

# BC Ferries Route 19 : Gabriola Island – Nanaimo Harbour

Validating cost and revenue assumptions in the calculation of a \$400,000 annual saving on Route 19.

## 1 Background

The 2013 Community Engagement documents describe the objective of achieving a \$400,000 annual net saving in the cost of operating Route 19, to be achieved by way of a reduction of 834 round trip sailings per annum (1668 one-way sailings), or 14.5% of the total service. 'Net saving' is defined in the Performance Term 3 Amending Contract (2012) as **'the total direct operating costs avoided by reducing core service levels, less anticipated revenue losses resulting from implementing the service adjustments'**. The contract also allows for any costs associated with implementing the service adjustments to also be reflected in the calculation.

BC Ferries informed Ferry Advisory Committee Chairs on November 22, 2013 of certain assumptions that had been made in the calculation of the anticipated savings, notably that 25% revenue erosion (revenue lost as a result of the service adjustments) had been assumed in the calculations, together with an assumed 15% reduction in seniors' travel arising from the change in the seniors' discount scheme.

In a subsequent message on November 25, David Hendry of BCF clarified the calculation of the net savings in the following terms: **"The net savings information [provided to the Province] gives a summary of the fuel, labour and revenue loss to arrive at the net savings by route. These are all estimates and we don't have detailed calculations to provide at this time. These will come once the revised service profiles are run through our budget models. These models take into account current labour rates, current fuel prices and other specifics"**. This information was requested by the FAC Chairs at the November 22 meeting but has not so far been supplied.

It is also stated in the Engagement documents that BC Ferries will, after the end of the Community Engagement process, **'consult with the Ferry Advisory Committee to refine the schedule of remaining sailings to best meet community needs while achieving the net savings'**.

A subsequent clarification from the Ministry of Transportation and Infrastructure stated:

**"We have now identified a plan to achieve part of those savings, a plan developed based on the considerations discussed last year. The Province is now asking coastal communities are there other considerations which should be looked at prior to implementing the service reduction plan. Specifically, are there refinements to the schedule, within the context of the planned reductions in round trips and changes to the length of the service day that would help mitigate the impacts."**

**BC Ferries and the Province intend to implement the service reduction plan beginning in April. These are the planned reductions, should the community recommend alternate service reductions that could achieve the intended net savings on their route then the Province would be open to considering the proposal."**

In the absence of the information requested, this paper draws together such detail of operating costs and revenues that is available in an attempt to validate the method used in arriving at the \$400,000 net savings target to enable the FAC to better understand the parameters within any alternative service reductions to achieve the same target might be considered. The FAC invites observations from BC Ferries and the Ministry of Transportation & Infrastructure on the assumptions being made.

## 2 Fuel and Labour Costs

BC Ferries does not ordinarily publish details of fuel and labour costs on a route-by-route basis, asserting that such information is commercially sensitive. However, the *BC Ferries Annual Report for 2012/13* (page 10) provides a breakdown of the Corporation's costs of operation as follows:

(\$ millions)	Fiscal 2004 Actual <sup>4</sup>	Fiscal 2013 Actual
<b>Operations Costs</b>		
Labour	202	263
Fuel <sup>5</sup>	50	121
Materials, Supplies, Contracted Services and Other	33	33
Insurance <sup>6</sup> , Property Tax, Utilities and Credit Card Fees	10	21
Maintenance Expenses	84	70 <sup>7</sup>
Administration Expenses	32	30
Net Financing and Amortization <sup>8</sup>	68	204

Whilst recognising that fuel and crew costs will vary depending on the size, capacity and crewing requirement of each vessel, for the purpose of these estimates an assumption has been made that each element of operating cost will represent broadly the same percentage of total operating cost of any route. The following apportionment has therefore been assumed:

## 3 BC Ferries' Direct Operating Costs (source : BC Ferries Annual Report 2012/13)

	\$ million	% of total
Labour	263	48.9%
Fuel	121	22.5%
Materials and Supplies	33	6.1%
Insurance, Tax, Utilities & Credit Card fees	21	3.9%
Maintenance	70	13.0%
Administration	30	5.6%
<b>TOTAL</b>	<b>538</b>	

Labour and fuel costs (highlighted yellow) together represent more than 70% of direct operating costs and are determined almost entirely by the volume of service delivered. They are therefore considered to be Variable Costs. Most of the other unit costs are influenced to some degree by service volume, but are likely to be variable only in the medium term as contractual arrangements are renegotiated. These semi-variable costs would be expected to reduce progressively with lower service volumes, though not immediately. This paper does not assume any reduction in semi-variable costs.

## 4 Financing and Amortization

(source : BC Ferries Annual Report).

In 2012/13, capital financing and amortization of assets added a further \$204 million (38%) to operating costs. These fixed costs fluctuate as vessels are replaced or refitted. No assumptions have been made in this paper on any change to Finance and Amortization costs.

## 5 Existing costs and Revenues on Route 19

(source : BC Ferries Annual Report to the Ferry Commission, 2012/13)



*British Columbia Ferry Services Inc.  
Route Statement  
Minor Routes  
For the Twelve Months Ended March 31, 2013  
(in 000's)*

	13-Langdale - Gambier Island - Keats Island		17-Comox - Powell River		18-Texada Island - Powell River		19-Gabriola Island - Nanaimo Harbour	
	2013	2012	2013	2012	2013	2012	2013	2012
Tariff and Reservation Revenue	171	167	9,276	9,552	1,108	1,052	4,869	4,785
Ancillary Revenue (Note 1)	19	19	765	789	19	14	63	52
Social Program Fees	75	72	1,567	1,571	337	321	916	835
Contracted Routes Fee	-	-	-	-	-	-	-	-
<b>Total Operating Revenue</b>	<b>265</b>	<b>258</b>	<b>11,608</b>	<b>11,912</b>	<b>1,464</b>	<b>1,387</b>	<b>5,848</b>	<b>5,672</b>
<b>Total Operating Expenses</b>	<b>578</b>	<b>562</b>	<b>15,206</b>	<b>18,408</b>	<b>5,106</b>	<b>6,002</b>	<b>6,992</b>	<b>7,298</b>
<b>Earnings (Loss) from Operations</b>	<b>(313)</b>	<b>(304)</b>	<b>(3,598)</b>	<b>(6,496)</b>	<b>(3,642)</b>	<b>(4,615)</b>	<b>(1,144)</b>	<b>(1,626)</b>
Amortization	(7)	(10)	(3,638)	(2,868)	(936)	(1,011)	(2,565)	(3,120)
Financing Expense	0	(20)	(788)	(680)	(300)	(282)	(656)	(658)
<b>Cost of Capital</b>	<b>(7)</b>	<b>(30)</b>	<b>(4,426)</b>	<b>(3,548)</b>	<b>(1,236)</b>	<b>(1,293)</b>	<b>(3,221)</b>	<b>(3,778)</b>
<b>Gain (Loss) on Disposal of Capital Assets</b>	<b>-</b>	<b>-</b>	<b>(1)</b>	<b>(5)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(3)</b>
<b>Route Earnings (Loss) Before Ferry Service Fees &amp; Federal Contract</b>	<b>(320)</b>	<b>(334)</b>	<b>(8,025)</b>	<b>(10,049)</b>	<b>(4,878)</b>	<b>(5,908)</b>	<b>(4,365)</b>	<b>(5,407)</b>
Ferry Transportation Fees	297	249	7,504	6,278	4,186	3,503	2,775	2,322
Federal-Provincial Subsidy Agreement	71	67	1,789	1,688	998	942	662	625
<b>Net Regulatory Earnings (Loss)</b>	<b>48</b>	<b>(18)</b>	<b>1,268</b>	<b>(2,083)</b>	<b>306</b>	<b>(1,463)</b>	<b>(928)</b>	<b>(2,460)</b>
<b>Items Included in Regulatory Earnings (Loss) not Permitted Under IFRS</b>								
Fuel Costs Deferred	(23)	(27)	(336)	(563)	(72)	(110)	(100)	(181)
Fuel Surcharges Collected	6	11	270	470	36	60	136	232
Provincial Contributions to Fuel Deferral Accounts	-	-	44	102	8	56	14	38
Interest (Receivable) Payable on Fuel Deferral Accounts	-	-	-	3	-	2	-	(2)
Performance Term Submission Costs Deferred	-	-	-	(2)	-	(1)	-	(1)
Amortization of Deferred Costs	-	3	2	121	-	15	1	62
Tariffs in Excess of Price Cap	-	-	-	-	-	-	-	-
<b>Net IFRS Earnings (Loss)</b>	<b>31</b>	<b>(31)</b>	<b>1,248</b>	<b>(1,952)</b>	<b>278</b>	<b>(1,441)</b>	<b>(877)</b>	<b>(2,312)</b>

The level of detail contained in the financial reporting does not disaggregate 'total operating expenses' to identify spending on the constituent elements of crew costs, fuel, or any of the semi-variable costs tabulated in the Corporation's own Annual Report. For the purpose of this validation exercise, therefore, the same proportions reported for the Corporation as a whole have been applied to the Route 19 financial report to provide a broad indication of the constituent costs of operation.

**Route 19 : Estimated Apportionment of direct operating expenses** (source : as below)

Showing the average cost per round trip, based upon 5,728 round trips operated in 2012/13 (a)

	<b>Route 19 \$</b>	<b>% of total (b)</b>	<b>per round trip (average) \$</b>
Labour	3,418,022	48.9%	597
Fuel	1,572,550	22.5%	275
Materials and Supplies	428,877	6.1%	75
Insurance, Tax, Utilities & Credit Card fees	272,922	3.9%	48
Maintenance	909,740	13.0%	159
Administration	389,888	5.6%	68
<b>TOTAL DIRECT OPERATING COSTS</b>	(a) <b>6,992,000</b>	<b>100%</b>	<b>1,221</b>
Financing Costs (a)	656,000		115
Amortization of assets (a)	2,565,000		448
<b>TOTAL OPERATING COSTS</b>	(a) <b>10,213,000</b>		<b>1,783</b>

Sources : (a) BC Ferries Annual Report to Ferry Commission 2012/13 (b) BC Ferries Annual Report 2012/13

**6 Vehicle and Passenger Traffic**

BC Ferries reports each year on the number of vehicle and passenger trips and the income received from fares and social program fees. The table below summarises the reported figures for 2012/13:

**Route 19 : Vehicle and Passenger Revenue** (Source : BC Ferries Annual Report to Ferry Commission 2012/13 )

	<b>Total 2012/13</b>	<b>Per single trip</b>	<b>Per round trip</b>
Vehicle tariff (fares)	\$ 2,874,201		
# of vehicles carried	364,313		
<b>Average fare per vehicle</b>		<b>\$ 7.89</b>	<b>\$ 15.78</b>
Passenger tariff (fares)	\$ 1,995,172		
Social Program fees (Seniors/students/medical)	\$ 916,000		
Total passenger income	\$ 2,911,172		
# of passengers carried	771,783		
<b>Average fare per passenger</b>		<b>\$ 3.77</b>	<b>\$ 7.54</b>



## 8 Estimating the net savings

The following section seeks to validate the level of net savings claimed from the proposed reduction in sailings.

The following table illustrates the level of cost reduction if (a) all costs or (b) labour and fuel only are reduced by 14.5% (the proportion of service that is proposed for withdrawal).

	Existing \$	% of total operating costs	Assuming all costs are reduced by 14.5%	Assuming only labour & fuel are reduced by 14.5%
Labour	3,418,022	48.9%	2,922,409	2,922,409
Fuel	1,572,550	22.5%	1,344,530	1,344,530
Materials and Supplies	428,877	6.1%	366,690	428,877
Insurance, Tax, Utilities & C/Card fees	272,922	3.9%	233,348	272,922
Maintenance	909,740	13.0%	777,828	909,740
Administration	389,888	5.6%	333,355	389,888
<b>TOTAL DIRECT OPERATING COSTS</b>	<b>6,992,000</b>		<b>5,978,160</b>	<b>6,268,367</b>

In reality, it is acknowledged that few short-term reductions will be achieved from materials, supplies, utilities or services. Reductions in maintenance costs should be achievable in the medium term, as should an equivalent reduction in the administrative costs allocated to the route. However, if the administrative savings are deemed to be part of the internal efficiency savings that BC Ferries is tasked with delivering, they cannot be double-counted. The most realistic indicator of short-term savings is therefore to apply the 14.5% reduction to labour and fuel costs only. This would suggest that direct operating costs will reduce from \$6,992,000 to \$6,268,367. Thus a cost reduction of \$723,633 is implied.

To be offset against this cost reduction is a projected loss of revenue, due to passenger and vehicle journeys that can no longer be made as a result of the sailing cuts. BC Ferries estimates that 25% of fares may be lost, assuming that the remainder of journeys will continue to be made on earlier (or later) sailings. For the purpose of this validation, it has to be assumed that for each journey lost, the full round-trip fare will disappear. The table below indicates a range of outcomes resulting from 25%, 50% and 100% revenue loss on cancelled sailings.

	Existing	25% revenue foregone	50% revenue foregone	100% revenue foregone
Labour Costs	3,418,022	2,922,409	2,922,409	2,922,409
Fuel Costs	1,572,550	1,344,530	1,344,530	1,344,530
Other semi-variable costs	2,001,428	2,001,428	2,001,428	2,001,428
<b>Total direct operating costs</b>	<b>6,992,000</b>	<b>6,268,367</b>	<b>6,268,367</b>	<b>6,268,367</b>
Reduction in operating costs	0	723,633	723,633	723,633
LESS revenue foregone	0	(84,115)	(168,229)	(336,458)
<b>Net savings achieved</b>	<b>0</b>	<b>639,548</b>	<b>555,434</b>	<b>387,205</b>
<b>Government savings target</b>		<b>\$400,000</b>	<b>\$ 400,000</b>	<b>\$ 400,000</b>

## 9 Conclusions and Questions

Throughout this validation exercise, the only figures used are figures either reported publicly by BC Ferries, or data supplied by BC Ferries to the Province and Ferry Advisory Committees. The object of this paper was to see how closely the projected net savings in the Coastal Ferries Engagement documents could be reconciled with known (or assumed) levels of operating cost and revenue for the identified sailings on Route 19.

On the cost side it has been assumed that the unit costs incurred in operating Route 19 are proportional to the unit costs across the system as a whole. **Question : Is that a reasonable assumption?**

It has been assumed that the reduction in spend on labour costs will be proportionate to the reduced number of sailings, ignoring the fact that the first 30 minutes per day will be a saving of 30 minutes at enhanced overtime rates (information provided by BC Ferries to the last FAC meeting). If anything, therefore, the 14.5% reduction in labour costs *should* be an underestimate, unless a proportionate reduction cannot be achieved.

**Questions : Are the assumptions of 14.5% reduction in labour cost deliverable? If not, what is the planned reduction in working hours each day? What is the projected saving in labour costs?**

It has also been assumed that the reduction in fuel costs will be proportionate to the reduced number of sailings, given that the current schedule contains no more than the minimum loading time between sailings.

**Questions : Are the assumptions of 14.5% reduction in fuel cost deliverable? If not, what assumption has been used in arriving at the projected net savings? What is the projected saving in fuel costs?**

For the purpose of this exercise, no other cost savings have been assumed. **Question : Is that a reasonable assumption? Wouldn't a reduction of 14.5% in engine hours reduce maintenance costs? Where is the saving in administration costs?**

If our assumptions are valid, the projected reduction in operating costs should be a MINIMUM of \$723,000.

**Question : Is this the figure used by BC Ferries in arriving at the projected savings in net operating costs? If not, what is it?**

As far as revenue is concerned, the calculation of potential "at risk" revenue is based entirely on BC Ferries' own data. It is therefore believed to be robust. However, if BC Ferries' 25% revenue loss projection is applied, the revenue foregone is only \$84,115 – implying that (assuming our cost projection are close) the actual net saving would be in excess of \$600,000 per annum – 50% more than the figure provided to the public. Only if a 100% revenue loss is assumed on these sailings would the net savings be in line with the documentation provided.

**Question : What is the percentage revenue loss that has been used in the calculation of net savings?**

### Conclusion

Without a clear understanding of the exact cost and revenue projections used in the calculation of the \$400,000 projected annual net saving, it is impossible to make informed judgments on whether less damaging alternative strategies would deliver the equivalent savings. **From the evidence available to us, it does appear that either the reduction in operating costs has been understated, or the potential revenue loss inflated well above the declared 25% for the purpose of the calculation.** Until the true financial projections are made available, it is impossible for Ferry Advisory Committees to consider any alternative options that would mitigate the hardship that the current proposals will undoubtedly cause to our community.