



Social return on investment analysis of an urban greenway

Ruth F. Hunter , Mary A.T. Dallat , Mark A. Tully , Leonie Heron , Ciaran O'Neill & Frank Kee On Behalf of the PARC Study Research Team

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Rationale

- Economic evaluations important to support future investment in urban green space interventions
- Multi-functional nature of urban green space
- Broad economic lens to capture their full impact.

However, economic evaluations, when conducted, tend to be viewed through a unidimensional lens.

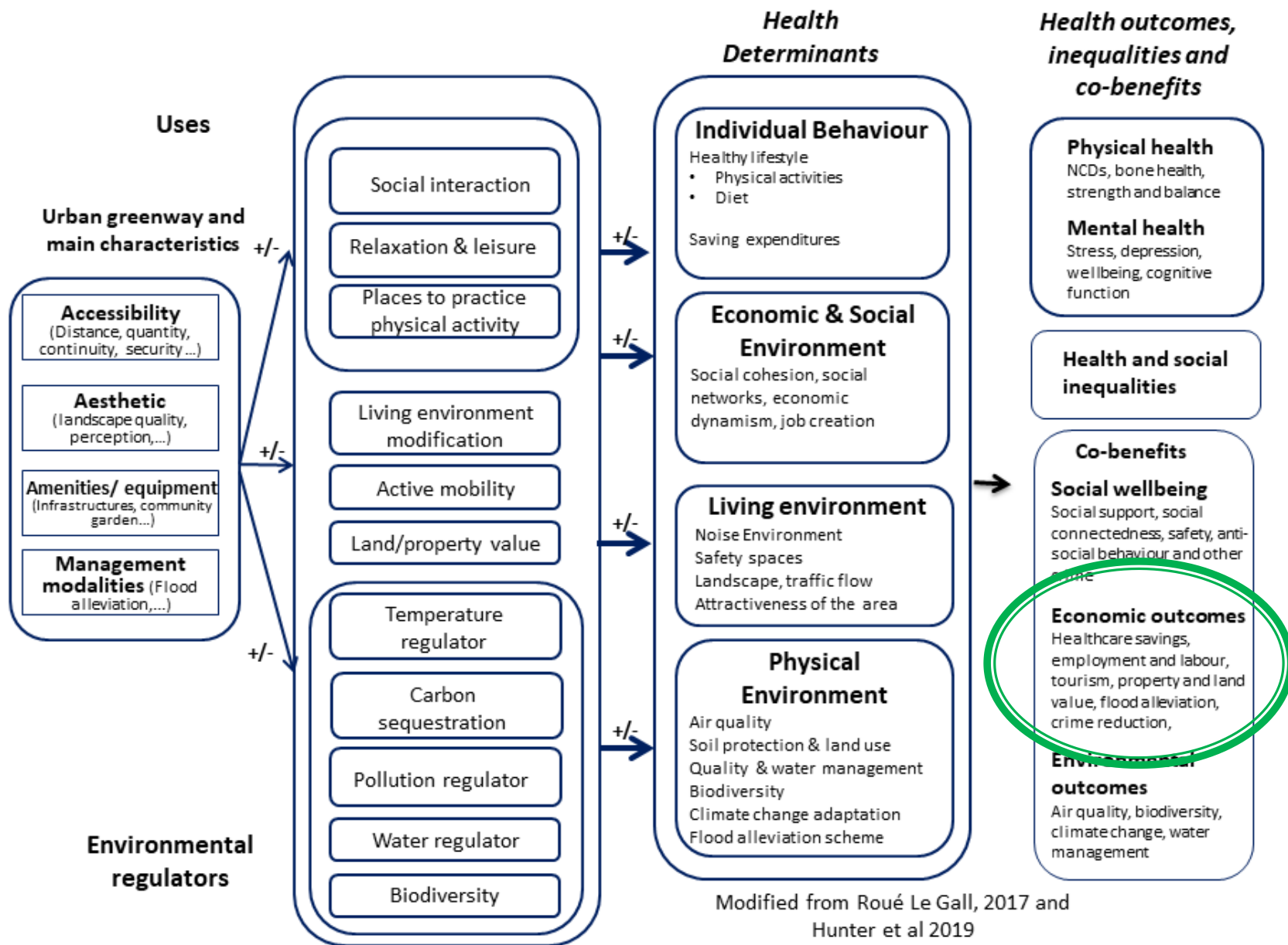
Review article

Environmental, health, wellbeing, social and equity effects of urban green space interventions: A meta-narrative evidence synthesis

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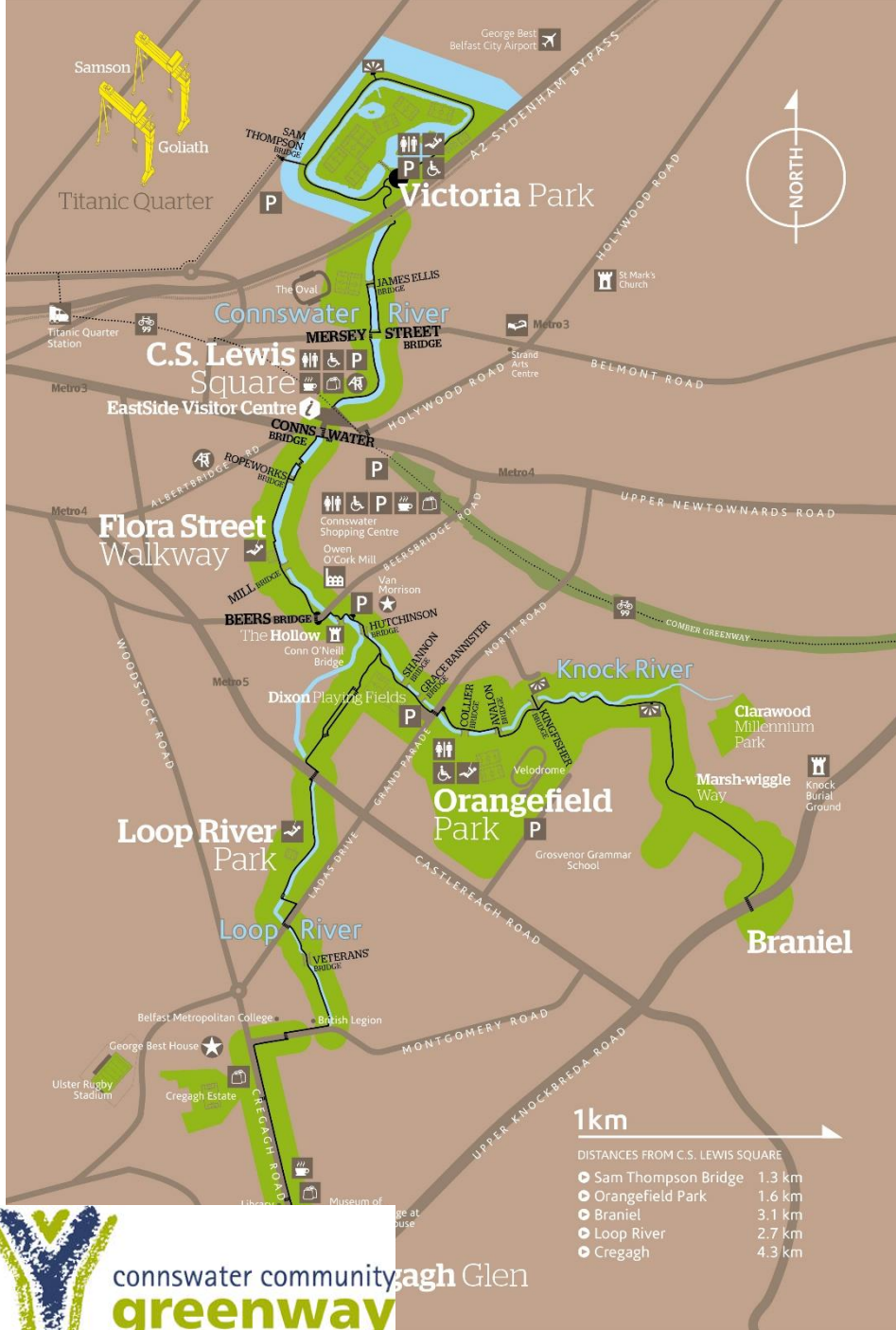
Aim

To model the potential social return on investment of a new urban greenway intervention (the Connswater Community Greenway) in Belfast, Northern Ireland.



Hunter et al, 2019:

<https://www.tandfonline.com/doi/full/10.1080/23748834.2020.1766783>



ITEM	
Greenway	9kms
Remediated Watercourses	5kms
Foot and Cycleways	16kms
Civic Square / Trails	1 8
New or Improved Bridges/crossings	23
Signage/ Public Art	22 points / 7 PA
Parks / MUGAs / toilets	13Ha 2/ 2 / 2
Flood Alleviation Scheme	£11m

STUDY PROTOCOL

Open Access

Physical activity and the rejuvenation of Connswater (PARC study): protocol for a natural experiment investigating the impact of urban regeneration on public health

Lit 24 hours a day



Landscaping
and
Biodiversity



Volunteering



Naming
bridges
locally



327 events
& activities



26 406
people



Outdoor
play



Public
Art



An area of need



- **54.1% economically inactive.**
- **53% entitled to free school meals.**
- **4 / 20** wards with the highest levels of ill health
- **3 of the 10** most deprived wards in NI with respect to the **living environment** are in East Belfast.

Methods

Step 1: Identification of key areas that the Greenway was intended to impact upon

- Land and property values
- Flood alleviation
- Tourism
- Labour employment and productivity
- Quality of place
- Climate change
- Health

Step 2: evidence summarised to obtain an 'effect estimate'

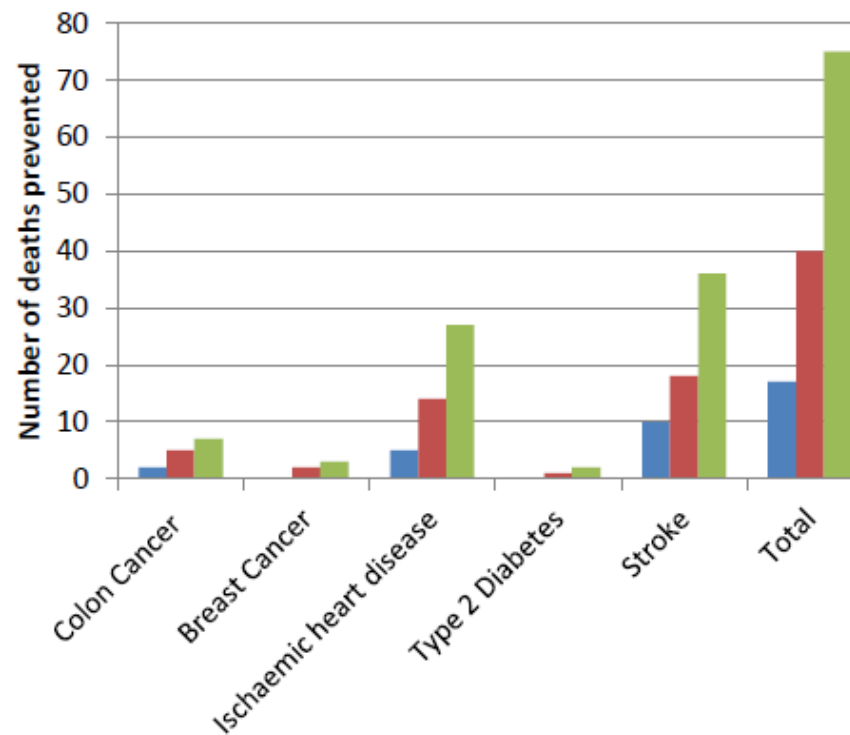
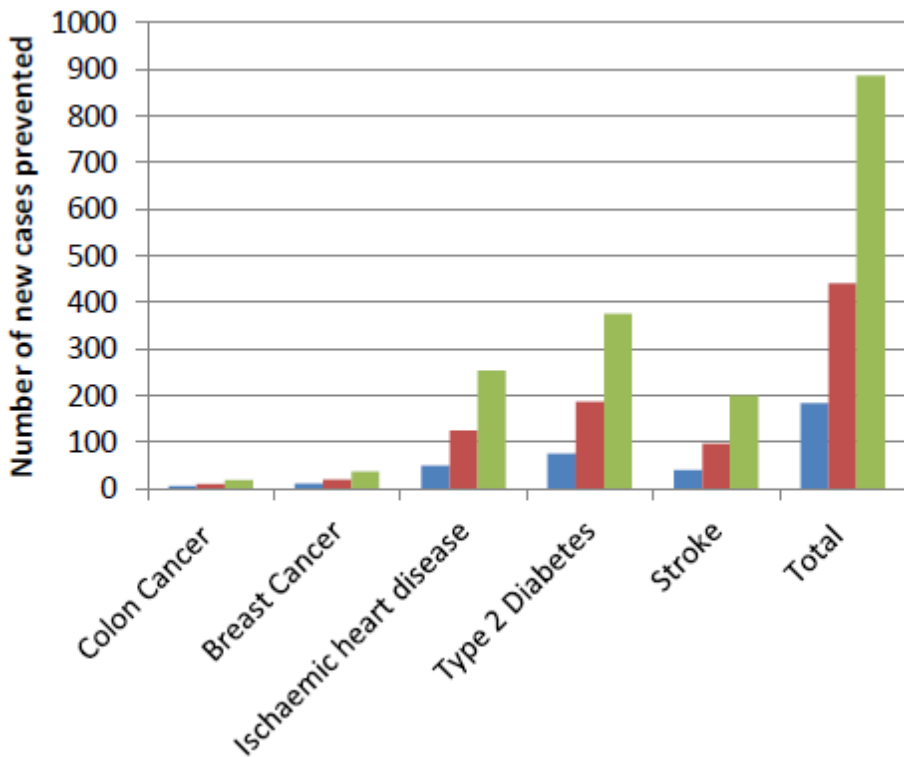
Applied to available data and impact estimated and monetised using various methods

Step 3: To calculate the Benefit Cost Ratio, all monetary benefits were summed, for worst and best case scenario, and divided by total investment cost (£35m)

CCG Benefit	Effect Estimate
Property values	Property values increase by 2, 5 or 10%
Flood alleviation	1,741 properties protected from flooding
Climate change	11% of car trips in CCG area are <2km and converted into cycling trips as a result of CCG
Health	2, 5 or 10% of CCG residents physically 'inactive' at baseline i.e. not meeting the UK physical activity guidelines, will become 'active' as a result of the CCG
Labour employment & productivity	<ul style="list-style-type: none"> -Average UK employee absence is 6.8 days- 95% due to short-term sick leave. -Workplace physical activity interventions including 30 minutes of physical activity/day reduce short-term sick leave by 6- 32% -Employer should benefit from at least 0.4 days gross salary cost/ year/ employee i.e. 6% of 95% of 6.8 days
Tourism	From the CCG benefits 'realisation plan' it is estimated that the total number of CCG users will increase by 30% by 2017 and 50% by 2018
Quality of place (crime)	Lighting along the CCG should decrease property crime by 21% within the 29 wards spanning the CCG
Biodiversity	Not able to identify suitable data in order to model the impact of the CCG on biodiversity

Number of new chronic diseases prevented over 40 years, if 2%, 5% or 10% of those currently inactive in the Greenway population, become active

Number of deaths prevented from chronic diseases over 40 years, if 2%, 5% or 10% of those currently inactive in the Greenway population, become active



'If 2% of the inactive people living along the CCG become active, then this will cover the costs of the walkways, trails, bridges and lighting, over a 40 year period.'

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Urban greenways have the potential to increase physical activity levels cost-effectively

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Summary of Greenway monetary benefits in order of descending magnitude

	Worst Case Scenario	Best Case Scenario
Land and Property Values	£ 970,856.82	£ 63,324,579.23
Health and Wellbeing	£ 11,937,023.35	£ 52,110,170.75
Flood Alleviation	£ 42,062,210.55	£ 42,062,210.55
Quality of Place	£ 33,633,036.77	£ 33,633,036.77
Climate Change	£ 9,035,257.03	£ 9,035,257.03
Labour Market Employment and Productivity	£ 2,833,352.91	£ 2,833,352.91
Tourism	£ 270,134.94	£ 496,699.73
Total	£ 100,741,872.37	£ 203,495,306.97
Benefit Cost Ratio	2.88	5.81

Benefit Cost Ratios for worst and best cases scenarios for various discount rates and lifetimes of the Greenway

	Benefit Cost Ratio	
	Worst Case Scenario	Best Case Scenario
Discount Rate		
0%	5.62	11.73
3%	3.13	6.35
5%	2.28	4.55
Lifetime of the greenway		
10 years	1.01	1.87
20 years	1.86	3.46
30 years	2.42	4.79

Achievements

Benefit Cost Ratio: 2.88 to 5.81

For every £1.00 invested in the greenway,
there would be £2.00–6.00 returned



Conclusion



- Worthwhile economic investment
- Pay for itself between 2 – 6 times over
- Note issues underpinning evidence and assumptions used were uncertain and economic issues such as displacement and deadweight could not be accounted for
- SROI analyses allow for a wider range of outcomes to be captured and produce an easily understood outcome measure
- help to better understand a fuller value of the multi-functional and co-benefits of urban greenways supporting future investments, policies and practices.



Thanks for listening



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