Cartela Socio - Economic Impact Analysis

June 2012

Incorporating Socio Economic Impact and Wider Economic Benefits

creating Preferred Futures

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DISCLAIMER

All figures and data presented in this document are based on data sourced from information provided by the project proponents, the Australia Bureau of Statistics (ABS), and other agencies. This document is provided in good faith with every effort made to provide accurate data and apply comprehensive knowledge. However, creating Preferred Futures does not guarantee the accuracy of data nor the conclusions drawn from this information.

EXECUTIVE SUMMARY

Public investment in the restoration of the Cartela is sound and strong socio-economic investment, indicating it provides "value for money".

The strong benefit/cost relationship is derived from both the restoration project and the subsequent operations of the Cartela from Brooke St Pier in Hobart as a key maritime heritage and visitation experience. There is a large "margin of safety" for the investment of public funds.

	4% Discount Rate	7% Discount Rate
Total Benefit	$18.622m	$15.630m
Total Cost	$4.630m	$4.387m
Benefit / Cost Ratio	4.022	3.563
NPV (Benefit-Cost)	$13.992m	$11.243m

The above summary table demonstrates significant monetised benefit from the investment in restoration of the Cartela. **Wider benefit/cost analysis (BCA) considers flow-on economic and social benefits, consequently the monetised element of the analysis significantly underestimates the value of the Cartela investment**, specifically:

- Restoration of the Cartela will create a high value marine heritage asset held in Trust for the Tasmanian community, particularly as it will be ready for use, not a static exemplar;
- Restoration will enable 4 apprentices to be trained, adding to the critical mass of boatbuilding capacity within the State, similarly volunteer steam engine operators will add to the community's capacity to continue to develop associated experiences;
- Restoration of a high profile vessel will reinforce Tasmania's position as both a centre for restoration of wooden vessels but also for routine maintenance and construction of wooden boats.
- Location and high quality interpretation of the Cartela at Brooke St Pier will enhance the role of Hobart's waterfront as a key visitor attraction.
- Restoration at Dover will create significant opportunity, potential jobs and activity in a community severely disadvantaged by the collapse of the traditional timber industry and the current IGA process.
- The subsequent operations of the Cartela will provide a stream of ongoing direct and indirect employment rising from 14 in year one of operations to 19 in year 16

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1 INTRODUCTION

The "Cartela" is an obvious and demonstrably ever present reminder of Tasmania's development and the role of Tasmania's waterways and small ships as a key element of our cultural heritage. Built in 1912 and operating continuously since then from Hobart's Brooke St Pier, Cartela represents the evolution from the wind powered transport and trading vessels that plied the coastal waterways opening up new settlements and industries to a new form of steam powered "swift" and multi-purpose vessels. Cartela played an important role in improving access, connections between Hobart and outlying towns and improving transport efficiency.

While Cartela, as Australia's oldest remaining example of a passenger/cargo ferry of the era, with all of her technical and cultural heritage attributes, is **worthy of restoration as an exemplar** of her type, **she offers much more than that; she will continue to work and provide significant economic and social benefits to Tasmania** and through her contribution to heritage tourism and heritage awareness to Australia as whole.

By continuing to work, Cartela will generate a flow of benefits over this next period of her life. This report identifies the relationship between the costs of restoration and the flow of benefits over a 20 year period encompassing the restoration period and 16 years of operation. This report is designed to be considered in conjunction with other detailed restoration and business plans and reports.

2 BENEFIT COST ANALYSIS – WHY IS IT USEFUL

Benefit/cost analysis (BCA) is a way to develop an understanding of and articulating the relationship between the benefits and costs of an initiative. BCA has evolved from a relatively narrow form, similar to business return on investment (ROI) analysis, to wider forms such as social return on investment and then into "triple bottom line" assessments incorporating social, economic and ecological perspectives.

Benefit Cost Analysis is a decision support methodology used when public funds are to be used as a primary investment source to determine whether and/or to what degree the value of the benefits outweigh the costs of a project or policy initiative. When the benefits outweigh the costs, the associated benefit/cost ratio is greater than 1, at a particular discount rate. BCA is an extension of ROI 'thinking" to include wider concepts of both benefit and cost, ascribing a value (monetising) to community impacts not normally within the scope of interest of a private investor. As the scope of the "benefit/cost" widens the value of using the ratio as the single indicator on which to make a decision diminishes. **Not all benefit/cost factors can be reliably ascribed a monetary value, as such the supporting narrative outlining associated social, cultural and ecological benefits and costs is equally important**.

Infrastructure Australia recommends the use of wider BCA and the inclusion of non-monetised benefits and costs where appropriate. This reinforces the importance of the $ ratio being a only part of the BCA narrative. The "wider" perspective is important in considering public infrastructure in that it enables inclusion of:

- Direct jobs and income to the region from the investment;
- Multiplier effects from the investment;
- Flow-on economic and social benefits from the investment;
- Reduction in unemployment benefit expenditures consequent to the increased jobs contribution;
- Induced effects – what further investment and business activity is likely to arise from the investment;
- The multiplier effects of induced development and activity; and
- Other economic, social and ecological factors as non-monetised items within the narrative.

3 OBJECTIVES OF THE CARTELA PROJECT

The Cartela project has quite definite and specific objectives:

- To conserve the Cartela – ensuring a unique and significant element of Tasmania's maritime heritage is accessible by future generations
- To restore the Cartela to its early steam powered configuration
- To continue to operate the Cartela as heritage and maritime tourism experience, complementing other attractions and experiences around Sullivans Cove and enhancing Tasmania's heritage tourism offer
- To **contribute to the critical mass of marine heritage assets** to support the training of boat builders and machinist/fitters who are able to continue to both maintain these heritage assets and wooden vessels and further enhance Tasmania's reputation as the "wooden boat capital" of Australia.

3.1 Conserving and restoring the Cartela

Built in 1912, Cartela if one of the few examples world wide of a screw driven, steam powered vessel of its era. Since launching, it has operated from Sullivan Cove's 'Brooke St Pier", in earlier times providing daily transport to outlying settlements and carrying cargo such as apples to Hobart for export overseas.

At 38 metres in length and 300 tonne in weight, the conservation and restoration of Cartela is a challenging project. It will occur over a four year period, comprising:

- Detailed assessment;
- Stabilisation and dismantling;
- Rebuilding of hull, decks and superstructure;
- Reconditioning, restoration and refit of steam plant and propulsion/steering; and
- Refit to provide a balance of heritage tourism experience and contemporary comfort/safety compliance.

3.1.1 Direct Employment & Training

The conservation restoration phase will provide four (4) apprentice positions, three (3) in traditional wooden boat building and one (1) in mechanical fitting associated with the restoration of the steam engine, conversion to oil fire and installation. With boatbuilding apprentices needing to travel to Brisbane for the "off the job" element of their training and with this course having a predominant focus on composites and metals, the Cartela project provides a key opportunity to complement the small number of apprentices in employment with other Tasmanian wooden boat builders. The Cartela Trust will also collaborate with the "School of Wooden Boat Building" at Franklin. In addition to the apprentice positions, the specialist reports indicated a further three (3) trades and three (3) semi-skilled full time equivalent (fte) positions over the project period. Further cooperation with the "Centre for Heritage" will enhance community training and heritage tourism potential.

3.1.2 Community Development

The conservation and restoration work is to occur at Dover, south of Hobart, an area severely impacted by changes in Tasmania's forest industry. Once a significant wooden boat building centre, locating the restoration in this area provides potential employment in a region characterised by significant economic and social disadvantage.

3.1.3 Wider Impact

From a socio-economic perspective the four (4) year investment in the conservation and restoration of Cartela provides three (3) streams of benefit:

1. The direct and multiplier effect of the investment on jobs and income within the community;
2. Visitation effect and associated multiplier; and
3. The cultural/heritage benefit.

The specialist reports[1] provide a detailed costing in relation to the direct costs of conservation and restoration, including direct labour and materials. This expenditure flows through the community to suppliers and then into further consumption; similarly visitor expenditure has a direct and indirect impact on income and employment. The participation of volunteers in the conservation and restoration project provides a strong community link, sense of purpose and ownership of the Cartela, particularly important as she changes ownership from a private family firm to public ownership through the Cartela Trust.

The Cartela restoration and consequent employment and training outcomes, further benefits Tasmania's positioning as the "wooden boat" capital of Australia. While this is to some degree demonstrable, the industry has not achieved the commercial scale perceived possible and being achieved by traditional boatbuilder who are actively marketing to a "keen market". Boat building is identified by "Skills Tasmania" as a priority area in skills development.

Restoration of the Cartela to a steam driven vessel and its subsequent operations will add to the capacity of the local marine steam engineer community in maintaining and operating such equipment, ensuring the skills and as a consequence the heritage is not lost.

The alignment of the Cartela project, its promotion and enhanced skill development, in combination with the potential to view wooden boats differently within a "carbon world", provides a potential catalyst to leverage further activity from the project. Internationally, wooden boat journals are exploring the potential, challenges and opportunities of crafting wooden boats within the carbon conscious world.

From a non monetary perspective, the conservation and restoration of Cartela continues to provide a demonstrable link to Tasmania's cultural and marine heritage. Unlike many other restoration examples, Cartela will continue to work from Brooke St Pier providing an attraction both within the waterfront precinct and while plying the Derwent and D'Entrcasteaux Channel. As a "flagship" to event, Cartela will provide a focal point and play a role in reinforcing a sense of community, place and progress.

3.2 Tourism Experience

Conservation and restoration of the Cartela will complement that of other, smaller recreational and trading craft; which, along with the "Wooden Boat Festival" create a suite of visitor experiences that align with the "heritage" focus of Tourism Tasmania[2] and importantly create a link between cultural and the natural heritage of Tasmania's waterways and sealife.

[1] Nash D - "Timber Restoration Plan" March 2012
[2] Tourism Tasmania – "Historic Heritage Tourism Strategy 2012 – 2015"

3.2.1 Restoration Phase

With Cartela's restoration work occurring in Dover, the project will provide a four year window of visitation to the area to inspect the conservation and restoration work. Estimates indicate that this will attract some 500 people per annum, half of whom are expected to be interstate or overseas visitors with a specific interest in maritime heritage. These visitors will increase local daily visitor spend and will generate an additional single night stay within the southern region. The combination of local and daily direct expenditure is estimated at $54,500 per annum over the restoration period. In addition the project provides potential secondary benefits, for example joint marketing with "Tahune Airwalk" operated by Forestry Tasmania to provide a new experience that links the forest and timber experience with the traditional uses of timbers in the construction of vessels of the Cartela period.

3.2.2 Operational Phase

As detailed in other reports, Cartela will operate from Brooke St Pier, her home since launching in 1912. The conservation and restoration conceivably precedes another century of operations. From this location Cartela will offer:

- "Alongside" interpretation visits;
- Harbour cruises;
- Extended day cruises; and
- Charters.

Cartela's presence and interpretation at Brooke St will enhance visitor's experience of the waterfront, her working will further enhance this experience.

The Trust has based patronage on the recent visitation, price points and costs of operating the "Roche Bros" ferry operations. Initial visitation numbers have been conservatively estimated by the proponents and are forecast to grow at 2.5% per annum, reflective of the significant annual marketing budget allocated[3]. The recurrent budget figures are based on a 5 day per week operation and as such are considered conservative; in the first instance this is likely to reflect existing seasonal patterns e.g. 7 days per week during the summer and shoulder period and 2 days per week during the "off-season". This will extend with a mix of evening and longer season growth patterns, effectively providing a 7 day equivalent operation all year round.

Patronage is expected to reflect a 70:30 split[4] between local and interstate/overseas visitors of whom 25%, or around 950 in year one of operations. are expected to extend their stay by a single night to afford themselves the extended cruise offer or during restoration an inspection visit to Dover. The associated revenue stream is based on a average daily spend of $193[5].

On the above basis, the annual direct interstate and overseas spend on accommodation and food associated with extension of stay is estimated at $186,000 per annum, increasing by 2.5% annually.

[3] Cartela Trust – "Recurrent Activity Budget" 2012
[4] Creating Preferred Futures – "Tasmanian Hospitality Industry Strategic Plan" 2012
[5] Derived from Tasmanian Visitor Survey - Visitor Expenditure "Tasmanian Nature Based Visitor Segment"

4 CARTELA BCA

This benefit cost analysis reflects a 20 year time horizon, commencing with the conservation/restoration stage; years 1 to 4.

4.1 ECONOMIC IMPACT OF CARTELA RESTORATION

The proposed restoration of the Cartela will generate a series of economic impacts in terms of employment and a stimulus to Gross State Product and further impacts through improved socio-economic benefit.

These impacts result from investment and expenditure pre-restoration, restoration and maintenance phases.

For the purposes of this exercise, the project restoration option is analysed separately with a view to assessing the likely economic impact, particularly in terms of employment and stimulus to Gross State Product (GSP).

GSP is the total value of final goods and services produced in the region over the period of one year. This includes exports but subtracts imports.

GSP can be measured by adding up all forms of final expenditure (Expenditure Method)
- consumption by households
- consumption by governments
- additions or increases to assets (minus disposals)
- exports (minus imports)

This calculation does not include intermediate expenditure as this would lead to double counting (the wheat and flour in a loaf of bread).

Alternatively GSP can be measured by adding up all incomes (Income Method)
- earned by individuals (wages and salaries)
- earned by firms (gross operating surplus or profits)
- collected by governments (taxes on products or services)

In addition, an assessment is made of the likely indirect or flow-on effects of this economic stimulus, again using the most widely recognised economic indicators of employment, GSP and wages and salaries.

The methodology for the economic analysis is based on Input-Output (I/O) methodology. This methodology is widely used in regional economic analysis by local government, private consulting firms and some government agencies. The I/O model is constructed from the Australian input-output model produced by the Australian Bureau of Statistics (ABS).

For the purposes of this present analysis, the total Tasmanian region is used as the basis for the economic modelling. The model allows estimates to be made of the economic impact of particular options considered as viable within the proposed restoration.

To model the actual restoration phase and the on-going maintenance phase of the project, the boat building sector of the I/O model is used. This sector is defined by the ABS as part of the broader Manufacturing sector to include:

2392 Boat repairing

2392 Boatbuilding

4.1.1 Use of Multipliers in the analysis

The indirect or flow on effects of a particular economic change (such as a major restoration, the provision of goods and services or major/minor restoration work) are defined as comprising Industrial Effects and Consumption Effects.

The Industrial Effects are defined as the increased output (employment) generated by servicing industry sectors in response to the direct change in output and demand. The Consumption Effects are generated by the expenditure of this additional household income (from increased wages and salaries paid to local employees) in the local economy.

Therefore, economic multipliers in the I/O Model are defined as either Type I or Type II. Type I multipliers include the Direct Effect + Industrial Effects. For example, a Type I output multiplier of 1.57 indicates that, for every direct one dollar increase in output, there will be an extra $0.57 of activity generated within the region due to the industrial effects.

Type II multipliers include the Direct Effect + Industrial Effects + Consumption Effects. For example a Type II output multiplier of 2.31 indicates that, for every direct one dollar increase in output, there will be an extra $1.31 of activity generated within the region due to the industrial effects plus the consumption effects, employment multipliers are defined in the same manner.

This current analysis uses the larger Type II multipliers because the approach captures the effects of the flow-on employment and consumer spending providing a more complete and realistic picture of the impact of the investment.

Input-output analysis requires a number of assumptions about the production of goods and services.

However, it is useful to recognize some of the more limiting assumptions[6]:

(1) Industry production is a linear process. Changing output creates no economies or diseconomies of scale.

(2) Each industry creates only one product. This assumes the total output of multi-product firms is allocated to the primary product produced by that firm or that the production of products can be separated.

(3) Each product is produced by a fixed and known process. Different firms producing the same product are assumed to use the same process.

(4) There is no substitution of factor inputs, e.g. a firm using a different technology is not recognized.

(5) Changes in price will not affect the proportion of inputs used. Changing final demand is the only way to change the level of inputs into production.

[6] [Hastings and Brucker 1993; Shaffer 1989, Pp. 274-284. Taylor et al., 1992

(6) There are no input constraints. The supply of inputs is infinite and perfectly elastic.

(7) There are no unused or underused local resources. Excess capacity in firms and labour are not recognized.

These assumptions obviously may not apply to a specific locale. **In spite of these simplifying assumptions the model makes a significant contribution to describing the economy and predicting impacts.**

The following tables reflect the current values of restoration and operational costs; these inform, but do not always directly transfer across to the BCA, they are in some instances adjusted to ensure 'double counting " does not occur.

4.2 ONE-OFF RESTORATION, ONGOING MAINTENANCE & OPERATIONS

Information provided in relation to the project indicates that the total base cost of restoration would be in the region of $4M, operational costs over the 17 year (2017 to 2032) are estimated at $17M, and maintenance costs $2.96M over this same period.

Table 1. Restoration and ongoing Operations and Maintenance Costs

Year	Investment cost $M	Operational Cost $M	Maintenance Cost $M	Total Cost $M
2013	$1.000			$1.000
2014	$1.000			$1.000
2015	$1.000			$1.000
2016	$1.000			$1.000
2017		$0.753	$0.185	$0.938
2018		$0.795	$0.185	$0.980
2019		$0.837	$0.185	$1.022
2020		$0.879	$0.185	$1.064
2021		$0.921	$0.185	$1.106
2022		$0.963	$0.185	$1.148
2023		$1.005	$0.185	$1.190
2024		$1.047	$0.185	$1.232
2025		$1.089	$0.185	$1.274
2026		$1.131	$0.185	$1.316
2027		$1.173	$0.185	$1.358
2028		$1.215	$0.185	$1.400
2029		$1.258	$0.185	$1.443
2030		$1.300	$0.185	$1.485
2031		$1.342	$0.185	$1.527
2032		$1.384	$0.185	$1.569

Sources: Cartela Trust – "Recurrent Activity Budget" 2012; Nash D - "Timber Restoration Plan" March 2012

Table 2. Cartela direct operations direct and flow-on revenue

The following table provides an estimate of the direct operational revenue based on charters and other visitor experiences plus the revenue associated with interstate and overseas visitors extending their stay to include the Cartela experience.

Year	Operational Income $M	Reconstruction Visitation income $M	Stay extension income $M	Total Revenue $M
2013	$-	$0.006	$0.048	$0.055
2014	$-	$0.006	$0.048	$0.055
2015	$-	$0.006	$0.048	$0.055
2016	$-	$0.006	$0.048	$0.055
2017	$1.372	$-	$0.186	$1.558
2018	$1.406	$-	$0.191	$1.597
2019	$1.441	$-	$0.196	$1.637
2020	$1.477	$-	$0.201	$1.678
2021	$1.514	$-	$0.206	$1.720
2022	$1.552	$-	$0.211	$1.763
2023	$1.591	$-	$0.216	$1.807
2024	$1.631	$-	$0.221	$1.852
2025	$1.672	$-	$0.227	$1.898
2026	$1.713	$-	$0.233	$1.946
2027	$1.756	$-	$0.238	$1.995
2028	$1.800	$-	$0.244	$2.044
2029	$1.845	$-	$0.250	$2.096
2030	$1.891	$-	$0.257	$2.148
2031	$1.938	$-	$0.263	$2.202
2032	$1.987	$-	$0.270	$2.257

Sources – Derived by Creating Preferred Futures from Tasmanian Visitor Survey - Visitor Expenditure "Tasmanian Nature Based Visitor Segment"

Table 3. Employment effect of the Cartela Restoration Project

Table (3), below identifies the contribution the Cartela project will make to jobs in Tasmania. In addition to the direct employment benefit, there are additional jobs (full time equivalents) spread through out suppliers and from the induced consumption via the expenditure of associated wages and salaries. Importantly these contributions will continue throughout the life of the Cartela, potentially another 100 years.

Year	Direct Effect	Industrial	Consumption Effect	Total
2013	11	1	2	14
2014	11	1	2	14
2015	11	1	2	14
2016	11	1	2	14
2017	10	3	2	15
2018	10	3	3	16
2019	10	3	3	16
2020	10	3	3	16
2021	10	3	3	16
2022	10	3	3	16
2023	10	3	3	16
2024	10	3	3	16
2025	10	3	3	16
2026	10	3	3	16
2027	10	3	3	16
2028	11	3	3	16
2029	11	3	3	16
2030	11	3	3	16
2031	11	3	4	17
2032	12	3	4	17

Source – Derived by Creating Preferred Futures using REMPLAN input/output model for Tasmania, based on Tables (1) & (2) above.

Employment increases incrementally based on the forecast annual growth rate in patrons of 2.5% per annum over the period of analysis.

Table 4. GSP impact of the Cartela Restoration Project

Interrelated with the employment impact, indeed the driver of the employment effect, is the Gross State Product (GSP) effect of the investment, and the recurrent costs of operations. As above this includes the type 2 multiplier, direct, industrial and consumption effects.

GSP is used to remove the cost of direct inputs from another industry sector and thus eliminates double counting.

Year	Direct Effect $M	Industrial $M	Consumption Effect $M	Total $M
2013	1.000	0.396	0.290	1.686
2014	1.000	0.396	0.290	1.686
2015	1.000	0.396	0.290	1.686
2016	1.000	0.396	0.290	1.686
2017	0.938	0.371	0.272	1.581
2018	0.980	0.388	0.284	1.652
2019	1.022	0.405	0.296	1.723
2020	1.064	0.421	0.309	1.794
2021	1.106	0.438	0.321	1.865
2022	1.148	0.455	0.333	1.936
2023	1.190	0.471	0.345	2.006
2024	1.232	0.488	0.357	2.077
2025	1.274	0.505	0.369	2.148
2026	1.316	0.521	0.382	2.219
2027	1.358	0.538	0.394	2.290
2028	1.400	0.554	0.406	2.360
2029	1.443	0.571	0.418	2.433
2030	1.485	0.588	0.431	2.504
2031	1.527	0.605	0.443	2.575
2032	1.568	0.621	0.455	2.644

Source – Derived by Creating Preferred Futures using REMPLAN input/output model for Tasmania, based on Tables (1) & (2) above.

Table 5. GSP impact due to the effect of Visitors

Similar to above, just as money flows through the economy from restoration and visitation, it flows through the economy from the induced increase in visitation. Visitation has only included the revenue associated with overnight stay as the discretionary expenditure related to the Cartela experience is included in the associated operational revenue.

Year	Direct Effect $M	Industrial $M	Consumption Effect $M	Total $M
2013	$0.054	$0.033	$0.023	$0.110
2014	$0.054	$0.033	$0.023	$0.110
2015	$0.054	$0.033	$0.023	$0.110
2016	$0.054	$0.033	$0.023	$0.110
2017	$1.558	$0.695	$0.573	$2.826
2018	$1.406	$0.595	$0.508	$2.509
2019	$1.441	$0.610	$0.520	$2.571
2020	$1.477	$0.625	$0.533	$2.635
2021	$1.514	$0.641	$0.547	$2.702
2022	$1.552	$0.657	$0.560	$2.769
2023	$1.591	$0.673	$0.574	$2.838
2024	$1.631	$0.690	$0.589	$2.910
2025	$1.672	$0.708	$0.604	$2.984
2026	$1.713	$0.725	$0.618	$3.056
2027	$1.756	$0.743	$0.634	$3.133
2028	$1.800	$0.762	$0.650	$3.212
2029	$1.845	$0.781	$0.666	$3.292
2030	$1.891	$0.800	$0.683	$3.374
2031	$1.938	$0.820	$0.700	$3.458
2032	$1.987	$0.841	$0.717	$3.545

Source – Derived by Creating Preferred Futures using REMPLAN input/output model for Tasmania, based on Tables (1) & (2) above.

4.3 BENEFIT/COST ANALYSIS

The following benefit /cost analysis is informed by the above expenditure and revenue information. It is reinforced that the focus of the following BCA is on determining a picture of the return to the community as a consequence of investing community funds on the restoration of the Cartela. The discount rates to determine the Net Present Value (NPV) are 4% and 7%. The 4% is considered most appropriate as it tends to reflect the real value, without a risk premium, the 7% is included to demonstrate the analysis is not sensitive to changes in the discount rate – this reflects it's robustness as an investment.

4.3.1 Restoration Phase

Year end 30/06	Restoration cost $M	Total Cost $M	Flow On $M	Visitation $M	Unemployment Saving $M	Total Benefit $M
2013	1.000	1.000	0.686	0.048	0.024	**0.758**
2014	1.000	1.000	0.686	0.048	0.024	**0.758**
2015	1.000	1.000	0.686	0.048	0.024	**0.758**
2016	1.000	1.000	0.686	0.048	0.024	**0.758**
NPV @ 4%	4.630	4.630	3.176	0.223	0.110	**3.509**
NPV @ 7%	4.387	4.387	3.010	0.212	0.104	**3.325**

The above table demonstrates significant monetised benefit from the investment in restoration of the Cartela. Within wider BCA methodology, this result significantly underestimates the wider benefits:

- Restoration of the Cartela will create a high value marine heritage asset, particularly as it will be ready for use, not a static exemplar;
- Restoration will enable 4 apprentices to be trained, adding to the critical mass of boatbuilding capacity within the State, similarly volunteer steam engine operators will add to the community's capacity to continue to develop associated experiences;
- Restoration of a high profile vessel will reinforce Tasmania's position as both a centre for restoration of wooden vessels but also for routine maintenance and construction of wooden boats.
- Restoration at Dover will create significant opportunity, potential jobs and activity in a community severely disadvantaged by the collapse of the traditional timber industry and the current IGA process.

In addition to this stream of benefits, the Cartela project differs from many as it provides a heritage asset that will then generate a strong stream of revenue as a marine heritage tourism attraction.

The following table identifies the NPV of those benefits, again at 45 and 7% discount rates.

The Operational Benefit, Flow On, and Unemployment Saving are all estimated at 30% of total benefit, due to the forecast tourism increase and reduce the chance for double counting of the redistribution effect of local spend, as visitation estimates are already adjusted for interstate and overseas visitors, they are applied directly from the above tables.

4.3.2 Operations Phase

Year end 30/06	Operational Benefit @30% $M	Flow On @ 30% $M	Visitation $M	Unemployment Saving @ 30% $M	Total Benefit $M
2017	0.412	0.380	0.186	0.107	**1.085**
2018	0.422	0.331	0.191	0.093	**1.036**
2019	0.432	0.339	0.196	0.093	**1.060**
2020	0.443	0.347	0.201	0.093	**1.084**
2021	0.454	0.356	0.206	0.100	**1.116**
2022	0.466	0.365	0.211	0.100	**1.141**
2023	0.477	0.374	0.216	0.100	**1.167**
2024	0.489	0.384	0.221	0.107	**1.201**
2025	0.501	0.394	0.227	0.107	**1.229**
2026	0.514	0.403	0.233	0.114	**1.263**
2027	0.527	0.413	0.238	0.114	**1.292**
2028	0.540	0.424	0.244	0.114	**1.322**
2029	0.554	0.434	0.250	0.121	**1.359**
2030	0.567	0.445	0.257	0.121	**1.390**
2031	0.582	0.456	0.263	0.128	**1.429**
2032	0.596	0.467	0.270	0.128	**1.461**
NPV @ 4%	6.103	4.899	2.761	1.350	**15.112**
NPV @ 7%	4.958	4.000	2.244	1.103	**12.305**

Table 6. Summary Benefit / Cost Table

	4% Discount Rate	7% Discount Rate
Total Benefit	$18.622m	$15.630m
Total Cost	$4.630m	$4.387m
Benefit / Cost Ratio	4.022	3.563
NPV (Benefit-Cost)	$13.992m	$11.243m

The overall project benefit to cost ratio and the NPV of the benefit reflect strong "value for money" from the investment of public funds in the restoration of the Cartela. A BC ratio of greater than one indicates the benefits outweigh the costs of investment, in this instance the ratio is approximately four.

When considered from a wider BCA perspective, the restoration "stacks up" as a worthy public investment; the subsequent operation as a long term tourism experience ensures the strong result identified above.

4.4 Conclusions

The Cartela Restoration project provides a strong wider return on investment.

At a standard 4% discount rate to Net Present Value is $13.992m over the 20 year period of the analysis; a benefit/cost ratio of 4.022. There is a large "margin of safety" for the investor.

This monetised element underestimates the wider, social and heritage benefits, specifically:

- Restoration of the Cartela will create a high value marine heritage asset held in Trust for the Tasmanian community, particularly as it will be ready for use, not a static exemplar;
- Restoration will enable 4 apprentices to be trained, adding to the critical mass of boatbuilding capacity within the State, similarly volunteer steam engine operators will add to the community's capacity to continue to develop associated experiences;
- Restoration of a high profile vessel will reinforce Tasmania's position as both a centre for restoration of wooden vessels but also for routine maintenance and construction of wooden boats.
- Location and high quality interpretation of the Cartela at Brooke St Pier will enhance the role of Hobart's waterfront as a key visitor attraction.
- Restoration at Dover will create significant opportunity, potential jobs and activity in a community severely disadvantaged by the collapse of the traditional timber industry and the current IGA process.
- The subsequent operations of the Cartela will provide a stream of ongoing direct and indirect employment rising from 14 in year one of operations to 19 in year 16