

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

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**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](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.

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## 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.

| <b>Survey participants responses to the question “Has your experience in the Goods Line changed since the opening of this new end?”</b> |                                     |                             |
|---|-------------------------------------|-----------------------------|
| <b>Option</b>   | <b>No. of responses (frequency)</b> | <b>Percent of responses</b> |
| 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).

| <b>Survey participant responses to the question “If you answered ‘Improved’ ..., what is/are the main reason(s) for this improvement in your experience?”</b> |                                    |                |
|---|------------------------------------|----------------|
| <b>Coded response</b>   | <b>Frequency of coded response</b> | <b>Percent</b> |
| 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.

| <b>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?”</b> |                                     |                             |
|--|-------------------------------------|-----------------------------|
| <b>Option</b>  | <b>No. of responses (frequency)</b> | <b>Percent of responses</b> |
| 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.

| <b>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).</b> |                                  |           |                   |
|--|----------------------------------|-----------|-------------------|
|  | 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.

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- **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.

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- **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.**

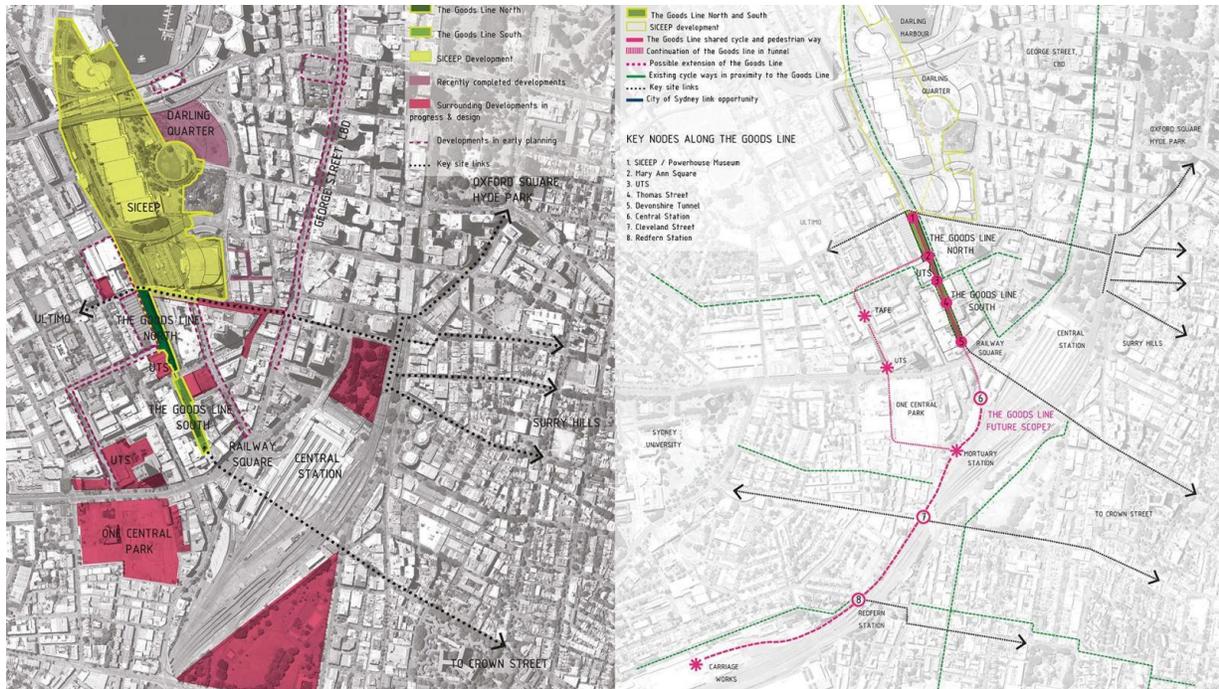


FIGURE 4: Improved connectivity provided by The Goods Line (North) redevelopment (Image: ASPECT Studios).

### 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.

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## References

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## 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

***Echeneacea 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