April 2025

Taronga Zoo Sky Safari

Appendix FF
Economic Impact Report
RTS Revision 2

PREPARED BY

URBIS

PREPARED FOR

TARONGA
CONSERVATION SOCIETY AUSTRALIA
For the Wild

URBIS

TARONGA SKY SAFARI
ECONOMIC JUSTIFICATION

Prepared for Taronga Conservation Society of Australia
February 2025

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Project code	P0037017
Report number	Final

ACKNOWLEDGEMENT OF COUNTRY

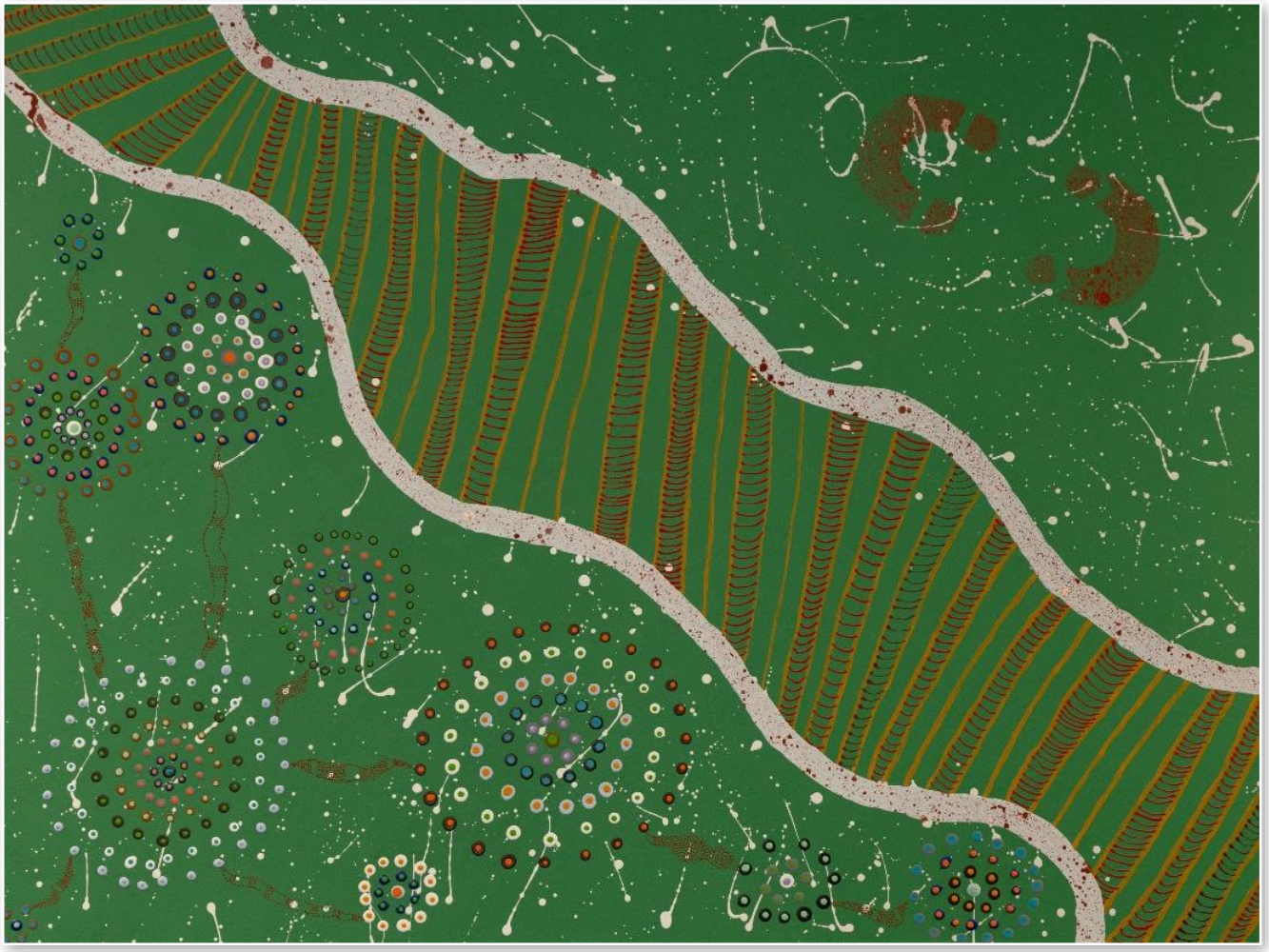
Urbis acknowledges the Traditional Custodians of the lands we operate on.

We recognise that First Nations sovereignty was never ceded and respect First Nations peoples continuing connection to these lands, waterways and ecosystems for over 60,000 years.

We pay our respects to First Nations Elders, past and present.

The river is the symbol of the Dreaming and the journey of life. The circles and lines represent people meeting and connections across time and space. When we are working in different places, we can still be connected and work towards the same goal.

Title: Sacred River Dreaming
Artist: Hayley Pigram
Darug Nation
Sydney, NSW



CONTENTS

EXECUTIVE SUMMARY

This report presents an economic impact assessment and benefits assessment resulting from the proposed replacement of the Sky Safari cable car at Taronga Zoo Sydney.

Taronga Zoo is an iconic attraction on the northern shores of Sydney Harbour, drawing local, interstate and overseas visitors given its unique features as zoo.

The Sky Safari is a significant contributor to Taronga Zoo's perception as an iconic attraction. It not only provides a means of transportation over the headland's steep terrain, but also a unique vantage point of animal exhibits and enclosures, as well as sweeping views to its passengers across the Harbour and the city skyline, including the Sydney Harbour Bridge and the Sydney Opera House.

The proposed development represents a continuation of the Sky Safari's 35 years of operations and the restoration of a highly recognisable feature of the harbour skyline.

With total construction and professional fee costs estimated at $85.1 million inclusive of GST, the proposed development will generate $56.7 million value added to the State economy per annum and support 213 direct and indirect full-time equivalent (FTE) jobs over the anticipated 18-month construction period.

It is estimated that the proposed development can generate 6 direct FTE jobs on-site on an ongoing basis and induce a further 3 indirect FTE jobs elsewhere within NSW. Ongoing operations at the Sky Safari are estimated to create an estimated $1 million value added to the NSW economy per annum through ongoing operations.

The proposed development is also expected to support a range of benefits for visitors, including increased ferry use, reduced car congestion, improved visitor amenity, and increased visitor accessibility. These economic benefits have been estimated at around $5.7 million per year during operation.

ECONOMIC IMPACTS

$85.1M (inc. GST)
Total construction cost (2024 dollar. incl. GST)

213
Full-time equivalent jobs supported on an annualised basis during construction

$56.7M
Annual value added to the New South Wales economy during construction

9
Estimated full-time equivalent direct and indirect jobs supported on an ongoing basis

$1.0M
Value added to the New South Wales economy per annum through ongoing operations

ECONOMIC BENEFITS

$5.7M
Total annual economic benefits generated by the Sky Safari

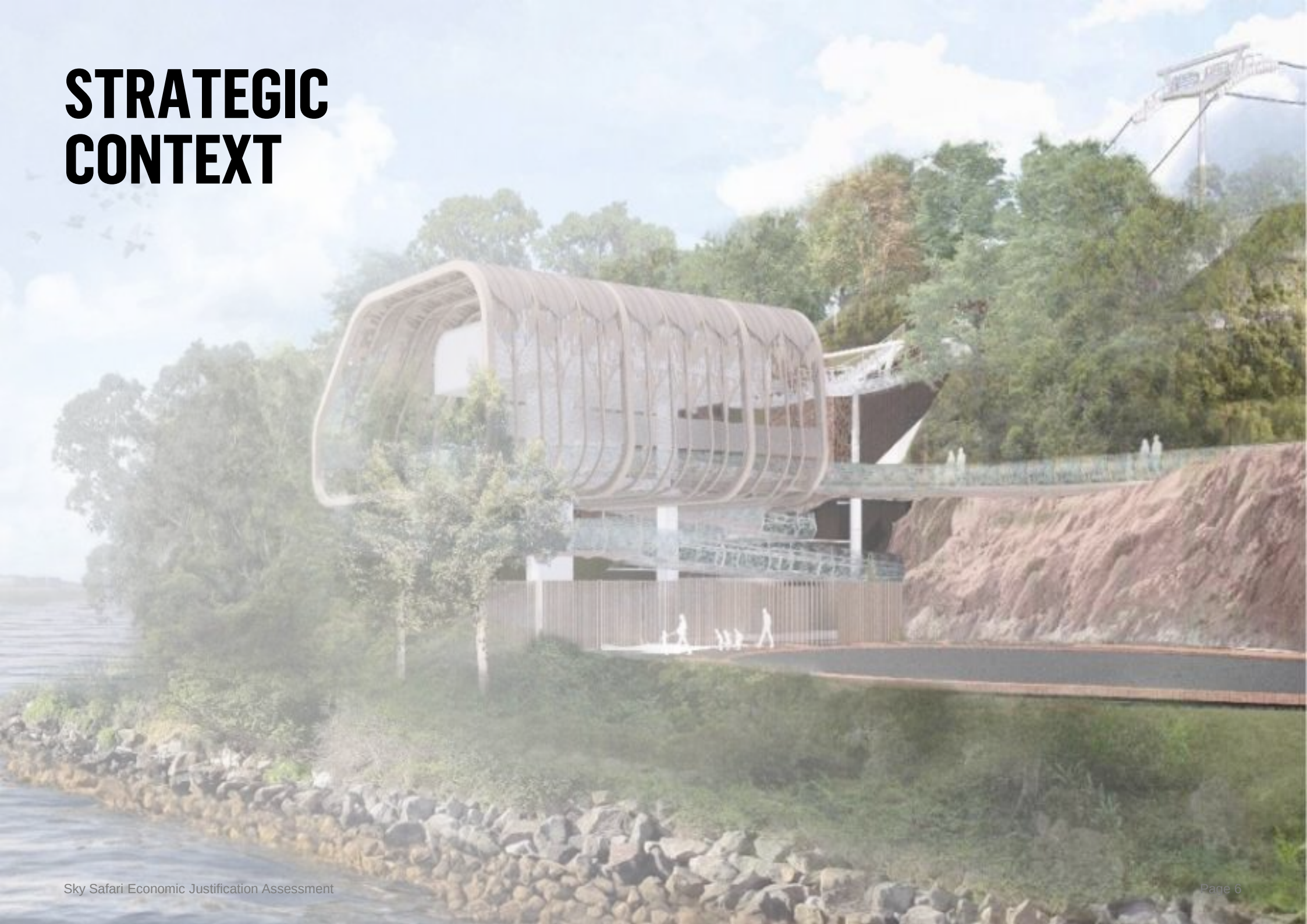
$838,000
Annual benefit of increased ferry patronage

$1.4M
Annual value of reduced car congestion

$2.3M
Annual amenity value of improved Sky Safari station areas

$1.1M
Annual value of improved accessibility for mobility-restricted visitors

STRATEGIC CONTEXT



PROPOSED DEVELOPMENT

Introduction

Taronga Zoo is one of Sydney most well known and loved attractions, home to over 4,000 native, exotic, rare and endangered animals. Supporting wildlife conservation and environmental educational objectives, Taronga Zoo Sydney and Taronga Western Plains Zoo received over 1.5 million visitors in the 2023-24 financial year.

Boasting an iconic harbourside location, Taronga Zoo is known for offering unique experiences to its patrons, including a now decommissioned 'Sky Safari' cable car ride that takes passengers from its lower entrance to the top of the headland, facilitating the movement of visitors over the steep terrain while providing iconic views of the Sydney Harbour and skyline. Having transported more than 20 million passengers since it was first installed in 1987, the Sky Safari was retired in early 2023 once it reached the end of its useful life.

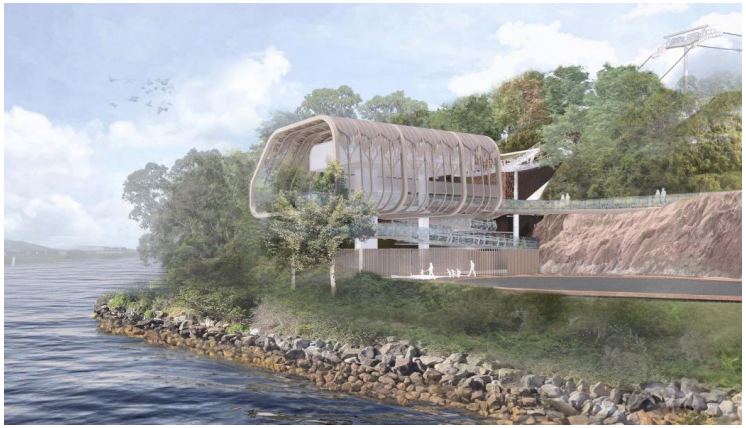
A State Significant Development Application has been lodged by Taronga Conservation Society of Australia (TCSA) with the Department of Planning Housing and Infrastructure (DPHI), seeking consent for the redevelopment of the former Sky Safari cable car ride. The redevelopment proposal looks to reinstate the cable car ride by replacing infrastructure along the cable car's route and the addition of new, all-access cable cars with increased capacity.

The intended outcomes of the project, as outlined in the Environmental Impact Statement, are to:

- Feature additional, larger cable cars that are more accessible, dramatically improving the guest experience journey for all visitors.
- Connect to recent upgrades to the Taronga Zoo Wharf under the NSW Government's Transport Access Program.
- Increase the Sky Safari's former capacity, allowing for a more efficient flow of guests around the Zoo, while also enhancing opportunities for educating guests on Taronga's conservation efforts.
- Encourage guests off the roads and onto public transport as they explore the harbour in a seamless journey to and from the Zoo.
- Provide unique, affordable, family-focused sightseeing tourism infrastructure that provides comfortable all-season experiences to support year-round growth in visitation to the Zoo. This will assist in securing the financial future of the Zoo to ensure that it can continue to undertake a range of conservation and education projects.
- Consider the heritage significance of local heritage items within the Zoo grounds, the strong historical presence of Taronga, and Connection to Country.
- Enhance opportunities for educating the community on TCSA's conservation efforts.

Concept Images

Bottom Station – View from the Ferry



Source: StudioSC

Nature Station – View from Arrival Concourse

Source: StudioSC

ECONOMIC ANALYSIS

Scope

The State Significant Development Application for the replacement of Taronga Zoo's Sky Safari was submitted on 3 September 2024. While on exhibition several submissions were received, including an objection which, among other things, argued that the submission failed to include an economic impact assessment and was therefore omissive and defective. The submission contends that, given the substantial capital construction costs of the proposal, an Economic Impact Assessment should be carried out to "demonstrate that there is a net socio-economic benefit to the people of Greater Sydney, not just Mosman."

In response to this submission, TCSA as the applicant, has been requested by DPHI to "summarise and provide justification for the economic impacts of the replacement cable car system."

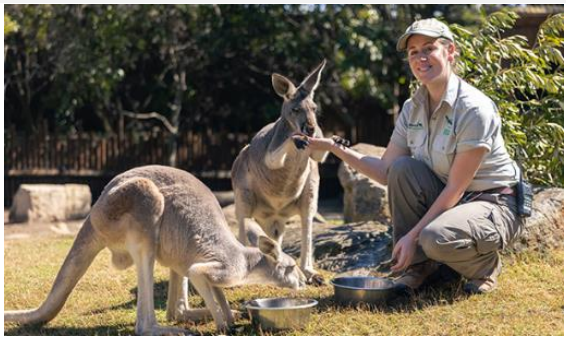
This report addresses the requirements of the request from DPHI, presenting an economic analysis that:

- outlines the economic impact of the proposed Sky Safari redevelopment, outlining the number of jobs and the economic contribution to the NSW economy that the proposed development will make, and
- presents the supportive economic benefits that the proposed replacement of the Sky Safari will enable.

Economic Impact Assessment

The economic impact assessment presents the expected number of jobs the development will generate both during the construction and operational phases. In addition to the direct impacts resulting from the proposal, the assessment provides estimates of the indirect impacts of the proposed development in terms of flow-on employment and consumption for the broader NSW economy.

A detailed methodology and a glossary of terms related to the economic impact assessment is included in Appendix A.

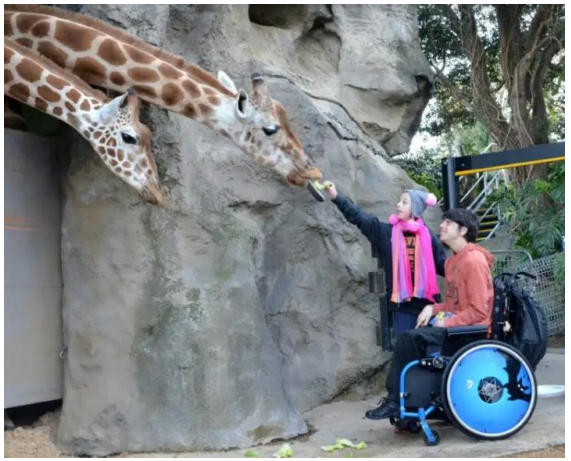


Source: Taronga Conservation Society of Australia of Australia

Economic Benefits Assessment

The proposed replacement of the Sky Safari is also expected to generate additional benefits or gains, some of which can be expressed in monetary terms. In this assessment, additional benefits considered are in relation to:

- The Sky Safari enabling an increased use of public transport resulting from more patrons utilising the ferry service to arrive and depart from Taronga Zoo.
- Reduced congestion on local roads and reduced on-street parking because of more patrons utilising the ferry service to arrive and depart from Taronga Zoo.
- Improved Zoo amenity that contributes to an improved overall visitor experience.
- Improving access for visitors of all abilities to Taronga Zoo, including patrons with limited mobility, wheelchair users and children on prams.



Source: Have Wheelchair Will Travel

SITE CONTEXT

Location and Access

Taronga Zoo is located at Bradleys Head Road, Mosman and is situated in the Mosman Local Government area (LGA) on Cammeraigal land. The site is bounded by Bradleys Head Road to the east, Athol Wharf Road and Sydney Harbour to the south, Little Sirius Cove to the west and Whiting Beach Road to the north.

Taronga Zoo operates 365 days per year during daytime hours.

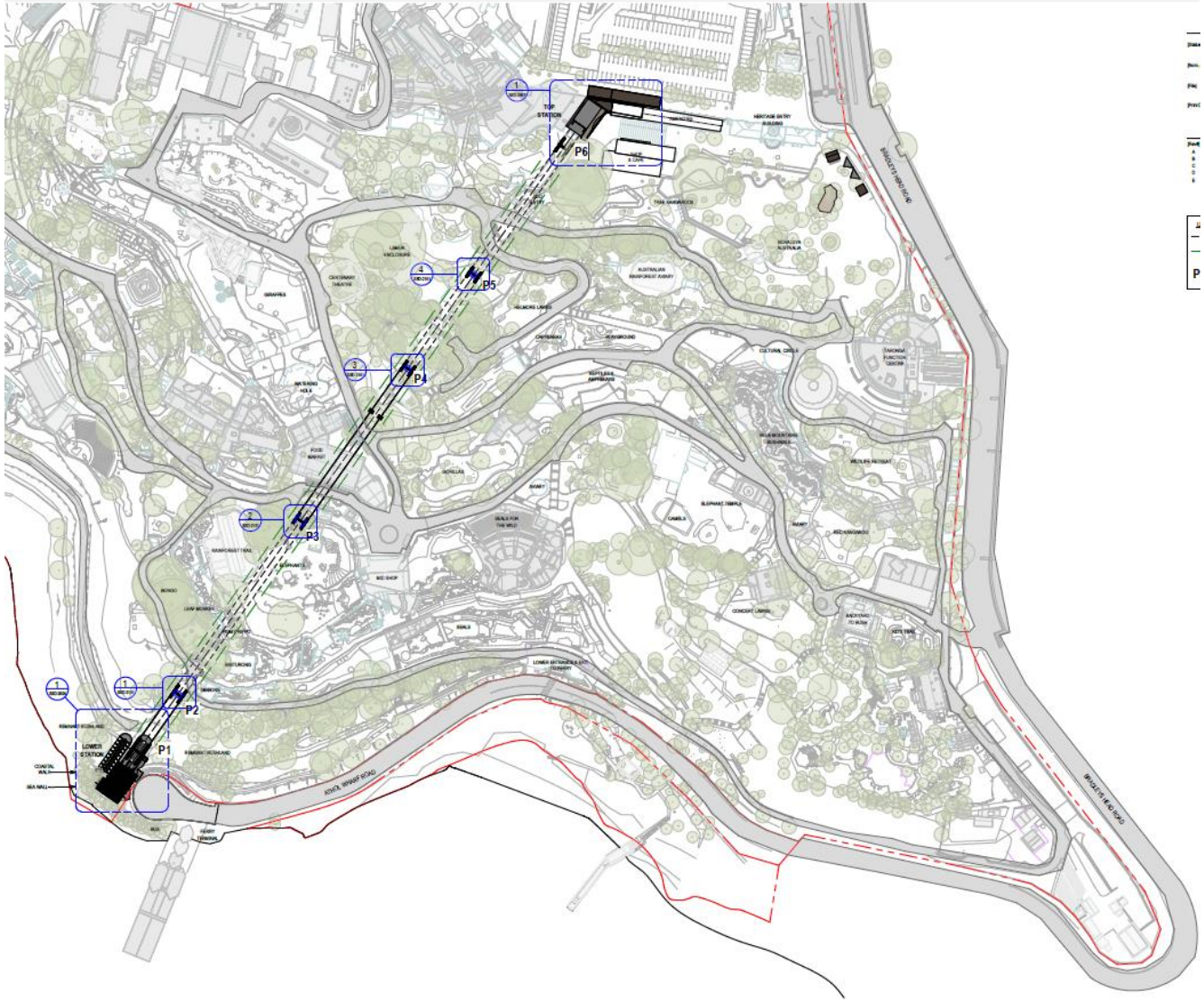
The site's main entrance can be accessed via private vehicles from Bradleys Head Road, where a paid parking station is available. Limited parking for private coaches and buses is also available.

Buses service the site via two lines:

- The 100 Bus (Mosman to City) operates between Mosman (Taronga Zoo Sydney) and the Queen Victoria Building in the city from early morning until around midnight, seven days a week. Buses will run every 10 minutes across the day and at least every 20 minutes in the early morning and late at night.
- The 238 bus route travels between Balmoral Beach, the Taronga Zoo Sydney main entrance and the Taronga ferry wharf on the water's edge for passengers arriving or leaving by ferry.

Ferry services to Taronga Zoo are also available from Circular Quay, departing every 30-minutes. The Ferry Wharf can also be accessed by private cruise operators and is a 3-minute walk to the Lower Zoo entrance.

Subject Site Context – Site Map and Indicative Sky Safari Route



Source: StudioSC

ECONOMIC IMPACT ASSESSMENT

CONSTRUCTION PHASE IMPACTS

Impact Modelling Methodology

This study undertook an assessment of the potential economic activity supported by the construction of this project. The following impacts of the project were estimated.

- ***Direct impacts*** are the initial round of impacts including to economic output, employment and household income.
- ***Indirect impacts*** are the sum of production-induced (i.e. supply chain) effects and consumption-induced effects. Production-induced effects (Type I) are additional output, employment and household income resulting from re-spending by firms that receive payments from the sale of services to the firms undertaking the project.

The modelling assessed:

- ***Economic activity*** – the total dollar amount impact (or contribution to gross domestic product);
- ***Employment*** – the full time equivalent per annum employment generated by the project;
- ***Value added*** – the value added to materials and labour expended on the project; and
- ***Supply chain impacts*** – the value of further spending in the supply chain.

Construction Phase Impact Modelling Steps

TASK	DESCRIPTION
Estimate Direct Impacts	Construction costs estimates have been provided by TCSA with construction staging from RPS Group.
Calculate Consumption and Supply Chain (Indirect) Impacts	This study used an Economic Impact Assessment (EIA) approach to estimate the impact of the project. At the core of EIAs are Input–Output (IO) tables. IO tables are part of the national accounts by the ABS and provide detailed information about the supply and use of products in the Australian economy, and the structure of and inter–relationships between Australian industries. IO tables are converted, through statistical analysis, into a series of economic multipliers. These multipliers represent the relationship between the direct expenditure associated with a project and economic changes. The EIA assessed the additional effects from further rounds of spending in the supply chain but has not included a consumption effect (Type II), which may result from consumer spending generated in the region.

Source: Urbis

CONSTRUCTION PHASE IMPACTS

Key Findings

The Sky Safari redevelopment is estimated to have a total development cost of $85 million including GST. This cost estimate includes all demolition, construction and consultant fees associated with the Sky Safari.

This study assumes that the construction will begin in mid-2025 with initial enabling works and demolition of the existing cable car infrastructure. Construction will take place over 18 months with an equal portion of the overall construction cost incurred in each year.

This study has assessed the impact of the proposed development. The following impacts have been modelled for the NSW state economy:

The development is estimated to cost $56.7 million per year and deliver the following benefits over the construction phase:

- On average, 213 FTE direct and indirect jobs are likely to be supported.
- Total direct and indirect Gross Value-Added to the economy is estimated at $56.7 million per annum over the construction period of the development.

Estimated Project Cost ($ million)

DESCRIPTION	PROPOSED DEVELOPMENT	ANNUALISED COST
Direct Costs ($M)	$85.1	$56.7
Construction Period	18 months	1 year

Source: Urbis, RPS Group, TCSA
Construction timing is subject to change pending approvals and other factors

Annual Construction Phase Impact Findings

CATEGORY	DIRECT EFFECT	SUPPLY-CHAIN EFFECT	TOTAL EFFECT
Direct economic activity ($M)	$85.1	$91.9	**$177.0**
Employment (FTE jobs per year)	90	124	**213**
Value added ($M)	$23.3	$33.3	**$56.7**

Source: Urbis, REMPLAN
** Numbers rounded*

OPERATIONAL PHASE

Impact Modelling Methodology

Operational impacts have been assessed based on the benefits and costs attributable to operational costs and employment generation.

- ***Direct impacts*** are the initial round of economic output, employment and household income generated by an economic activity.
- ***Indirect impacts*** are the sum of production-induced (i.e. supply chain) effects and consumption-induced effects. Production-induced effects (Type I) are additional output, employment and household income resulting from re-spending by firms that receive payments from the sale of services to firms undertaking production.

The modelling assessed:

- ***Economic activity*** – the total dollar amount impact (or contribution to gross domestic product);
- ***Employment*** – the full time equivalent per annum employment generated by the project (referenced as FTE job years);
- ***Value added*** – the value added to materials and labour expended on the project; and
- ***Supply chain impacts*** – the value of further spending in the supply chain.

Process for Operational Phase

TASK	DESCRIPTION
Estimate Direct Impacts	Economic output of the proposed Sky Safari cable car system has been estimated based on the number of full time equivalent (FTE) workers supported by the development. An indicative number of cable car employees has been provided by TCSA based on expected operator and maintenance staff.
Calculate Consumption and Supply Chain (Indirect) Impacts	This study used an Economic Impact Assessment (EIA) approach to estimate the impact of the operational phase of the project. At the core of EIAs are Input–Output (IO) tables. IO tables are part of the national accounts by the ABS and provide detailed information about the supply and use of products in the Australian economy, and the structure of and inter–relationships between Australian industries. IO tables are converted, through statistical analysis, into a series of economic multipliers. These multipliers represent the relationship between the direct expenditure associated with a project. The EIA assessed the additional effects from further rounds of spending in the supply chain but has not included a consumption effect (Type II), which may result from consumer spending generated in the region.

OPERATIONAL OUTPUT ESTIMATE

Key Findings

The Sky Safari development includes the proposed cable car system redevelopment, new stations at the upper and lower cable car stations and associated mechanical plant and maintenance areas.

The Sky Safari development is expected to support a total of nine direct and indirect FTE workers during operation, including customer service, mechanical and maintenance employees.

This study has assessed the impacts of the proposed development, and the following ongoing impacts of Sky Safari operation have been modelled for the NSW economy:

The proposed development is estimated to have an output of $2.9 million annually over the operational phase:

- On average, nine FTE direct and indirect jobs are likely to be supported each year.
- Total direct and indirect Gross Value-Added to the economy is estimated at $1.0 million per annum.

Annual Operational Phase Impact Findings

CATEGORY	DIRECT EFFECT	SUPPLY-CHAIN EFFECT	TOTAL EFFECT
Direct economic activity ($M)	$1.5	$1.4	**$2.9**
Employment (FTE)	6	3	**9**
Value added ($M)	$0.5	$0.5	**$1.0**

Source: Urbis, REMPLAN

While the operational phase impact of the cable car system is relatively low, it is consistent with the way in which the attraction is envisaged to operate. The refurbishment of the Sky Safari is replacing transport infrastructure that has featured as an attraction at Taronga Zoo for over three decades; the redevelopment of the cable car system is not intended to become a significant contributor to increased visitation levels and revenue. It is ancillary infrastructure that is supportive to the facility's primary objectives related to conservation and education.

ECONOMIC BENEFITS ASSESSMENT

BENEFITS VALUATION

The summary of quantifiable economic benefits derived from the proposed development are shown in this section. Additional details on the methodology and calculations for each of the benefits presented can be found in Appendix B.

Benefits of the Taronga Sky Safari Redevelopment

IMPACT	OVERVIEW	OUTCOME
Increased Ferry Patronage	In addition to providing transport from the zoo's Lower Entrance to the Upper Entrance, the Sky Safari will reinstate a valued visitor attraction, offering tree-top views of the zoo and Sydney Harbour beyond. Without this attraction, an increased number of zoo visitors are choosing to arrive by private car, generating higher carbon emissions and pollution compared to ferry arrivals. Visitors arriving by ferry also receive additional experiential benefits in the form of time travel value, reflecting the unique value of experiencing Sydney Harbour from the water with a shorter travel time than an equivalent car ride.	Visitor forecasts by JMT Consulting estimate the redevelopment of the Sky Safari will increase the proportion of zoo visitors arriving by ferry by 5%, drawn entirely from a reduction in private car arrivals. Australian Transport Assessment and Planning (ATAP) values suggest passengers value ferry travel time at around $25 per hour, approximately 20% higher than private car travel. This reflects both time and distance saved, and the intrinsic amenity value of ferry travel. Redevelopment of the Sky Safari is expected to induce around 90,000 visitors per year to travel to the zoo by ferry, rather than private car, and generate an additional $726,000 in travel time saving benefits. Based on Transport for NSW (TfNSW) carbon emission and pollution cost values, Urbis have also estimated that a Sky-Safari-led mode shift from private car to ferry will reduce pollution costs by around $112,000 per year. In total, the increase in ferry patronage attributable to the proposed Sky Safari is expected to generate $838,000 in environmental benefits and travel time savings per annum.
Reduced car congestion	A shift in zoo visitors away from private car transport to public transport via the Taronga ferry will also reduce the number of cars travelling to the zoo. This is expected to free up capacity in the zoo's car parks and reduce incidents of visitors parking on suburban streets outside designated parking areas.	Redevelopment of the Sky Safari is expected to reduce the number of visitors travelling by car by around 90,000 per annum, equivalent to approximately 26,000 cars. TfNSW parameter values indicate a marginal cost of road congestion from private cars at 53.8 cents per vehicle kilometer travelled. Adopting an average car travel distance of 30km travelled by visitors who would have otherwise taken the ferry, Urbis have estimated the Sky Safari development will support $1.4 million per annum in benefits from avoided car congestion.

BENEFITS VALUATION

Benefits of the Taronga Sky Safari Redevelopment (continued)

IMPACT	OVERVIEW	OUTCOME
Improved Zoo Amenity	The proposed development features a redeveloped Top Station with direct access to the zoo's Upper Entrance Plaza, including covered queueing space and shading . The cable car Lower Station will feature a new arrival plaza with unisex public amenities, staff areas, seating and additional shading for queueing passengers. Both stations will include educational displays in waiting areas to provide engagement during queueing. The redeveloped Sky Safari will provide a more welcoming experience for visitors, especially those arriving from Taronga Wharf.	The new cable car stations will feature improved waiting spaces with educational signage. TfNSW station quality methodology suggests that a passengers ascribe a higher user value to stations of a higher quality, including those with better weather protection, seating, and platform access. As one of the first areas of the zoo arriving guests may visit, improvements in the amenity quality of the Sky Safari waiting and platform areas are likely to have a lasting mark on overall visitor experience. Urbis have estimated the redeveloped Sky Safari stations will provide a significant quality improvement and will support an additional $2.3 million in amenity benefits for the zoo per annum.
Improved accessibility across Taronga Zoo Sydney	Taronga Zoo Sydney is unique among urban zoos for its harbour-side location and hilly terrain, prompting the development of the original Sky Safari. The cable car system historically allowed visitors with mobility restrictions, including the elderly, those with disabilities, and visitors with prams to easily travel between the Upper Entrance Plaza and the Lower Entrance, adjoining Taronga Zoo Wharf. The proposed Sky Safari redevelopment will feature additional accessibility improvements, including wider cable cars to accommodate wheelchairs and prams above 610mm in width, and replacement of stairs at the Lower Station with a fully accessibility compliant lift to the platform level.	The previous Sky Safari cable cars and waiting areas were not fully Disability and Discrimination Act (DDA) compliant. The proposed Lower Station will feature an accessible ramp up to the platform and lift access. ABS and Australian Institute of Health and Welfare (AIHW) data suggests approximately 16% of Sky Safari passengers can be expected to have accessibility requirements, including 2.2% with disability-related mobility restrictions, 7.5% aged 75 years and older, 5.7% carrying a stroller, and 0.6% using a wheelchair. These visitors will have full DDA compliant access to the cable car platform area, allowing them to quickly and safely travel across the zoo whilst enjoying attractions from above. Applying TfNSW values for station lift access, Urbis have estimated the increased accessibility provided by the proposed improvements will generate $1.1 million in benefits per annum.

APPENDIX A

METHODOLOGIES AND GLOSSARY OF TERMS

METHODOLOGIES AND GLOSSARY OF TERMS

REMPLAN Methodology

Analysis presented here uses REMPLAN economic modelling to assess current and potential economic impacts. REMPLAN is an Input-Output model that captures inter-industry relationships within an economy. It can assess the area-specific direct and flow-on implications across industry sectors in terms of employment, wages and salaries, output and value-added, allowing for analysis of impacts at the State of Western Australia level.

Key points regarding the workings or terminology of the model are as follows:

- REMPLAN uses either the value of investment or employment generation as the primary input. For this analysis, the value of total upfront investment has been used as the key input to assess the benefits of the construction phase.
- Outputs from the model include employment generated through the project and economic Gross Value Added (GVA) at the State level
- Outputs from the model include employment generated through the project at both the local and the state level.
- Employment generated is calculated over the life of the construction phase; or in terms of the on-going operations, total on-going jobs generated.
- Both the direct and indirect employment are modelled:
  - *Direct* refers to the effect felt within the industry because of the investment. For example, the construction phase will directly result in the creation of construction jobs.
  - *Indirect* effects are those felt within industries that supply goods to the industries directly affected.
- It should be noted that the results presented in this report are estimates only based on the existing state of economic activity in the area. Due to the static nature of input-output modelling, they have the potential to overstate the actual effects. Nonetheless, the analysis still reflects the fact that employment growth will be positive for the State and the local area.
- Urbis consider that in the absence of the investment package it is unlikely that similar projects would be undertaken within the same period, and therefore the investments can be considered additional.
- Urbis have assumed break-down of costs by industry sector based on industry knowledge.

Glossary of Terms

Construction Cost is the estimated investment value for each development over the anticipated delivery period, measured in constant 2024 dollars (period excluding inflation) excluding GST.

Direct Impacts are the initial round of economic output, employment and household income generated by an economic activity.

Economic Output is a measure of the gross revenue of goods and services produced by commercial organisations and gross expenditure by government agencies.

Full-Time Equivalent (FTE) Job Years refers to the total number of full-time equivalent jobs that can be supported over a 12-month period.

Gross Value Added (GVA) is a measure of the value of goods and services produced in an area, industry or sector of an economy during a certain period. GVA is measured in constant 2024 dollars (i.e. excluding inflation) excluding GST.

Indirect Impacts are production-induced effects. Production-induced effects (Type I) are additional output, employment and household income resulting from re-spending by firms that receive payments from the sale of services to firms undertaking production. Consumption-induced effects (Type II) are additional output, employment and household income resulting from re-spending by households that receive income from employment in direct and indirect activities. These Type II effects were not assessed.

Induced Impacts are the expected outcomes of a project versus the business of usual approach whereby the project is not implemented.

APPENDIX B

DETAILED ECONOMIC BENEFITS ASSESSMENT

BENEFIT OF INCREASED FERRY PATRONAGE

Environmental and Time Saving Benefits of Zoo Visitors Switching from Car to Ferry

There is a large body of literature assessing the net economic benefit of shifting from private transport to public transport. These studies largely find a significant positive benefit in reduced carbon emissions and other environmental pollution, and time savings resulting from increased public transport patronage.

Visitor forecasts by JMT Consulting estimate the redevelopment of the Sky Safari will increase the proportion of zoo visitors arriving by ferry by 5%, representing approximately 90,000 visitors per annum.

Assuming an average distance travelled of 45km for cars (approximately 45 minutes) and 3 km (12 minutes) for ferries for zoo visitors, Urbis have estimated emissions and pollution costs at around $112,000 per annum.

Applying ATAP travel time parameter values of $17.54 and $24,94 for car and ferry transport respectively, we have estimated that a Sky Safari-led shift to ferry transport will generate $726,000 in travel time savings per annum.

Combined, a shift from private car to ferry patronage is expected to generate approximately $838,000 per annum in benefits.

Benefit of Avoided CO2 Emissions and Environmental Pollution

	Cost per Passenger km	Estimated Distance (km)	Pre-Development Pollution Cost	Post-Development Pollution Cost	Difference
Private Vehicle	$0.0366	45	$1,402,838	$1,256,414	-$146,424
Ferry	$0.1299	3	$201,169	$235,814	$34,645
Benefit per year			**$1,604,007**	**$1,492,228**	**$111,779**

Source: TfNSW; Urbis

Benefit of Travel Time Value

	Value of Travel Time ($/hr)	Estimated Travel Time (mins)	Pre-Development Travel Time Value	Post-Development Travel Time Value	Difference
Car	$17.54	45	$11,207,018	$10,037,262	-$1,169,756
Ferry	$24.94	12	$2,575,098	$3,018,588	$443,489
Benefit per year			**$13,782,115**	**$13,055,849**	**$726,267**

Source: ATAP, TfNSW; Urbis

BENEFIT OF REDUCED CONGESTION

Congestion Reduction Benefit

Similarly, a reduction in private car travel in favour of ferry transport to the zoo is expected to reduce car congestion in and around Taronga Zoo Sydney.

We have assumed the expected average distance travelled of 30 km for cars, reflecting Taronga's attractiveness as a destination across a wider Sydney catchment.

Applying TfNSW estimates of the marginal cost of additional private car kilometres travelled, the proposed Sky Safari development is projected to generate around $1.4 million in avoided costs of car congestion on Sydney's roads.

We note that this reduction in congestion will be primarily felt in bottleneck areas in Mosman near Taronga Zoo's northern entrance, including Prince Albert Street and Whiting Beach Road. Whilst Taronga is likely to see a reduction in car park revenue, this will be offset by broader productivity improvements across Mosman and North Sydney from reduced travel times.

Benefit of Reduced Congestion

	Value
Reduction in private vehicles	89,904 per year
Marginal cost of road congestion – private passenger vehicle	$0.54 per vehicle kilometre travelled
Estimated distance travelled (km)	30 km
Benefit per year	**$1,434,904**

Source: TfNSW; Urbis

IMPROVED CABLE CAR STATION AMENITY ACCESS

Benefits of Improved Station Amenity

The value of improvements to zoo amenity value from the redeveloped Sky Safari stations has been estimated based on TfNSW parameter values for rail stations. Cable car stations serve a similar function to conventional rail stations by providing highly structured linear waiting areas, hence conventional rail station parameters have been adopted for this analysis.

Based on the amenity attributes shown on the table to the right, Urbis have estimated the proposed stations will generate $1.41 in amenity value for users compared to the previous Sky Safari stations. A quality rating of 80% has been adopted to reflect the high-quality finishes expected at the station and complementary design with the zoo's land-use and surrounding Sydney Harbour landscape.

With a potential 25 cable cars, an assumed average cable car occupancy rate of 40% and 7.5 hours of operation per day, the proposed Sky Safari is estimated to attract approximately 820,000 passengers per year.

Multiplying the expected number of passengers by the uplift in amenity value and quality rating according to TfNSW methodologies, the proposed development is expected to generate an additional $2.3 million in amenity value per annum.

Sky Safari Amenity Benefit

	Value
New Station amenity value uplift	$1.41
Sky Safari Station quality rating	80%
Estimated cable car entries and exits	821,250
Sky Safari amenity benefit	**$2,315,925**

Source: TfNSW; Urbis

Value of Station Quality Attributes

Attribute	Value of Station Quality ($)
Weather protection	0.12
Seating	0.16
Information	0.13
Lighting	0.13
Cleanliness & graffiti	0.21
Ticket purchase	0.21
Platform Surface	0.20
Platform On/Off	0.14
Toilet Availability & Cleanliness	0.03
Staff	0.08
Attribute Sum	**1.41**

Source: TfNSW

IMPROVED VISITOR ACCESSIBILITY

Improved Accessibility from Station Lift Access and Wider Cable Cars

The previous Sky Safari was not fully DDA compliant and did not provide lift access to the loading platform at the Lower Station, nor did it accommodate wheelchairs and prams wider than 610mm. The proposed Sky Safari redevelopment features wider cable cars, improved lift access, and level waiting areas to accommodate passengers with restricted mobility.

Based on ABS demographic data and Australian Institute of Health and Welfare (AIHW) disability and mobility aid requirements, Urbis have estimated that approximately 16.1% of potential passengers could benefit from improved accessibility to the Sky Safari and the transport option it provides for travel across the zoo. Applying TfNSW values for station lift access, we have estimated the proposed development will support around $1.1 million in benefits from improved visitor accessibility.

Estimated Visitors with Mobility Restrictions

	Base Case Rating
Annual Sky Safari passengers	821,250
Estimated proportion of visitors with disability-related mobility restrictions (excl. wheelchairs)	2.2%
Estimated proportion of visitors requiring a wheelchair	0.6%
Estimated proportion of visitors with age related mobility restrictions (aged 75 years and above)	7.5%
Estimated proportion of visitors with a pram	5.7%

Source: AIHW, ABS; Urbis

Benefit of Improved Accessibility

	Base Case Rating	Value of Station Lift Access ($)	Value of Accessiblity
Sky Safari passengers without disability	689,228	$0.85	$585,844
Sky Safari passengers with mobility issues	127,107	$3.95	$502,073
Sky Safari passengers using a wheelchair	4,915	$5.15	$25,312
Total	**821,250**		**$1,113,229**

Source: AusStadiums; Douglas, Jones and Whatley (2022); TfNSW; Urbis

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