

LANDSCAPE PERFORMANCE SERIES

by the
Landscape Architecture Foundation

The Goods Line (North)



BEFORE AFTER

Landscape Performance Benefits

SOCIAL

- ▶ Improves experience of the entire Goods Line according to 89% of 89 survey respondents. The most frequent reasons cited were amenities or activities (25%), aesthetics or feel (22%), and green space (17%).
- ▶ Increases visitor dwell time, with 32% of 182 survey respondents reporting spending more than a half hour at the site per visit. 72% of 105 survey respondents reported that they spent much less or somewhat less time in the adjacent unimproved space, The Goods Line South, before the opening of the new section.
- ▶ Promotes social interaction, with 67% of 357 observed users visiting the site in groups of 2 or more. At the same time, the space caters to solitary activities, with over 60% of survey respondents reporting that they sometimes or always/usually visit the site alone.
- ▶ Improves connectivity for pedestrians and cyclists in a previously inaccessible corridor, with approximately 55% of 1,214 users observed using the space as a pedestrian connection during weekday daytime hours.

View/Download a PDF showing how the landscape performance benefits were derived.

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At a Glance

DESIGNER

ASPECT Studios

LOCATION

14-28 Ultimo Road
Ultimo, New South Wales 2007
Map it

SIZE

1.7 acres

PROJECT TYPE

Park/Open space

BUDGET

Undisclosed

FORMER LAND USE

Greyfield

CLIMATE ZONE

Humid subtropical

COMPLETION DATE

2015

OVERVIEW

Located on the southern fringe of downtown Sydney, The Goods Line (North) repurposes a decommissioned rail corridor to create a leafy, public open space. This linear and, in places, elevated city park forms part of an inter-urban pedestrian and cycle network linking the key transportation hubs of Sydney's Central Station and Railway Square to a series of cultural, educational, entertainment, and leisure spaces on the southern and western edges of the Central Business District. Sydney's southern fringe has now been reconnected to the surrounding city fabric, providing more than 80,000 locals, visitors, and university students direct access to nearby Darling Harbour, Chinatown, and the rest of Sydney. The Goods Line is located within one-quarter mile of Sydney's busiest transportation interchange: the hub of Central Station (train and light rail) and the adjacent Railway Square interchange (bus). The Goods Line (North) connects to The Goods Line (South) on the other side of Ultimo Road, a 1990s redevelopment that received fairly minimal landscape interventions. The northern section features extensive social infrastructure such as bleachers, seats, an amphitheatre, wi-fi facilities, a play space, ping pong tables, and raised lawns, supporting a range of outdoor activities. The Goods Line (North) has significantly enhanced the burgeoning public life in this rapidly-growing district.

SUSTAINABLE FEATURES

- ▶ The project preserved the rail tracks and several associated heritage features, drawing attention to its historical function as a working 'goods line' from Darling Harbour to Central Station. The project retained and repurposed critical historic elements of the rail infrastructure, like the renovated and restored Ultimo railway bridge, which facilitates pedestrian links over Ultimo Road.
- ▶ Numerous interpretive panels attest to the site's industrial history, helping to create greater awareness of the significance of the site in the development of Sydney.
- ▶ The project provides safe cycling and pedestrian infrastructure and parking, which increases connectivity within and across the city. The linear park is wheelchair accessible complying with Australian Standard 1428.
- ▶ The project adds 25,800 sf of new green space to its precinct where none had existed within a half mile. Over 33% of the project's surface cover was developed as green space, reducing cross-surface runoff from large areas of previously bituminised hardscape as well as decreasing the urban heat island effect. This offers an important respite within the heavily built-up periphery of Sydney's urban core.

- ▶ An herbaceous and predominantly native drought-tolerant planting palette ensures low maintenance needs and increases in the almost non-existent biodiversity on site. The plants are located in gravel and mulch planting beds and include Banksia and other local species that are hardy and adapted to the site conditions, while also recalling the pre-settlement character of the site.
- ▶ The retention of a long row of existing fig trees forms a large shade canopy over the public areas along the eastern edge of the site.
- ▶ Water-Sensitive Urban Design (WSUD) initiatives enable The Goods Line (North) to achieve the New South Wales Government's objective of 80% potable water consumption reduction. Concealed inlet pits within garden beds enable stormwater to infiltrate and naturally irrigate the garden spaces. Where additional runoff drainage was required, grated steel drains were integrated into the precast concrete panelised ground plane.
- ▶ A range of passive and active recreation opportunities contribute to the health and well-being of visitors and the general community by encouraging physical activity within and through the site. These include 2 custom-designed ping pong tables, a heritage and water-themed children's play space, a fitness station, and raised and sunken lawns that are frequently used by personal trainers or for outdoor yoga classes.
- ▶ Other design features encourage greater social engagement in the public outdoor space for work, study and public events. These include pods that can seat up to 25 people, an amphitheatre for up to 100 people, and communal tables to serve a large student and professional population. These areas incorporate power outlets, including 3-phase power at intervals throughout for larger events, and a 50-amp outlet for major events.
- ▶ The use of innovative digitally-designed precast concrete unit paving means that panels can be removed for access to utilities that run below the site without major demolition and excavation. The decision to use this paving and construction method also made it possible to integrate the historic rail tracks on-site and retain existing site elevations.

CHALLENGE / SOLUTION

Challenge

The landscape architects were tasked with creating an integrated two-phase linear park in a rapidly transforming inner-city area that already hosted major educational, media, entertainment, and cultural institutions and was also witnessing the addition of many new residential and commercial developments. The site's heritage as a railway corridor needed to be preserved. The rail corridor and its heritage-protected bridge serve as ongoing material evidence of the important trading history that connected the state's railway network (Central Station to the south) with its warehouses, ports, and dockyards (Pymont and Darling Harbour to the north). The landscape architects were also required to develop a design solution for construction that would not interrupt the functioning of the live high-voltage district power cables running through the site.

Solution

The design repurposes the remnants of industrial infrastructure to create contemporary circulation infrastructure and meet new public space demands, drawing on this post-industrial aesthetic in design features and interpretive elements. The design focused on the idea of connectivity not just within the site and its immediate surroundings, but in the context of a broader strategic vision of pedestrian and cyclist mobility across a larger area of the city. In addition to the north-south pedestrian linkages created, The Goods Line opened up east-west linkages to connect two district streets previously terminating in dead-ends on either side. Parts of the site were designed to function as an event platform with spaces for flexible programming to facilitate temporary activation along the length of the project. To address the underground live cables and to retain the existing railway tracks, a novel precast concrete panel solution was developed that facilitated not only installation but also future access needs to the important infrastructure corridor that lies under The Goods Line (North).

LESSONS LEARNED

- ▶ Air quality on the site and in adjacent baseline urban areas was measured before, during, and after construction. No significant improvement in ambient air quality was demonstrated even with the conversion of 33% of the space from greyfield to green space. This may be because much of the additional green space was lawn rather than a more complex assemblage of vegetation types such as trees, shrubs and grasses; air quality improvements are generally associated with increases in the amount of leaf area and in the number of large trees and shrubs present.
- ▶ With the advice of Birds Australia, a bird survey was conducted after the completion of the project as a potential indicator of improved biodiversity. The survey did not suggest that the redevelopment could be linked to any changes in biodiversity without more intensive biodiversity survey methods. Like air quality improvement, enhanced biodiversity at small urban scales requires increased coverage and complexity of vegetation.
- ▶ The Goods Line's "activation pillars" were designed by the Sydney Harbour Foreshore Authority (SHFA). The SHFA has since been disbanded, leaving a lack of clear leadership in place management and confusion over who is allowed access or has control over the different areas of The Goods Line. The challenges with programming events and formulating a well-publicized events calendar have also impacted the potential of The Goods Line to realize the degree of activation originally intended. This was reflected in survey responses from users of The Goods Line, which suggested the activation could be improved by the inclusion of more programming such as events or markets.
- ▶ There was no clear evidence that the redevelopment of The Goods Line (North) has contributed to increased business activity in the area. It is also difficult to disaggregate the contribution of The Goods Line from the numerous other changes of use, upgrades, and new developments occurring in the area. Interviews with adjacent business owners also revealed concerns about the contribution of The Goods Line to the overall gentrification of the area and the possible displacement of existing businesses as a result of increased rents.

PRODUCTS

Hanson Precast Concrete

Vicpole

Light Culture

Nocturnal Lighting

Hydroplan

Emerdyn

Alpine Nurseries and Andreasens Green Wholesale Nurseries

PROJECT TEAM

Project Team

Property NSW (formerly Sydney Harbour Foreshore Authority)

ASPECT Studios

CHROFI

ACOR

Deuce Design

GML

JBA

Lighting Art + Science

AR-MA

Gartner Rose

Role of the Landscape Architect

The landscape architect was the project design lead responsible for the master planning and detailed design of The Goods Line project, both north and south. This included landscape architectural services, urban design, project management, coordination of consultants, extensive high-level stakeholder and community consultation and workshops as well as compliance with New South Wales building design codes and relevant Australian Standards.

Case Study Prepared By

Research Fellows: Simon Kilbane, Senior Lecturer/Course Director, University of Technology, Sydney

Andrew Toland, Lecturer, University of Technology, Sydney

Research Assistant: Kane Pham, PhD Candidate, University of Technology, Sydney

Sacha Coles, Director, Atsuko Kunugi, Marketing Coordinator; ASPECT Studios

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Additional Images



References and Resources

ASPECT Studios, The Goods Line

ASPECT Studios, The Goods Line (microsite)

Scott Hawken, Landscape Architecture Australia, "The New Chinatown: Sydney's Southern CBD"

Simon Kilbane, Landscape Architecture Australia, "The Goods Line"

Margaret Simpson, The Museum of Applied Arts and Science, "The Goods Line - then and now"

Planning Institute of Australia New South Wales Awards for Planning Excellence – From Plan to Place, 2016

Planning Institute of Australia New South Wales Awards for Planning Excellence – Great Place, 2016

Australian Institute of Landscape Architects National Awards – Civic Landscape, 2016

Australian Urban Design Awards; Delivered Outcome – Small Scale, 2016

Australian Institute of Landscape Architects New South Wales Awards – Civic Landscape Award of Excellence, 2016

2020 Vision Green Design Award, 2016

Azure AZ Awards – Award of Merit for Best Landscape Architecture, 2016

National Trust 22nd Annual Heritage Awards; Highly Commended – Conservation Landscape, 2016

6th 'Yuan Ye' Award Professional Competition – First Prize Winner: Exquisite Landscape, 2015

Australia Award for Urban Design; Policies, Programs and Concepts – Small Scale, 2014

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laf:casestudy=1073

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TOPICS

RECREATIONAL & SOCIAL VALUE, TRANSPORTATION, EDUCATIONAL SIGNAGE, ACTIVE LIVING, PLACEMAKING, REVITALIZATION, URBANIZATION

The LPS Case Study Briefs are produced by the Landscape Architecture Foundation (LAF), working in conjunction with designers and/or academic research teams to assess performance and document each project. LAF has no involvement in the design, construction, operation, or maintenance of the projects. See the Project Team tab for details. If you have questions or comments on the case study itself, contact us at lbs@lafoundation.org.

Methods Document: The Goods Line (North) University of Technology Sydney

Prepared by:

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Research Assistant: Kane Pham, PhD Candidate; University of Technology, Sydney

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August 2017

Overview of CSI: This investigation was conducted as part of the Landscape Architecture Foundation's 2017 *Case Study Investigation* (CSI) program. CSI matches faculty-student research teams with design practitioners to document the benefits of exemplary high-performing landscape projects. Teams develop methods to quantify environmental, economic and social benefits and produce Case Study Briefs for LAF's *Landscape Performance Series*.

The full case study can be found at: https://landscapeperformance.org/case-study-briefs/goods_line

BACKGROUND

The Goods Line project that is the subject of this case study refers to the redevelopment in 2015 of an area of disused freight railway corridor running northeast from Sydney's Central Railway Station that once serviced the dockyards and warehouses of Pyrmont and Darling Harbour and the Ultimo Power Station. However, the area redeveloped in 2015 was only a section of the overall area referred to as "The Goods Line." The overall area is divided into two sections – The Goods Line (North), which is north of Ultimo Road, and The Goods Line (South), which is south of Ultimo road. The two sections are now connected to each other by the former railway bridge (known as Ultimo Bridge) over Ultimo Road. Strictly speaking, the 2015 redevelopment project designed by ASPECT Studios comprised only The Goods Line (North) and the bridge across Ultimo Road; The Goods Line (South) was originally redeveloped with fairly minimal landscape interventions and opened to the public in the 1990s, while Ultimo Bridge and The Goods Line (North) remained closed to the public until the 2015 redevelopment.



FIGURE 1: Relationship between The Goods Line (North) (the principal study area for this case study) and The Goods Line (South).

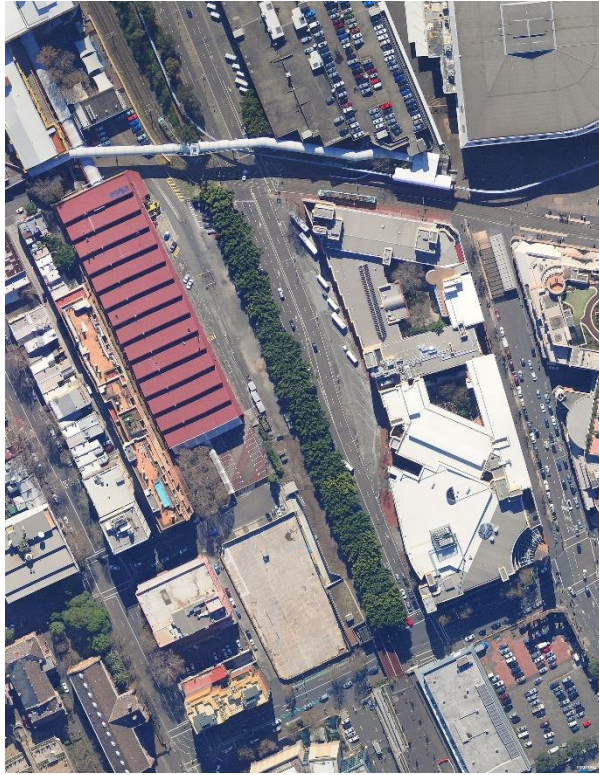


FIGURE 2: The Goods Line (North), August 1, 2010 before redevelopment.



FIGURE 3: The Goods Line (North), February 11, 2017 after redevelopment.

There have been discussions about renovating the public space making up The Goods Line (South) in the future to give the two sections of the Goods Line a greater coherence, but construction of this section has not yet been publicly confirmed or commenced.

Much of the data and analysis that forms the basis of this case study is derived from a 2016 study commissioned by Horticulture Innovation Australia (HIA), an industry association for Australia's horticultural industries. HIA commissioned the study of The Goods Line (North) by the Institute for Sustainable Futures at the University of Technology Sydney, entitled "202020 Vision: Goods Line Monitoring and Evaluation Research Proposal" (Jacobs 2016) (referred to here as "the HIA Study"). The study was intended to evaluate the social, cultural and environmental changes emerging from the redevelopment of public spaces that include a significant component of green space, and relates to the *202020 Vision*, a national campaign, supported by the Nursery & Garden Industry Australia, aiming to promote a 20% increase in green space by 2020.

SOCIAL BENEFITS

- ***Improves experience of the Goods Line according to 89% of 89 survey respondents. The most frequent reasons cited for improvement were amenities or activities (25%), aesthetics or feel (22%), and green space (17%).***

Method

The research conducted for the HIA Study (Jacobs 2016) included a 24-question self-completed questionnaire completed by consenting survey participants. 201 surveys were completed between April-May 2016. The surveys were self-administered by participants so that responses would not be influenced by the researcher's presence, although this meant that responses were not necessarily recorded for all questions, as survey participants may have left some questions blank.

The Goods Line (South) has not yet been redeveloped, providing a useful adjacent public space comparison. Survey respondents were asked if their experience had changed when visiting the Goods Line since the opening of The Goods Line (North), with no respondents indicating a worse scenario (Jacobs 2016, p. 22). The Goods Line (South) is currently an asphalt-covered area with sparse tree cover, limited and poorly maintained planting beds, and unimaginatively placed standard bench seating.

Survey participants responses to the question “Has your experience in the Goods Line changed since the opening of this new end?”		
Option	No. of responses (frequency)	Percent of responses
Yes – improved	79	89%
No – unchanged	10	11%
Yes – worsened	0	0%

TABLE 1 (Based on Jacobs 2016, p. 22.)

The 79 participants who selected “yes - improved” were then asked to provide the main reason(s) for this improvement in their experience. Participants were able to select more than one reason (although space for only 3 reasons was provided in the questionnaire form). The reasons were then coded by the researchers; for example, reasons such as “green space,” “plants” or “trees” were coded under the single category “green space”; reasons such as “open space,” “shade,” “sunny,” or “cool breeze” were coded under the category “Outdoors/openness”; etc. (Jacobs 2016, p. 22 and Appendixes B and D). The full list of coded responses under which reasons were categorised is set out in Table 2 below. 122 reasons were given across all questionnaires in answer to this question. The percentage for each coded response is the proportion of the frequency of coded response relative to the total number of responses (ie the 122 reasons provided by participants answering this question).

Survey participant responses to the question “If you answered ‘Improved’ ..., what is/are the main reason(s) for this improvement in your experience?”		
Coded response	Frequency of coded response	Percent
Amenities/activities	31	25%
Aesthetics/feel	27	22%
Green space	21	17%
Access/walkability/convenience	15	12%
Outdoors/openness	14	11%
All others combined	14	11%

TABLE 2 (Based on Jacobs 2016, p. 22.)

Sources

Jacobs, Brent 2016. “2020 Vision: Goods Line Monitoring and Evaluation Research Proposal,” Final Report, prepared for Horticulture Innovation Australia by the Institute for Sustainable Futures, University of Technology Sydney (Project Number: NY13024).

Limitations

The HIA Study does not describe the exact circumstances and timing during which the participant questionnaires were completed. The report does note that “it was difficult to encourage commuters to participate in the questionnaire, which means that these results are not representative of all users of the site, but rather only those who were not walking through the site at the time of their participation” (Jacobs 2016, p. 40). From direct observation, commuters do make up a significant proportion of the users of the site and it appears that their response to the project, particularly given the importance of improving urban connections as a design objective, is a notable omission in attempting to evaluate the social performance of the project.

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- ***Increases visitor dwell time, with 32% of 182 survey respondents reporting spending more than a half hour at the site per visit. 72% of 105 survey respondents reported that they spent much less or somewhat less time in the adjacent unimproved space, The Goods Line South, before the opening of the new section.***

Method

As part of the participant questionnaire discussed above (Jacobs 2016), participants were asked how long they usually stayed when visiting The Goods Line (North) (Question D2). Participants were able to tick one of 4 options: “Less than 15 minutes”; “About 15-30 minutes”; “About 30-60 minutes”; “An hour or more.”

There were 182 responses to this question.

Duration of stay when visiting The Goods Line (North)	Number of responses	Percent
0-15 min	27	15%
15-30 min	97	53%
30-60 min	47	26%
60+ min	11	6%

TABLE 3 (Based on Jacobs 2016, p. 27 and Appendix B)

As part of the participant questionnaire discussed above (Jacobs 2016), participants were asked, “How long did you [previously] stay in the old end of the Goods Line, before the opening of this new end?” (ie The Goods Line (South) compared to The Goods Line (North)). Participants could tick one of 5 options: “Much shorter than now;” “Somewhat shorter than now;” “About the same as now;” “Somewhat longer than now;” or “Much longer than now.”

There were 105 responses to this question.

Survey participant responses to the question “how long did you [previously] stay in the old end of the Goods Line, before the opening of this new end?”		
Option	No. of responses (frequency)	Percent of responses
Much shorter than now	58	55%
Somewhat shorter than now	18	17%
About the same as now	24	23%
Somewhat longer than now	3	3%
Much longer than now	2	2%

TABLE 4 (Based on Jacobs 2016, p. 23 and Appendix B)

Survey participants were also asked how their feeling about The Goods Line (North) “compare[d] to how you felt about the OLD Goods Line before the opening of this new section? Is it better or worse than before?” Participants were asked to select one of three options – “Better than before;” “No change;” or “Worse than before” in relation to a number of variables as set out in the table below.

Survey participant responses to the question about how their feeling about the newer Goods Line (North) compared with their feeling about the older Goods Line (South).			
	Percentage of question responses		
	Better than before	No change	Worse than before
I enjoy being in this space	84%	15%	%1
I feel a sense of community in this space	80%	20%	0%
I feel safe in this space	73%	27%	0%
I like the buildings and built environment of this space	82%	18%	0%
I like the green space and the natural environment of this space	86%	13%	1%
I find the Goods Line visually appealing	85%	15%	0%

TABLE 5 (Based on Jacobs 2016, p. 25 and Appendix B)

Sources

Jacobs, Brent 2016. "2020 Vision: Goods Line Monitoring and Evaluation Research Proposal," Final Report, prepared for Horticulture Innovation Australia by the Institute for Sustainable Futures, University of Technology Sydney (Project Number: NY13024).

Limitations

Self reporting by survey participants of the estimated length of how long they "usually" stay when visiting The Goods Line (North) may not be completely accurate. Participants may over- or underestimate the average duration of their stay, and the reported response is perhaps more a reflection of their perception of the duration of their typical stay when visiting the site.

Taken together, the survey participants' responses to the comparative questions regarding the duration of their visits to the Goods Line (North), compared to their visits to the Goods Line (South) prior to the opening of the Goods Line (North), provides strong evidence that perceived improvements to the quality of the built environment have encouraged longer stays by regular visitors to the Goods Line. However, the survey did not capture any data about whether The Goods Line (North) was attracting any new visitors to the space.

- **Promotes social interaction, with 67% of 357 observed users visiting the site in groups of 2 or more. At the same time, the space caters to solitary activities, with over 60% of survey respondents reporting that they sometimes or always/usually visit the site alone.**

Method

For the purposes of the HIA Study (Jacobs 2016), UTS ISF conducted direct observations made via time-lapse photographs taken on the Goods Line North on Thursday, April 21, 2016 and on Tuesday, May 3, 2016. The time-lapse were taken at 15-minute intervals during 'even' hours between 8am and 5pm (e.g. 08:00, 08:15, 08:30; 08:45, 09:00, 10:00, 10:15, 10:30, 10:45, 11:00...). The sequence of time-lapse photographs were analysed to determine the visitation patterns of the visitors. Visitors were classified as "commuters" if they were observed "walking through" the site and did not appear in more than one of the time-lapse photographs.

	No. of visitors (excluding commuters)	Percent
Alone	118	33%
In a pair	132	37%
Group of 3 or more	107	30%

TABLE 6 (Based on Jacobs 2016, p. 32)

As part of the participant questionnaire discussed above (Jacobs 2016), participants were asked how often they came to The Goods Line (North) to engage in a series of specified activities (Question C1A). Participants were able to select one of 3 options for each specified activity: “Always/Usually”; “Sometimes”; “Rarely/Never.” One of the specified activities described was “to spend some time on my own.”

Survey participants’ reporting of whether they rarely/never, sometimes, or always/usually came to The Goods Line (North) “to spend time on my own”	Percent
Rarely/Never	36%
Sometimes	51%
Always/Usually	13%

TABLE 7 (Based on Jacobs 2016, p. 23 and Appendix B)

Sources

Jacobs, Brent 2016. “2020 Vision: Goods Line Monitoring and Evaluation Research Proposal,” Final Report, prepared for Horticulture Innovation Australia by the Institute for Sustainable Futures, University of Technology Sydney (Project Number: NY13024).

Limitations

The method of analysing time-lapse photography captures only visitation patterns visible at those particular moments and between the hours (8am–5pm on weekdays) during which the time lapse photographs were taken.

-
- **Improves connectivity for pedestrians and cyclists in a previously inaccessible corridor, with approximately 55% of 1,214 users observed using the space as a pedestrian connection during the observation periods.**

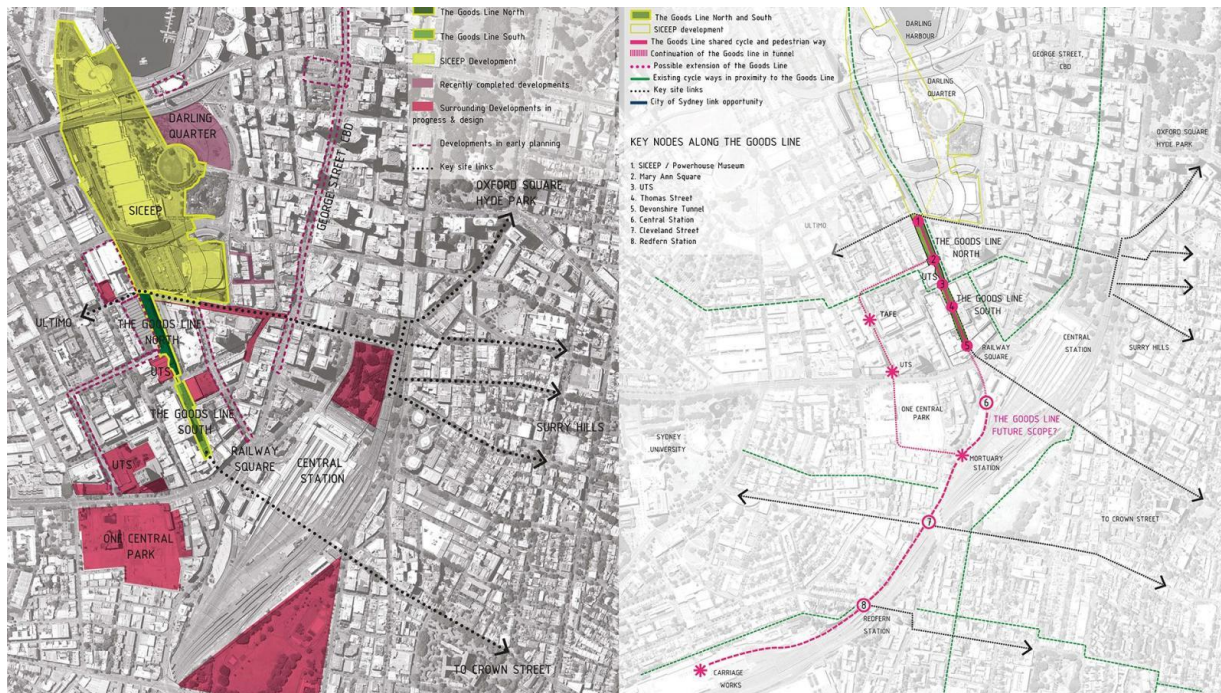


FIGURE 4: Improved connectivity provided by The Goods Line (North) redevelopment (Image: ASPECT Studios).

Method

In order to obtain estimates of the number of visitors passing through the space the data collected as part of the HIA Study was used. That study contains counts of activities undertaken by visitors on the Goods Line North.

For the purposes of the HIA Study, UTS ISF conducted direct observations made via time-lapse photographs taken on the Goods Line North on Thursday, April 21, 2016 and on Tuesday, May 3, 2016. The time-lapse photographs were taken at 15-minute intervals during 'even' hours between 8am and 5pm (e.g. 08:00, 08:15, 08:30; 08:45, 09:00, 10:00, 10:15, 10:30, 10:45, 11:00...). The sequence of time-lapse photographs were analysed to determine the activities undertaken by visitors.

The results of the observations were as follows:

Activity	Count		
	April 21, 2016	May 3, 2016	Total
Walking through	444	222	666
Standing, sitting, or laying on a bench or seat	96	123	219
Standing, sitting, or laying on amphitheater steps	37	64	101

Standing or sitting at the communal table	42	47	89
Interacting with the sand feature	50	21	71
Standing elsewhere on The Goods Line (North)	26	42	68
Standing, sitting, or laying on the grass	41	25	66
Making use of the ping pong table or outdoor gym infrastructure	24	10	34
Any other activity (these included cycling, setting up a film set, tai chi, skateboarding, or undertaking maintenance work)	13	13	26

TABLE 8 (Based on Jacobs 2016, pp. 30–31)

Based on the above data:

- on April 21, 2016, 64% of all visitors were categorised as ‘walking through’ the Goods Line during the hours observed:

$$444/(444+96+37+42+50+26)*100=64\%$$

- on May 3, 2016, 42% of all visitors were categorised as ‘walking through’ the Goods Line during the hours observed:

$$222/(222+123+64+47+21+42)*100=42\%$$

- the percentage of all visitors categorised ‘as walking through’ for the two days is 55% during the hours observed:

$$666/(666+219+101+89+71+68)*100=55\%$$

Sources

Jacobs, Brent 2016. “2020 Vision: Goods Line Monitoring and Evaluation Research Proposal,” Final Report, prepared for Horticulture Innovation Australia by the Institute for Sustainable Futures, University of Technology Sydney (Project Number: NY13024).

ASPECT Studios n.d. The Goods Line (microsite) Accessed 04/07/2017 from <http://thegoodsline.aspect.net.au/>

Limitations

The number of individuals categorised as “walking through” the site is likely to be somewhat inaccurate; the counts were made only of individuals appearing in the time lapse photographs – individuals walking through the site at times not captured by the time lapse photographs would not have been counted. Site users who visited the site and who were walking at the time the photograph was taken (rather than engaged in some other activity) would have been classified

as “walking through”, even though they may have been visiting the site to engage in some other activity (sitting, laying, etc)

Another limitation concerns the hours during which photographic observations were recorded (between 8am and 5pm). Significant pedestrian and cyclist commuting activity through the site occurs outside these hours, so a large amount of observable commuter activity may have been excluded from this set of data.

References

Burke, Anthony 2015. “The Goods Line, Ultimo Pedestrian Network,” *Architecture Review Asia Pacific*, 139 (2015): 20–23.

ASPECT Studios 2015. The Goods Line. Accessed 06/07/2017 from <http://aspect.net.au/?p=384>

ASPECT Studios nd. The Goods Line (microsite) Accessed 04/07/2017 from <http://thegoodsline.aspect.net.au/>

Jacobs, Brent 2016. “2020 Vision: Goods Line Monitoring and Evaluation Research Proposal,” Final Report, prepared for Horticulture Innovation Australia by the Institute for Sustainable Futures, University of Technology Sydney (Project Number: NY13024).

Hawken, Scott 2015. “The New Chinatown: Sydney’s Southern CBD,” *Landscape Architecture Australia*, Accessed 03/07/2017 from <http://architectureau.com/articles/the-new-chinatown-sydney-southern-cbd/>

Simon Kilbane 2016. ‘The Goods Line’, *Landscape Architecture Australia*, Accessed 05/07/2017 from <http://architectureau.com/articles/the-goods-line/>

NSW Government 2016. *Property NSW Annual Review 2015-16*, Sydney: NSW Government.

Simpson, Margaret 2015. “The Goods Line – then and now,” *The Museum of Applied Arts and Science*, Accessed 04/07/2017 from <https://maas.museum/inside-the-collection/2015/09/03/the-goods-line-then-and-now/>

APPENDIX Plantings

TREE SPECIES

Banksia integrifolia: Alpine Nurseries

Koelreuteria paniculata: Andreasens Green Wholesale Nurseries

***Waterhousia floribunda* 'Sweeper'**: Andreasens Green Wholesale Nurseries

MASS PLANTING SPECIES

***Acacia cognata* 'Limelight'**: Alpine Nurseries

Allium tuberosum: Alpine Nurseries

***Anemone x hybrida* 'Honorine Jobert'**: Alpine Nurseries

***Anigozanthos* 'Gold Velvet'**: Alpine Nurseries

Cerastium tomentosum: Alpine Nurseries

Echenacea purpurea: Alpine Nurseries

Erigeron karvinskianus: Andreasens Green Wholesale Nurseries

***Euphorbia x martinii* 'Rudolph'**: Alpine Nurseries

Festuca glauca: Alpine Nurseries

Gaura lindheimeri: Andreasens Green Wholesale Nurseries

***Gazania* 'Double Gold'**: Andreasens Green Wholesale Nurseries

***Imperata cylindrica* 'Yalba'**: Andreasens Green Wholesale Nurseries

Limonium perezii: Alpine Nurseries

***Liriope muscari* 'Isabella'**: Andreasens Green Wholesale Nurseries

***Liriope muscari* 'Just Right'**: Alpine Nurseries

***Lobularia maritima* 'Snow Princess'**: Alpine Nurseries

***Lomandra longifolia* 'Tanika'**: Alpine Nurseries

***Myoporum parvifolium* 'Yareena'**: Alpine Nurseries

Neomarica gracilllis: Andreasens Green Wholesale Nurseries

Origanum vulgare: Alpine Nurseries

Ozothamnus diosmifolius: Alpine Nurseries

***Pennisetum alopecuroides* 'Nafray'**: Andreasens Green Wholesale Nurseries

***Poa labillarderi* 'Eskdale'**: Alpine Nurseries

***Poa poiformis* 'Kingsdale'**: Alpine Nurseries

Pratia purpurscens: Alpine Nurseries

***Rosmarinus officinalis* 'Blue Lagoon'**: Alpine Nurseries

Rosmarinus prostratus: Andreasens Green Wholesale Nurseries

Salvia leucantha: Andreasens Green Wholesale Nurseries

***Salvia* 'Wendy's Wish'**: Andreasens Green Wholesale Nurseries

Scleranthus biflorus: Alpine Nurseries

Thymus vulgaris: Alpine Nurseries

Tulbaghia violacea: Alpine Nurseries

Viola hederacea: Alpine Nurseries

***Westringia fruticosa* 'Grey Box'**: Andreasens Green Wholesale Nurseries