
REPORT 5
(1215/52/IM)

CARTER OBSERVATORY: COMPLETION OF REDEVELOPMENT

1. Purpose of Report

This report seeks agreement from the Committee to include the purchase of digital full-dome planetarium projection technology for the Carter Observatory in the 2009/10 LTCCP deliberations.

2. Executive Summary

The Carter Observatory project is nearing completion. The ‘bricks and mortar’ portion of the redevelopment is finished. Carter has been transformed into a building valued at \$2.9 million. It is fit for purpose, and under the supervision of Council’s Project Management Office, ready to fit out with the exhibition envisioned by award-winning Wellington-based designers Story! Inc.

Carter is unique. It is New Zealand’s longest-serving national observatory – and with a remodelled building and new multimedia visitor experience, will be the only facility in New Zealand dedicated to telling the stories of the Southern skies. It is well-placed to draw upon the 1.9 million annual visitors to the Cable Car and Botanic Gardens, and adds a significant new product to Wellington’s commissionable attractions sold offshore to international visitors.

The refurbishment and upgrade of the planetarium is the final phase of the project. A minor upgrade of the planetarium was included in the Carter Board’s project budgets when Council was asked by the Board to underwrite significant cost overruns in December 2007. Since then, the project has evolved, and Carter’s refurbishment presents an opportunity to complete the refurbishment with the best possible planetarium experience.

Completing Carter’s refurbishment to the highest-possible standard adds another world-class product to Wellington’s stable of attractions in readiness for the Rugby World Cup, as well as a high-calibre destination and education resource for schools and families in the region.

A digital full-dome projection system would provide an immersive 360 degree multimedia experience that would be used not only to present night-sky tours and real space data – but also provide a flexible digital resource that will enable Carter to showcase work from local creative industries, and give tourists a new perspective of the city.

Modelling undertaken by officers and Positively Wellington Tourism (PWT) since Council took on the project in December 2007 shows that a re-launched Carter Observatory with a digital full-dome planetarium offers Wellington a unique visitor attraction underpinned by viable revenue streams. Opening Carter with the best-possible planetarium creates an attraction that is world-class and realises Council's significant investment to date.

A planetarium fundraising strategy has been implemented, seeking the \$900k required: \$300k for the upgrade of the planetarium room, and \$600k for the digital full-dome projection equipment. Potential funders have expressed enthusiasm for the project; however, to date, only the Pelorus Trust has offered a commitment of \$300,000 to upgrade the planetarium auditorium. Its funding is contingent on Carter installing digital full-dome technology and must be repaid if the planetarium project has not been completed by September 2010.

This paper analyses a number of options for the purchase of planetarium projection technology, considering the effect on Carter's visitor experience, visitor numbers, re-opening date, fundraising programme and ability to create an internationally competitive and commissionable product.

Officers consider that a state-of-the-art planetarium experience is fundamental to the success of Carter Observatory. This is also the view of the Carter Advisory Group, established by the Council to advise on the project.

The Pelorus Trust is willing to fund the \$300,000 auditorium upgrade. Officers therefore recommend that Council includes the reallocation of the remaining \$300,000 from the Cable Car Precinct upgrade project (CX496) plus \$300,000 additional CAPEX to fund the purchase of digital full-dome planetarium technology in the 2009/10 LTCCP deliberations, ensuring the completion and re-launch of the Carter Observatory this Summer as a world class visitor attraction and education facility.

This approach secures the Pelorus Trust donation, gives the project certainty and matches the aspirations for Carter Observatory and Council's vision for Wellington as an internationally competitive city for residents and visitors.

3. Recommendations

Officers recommend that the Committee:

1. *Receive the information.*
2. *Note that Council assumed responsibility for the Carter Observatory in December 2007, agreeing to invest \$1.4 million in the Observatory redevelopment plus \$300,000 in ongoing annual OPEX funding, and committing non-financial resources to complete the redevelopment and re-establish operation of the Observatory as a visitor attraction.*
3. *Note that modelling by Positively Wellington Tourism and the Observatory Director demonstrates that a digital full-dome planetarium*

provides the best opportunity for sustainable revenues and a high quality visitor attraction at the Observatory.

4. *Note that the Pelorus Trust has offered a commitment of \$300,000 to fund the Carter Observatory planetarium auditorium upgrade, contingent on Carter securing funding for the balance of costs for a digital full-dome projection system, and project completion by September 2010.*
5. *Agree to include the following in the Council's 09/10 LTCCP deliberations:*
 - (a) *The reallocation of \$300,000 from the Cable Car Precinct upgrade project (CX496).*
 - (b) *The allocation of \$300,000 additional CAPEX to fund the purchase of a digital full-dome planetarium projector.*
 - (c) *The Carter Observatory re-opens in Summer 2009/10.*

4. Background

4.1 Assumption of Responsibility by Wellington City Council

The Carter Observatory is the National Observatory of New Zealand. Established in 1941 under the Carter Observatory Act, it is dedicated to providing education services to the community and preserving New Zealand's astronomical heritage.

In 2006, the Crown undertook to repeal the Carter Observatory Act, providing \$2.2 million in funding for the Carter Observatory Board to transform Carter from New Zealand's national observatory into a visitor attraction. By December 2007 the project had incurred significant cost-overruns in the building refurbishment, failed to meet its fundraising targets, and was unable to pay creditors. In December 2007, Council assumed responsibility for the project and its day-to-day management following a request from the Carter Observatory Board to underwrite the cost overruns. Council had limited options with a half-completed building situated in the Botanic Gardens, and limited time for due diligence leading into Christmas: the redevelopment was advanced and costs had been incurred that could not be covered by the Board's existing finances.

Council's investment in December 2007 was \$1.4 million, comprising \$500k from the Cable Car Precinct upgrade project (CX496) plus \$900k allocated in the 2008/09 Annual Plan. Council is funding a \$300k OPEX grant until 2017/18.

Dr Sarah Rusholme was appointed Director of the Observatory by Council in March 2008. Dr Rusholme was Operations Director at the UK's National Space Centre before relocating to New Zealand.

The investment and commitment by Council facilitated a detailed review, re-engagement of funders and stakeholders, completion of the building refurbishment, and finalisation of exhibition designs. Unforeseen additional costs, such as roof replacement, necessitated the removal of \$200,000 CAPEX from the build and exhibition scope. This has directly affected the scale of the exhibition experience and its level of interactivity.

Since Council assumed responsibility, Officers have reassured funders, re-established relationships, streamlined Carter's commitments and managed a successful audit.

The 'bricks and mortar' portion of the redevelopment project is now complete. Carter has transformed into a 'fit for purpose' building ready to fit out with the exhibition by award-winning Wellington-based designers Story! Inc. This contract is supervised by Council's Project Management Office. An exterior maintenance programme is complete and all onsite assets are now listed and insured.

The refurbishment and upgrade of the planetarium is the final phase of the project and can take place alongside work on the exhibition.

4.2 Governance and Assets

In June 2008, the Carter Advisory Group was convened under the terms of reference approved by Council. Chaired by Pat Stuart (CEO Wellington Museums Trust), the group includes representatives of the Carter Observatory Board, Wellington Astronomical Society, Victoria University and PWT. This group advises on key areas of the Carter Observatory redevelopment. Overall project management and oversight remains with the Council.

The Carter Observatory Board will remain in place until the Carter Observatory Act is repealed. Cabinet papers confirm the Crown's intention to repeal the Act. Until the repeal, the Carter Board exists only to provide the Crown with an Annual Report. Upon repeal of the Carter Act, the Board's assets transfer to Council. Carter Observatory will be responsible for funding depreciation on all internal fit-out items and assets. The Observatory buildings will fall under Council's asset management plan.

The roles and responsibilities of the Council, Carter Observatory Board and Trust (the vehicle Carter uses for fundraising) are defined within the Management Agreement between the three parties, signed in December 2008.

Under the Management Agreement, Council has the option to hand the project back to the Board in December 2009. Council can at this point seek full compensation from the Board of all funding allocated to the project since December 2007 if the Crown has not made sufficient progress toward repealing the Carter Act. It is not clear whether the Crown would meet this cost on behalf of the Board or seek to close Carter and hand the asset to Council as it stands.

4.3 Stakeholder Engagement

Since taking over management of the Observatory, Council has re-engaged stakeholders such as MoRST, Ministry of Education, Grow Wellington, PWT, Victoria University, Tenth Trust, MacDiarmid Institute, local and national astronomical bodies - all of which provide ongoing support for the project.

Carter's existing funders such as the Ministry of Tourism, New Zealand Lotteries, Todd Foundation and Lion Foundation have been satisfied by Council's ongoing commitment and are now confident about the direction and satisfactory completion of the redevelopment as originally envisioned.

4.4 CAPEX Funding Breakdown

The total CAPEX raised for the redevelopment of the Carter Observatory is \$4.26 million - two-thirds funded from non-Council sources (see Appendix 1).

A number of unexpected costs arose during the building refurbishment after Council assumed control of the project – for example the replacement of a portion of the Observatory roof. Officers managed these within the funding envelope by reducing the exhibition budget by \$200k and deferring non-essential areas of the fit-out.

4.5 OPEX Funding Breakdown

In 2007, Council committed to provide the Observatory with OPEX funding of \$300k *per annum* for 10 years. Education programmes will be funded by a Ministry of Education LEOTC contract worth \$82k *per annum* (see Appendix 1). The offer of reinstatement of this contract is an endorsement of the project and demonstrates evidence of a central-local government partnership supporting the Carter Observatory.

5. Project Vision

The reinvigorated Carter Observatory will deliver a unique visitor experience, presenting space science with a uniquely Kiwi perspective. Māori and Pacific astronomy and astronavigation will be woven into the exhibition, programmes and planetarium shows. Carter's heritage as our national observatory will be celebrated, creating a 'must see' attraction for Wellington, capitalising upon 1.9 million annual visitors to the Cable Car and Botanic Gardens.

In attractions like the Carter Observatory, the quality of the planetarium experience is crucial. Carter Observatory Board had budgeted for a minor upgrade of the existing planetarium. However, since Council assumed responsibility, the project and technology in this field has evolved. There is now an opportunity for Council to consider investing in a digital full-dome planetarium – a resource that can not only present tours of the New Zealand night sky and immersive real-time fly-through journeys of outer space, but also be used to showcase Wellington's digital creative industries – screening 360 degree tours of Wellington, or new innovative material produced in our region.

6. Planetarium Options

6.1 Carter's Existing Planetarium

In the past, Carter Observatory relied upon a traditional electromechanical planetarium projector. This piece of equipment is over 50 years old. It sat in the centre of the auditorium, under a 6m diameter dome which seated 36 visitors. Visitor comfort was poor with sound, lighting and acoustics out-dated. The Board included a minor upgrade of this system in their budget at the point at which Council took over the project. An opportunity now exists to bring Carter's planetarium and the accompanying visitor experience up to the level of the Auckland Stardome and Hermitage Mount Cook systems.

6.2 Upgrade of the Planetarium Room

An upgrade of the planetarium room is essential. Increasing the dome size from 6m to 8m+ boosts seating capacity from 36 to 55: able to accommodate coach groups or 2 school classes. This significantly improves Carter's appeal as a tourism attraction, corporate and education facility.

New lighting and sound system, seating, carpets and acoustic treatment will ensure a high-quality auditorium is available for families, schools and corporate guests. The cost of these works is \$300,000 CAPEX (see Appendix 2 for breakdown). This investment results in a planetarium room that is ready to receive digital full-dome projection equipment – or can be fitted with interim projection equipment i.e. it is a sunk cost that benefits whichever planetarium projection option is chosen. This work could take place alongside exhibition installation, funded by a donation from the Pelorus Trust. These funds are contingent on Carter securing funding for the balance of costs for a digital full-dome projection system, and the project completing by September 2010.

6.3 A New Digital Full-Dome Planetarium Projector

Since Council assumed responsibility for the project, a process has been followed to identify options for Carter's planetarium, drawing upon international best practice and expertise.

New world-class planetaria opt for a digital full-dome system. Auckland Stardome and the Hermitage Hotel at Mount Cook both installed this technology in 2007/8. This combination of state-of-the-art software and full-dome projection system with up to 5 projectors, guarantees visitors an immersive multimedia experience.

Digital systems can be programmed to run presenter-led tours of the night sky – or full dome video shows with minimal presenter interaction. With this technology, Carter could develop its own shows in-house, or partner with Wellington's creative digital community to create and tailor content to specific audiences, transporting visitors from a Wellington sunset to an immersive journey based upon real space data. The system is flexible: for example, the planetarium at Mount Cook commissions and delivers shows featuring the

views, peaks and glaciers of Mackenzie country specifically tailored to its international tourist audience.

As well as the considerable impact upon the visitor experience, this technology is the key to Carter’s long-term business viability, creating a world-class visitor experience with a lead price of \$15.

The technology could be commissioned alongside the exhibition and slotted into the upgraded planetarium room under the supervision of the Council’s Project Management Office. Total cost of the preferred technology is \$600,000 (see Appendix 2 for full breakdown) and relates to equipment purchased from the US.

Purchase price will be affected by dollar fluctuations. It should be noted that a variation of 1 cent on the exchange rate affects the purchase price by approximately \$10,000. This could have significant impact upon costs: see Appendix 3 for detailed analysis.

6.4 Alternative Planetarium Technology

Other planetarium systems are available. With a ‘mirror-dome’ planetarium projection system, Carter’s lead price drops to \$12 and there is a risk of an additional annual OPEX subsidy. A commitment to opening with the mirror-dome technology would invalidate the offer of funding from the Pelorus Trust.

Opening Carter with a mirror-dome would not deliver a world-class visitor experience to match the rest of the revitalised Carter Observatory. Positively Wellington Tourism has expressed concern about marketing the Carter Observatory with a mirror-dome planetarium internationally. Re-launching Carter with a sub-optimal planetarium experience would compare unfavourably with planetaria in Auckland and Mount Cook, affecting visitor numbers and the brand - damaging revenue streams and limiting the ability to drive repeat business. It would also adversely affect the corporate and education offer.

Annualised visitor numbers and cash surplus/ (deficit) with a Mirrordome Planetarium.

(Source: PWT, April 2009)

	Year 1	Year 2	Year 3	Year 4	Year 5
Domestic Visitors	12,864	16,416	17,259	17,239	17,215
International Visitors	17,345	22,089	30,103	38,927	40,558
Wellington Region Residents	14,389	21,726	16,998	14,656	14,743
Total	44,598	60,231	64,360	70,822	72,516
Surplus/ (Deficit) before Depreciation, without additional annual OPEX	5,450	31,004	74,362	80,426	72,264
Depreciation	308,595	252,528	212,929	176,622	255,906
Surplus/ (Deficit) after Depreciation, without any additional annual OPEX	(303,145)	(221,524)	(138,567)	(96,195)	(183,642)

Like the digital full-dome system, the mirror-dome system would slot into the upgraded planetarium room. This technology uses one projector bouncing images across a spherical mirror onto the planetarium dome. Images are lower quality and the system does not have the versatility or usability of a digital full-dome system. Carter’s 50 year old electromechanical projector could be

refurbished and used in conjunction with the mirror-dome. The old projector would be positioned in the centre of the auditorium, and would mean that fewer visitors could be accommodated under the dome. Spare parts for this projector are no longer manufactured.

Total cost of the mirror-dome system (excluding the \$300,000 auditorium upgrade) is \$69,000 (see Appendix 2 for full breakdown). Note that Pelorus Trust would not fund the auditorium upgrade if Carter were to re-open with mirror-dome technology. Carter will continue to aspire to installing a digital full-dome system, and may return to Council with a CAPEX bid for this equipment in the future.

6.5 Without a Planetarium

Without a planetarium, visitor expectations are not met and the brand will be damaged. The lead price drops to \$10, visitor numbers drop by 50%, and remain flat never reaching 40,000. A substantial annual OPEX subsidy would be required. There would be little ability to drive repeat business. It would undermine the quality of the corporate and education offer. Within two years of additional OPEX funding the Council could have purchased a state-of-the-art planetarium experience.

Annualised visitor numbers and cash surplus/ (deficit) without a Planetarium.

(Source: PWT, April 2009)

	Year 1	Year 2	Year 3	Year 4	Year 5
Domestic Visitors	8,763	10,968	11,655	11,642	11,626
International Visitors	6,279	8,834	11,289	14,030	14,617
Wellington Region Residents	7,195	12,070	9,713	9,771	9,829
Total	22,237	31,872	32,657	35,443	36,072
Surplus/ (Deficit) before Depreciation, without additional annual OPEX	(285,327)	(295,880)	(290,447)	(267,569)	(286,382)
Depreciation	303,595	248,028	208,879	172,977	252,626
Surplus/ (Deficit) after Depreciation, without any additional annual OPEX	(588,922)	(543,908)	(499,326)	(440,545)	(539,007)

6.6 Planetarium Funds Development Strategy

A fundraising programme began in 2008 (see Appendix 4). In May 2009, Pelorus Trustees made a commitment for \$300,000 to fund the upgrade of the planetarium auditorium. This is contingent on Carter installing a digital full-dome planetarium system and completing the project by September 2010.

The funding landscape has changed dramatically in the last 6 months. In spite of excellent feedback, Carter has only secured OPEX, and an agreement for CAPEX subject to conditions. Many potential funders have reported reduced capability and an increased number of applications – many from organizations they have long-established funding relationships with. The trend shows trusts investing smaller amounts across many projects. Since the bulk of the \$600,000 purchase is for items from the US, the planetarium has been exposed to adverse NZ\$/US\$ currency fluctuations. This has provided additional uncertainty.

A commitment of funds from Council could leverage funding from other providers. An application to the Southern Trust is pending, and Carter has been flagged by New Zealand Lotteries Grant Board as a potential candidate for the Significant Projects Fund in 2009. However, at the time of writing, details of this year's funding round are expected, but have not been confirmed, and an application comes with no guarantees.

If the digital full-dome planetarium system were funded, the fundraising strategy would be re-focused on developing external support for product development.

6.7 Observatory Re-Opening Dates

In modelling Carter's visitor numbers across a year, assumptions have been made about the percentage of visitors that will be welcomed each month. It is assumed that November, December, January and February will be the highest months – May, June, July and August the lowest, with the percentage of visitor numbers hosted each month varying from 12% to 6% of the annual total.

A defined opening date is important: it gives the project certainty. Carter Observatory can re-open in Summer 2009/10 – coinciding with the maximum number of visitors to the city, including the cruise ship season. This meets the expectations of Wellingtonians and ensures that Carter can take advantage of higher visitor numbers in the Summer months, and allows the team more time to perfect the product ahead of Rugby World Cup than a later start date. Financially, there is some benefit to Carter's cash balance if the attraction re-opens in December 2009, as it would capture the summer months peak visitor period.

As an alternative, a June opening date to coincide with Matariki links well with Carter's theme of celebrating the stories of the Southern Skies, and has the advantage of a further 6 months to seek additional external sponsorship/funding.

On balance, officers recommend aiming for a Summer 2009/10 start. Carter has been closed for some 2 years now. Despite a prolonged effort, fundraising success has been limited, and is likely to remain tight for some time. Capitalising on the summer visitation period also makes financial sense.

7. Long Term Sustainability

7.1 Visitor Numbers

The Carter Observatory has a sustainable future. It is a much-missed Wellington icon, visitor attraction, education resource and event venue, evidenced by daily enquiries to Council, Botanic Gardens, regional i-Site and Cable Car staff.

The revitalised Carter will boost the visitor offer "Destination Wellington" contributes to New Zealand tourism, creating commissionable product that can be marketed offshore, and drawing upon 1.9 million visitors to the Botanic Gardens and Cable Car passengers. The refurbished Observatory is the anchor

of the Cable Car Precinct, and its completion will kick-start the redevelopment of this key tourist area.

PWT provides considerable support to this project: including visitor projections, marketing advice and strategy. Using Statistics New Zealand’s forecast population numbers and Ministry of Tourism Wellington regional tourism forecasts PWT has provided a range of visitor figure scenarios for Carter. Annual penetration rates for each visitor market segment have been estimated using information from benchmark attractions. In the ‘most likely’ scenario, Carter’s visitor numbers rise from 48,000 to 91,000 in 5 years, creating a viable business.

Prior to the redevelopment Carter attracted up to 48,000 visitors *per annum*. The lead price (including the exhibition and a planetarium show) was \$12.

Annualised visitor numbers and cash surplus/ (deficit) with digital full-dome planetarium.

(Source: PWT, April 2009)

	Year 1	Year 2	Year 3	Year 4	Year 5
Domestic Visitors	13,103	24,362	23,025	22,999	22,968
International Visitors	20,817	29,238	37,508	46,641	48,595
Wellington Region Residents	14,389	24,140	19,426	19,541	19,657
Total	48,309	77,740	79,959	89,181	91,220
Surplus/ (Deficit) before Depreciation	43,793	252,312	290,087	365,313	369,863
Depreciation	363,595	302,028	257,479	216,717	291,992
Surplus/ (Deficit) after Depreciation	(319,802)	(49,715)	32,608	148,596	77,872

The figures above assume that Carter remains true to its vision and delivers a world-class product supported by a strong marketing strategy. Both PWT and the Carter Advisory Group advise that for the business model to be sustainable it requires a world-class exhibition and planetarium dedicated to telling authentic stories of the Southern skies. This is consistent with advice from PWT and other stakeholders since the Council has assumed responsibility for the redevelopment project.

Carter’s Year 5 visitor target of 91,000 visitors equates to approximately 1 in 20 of the current 1,900,000 visitors to the Botanic Gardens and Cable Car also visiting the Observatory, although clearly marketing would target a much broader audience. The Cable Car Museum welcomes 220,000 visitors *per annum*.

7.2 Pricing

Lead prices are benchmarked against attractions such as Wellington Zoo (180,000 visitors *per annum*, \$18 lead price), Karori Wildlife Sanctuary (target visitors to new centre building from 144,000 *per annum*, \$25 visitor centre lead price. Final pricing to be confirmed), Auckland Stardome (60,000 visitors *per annum*, \$16 lead price, one year after re-opening with digital full-dome technology).

It should be noted that Carter historically charged an entry fee of \$12. With a digital planetarium, Carter’s lead price is modelled as \$15.

7.3 Revenue Generation

With a world-class visitor experience, Carter is able to fund more than 90% of its depreciation over 5 years and deliver a surplus to support events, temporary exhibitions and product development. See Appendix 5.

Revenue loss caused by downturn in visitor numbers of up to 30% can be accommodated by reducing volume-related operating budgets and reducing staff and services in non-essential areas. At this level of visitation, Carter is able to achieve a small surplus from Operating Year 4 onwards and fund more than 50% of its depreciation over 5 years.

In addition to visitor-related revenue, Carter would re-open with solid infrastructure to run a retail operation, and provide a high quality conference and event venue. This aspect of the business is being developed in conjunction with the Convention Bureau and Grow Wellington.

PWT recognises Carter's value as a commissionable tourism product with direct appeal to the international market and will assist in the long-term positioning and selling to this market.

Carter will deliver education programmes that use space as a gateway to engagement in science, technology, engineering and maths. These will be funded by a Ministry of Education LEOTC contract and be cost-neutral

8. Discussion

8.1 Routes to Completing the Carter Observatory Refurbishment

There are a number of options available to Council. The first sees Carter opening in Summer 2009/10, the second by June 2010 having given the fundraising strategy time to mature, and the third sees the project postponed indefinitely.

OPEN IN SUMMER 2009/10

1. Council fully funds new state-of-the-art full-dome digital projection system (\$300,000 from CX496, \$300,000 new CAPEX), securing the Pelorus Trust commitment to fund the upgrade of the planetarium room.

This ensures opening with a world-class visitor experience that fits the aspiration of the project. This is underpinned by a viable business model with a lead price of \$15 that funds a significant proportion of its depreciation and has a strong infrastructure for secondary revenue streams with no need for additional OPEX. Visitor numbers rise across the first 5 years of operation: from 48,000 to 91,000 *per annum*.

If the digital full-dome planetarium projector were funded, the fundraising strategy would be re-focused on developing external support for ongoing product development.

OPEN BY JUNE 2010

2. Trustees continue to fundraise, leveraged by \$300,000 from CX496 and \$300,000 from Pelorus Trust. Council underwrites \$300,000 - the balance of the cost of the digital full-dome planetarium technology.

Council commits \$300,000 (CX496) to support the planetarium project. Carter's Trustees continue to raise funds, using the Council and Pelorus Trust's commitment to leverage external sources. Interested parties, such as the Southern Trust, will be made aware of these commitments. An application would be made to New Zealand Lotteries Significant Projects Fund for balance of funds. However, given the current fundraising landscape, there can be little certainty of securing further external funding, let alone the full balance sought.

Officers would report to Council the status of fundraising efforts in December 2009, and the draw-down of underwritten funds required to purchase of digital full-dome planetarium technology would be made on/before January 2010.

Carter would re-open for Matariki 2010: the Pelorus Trust donation would be secured, the fundraising strategy will have run its course and Carter will still have the guarantee of opening with the best-possible planetarium. A clear re-opening date will allow the team to plan with certainty.

OPENING POSTPONED INDEFINITELY

3. Project on hold until all CAPEX is raised externally

There is a reputational risk associated with an open-ended postponement. The project will lose momentum. Stakeholder and public faith in Carter will waver after having been restored by Council intervention. Carter will lose its LEOTC contract and funders may decide to rescind donations of up to \$628,000. If funds are not secured by September 2010, the Pelorus Trust funding will be recalled. Given the current funding environment, it is likely that the project will approach Council with a CAPEX bid in the future.

8.2 Option Recommended by Carter Advisory Group

The Carter Advisory Group recommends **Option 1**. It considers opening with a state-of-the-art planetarium experience to be fundamental to project success.

Officers also support this option. It secures the funds committed by the Pelorus Trust, gives the project certainty, and enhances the credibility of the business case. This approach matches the aspirations for a revitalised Carter Observatory and Council's vision for Wellington as a dynamic place for residents and visitors.

The Advisory Group also recognises the viability of **Option 2**, where the Council seeks to continue with the fundraising strategy for a further 6 months or so, purchasing the new planetarium by January 2010 based on funds raised to

date. In this case, the Pelorus Trust funding is secured, and the team would have the guarantee that Carter will be re-opening for Matariki 2010 with the best possible planetarium.

However, officers consider that fundraising for the Observatory has proved difficult, despite highly positive feedback from potential funders, and there are no guarantees that organisations like the Southern Trust or NZ Lotteries will come through with the balance of funding.

8.3 Cable Car Precinct Upgrade

This project has been delayed due to the combination of unresolved land tenure (Treaty claims), differing priorities among the stakeholders, reallocation of budget to the Carter Observatory redevelopment and a remaining budget that is inadequate to realise the vision for the Precinct.

In addition, the reallocation of funds to the Observatory in December 2007 left the Precinct project with a reduced scope for an effective upgrade. In 2008 a more modest concept was developed for the arrival area/viewing platform, which is a portion of Stage I of the entire upgrade project. This was put on hold after a quantity survey estimated a cost in the order of \$600k.

A delay in implementing the goals of the Precinct upgrade is of concern to the stakeholders although there is an understanding that a successful Precinct needs one project finished and finished well: the Carter Observatory redevelopment with a new planetarium. In view of that, there is acceptance that a moderate delay will ultimately help to achieve the aims of the greater Precinct.

9. Risks

Modelling undertaken by officers and PWT since the council took on the Observatory management clearly shows that a full-dome digital planetarium is vital to Carter Observatory's business sustainability. It enables the team to drive repeat visitation and the international marketing efforts that will grow and maintain the visitor numbers required for Carter's sustainability.

Re-opening Carter without a planetarium creates a major mismatch of visitor expectations and visitor experience. The product is unfinished, and there will be long-term damage to the brand and Wellington's reputation as an internationally competitive city. In addition, it risks the requirement for a substantial additional annual OPEX subsidy. This is not considered a viable option.

It is now clear that while re-opening Carter with a sub-standard planetarium saves CAPEX in the short-term, it undermines the quality and integrity of the brand from the outset and compares unfavourably with planetaria in Auckland and Mount Cook. It means that the Pelorus Trust offer of funds cannot be accepted, and risks a future additional OPEX subsidy being required. Carter Trustees may also return to Council with a request for CAPEX for a digital full-dome system.

Fixing a re-opening date for Carter is important. It allows Council and the Carter team to give clear messages about the experience, to plan the business, recruitment, marketing and launch events. It also reduces the risk of ongoing damage to the brand due to ongoing uncertainty.

The commitment from the Pelorus Trust is contingent upon Carter installing a digital full-dome system and completing the upgrade by September 2010. Council can secure this commitment by either fully-funding, or underwriting the \$600,000 required to purchase the projection system. If Council supports an underwrite then the purchase will be delayed by 6 months, and fundraising will be revisited in December 2010. However, there is a risk that the full balance of funds may be requested at this point if fundraising has been unsuccessful. In addition, delaying the purchase of the planetarium technology until January 2010 exposes Council to a risk from US\$/NZ\$ currency fluctuation. For each cent change in the exchange rate, the total amount due to the US supplier will vary by approximately \$10,000. This has the potential to have a significant effect upon the purchase price.

10. Conclusion

Carter Observatory is close to completion. Public and stakeholder expectation is that the project will re-launch soon – and that Council is the funding body that made the difference. Carter is a much-missed Wellington icon, and the public, schools and organisations wishing to visit or hire the venue contact Council, I-sites and the project team daily.

By supporting the Advisory Group in its belief that a digital full-dome planetarium is the best possible option to complete the refurbishment of the Carter Observatory, Council has an opportunity to meet, even exceed, the public's expectation this Summer, and secure an offer of funding from the Pelorus Trust for this project. Alternatively it can support Carter as it targets Matariki 2010 as a launch date and its fundraising strategy matures.

Contact Officer: *Allan Prangnell; Manager, CCO Unit*

Supporting Information

1) Strategic Fit / Strategic Outcome

The policy supports Council's overall vision of Creative Wellington – innovation Capital.

Carter will support the following strategic areas:

- *Economic development*
- *Cultural Wellbeing*
- *Social and Recreation*

It will also contribute to meeting the Council outcomes specifically:

- *Stronger sense of place*
- *More eventful*
- *More prosperous*

2) LTCCP/Annual Plan reference and long term financial impact

The project is contained in the LTCCP/Annual Plan (CX496).

3) Treaty of Waitangi considerations

The Tenth Trust has recently re-engaged with the Carter Observatory project, and a dialogue continues.

Ngati Toa are aware of the project status.

4) Decision-Making

This is not a significant decision.

5) Consultation

a) General Consultation

All affected parties have been identified and consulted.

b) Consultation with Māori

Consultation with Māori will continue.

6) Legal Implications

N/A

7) Consistency with existing policy

This report is consistent with existing WCC policy.

APPENDIX 1

CAPEX

Funding Source		Purpose of Funds	Awarded
Crown	MoRST	Building	\$1,500,000
	MoRST	Closedown OPEX	\$575,000
	Ministry of Education	Closedown OPEX	\$125,000
	Ministry of Tourism	Exhibition content	\$35,000
Local Government	Wellington City Council	Size of funding deficit signalled by Board in December 2007	\$1,400,000
Lotteries	New Zealand Lottery Board, Environment and Heritage Fund	Building refurbishment	\$400,000
Other Trusts	Todd Foundation	Exhibition content	\$100,000
	Lion Foundation	Exhibition content	\$50,000
	Community Trust of Wellington	Exhibition content	\$45,000
	Small Trusts	Exhibition content	\$33,000
Total as at June 1, 2009			\$4,263,000

OPEX (per annum)

Funding Source			
Crown	Ministry of Education (under negotiation)	Education OPEX (2009/10 onwards)	\$82,000
Local Government	Wellington City Council	OPEX (2007 – 2017)	\$300,000
Total (per annum)			\$382,000

APPENDIX 2

Carter Observatory Planetarium: Exchange rate 0.59			
	\$US Quote	\$NZ cost/quote	Sub-totals
Professional fees			
Architect: Jasmx		\$ 6,000	
Structural Engineer: CBP		\$ 2,500	
Heating/ventilation: URS		\$ 8,200	
Insurance: AON		\$ 5,000	
Freight/ transport		\$ 5,000	
Project Management		\$ 40,000	
Sky-Skan design work	\$ 4,500.00	\$ 7,627	\$ 74,327
Dome Upgrade			
8m Fibreglass dome (DH Fibreglass)		\$ 75,125	
Carpet: Hills Flooring		\$ 8,196	
Walls: ASPEC		\$ 18,950	
Ceiling: ASPEC		\$ 9,150	
Seating: Sebel Furniture		\$ 27,056	\$ 138,477
Projection System			
Lighting: Sky-Skan	\$ 18,365.00	\$ 31,127	
Sound system: Sky-Skan	\$ 39,100.00	\$ 66,271	
Projection Equipment: Sky-Skan	\$ 242,000.00	\$ 410,169	
Fulldome Shows: Sky-Skan	\$ 13,000.00	\$ 22,033	
Offline Production System: Sky-Skan	\$ 10,250.00	\$ 17,372	
System Spares: Sky-Skan	\$ 20,010.00	\$ 33,915	
Staff training: Sky-Skan	\$ 13,665.00	\$ 23,161	
			\$ 604,051
Subtotal			\$ 816,856
Contingency at 10%			\$ 81,685
TOTAL			\$ 898,540

Summary of 'Mirror-Dome' Planetarium Equipment Costs

Goods & Services	Mirror-dome system
Projection Equipment, Installation, training	\$22,500
Software	\$5,000
ZKP1 refurbishment	\$20,000
Licences	\$15,000
SUBTOTAL	\$62,500
Contingency (10%)	\$ 6,250
TOTAL	\$68,750

APPENDIX 3

Foreign Currency Sensitivity

Purchase Price US\$		356,390.00		
NZ\$1 = US\$	Purchase Price NZ\$	\$0.01	Variance	Variance from \$0.59*
0.49	\$ 727,327			\$ 123,276
0.50	\$ 712,780	-\$	14,547	\$ 108,729
0.51	\$ 698,804	-\$	13,976	\$ 94,753
0.52	\$ 685,365	-\$	13,439	\$ 81,315
0.53	\$ 672,434	-\$	12,931	\$ 68,383
0.54	\$ 659,981	-\$	12,452	\$ 55,931
0.55	\$ 647,982	-\$	12,000	\$ 43,931
0.56	\$ 636,411	-\$	11,571	\$ 32,360
0.57	\$ 625,246	-\$	11,165	\$ 21,195
0.58	\$ 614,466	-\$	10,780	\$ 10,415
0.59	\$ 604,051	\$	-	\$ -
0.60	\$ 593,983	-\$	10,068	-\$ 10,068
0.61	\$ 584,246	-\$	9,737	-\$ 19,805
0.62	\$ 574,823	-\$	9,423	-\$ 29,228
0.63	\$ 565,698	-\$	9,124	-\$ 38,352
0.64	\$ 556,859	-\$	8,839	-\$ 47,191
0.65	\$ 548,292	-\$	8,567	-\$ 55,759
0.66	\$ 539,985	-\$	8,307	-\$ 64,066
0.67	\$ 531,925	-\$	8,059	-\$ 72,125
0.68	\$ 524,103	-\$	7,822	-\$ 79,948
0.69	\$ 516,507	-\$	7,596	-\$ 87,544

A variation of 1 cent on the exchange rate affects the purchase price by approximately \$10,000.

APPENDIX 4

Carter Observatory Planetarium. Funding applications since December 2008

Source:	Suggested amount:	Status:	Reason:
NZCT	\$200,000	Declined	Insufficient funds available
Perry Foundation	\$50,000	Declined	Insufficient funds available
Pub Charity	\$300,000	Declined	Insufficient funds available
Trillian Trust	\$20,000	Declined	Insufficient funds available
First Sovereign Trust	\$20,000	Declined	Insufficient funds available
Caversham Foundation	\$20,000	Declined	Insufficient funds available
Infinity Foundation	\$20,000	Declined	Insufficient funds available
Trusts Charitable Foundation	\$50,000	Declined	Insufficient funds available
Trusthouse Charitable Trust	\$50,000	Declined	Insufficient funds available
Pelorus Trust	\$300,000	\$300,000	Approved in principle
Southern Trust	\$100,000	Pending	
Endeavour Community Trust	\$20,000	Pending	
TG Macarthy Trust	\$100,000	Awaiting application. Closes 30th June	
NZ Lotteries Significant Projects Fund	Project balance	Awaiting application. Opening date TBC	
TOTAL	\$955,000	\$300,000	

APPENDIX 5

Financial year	1	2	3	4	5
DIGITAL FULLDOME PLANETARIUM					
Operating revenue					
Entry	678,003	1,074,884	1,105,711	1,236,280	1,263,978
Corporate hire	40,195	46,195	62,520	62,520	62,520
Guidebooks	21,234	34,230	34,973	39,066	39,963
Retail	71,719	113,769	119,485	135,563	139,060
Sponsorship	0	0	0	0	0
Season Card sales	24,905	41,782	33,623	33,831	34,023
Additional planetarium shows	9,240	9,240	9,240	9,240	9,240
Operational funding (WCC)	385,000	300,000	300,000	300,000	300,000
Operational funding (LEOTC)	41,000	82,000	82,000	82,000	82,000
Total	1,271,296	1,702,099	1,747,552	1,898,500	1,930,783
Operating expenses					
Staff costs	763,800	843,714	869,025	895,096	921,949
Retail COGS	50,203	79,638	83,640	94,894	97,342
Other Operating Expenses	313,500	356,435	359,499	362,594	365,720
Marketing	100,000	140,000	115,000	150,000	145,000
Refresh & renew	0	30,000	30,300	30,603	30,909
Total	1,227,503	1,449,787	1,457,464	1,533,187	1,560,920
Operating surplus/ (deficit) before depreciation					
	43,793	252,312	290,087	365,313	369,863
Depreciation					
	363,595	302,028	257,479	216,717	291,992
Operating surplus (deficit) after depreciation					
	(319,802)	(49,715)	32,608	148,596	77,872

Assumptions:

- Based upon PWT's 'most likely' visitor numbers updated April 2009
- Lead price modelled as \$15 per adult. \$8 child, \$42 family ticket