be subtracted from the car trips above, noting this will be revisited in future when more is known about the design and timing of the rail service and new train station, and the nature and timing of development in adjacent PSPs.

The distribution of these car and truck movements to the road network considers the staged nature of the road network access arrangements, the expected locations of the BIFT workforce and customers, and the nature of freight flows around Melbourne. The resulting daily BIFT traffic volumes at completion in the long term are shown in Figure 3. Note that in the short term, the road link south to Donnybrook Road and/or the OMR/E6 is not expected to exist and therefore the majority of BIFT traffic will use the Hume Freeway west of the Site in the short term.

Figure 3: Indicative BIFT Daily Traffic Volumes at Completion (Long Term) – Cars and Trucks



These estimates have been compared against the future daily traffic volumes for roads surrounding the BIFT as outlined in the VITM transport modelling undertaken by the Victorian Planning Authority for the PSP areas surrounding BIFT.

8. Traffic Impact for Operational Phase

Infrastructure Australia prepares and updates a priority list for the most important infrastructure projects and initiatives for Australia over the next 15 years. The 2019 priority list identifies several projects and initiatives impacting the BIFT:

- Upgrade of the M80 Ring Road
- Reservation of the OMR/E6 corridor
- Melbourne outer northern suburbs to CBD capacity upgrade (including the Hume Freeway and Craigieburn Line)
- Melbourne’s level crossing removals program
- North East Rail Line Upgrade Project

The proposed road network access for the Site is set out in Figure 4 noting that is it indicative only at this time on the basis that the internal road network layout and access points are dependant on subsequent more detailed planning.

The traffic volumes set out in the previous section can be safely and efficiently handled by this network assuming a staged set of road and intersection upgrades occur in line with development at the Site over time.

Figure 4: Indicative BIFT road network from opening to completion including non-BIFT infrastructure



9. Traffic Impact for Construction Phase

Traffic impacts associated with construction traffic activity will commence prior to opening of Stage 1 associated with construction of the rail terminal and handstand area, utilities and trunk infrastructure, access road and intersections and supporting warehouses on land parcels adjacent the rail terminal.

This pre-opening construction traffic will mainly use Beveridge Road and the existing Hume Freeway Interchange at Old Hume Highway for both construction worker and truck access. This route is currently rural in nature and will require some treatments to safely accommodate traffic flows between the Site and the Interchange. Note that there are currently few sensitive land uses along this route and that all construction activity will be contained within the Site.

Post-opening, parcels of land within the Camoola precinct are expected to be developed progressively over time as demand increases. This will limit construction vehicle activity occurring at any given time. The roads and intersections constructed for operational purposes will be capable of accommodating construction traffic safely and efficiently given all truck vehicle types are catered for.

Shorter term increases in construction activity will occur as additional rail terminals are constructed, with these short-term increases occurring on top of the ongoing development of industrial land parcels, and subject to separate construction management plans.

Land parcels in the Mossrock Precinct will also be developed progressively similar to Camoola as demand increases. The access routes and conditions for Mossrock are expected to be like those established for Camoola, with localised management issues applied as required.

Construction vehicle activity levels will therefore be an ongoing feature of the Site's operation, and therefore accommodated by the operational road and intersection network with an agreed management regime in place.

10. Summary of Traffic and Transport Assessment

This memo sets out a high-level traffic and transport assessment of the BIFT, its policy consistency, and expected short, medium and long-term traffic volumes, as trade throughput grows and the Site progressively develops over time.

Operational and construction phase traffic impacts and management are also discussed.

The results show that the expected traffic volumes can be safely and efficiently handled by the road network assuming an appropriate and staged set of road and intersection upgrades occur in line with development at the Site over time. Further details will be determined during the planning process for the Site.

Note that there are a range of supporting issues relating to traffic and transport access that will be part of an overall solution for the Site. These relate mainly to integration with other surrounding land releases and off-site infrastructure provision, the protection of road and rail access corridors for 24/7 access, supporting planning provisions such as buffers and interfaces, and periodic updates of relevant state and local planning and transport policies and documents to ensure consistency with BIFT.