Technical Note

Project Title:	Gourock Dunoon Ferry Study
MVA Project Number:	101988
Subject:	Specifying Vessels for the Route
Note Number:	2 Version: 1
Author(s):	
Reviewer(s):	
Date:	10 January 2013

1 Introduction

1.1 This note contains an initial view on the requirements for vessel specification on the route for the purpose of cost and revenue modelling.

1.2 Our incremental approach to this issue means we have to specify **foot passenger only** and **passenger and vehicle** ferries.

1.3 This specification needs to be proportionate to the task, ie we are not designing vessels but attempting to establish broad typical costs around which hopefully a consensus can emerge. The key requirement is to determine a credible set of vessel related costs for the purposes of financial modelling and the calculation of likely subsidy requirement. Given the level of uncertainty attached to this process, it may be useful to consider a broad 'level of confidence' attached to each cost element around which we can undertake sensitivity testing.

1.4 A good starting point is the 1997 Deloitte and Touche (D&T) Report. This report considered the costs and revenues associated with a number of service scenarios on the route for both CalMac and Western Ferries.

1.5 The costs categories considered and reported by D&T were as shown in the table below.

Cost Category	Sub Cost Category	CalMac	Western
Ship Costs Direct	Labour	✓	✓
	O&M (repairs and spares)	✓	✓
	Fuel	✓	✓
	Catering CoS	✓	
Shore Costs Direct	Labour	✓	✓
	Repairs	✓	✓
	Catering CoS	✓	
	Berthing Dues	✓	
Ship Costs Indirect	Insurance	✓	✓
	Staff Related Misc	✓	
	Management fee		✓
	Port Charges		✓
	Subscriptions		✓
Shore Costs Indirect	Rent, rates & services	✓	✓
	Miscellaneous		✓
	Reserve fleet costs	✓	
	Admin overheads	✓	

1.6 Note that the D&T analysis preceded the splitting of CalMac and CMAL, so the pier / traffic dues and berthing dues regime now is very different (formerly payable only at Dunoon – operated by Argyll and Bute Council). The main costs to CalMac were: Direct Ship Labour Costs, admin overhead, O&M, Berthing Dues and fuel – these accounting for around 75% of total costs. Western Ferries berthing and pier dues were reported to be incorporated in the rent and port charges categories.

1.7 In the D&T report, under the new vessel options the full assumed purchase price of these vessels was included in year zero of each option. Associated costs were taken as proportions of existing cost elements, eg 50% etc.

1.8 The D&T report looked at a wider range of service scenarios than we are required to do. They also had more infrastructure issues to consider. We are assuming that the vessels obtained will have to align with the linkspans at Dunoon and Gourock.

1.9 As such we are examining a single scenario (albeit based on different numbers of vessels) but in greater depth than D&T.

- Key Issue 1: What are the realistic chances of finding existing second hand / charter passenger only and passenger and vehicle ferries which are appropriate for the sea conditions and harbour infrastructure on Gourock Dunoon on the open market? If there is no realistic prospect of this, then we could focus our efforts on typical new build costs.

2 Specifying a Foot Passenger only Ferry

2.1 The current Argyll Ferries (AF) vessels can take a maximum of 188 (Flyer) and 250 (Ali Cat) passengers respectively. The average occupancy of these vessels is very low (16 in the period January-March 2012). **Passenger capacity is therefore not the determining factor** in specifying the vessel – although there are certain event days such as the Cowal Games when demand is very significantly higher - note that AF ran the Clyde Clipper to offer additional capacity during this event in 2012.

2.2 The terms of reference for our study state that:

"……a reliable service includes a level of reliability in bad weather comparable to that of the service that operated on the route prior to 30 June 2011, excluding the performance of the MV AliCat."

2.3 The determining factor is therefore primarily to specify a passenger only vessel which **matches the weather resilience of the Streaker vessels** previously used on the route.

Streaker Reliability

2.4 In the period 2008-2010, the Streakers had 31,883 scheduled sailings and there were 274 weather-related cancellations, a rate of 0.9%. Over the same period the Ali Cat had 6,303 scheduled sailings and 3.2% were cancelled due to weather. Argyll Ferries weather-related cancellations over the period January to October 2012 were 2.3% of scheduled sailings. **For this study we are therefore looking to specify Foot Passenger only vessels which will match the Streaker cancellation rate of around 0.9%** (figure to be confirmed with longer term data).

2.5 If vessel size is one main arbiter of weather resilience, for context the gross tonnages of some relevant vessels are:

- Argyll Flyer 172, AliCat 78
- Streakers – Jupiter 849
- Coruisk 1599
- New CMAL vessels – Argyle / Bute 2612, Wemyss Bay / Rothesay. *Note though that on the face of it these vessels have a similar weather resilience rate on Wemyss Bay / Rothesay as the Argyll Ferries vessels – albeit the crossing is more exposed*. Some observers think these vessels are too big and this contributes to their vulnerability to wind.
- Western Ferries Sound of Sanda 403? (tbc)

2.6 Clearly the current AF passenger vessels are of an order of magnitude smaller than other current or previous vessels operating in the Firth of Clyde – and presumably this is contributing to the weather vulnerability.

2.7 So firstly, TMG need to:

- specify in outline a **foot passenger only vessel of sufficient size / design to broadly match the Streakers reliability record** – and 'fit' with (i) the existing linkspans at

Gourock and Dunoon, and (ii) the 12 knots 'speed limit' – we can then take this as the core vessel for a 1, 2, 3……vessel ferry service assessment;

- consider what the realistic prospect is of these vessels being available on the second hand / charter market – rule this option out??

- estimate the broad **costs of building / acquiring these vessels** (potentially via different procurement routes – new build / second hand / charter);
- consider any operational issues concerning eg vessel embarkation – with respect to existing infrastructure;
- estimate the **operating costs of these vessels** (crew / fuel / maintenance / shore costs / admin etc) – broadly based on the D&T categories in the first instance;
    - we clearly need a breakdown of AF cost structures (promised at meeting on 18 December) to inform this - this will help us fully understand the various components of cost which apply on this route. We also have the previous D&T figures as a guide.

2.8 Note that D&T assumed that Costs would be reduced by over 50% by moving from a passenger and vehicle to a passenger only service.

2.9 There is clearly a large amount of uncertainty in all of this. We just need to establish costs within a reasonable order of magnitude and evidence this, as all values used in the model will be subject to close scrutiny by stakeholders.

2.10 The MVA financial model will include berthing dues / pier & traffic dues separately within the cost model based in the latter case on volumes. We need up to date charges for Dunoon (we have 2009) and note that the very substantial Pier / Traffic dues discounts at Gourock will cease from 01/04/13. Berthing dues discounts will continue.

3 Specifying a Vehicle and Passenger Ferry

3.1 TMG then need to specify a **vehicle and passenger ferry** which again would be suitable for existing harbour infrastructure and sea conditions in the Firth – and be able to achieve a 30 minute turnaround time (note current controversy with the MV Coruisk where TS are stating this cannot be achieved – despite the vessel being able to run at 14 knots – does this suggest a particularly manoeuvrable vessel is required here? – I believe this was a strength of the Streakers).

3.2 The Streaker vessels had a capacity for 40 cars, broadly in line with Western Ferries. Again though presumably the dimensions of the harbours to a large extent will determine the size of the vessel. Assuming a design capacity of 40 seems like a reasonable starting point though. Note also that this vehicle carrying ferry would also require sufficient passenger accommodation to cater for the much larger number of foot passengers on the town centre to town centre service, compared to the Western route. This means that the vessels could not be a mirror image of the Western Ferries vessels.

3.3 The key issue here is the incremental cost increase between foot passenger and passenger and vehicle vessels and the level of increased revenue achieved. A key element here is the gross

tonnage. If the passenger only vessel has to be large to offer weather resilience, then the passenger and vehicle ferry may not have to be much larger.

3.4 The difference in gross tonnage will give rise to increased Berthing Dues at Gourock and Dunoon. The vehicle ferry may also be more expensive to acquire, may use more fuel and may require more crew on board and ashore. Back office / admin costs would not be significantly different.

3.5 As with the passenger only ferry we need to:

- specify in outline a **passenger and vehicle vessel of sufficient size / design to broadly match the Streakers reliability record** – and 'fit' with (i) the existing linkspans at Gourock and Dunoon, and (ii) the 12 knots 'speed limit' – we can then take this as the core vessel for a 1, 2, 3……vessel ferry service assessment;
  - consider what the realistic prospect is of these vessels being available on the second hand / charter market – rule this option out??
- estimate the broad **costs of building / acquiring these vessels** (potentially via different procurement routes – new build / second hand / charter);
- consider any operational issues concerning eg vessel embarkation – with respect to existing infrastructure;
- estimate the **operating costs of these vessels** (crew / fuel / maintenance / shore costs / admin etc) – broadly based on the D&T categories in the first instance.

Revenue

3.6 Each vehicle and vehicle passenger carried will of course generate extra revenue (assuming foot passenger numbers would be unchanged). They will also require the payment of full (undiscounted) Pier / Traffic dues at Gourock and Dunoon. Each car plus driver would require payment of approximately £3.50 in dues (*need to get up to date charges for Dunoon Pier*). A car plus driver would generate around £7.00 in fares (2010 Cowal outturn figures), so 50% of revenue is immediately lost to Pier / Traffic Dues. The remaining revenue would have to exceed the incremental change in vessel costs / Berthing dues. This is the fundamental issue for the study.

4 Overall Approach

- Determine the foot passenger vessel specification & costs (TMG)
- Estimate foot passenger only revenue (MVA)
- Establish 'defensible' subsidy (MVA)
- Determine the 40 car passenger and vehicle vessel specification & costs (TMG)
- Note the incremental cost change (MVA)
- Analyse potential revenue streams to see how close or otherwise they come to covering the additional costs (MVA)
- Sensitivity tests where a 'bridgeable gap' appears to determine under what scenario additional revenue would outweigh additional costs (MVA)

- Consider competitive response (MVA)