

16 TRAFFIC AND TRANSPORTATION

16.1 INTRODUCTION

This section of the ES provides a brief overview of issues concerning traffic and transportation.

Consultation with Cornwall County Council has identified the need to conduct a detailed Transportation Assessment (TA) and Travel Plan given the type and volume of vehicular traffic to be associated with the proposed PFDI. At the time of preparing this section of the ES, a TA was not available to inform the EIA process. Accordingly, this section of the ES does not contain a detailed breakdown of traffic flows per vehicle type and does not contain any assessment of junction capacities.

16.2 METHODOLOGY

16.2.1 *Study Area*

The study area includes the local primary transport networks in and around Falmouth, and notably the A39.

16.2.2 *Baseline Data Collection*

The main transport routes in and out of Falmouth Docks have been identified through data collected from maps and timetables. Basic traffic flow information for the A39 was collected from CCC.

16.2.3 *Survey*

No survey has been undertaken but CCC holds detailed road traffic flow data from automatic and manual traffic counts. There are automatic traffic counters along the A39 at Ponsharden, A39 along Dracaena Avenue, and the C7 at Budock Hospital. In addition, 12 hour manual traffic counts at most of the key junctions on the A39 were carried out in August and October 2006.

16.2.4 *Assessment Criteria / Technique*

Predicted increases to road traffic were compared to the baseline data provided by CCC to conduct the impact assessments.

16.2.5 *Assessment of Impact Significance*

The significance of predicted impacts was assessed using the classification criteria and terminology outlined in Table 1-1 in Section 1.4.3.

16.3 BASELINE ENVIRONMENTAL CONDITIONS

16.3.1 *Road Network*

The A39 starts (or ends) at Falmouth Docks. It passes through Falmouth where it is known by the street names Melvill Road, Western Terrace and Dracaena Avenue, where it reaches a roundabout junction. From the roundabout, the A39 forms the main

road connecting Falmouth and Truro and has a number of junctions with other 'A' roads (e.g. the A394 to Helston) and passes through villages such as Devoran, Carnon Downs, etc).

The A39 joins the A390 in Truro and the combined road runs around Truro town centre (Tregolis Road) until they split. After the split with the A390, the A39 heads north (known as Newquay Road) through Trispen until it joins the A30. The A30 is the main highway link west to Penzance and Lands End, and east to Exeter where it connects into the M5 and Honiton where it connects into the A303.

16.3.2 Road Traffic Flows

CCC's automatic traffic counters have recorded one-way flows for annual average daily traffic (AADT) including the percentage of HGVs at key locations along the A39, which is the principal road through Falmouth to and from Falmouth Docks. The numbers identified in Table 16-1 are based on hourly data for the whole of 2007.

CCC's automatic traffic counters have also recorded seasonality in the one-way average flows for all vehicles. The numbers identified in Table 16-1 are based on hourly data for 7 August 2007 and highlight the higher traffic flows during the summer holiday season.

Table 16-1 AADT One-way Traffic Flows in Falmouth in 2007 and Average Seasonal Peak One-way Average Traffic Flows on 7 August 2007 (source: CCC, pers. comm., 2008)

Road Location	AADT 2007	AADT 2007 % HGVs	7 August 2007
A39 Ponsharden	25,400	c.3	28,100
A39 Dracaena Avenue	13,600	c.3	15,500
C7 Budock Hospital	15,200	c.3	15,900

CCC's automatic traffic counters have recorded annual average one-way flows for peak morning (AM) and afternoon (PM) flows of all vehicles. The numbers identified in Table 16-2 are based on hourly data for the period from Monday to Thursday over the whole of 2007.

Table 16-2 Annual Average Peak Hour One-way Traffic Flows in Falmouth in 2007 (source: CCC, pers. comm., 2008)

Road Location	Peak AM	Peak PM
A39 Ponsharden	1,950	2,300
A39 Dracaena Avenue	1,000	1,200
C7 Budock Hospital	1,500	1,600

16.3.3 Rail Network

A branch line connects stations at Falmouth Docks and Falmouth with Truro. From Truro there are main line connections west as far as Penzance and east to Plymouth, Exeter and beyond including lines to London's Waterloo and Paddington stations.

16.3.4 Public Transport

Local passenger ferry services connect Falmouth to Tolverne and Truro (seasonal from April to October), and to Flushing and St Mawes (year round).

In recent years a park and float facility has started operating from Falmouth, providing a ferry link from the out of town car parking facility at Ponsharden with the town centre. A normal park and ride also operates between Ponsharden and the town centre.

16.4 POTENTIAL IMPACTS DURING THE CONSTRUCTION PHASE

16.4.1 Changes to Traffic Flows on the Local Road Network during Construction

The presence of construction traffic on the local road network will increase the numbers of vehicles travelling through Falmouth to access Falmouth Docks.

The predicted two-way traffic requirements for construction, excluding traffic movements within the docks, are described in Section 2 and summarised in Table 16-3. In total, there will be approximately 6,000 two-way movements and approximately 12,000 one-way movements.

Table 16-3 Predicted Traffic Movements on the Local Road Network

Construction Element	No. of two-way Movements	Duration
Mob/demob of treatment plant	15 low-loader HGVs	2 days
Transport of dredged material to landfill	6,000 20t trucks	Six months (156 working days)

The number of movements is dominated by the transport of treated dredged material off site to landfill and the return of empty trucks to the Docks. These movements will contribute an average of approximately 77 truck movements to/from site per day, or nine to ten truck movements per hour. The worse-case scenario based on the transport of treated dredged material will increase the number of vehicles on the local road network by 77 one-way truck movements per day for six months. The magnitude of an additional 77 truck movements in relation to AADTs for 2007 is a small increase of <0.4%, as shown in Table 16-4.

Table 16-4 Predicted % Increase in AADT One-way Traffic Flows in Falmouth

Road Location	AADT 2007	AADT 2007 + transport of dredged material	% Change
A39 Ponsharden	25,400	25,477	c.0.30%
A39 Dracaena Avenue	13,600	13,677	c.0.57%
C7 Budock Hospital	15,200	15,277	c.0.50%

The worse-case scenario based on the transport of treated dredged material will increase the number of HGVs on the local road network by 77 one-way movements per day, for six months. Assuming the trucks to be classified as HGVs, the magnitude of an additional 77 one-way movements in relation to AADT % HGVs for 2007 is a minor to moderate increase of between approximately 10% and 19%, as shown in Table 16-5.

Table 16-5 Predicted % Increase in HGVs One-way Traffic Flows in Falmouth

Road Location	AADT 2007	No. of HGVs @ 3%	No. of HGVs @ 3% + transport of dredged material	% Change of HGVs
A39 Ponsharden	25,400	762	839	10
A39 Dracaena Avenue	13,600	408	485	19
C7 Budock Hospital	15,200	456	533	17

While the overall change to AADT one-way movements will be very small, the overall change to HGV one-way movements will be much larger. The movements will probably be experienced across the day rather than in peak AM and PM hours. Nevertheless, truck movements associated with the construction phase have the potential to have a temporary and localised moderate adverse impact on the number of HGV movements on Falmouth's local road network.

Mitigation and Residual Impact

It is recommended that a TA is conducted in order to refine the impact assessment on traffic flows and to factor in pressures on road junction capacities, and, if necessary, to derive suitable mitigation measures to reduce the residual impact to acceptable levels.

With the findings of the TA in place and mitigating measures adopted, it is anticipated that there will be a minor adverse residual impact.

16.4.2 Changes to Traffic Flows within Falmouth Docks during Construction

As described in Section 2, it will be necessary to transport various construction materials within the docks estate. Specifically, there will be the delivery of concrete from the batching plant to the Northern Wharf that will undergo wharf improvements. The batching plant will be located in the eastern part of the docks estate and will require trucks to pass along the road past the Marine Skills Centre, Pendennis Shipyard and the dry docks.

The predicted traffic requirements for construction related traffic movements within the docks are described in Section 2 and summarised in Table 16-6. In total, there will be approximately 883 two-way movements and 1,766 one-way movements on site over a total period of 140 working days. Assuming timescale for the traffic movements can be based on an average of the duration of the construction elements identified in Table 16-6, the timescale equates to approximately 35 days. Therefore, there will be an average of approximately 6 two-way movements and approximately 12 one-way movements on site per day.

Table 16-6 Predicted Traffic Movements within the Docks Estate

Construction Element	No. of two-way Movements	Duration
Concrete delivery to Northern Wharf (Length 2)	450 concrete trucks	56 days
Concrete delivery to Northern Wharf (Length 3)	223 concrete trucks	35 days
Concrete delivery to Northern Wharf (Length 4)	125 concrete trucks	28 days
Concrete delivery to Northern Wharf (Length 5)	85 concrete trucks	21 days

There are no data about the existing number of traffic movements within the docks estate; however, the magnitude of the predicted increase is likely to be moderate. The road network within the docks estate is not particularly clearly marked and poorly surfaced, and passes by the dry docks, fuel storage tanks, pipelines and car parking areas, and through a gated access. Given the numbers of truck movements and size of the trucks, the construction traffic is predicted to have a temporary and localised moderate adverse impact on the road network within the docks estate.

Mitigation and Residual Impact

As identified in Section 15.1, the need for a TA has been established. Although the impact assessed in this section does not take place on the public road network, it is recommended that the scope of the TA include for an appraisal of the impact of construction traffic on the road network within the docks estate so that a construction traffic management plan can be devised and adopted by the appointed construction contractor(s). It is anticipated that the management plan would consider the most appropriate haul route through the docks estate and measures for minimising disturbance to businesses within the docks estate.

With a management plan in place and utilised, there will be a temporary and localised residual minor adverse impact.

16.5 POTENTIAL IMPACTS DURING OPERATIONAL PHASE

16.5.1 Changes to Traffic Flows due to Day Calls

With the proposed PFDI in place, the distribution of day visitors between Falmouth and other Cornish destinations (see Figure 2-28) is not expected to change significantly, although the number of coach movements will increase. Assuming an equal distribution of day calls and passenger numbers and concentrating all calls into the main part of the season (i.e. 25 weeks from April to September), there will be an average of two day calls per week.

Allowing for 45 passengers per coach and assuming 50 per cent of passengers visit Cornish attractions by coach, then coach movements during day calls will be:

- an average of 6 coach trips per vessel (i.e. 12 one-way coach movements) per day call in 2005 (assuming an average of 497 passengers per vessel);
- an average of 12 coach trips per vessel (i.e. 24 one-way coach movements) per day call in 2009 (assuming an average of 1,050 passengers per vessel);
- an average of 24 coach trips per vessel (i.e. 48 one-way coach movements) per day call in 2023 (assuming an average of 2,079 passengers per vessel); and

- a maximum of 49 coach trips per design vessel (i.e. 98 one-way coach movements per day in any year the design vessel uses Falmouth Docks for a day call (assuming the maximum number of 4,375 passengers).

The worse-case scenario based on the design vessel will increase the number of vehicles on the local road network by 98 one-way movements per day, for two days per week, for 25 weeks per annum. The magnitude of an additional 98 one-way movements in relation to AADTs for 2007 is a small increase of <1%, as shown in Table 16-7.

Table 16-7 Predicted % Increase in AADT One-way Traffic Flows in Falmouth

Road Location	AADT 2007	AADT 2007 + Design Vessel	% Change
A39 Ponsharden	25,400	25,498	c.0.39
A39 Dracaena Avenue	13,600	13,698	c.0.72
C7 Budock Hospital	15,200	15,298	c.0.65

The worse-case scenario based on the design vessel will increase the number of HGVs on the local road network by 98 one-way movements per day, for two days per week, for 25 weeks per annum. Assuming coaches to be classified as HGVs, the magnitude of an additional 98 one-way movements in relation to AADT % HGVs for 2007 is a moderate increase of between 13% and 24%, as shown in Table 16-8.

Table 16-8 Predicted % Increase in HGVs One-way Traffic Flows in Falmouth

Road Location	AADT 2007	No. of HGVs @ 3%	No. of HGVs @ 3% + Design Vessel	% Change of HGVs
A39 Ponsharden	25,400	762	860	c.12.9
A39 Dracaena Avenue	13,600	408	506	c.24
C7 Budock Hospital	15,200	456	554	c.21.5

While the overall change to AADT one-way movements will be very small, the overall change to HGV one-way movements will be much larger and will probably be experienced in peak AM and PM hours. However, it is worth noting that the average-case scenario in 2023 will derive changes that are half the magnitude of those predicted for the worse-case scenario because the cruise vessel's passenger numbers will be lower. Nevertheless, coach journeys associated with day calls have the potential to have a moderate adverse impact on the number of HGV movements on Falmouth's local road network.

Mitigation and Residual Impact

It is recommended that a TA is conducted in order to refine the impact assessment on traffic flows and to factor in pressures on road junction capacities, and, if necessary, to derive suitable mitigation measures to reduce the residual impact to acceptable levels.

With the findings of the TA in place and mitigating measures adopted, it is anticipated that there will be a minor adverse residual impact.

16.5.2 Changes to Traffic Flows due to Turnaround Calls

The distribution of turnaround passengers arriving and departing the cruise terminal is not expected to change significantly and will remain a combination of coach (50%); car (45%) and public transport (5%). It should be noted that passengers will require two trips per cruise since they will arrive and depart Falmouth either by coach, car or public transport.

Allowing for 45 passengers per coach, then coach movements for turnaround calls will be:

- 11 coach trips per vessel (i.e. 22 one-way coach movements) per turnaround call in 2005 (assuming an average of 983 passengers per vessel);
- 16 coach trips per vessel (i.e. 32 one-way coach movements) per turnaround call in 2009 (assuming an average of 1,400 passengers per vessel);
- 18 coach trips per vessel (i.e. 36 one-way coach movements) per turnaround call in 2023 (assuming an average of 1,550 passengers per vessel); and
- a maximum of 49 coach trips per design vessel (i.e. 98 one-way coach movements in any year the design vessel uses Falmouth Docks for a turnaround call (assuming the maximum number of 4,375 passengers). [Note: the design vessel is expected to use Falmouth Docks for day calls rather than turnaround calls.]

Allowing for two passengers per car, then car movements for turnaround calls will be:

- 222 car trips per vessel per turnaround call in 2005 (assuming an average of 983 passengers per vessel);
- 315 car trips per vessel per turnaround call in 2009 (assuming an average of 1,400 passengers per vessel);
- 349 car trips per vessel per turnaround call in 2023 (assuming an average of 1,550 passengers per vessel); and
- a maximum of 985 car trips per design vessel in any year the design vessel uses Falmouth Docks for a turnaround call (assuming the maximum number of 4,375 passengers). [Note: the design vessel is expected to use Falmouth Docks for day calls rather than turnaround calls.]

The worse-case scenario based on the design vessel will increase the number of vehicles on the local road network by 49 two-way coach movements and 985 two-way car movements for passengers to arrive at Falmouth for their cruise. These movements will be repeated in the opposite direction as passengers depart Falmouth at the end of their cruise. The magnitude of an additional 49 coach movements and 985 car movements in relation to AADTs for 2007 is a small increase of <8%, as shown in Table 16-9.

Table 16-9 Predicted % Increase in AADT One-way Traffic Flows in Falmouth

Road Location	AADT 2007	AADT 2007 + Design Vessel	% Change
A39 Ponsharden	25,400	26,483	c.4.3
A39 Dracaena Avenue	13,600	14,634	c.7.6
C7 Budock Hospital	15,200	16,234	c.6.8

The worse-case scenario based on the design vessel will increase the number of HGVs on the local road network by 49 two-way movements per day. Assuming coaches to be

classified as HGVs, the magnitude of an additional 49 movements in relation to AADT % HGVs for 2007 will be half the increases predicted in Table 16.6 of between c.6.5% and 12%.

The overall change to AADT one-way movements and HGV one-way movements will be small, and will not necessarily be experienced in peak AM and PM hours (unlike for day calls). It is also worth noting that the average-case scenario in 2023 will derive changes that are less than half the magnitude of those predicted for the worse-case scenario because the cruise vessel's passenger numbers will be lower. Nevertheless, the increased numbers of coach and car journeys associated with turnaround calls have the potential to have a minor adverse impact on the number of one-way movements on Falmouth's local road network.

Mitigation and Residual Impact

It is recommended that a TA is conducted in order to refine the impact assessment on traffic flows and to factor in pressures on road junction capacities, and, if necessary, to derive suitable mitigation measures to reduce the residual impact to acceptable levels.

With the findings of the TA in place and mitigating measures adopted, it is anticipated that there will be a minor adverse residual impact.