

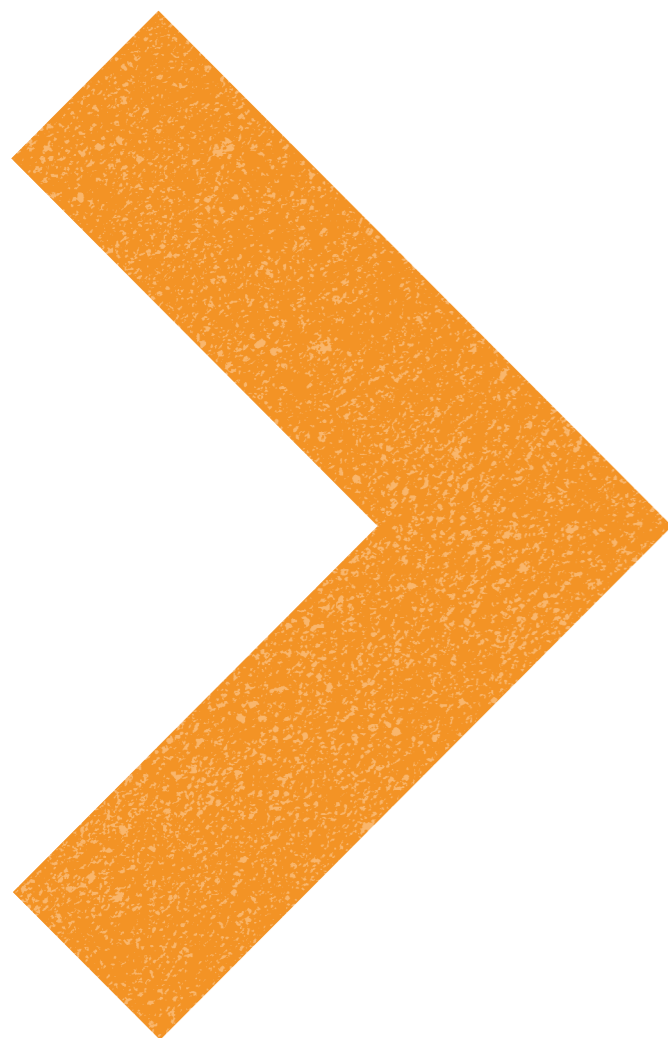


THE PEDESTRIAN POUND



**The business
case for better
streets and places**





Author 2014 Edition:
Eilís Lawlor, Just Economics

Just Economics is a company that uses interdisciplinary research techniques to address economic injustice and achieve progressive and sustainable change

www.justeconomics.co.uk

Updated by Moira Tasker for Living Streets
2018 Editing and additional case study
material Rachel Lee and Stuart Hay

This report has been commissioned by Living Streets, the national charity working to create safe, attractive and enjoyable streets around the UK. The 2018 updated edition was funded by Transport Scotland

Living Streets (The Pedestrians' Association) is a Registered Charity No. 1108448 (England and Wales) and SC039808 (Scotland), Company Limited by Guarantee (England and Wales), Company

Registration No. 5368409.

Registered office 4th Floor,
Universal House,
88–94 Wentworth Street.
E1 7SA.

www.livingstreets.org.uk
info@livingstreets.org.uk

Living Streets is the charity for everyday walking. Our vision is a nation where walking is the natural choice for local, everyday journeys on streets fit for walking.

FORWARD

In 2013, Living Streets launched *The Pedestrian Pound* to highlight the hidden and underestimated economic contribution of people on foot to high street economic vitality.

Five years on, *The Pedestrian Pound*, prepared by independent experts Just Economics, has become a much quoted reference point helping individuals and organisations make the economic case for investing in better streets. Throughout that time new strong evidence has emerged of the benefits of attractive places where people on foot feel welcome. Highlighting this evidence is vital, as many high streets continue to struggle with economic change and rising challenges, such as air pollution and internet shopping. We are therefore delighted that support from Transport Scotland has facilitated a comprehensive and timely update of the original publication.

Building on the original report the new edition expands the evidence and includes 20 new and updated case studies showing what works, citing examples of best practice from across the UK.

With the UK's high streets and town centres struggling to adapt to changing retail patterns and the digital economy, a new approach is vital. Access to shops and banks is no longer in itself sufficient to sustain local economies. The way we shop

has changed for good, which poses both challenges and opportunities. Living Streets believes that it's time for town centres to be rediscovered as places where people get together, socialise and feel part of a real community. High streets where people walk together, meet together, shop together and have coffee together are likely to be safer, more attractive and more economically vibrant.

The Pedestrian Pound provides both academic research and case studies showing those safe and pleasant places, where people walk to and stay longer, are economically vibrant. This carefully collated evidence contrasts with outdated prejudices about parking that miss the wider picture. Critically, the many sources in *The Pedestrian Pound* remind us that the quality of the public realm can deliver real benefits to businesses and consumers.

Since 1929, Living Streets has campaigned for better streets for pedestrians. We believe walking can put high streets at the heart of healthy and vibrant communities.

Joe Irvin
Chief Executive
Living Streets

Stuart Hay
Director
Living Streets
Scotland

Key findings

01 02 03 04 05 06 07 08


Introduction	Methodology	Issues with measuring the economic impact of public realm investments	The impact of public realm improvements on existing business performance	The importance of public realm improvements for urban regeneration	Public realm improvements and consumer and business satisfaction	Future of the high street and the place economy	Conclusions The Pedestrian Pound: six takeaways
12	16	18	22	34	56	68	78

Glossary of terms	84
Appendix: Comments on analysis and data quality	86
References	88

Case studies

01 Scottish Government Town Centre Toolkit 15	03 Make it Ealing, West London 27	05 Kelso, Scottish Borders 31	07 Grassmarket, Edinburgh 38	09 Oxford Circus diagonal crossing, London 41	11 Church Street regeneration, Ebbw Vale 50	14 Wayfinding: Legible Leeds 54	16 Waltham Forest, London 61	18 Transport for London's Urban Realm Toolkit 66
02 Sheffield, Heart of the City 25	04 Railton Road, Herne Hill, South London 29	06 San Francisco: Pavement to Park 37	08 Stockton-on-Tees 39	10 St. Anne's on the Sea 44	12 Lochgelly, Fife 51	15 Reinvigorate York 59	17 Connecting Leicester 62	19 Bird Street, London 74
					13 Peckham Youth Project 53			20 Swansea, Wales 77

CONTENTS



KEY FINDINGS

Originally published in 2013 and updated in 2018, *The Pedestrian Pound* should be of interest to anyone concerned with the future of our high streets and urban centres. This report presents evidence that investment in better streets and places delivers quantifiable commercial returns. **Businesses, residents, developers and visitors all benefit from investment in the public realm and walkability.**

Promoting walking and cycling now underpins much national and local policy, with a strong evidence base showing the benefits for health, air quality and the wider environment. Active travel also complements efforts to revive high streets and create liveable, vibrant communities. Although walking and cycling infrastructure requires less comparative investment, it has generally been treated as the 'poor relation' of infrastructure spending and is still often an afterthought in urban planning. At a time when public resources are scarce, improvements to streets should be attractive to governments seeking high returns from public spending.

The business and commercial case for investing in walkability remains a challenging area within which to make robust claims about commercial returns. This is largely due to the absence of evaluations at the post-build or post-intervention stage. Five years on from the publication of *The Pedestrian Pound* hard, quantitative assessments remain very rare.

Does investment in the public realm and walkability create *additional* commercial benefits? There is a growing body of qualitative and case study evidence which, when evaluated alongside the available quantitative data, shows public realm investments deliver significant, cost-effective benefits to consumers and businesses.

Three performance indicators for public realm investments were identified from the literature: impact on existing business performance (footfall and retail); urban regeneration (new business, rental income, employment, social exclusion); improved consumer and business perceptions. An additional section looks at available evidence surrounding the future of the high street and the place economy – a term that reflects an increasingly post-retail and holistic approach to ensuring the health of town centres.

01

The impact of public realm improvements on existing business performance

- Case study evidence suggests that well-planned improvements to public spaces can boost footfall and trading, for example in Piccadilly, Stoke-on-Trent, a £10 million investment to make the area more pedestrian-friendly led to 30% more footfall.
- Investing in better streets and spaces for walking can provide a competitive return compared to other transport projects; walking and cycling projects can increase retail sales by 30% or more. In the city of New York pedestrian improvements at one junction increased local retail sales by 48%. Traffic management and public realm improvements in Kelso increased town centre footfall by 28%.
- If more space is given for walking and cycling and less to cars, the absence of customers arriving by car is more than compensated by people arriving on foot or by bike. For example, in San Francisco, the first trial 'parklet' increased pedestrian traffic in the area by 37% on weeknights and increased people walking with bikes at the weekend by 350%. A similar scheme in Shoreditch, London, increased takings in an adjacent shop by 20%.
- At least 38% of people visit their local high street several times a week. Many car journeys are short and as the volume of goods purchased is small, these trips could be made on foot.

02

The importance of public realm improvements for urban regeneration

Four aspects of urban regeneration were reviewed. These included the impact on investment, tourism and business start-up rates; property and retail rents; employment; and social inclusion and equalities.

Investment, tourism and business start-up rates

- There are case study examples where public realm investment has been associated with increases in employment. In Dublin, the redevelopment of the Temple Bar District led to a 300% increase in employment before the economic boom. Melbourne renovated its pavements and street furniture and turned narrow back alleyways into a walkable network, increasing pedestrian traffic by 40%. Over 600 new cafes now thrive in the pedestrian-friendly area.
- Cultural quarters in Sheffield and Manchester have also seen increases in employment, albeit less dramatic ones.
- Few studies attempt to model the impact of public realm improvements on tourism. The City of York, however, is using evidence about the importance of walking in the city to the economy to support investments in the public realm and policies to improve walkability and pedestrian safety ('A' board policy and vehicle access restrictions).
- More research into the ways tourists use our urban spaces is required. A study examining the relationship between walkability and indicators of successful tourism found that a high walkability score contributes only marginally to the number of visitors. They concluded that holiday visitors potentially have very different walking behaviours and research would be beneficial.

- There is less research available on these areas than others, such as footfall. This is partly because of the difficulty of establishing clear attributable relationships. However, investment by the private sector is itself suggestive of commercial gain.

Effect on property prices and rental yields

- There is substantial evidence that improvements to the public realm increase property prices. One study in Hong Kong, which controlled for confounding variables, found a 17% increase in retail rents from pedestrianisation.
- As well as reflecting direct economic value, rents reveal living and working preferences. A report on the wealth and equality of walkability in America's largest cities found that while 'walkable' neighbourhoods occupy only 1% of the land mass across the 30 largest urban areas, they account for most office and multi-family rental development. Between 2010 and 2015, the market share of walkable urban places increased in all 30 urban centres, with 27 seeing their growth double since 2010.
- Walkability sells. US research on the relationship between 'walkability' and house prices has also shown a positive relationship. Easy proximity to local shops and services is linked to higher property values.
- Walkability is an increasingly important factor in the value of commercial property. In 2015, a US commercial real estate information company launched a new property price index based on the value of walkability for commercial properties.

03

Public realm improvements and consumer and business satisfaction

- Good urban design and quality green spaces increase property prices and rents. In one study from 2007 the latter raised rents by up to 20%. Another found that a 1% increase in green spaces led to a 0.3 to 0.5% rise in average house prices.
 - Walking projects increase land values. A review of earlier literature suggests retail and commercial rates increase in the range of 10–30%.
- ### Employment benefits
- A US study compared the number of jobs created through the construction of walking, cycling and road infrastructure and found a higher employment density from pedestrian and cycling projects.
 - Outside the construction sector it is more difficult to show a direct causal link to additional jobs created. However, higher employment can sometimes be inferred from higher turnover and investment.

Inclusion and equalities

- Public realm improvements which support walking have a role to play in increasing inclusion and reducing inequality. A third of households do not have access to a car in the UK, rising to two thirds for the poorest households.
- The impact of public realm improvements on local people is sometimes absent from evaluations. The process of gentrification associated with rising property prices can be detrimental to existing residents.

- There is significant evidence that perceptions of an area – to both businesses and consumers – matter.
- It is often assumed that more parking is the answer to struggling high streets, however this is not supported by available research. Studies have linked the quality of public spaces to people's perceptions of attractiveness of an area, contributing towards their quality of life and influencing where they shop.
- Retailers have been shown to over-estimate the importance of the car for customer travel. In these studies, more people walked, cycled or came by bus.
- Case study evidence suggests that restricting traffic does not reduce the number of customers.
- Other studies have found willingness to pay and positive perceptions amongst landowners, retailers and entrepreneurs. Householders and customers are willing to pay for better streets too: for example, revealing preferences for more attractive and sophisticated street designs.

04

Future of the high street and the place economy

- High streets and urban centres have been undergoing change for decades, presenting both challenge and opportunity.
- The way we shop has changed and so have our expectations of the high street. Shoppers now seek to 'experience' something different and we need to know more about how better streets and walking environments can add to that experience.
- The pedestrian environment, the diversity of businesses and the activation of public spaces will be key to regenerating high streets and town centres in an increasingly post-retail physical environment.

01

INTRODUCTION

Since the 1950s the UK population has grown by 0.4% each year and retail spend has increased exponentially. However, town centres have not reaped the benefits of this increase in retail expenditure.

High streets have been under pressure for many years. In 2018, high street vacancy rates are 11.1% in England, 11.9% in Scotland and 14.5% in Wales.

The growth of out-of-town retail shifted the balance away from the high street and has been accompanied by a dramatic increase in use of the car to go shopping.

The UK's population has grown by an average of 0.4% each year since the 1950s, with annual retail spend increasing exponentially. Town centres, however, have not reaped the benefits of the increase in retail expenditure (Encams, 2005). This updated report continues to make the case that, in the face of steep competition for diminishing public funds, the economic importance of better streets and public spaces needs to be better understood. There is a general acceptance that investment in streets and public spaces enables town centres to improve their offer (Department for Business, Innovation and Skills, 2011) helping to stimulate the local economy, improve perceptions of the area (especially for visitors) and help attract and retain workers (Ecotec, 2007).

High streets have been under pressure for many years. Between 2006 and 2013 almost 9.2% of all retail stores closed (Centre for Retail Research 2013). As of February 2018, high street vacancy rates are 11.1% in England, 11.9% in Scotland and 14.5% in Wales (British Retail Consortium, 2018). A review of 500 town centres, commissioned by PwC, found 5,855 shops closed in 2017 and 4,083 new stores opened, the lowest number since 2010 (The Local Data Company 2018).

A sharp decline in private sector investment was noted in the original *The Pedestrian Pound* with the number of high street shops in investment portfolios halving since the mid-1990s (Jones, 2010). As far back as the 1980s, Dawson (1988) described how 'radical' out-of-town centre developments were shifting the balance of retail away from the traditional high street. Out-of-town developments are now mainstream, accompanied by a dramatic increase in the use of the car to go shopping. In England, shopping trips make up 19% of all journeys (a slight reduction since 2011), and 64% of those journeys are made by car (Department for Transport, 2016). In Scotland, 24% of journeys are shopping trips (Transport Scotland, 2017). Many of these trips are short and potentially walkable. Shopping makes up a much shorter proportion of the overall distance travelled (Department for Transport, 2016).

Two thirds of shopping trips are made by car, even though many of these are short and potentially walkable.

Online retail as a share of spending is still increasing, reliant on, but not benefiting, the high street. During the 2017 Christmas period online sales rose by 7.6%, reinforcing the disparity between the high street and online.

People are making fewer shopping trips. This trend is associated with a switch from short shopping trips on foot to longer, less frequent car trips.

87% of consumers live within a five-mile radius of their nearest high street and 38% visit several times a week.

Political support for walking and improving the walking environment makes a significant difference to the number of people walking.

The growth of online shopping has been credited by many analysts with precipitating the closure of big high street chains (Felsted and Rigby, 2013). In February 2018, internet sales accounted for 17.2% of all retail spending (ONS, 2018). Online share of retail is predicted to continue to rise (Centre for Retail Research, 2017) driven by trends such as 'showrooming' where shoppers view products in shops and then buy online, same day home delivery, social shopping via social networking sites and intensive online marketing activities. During the 2017 Christmas period 24.1% of non-food shopping took place online (23% in 2016). Whilst overall like-for-like growth was just 0.6% in December 2017, online sales rose by 7.6%, reinforcing the disparity between high street and online spending (British Retail Consortium, 2018). The narrative that online shopping is replacing physical retail, however, is not as straightforward as once thought (Hortascu, 2015).

In England, there has been a downward trend in the number of shopping trips people make (Department for Transport, 2016). On average, there were 177 shopping trips per person in 2015 compared to 216 in 2002. This trend of falling numbers of shopping trips over time is associated with a switch from more frequent, short shopping trips on foot, to longer, less frequent car trips. Another possible explanation for this trend is the growth in internet access and online shopping (Department for Transport, 2016). The Retail Traffic Index (RTI), which measures the levels of shopper footfall across the country, showed that shopping visits fell in December 2017 by 9.6% compared to December 2016 (Retail Times, 2017).

Nevertheless, walking still accounts for 25% of journeys by all transport modes in the UK (Department for Transport, 2016) and the number of journeys made on foot could be increased. A consumer survey found that 87% of potential shoppers live within a five-mile radius of their nearest high street and 38% visit their local high street several times a week (Deloitte, 2013).

Brog and Mense (2000) compared data for eight cities internationally and found that Bristol had a lower level of walking for shopping (20%) than any other city. Bristol City Council's ten-year walking strategy demonstrated a willingness to reverse that trend by aiming to make walking in Bristol "easier, safer and more pleasant for everyone."¹ Significant gains could be made. For example, in the North German town of Wismar walking has achieved a 40% modal share following intervention (Monheim, 2003).



Scottish Government Town Centre Toolkit

Research has shown that the creation of better streets and public spaces is good for our health, and our environment. This report will also argue that it delivers commercial returns for our high streets.

A holistic approach to measuring and addressing high street decline is now reflected in government policy. The Scottish Government, for example, has a range of policies and tools to reinvigorate town centres – all highlight the central role of improving the pedestrian experience.

Public realm improvements have been shown to tackle high street decline and enjoy considerable support within academic and policy circles. Begg (2002) argued that a high-quality pedestrian environment and public realm is an essential component of the right business environment. In a review of traffic calming schemes in the UK using a cost benefit framework, Banister (2009) concluded that many traffic calming schemes can be justified, particularly where there are large numbers of pedestrians sharing space with vehicles as in crowded shopping areas. Similarly, Transport for London has concluded that town centre pedestrianisation and public realm investments generate value for retail schemes, and, after an adjustment period of 12 months, see an upturn in turnover and centre viability (Transport for London, 2002).

Recent research has highlighted the need for a holistic approach to both measuring the health of high streets and addressing decline (Distressed Retail Task Force, 2013). This is reflected in the policy of the UK Government, Scottish Government and Welsh Government. For example, the Scottish Government initiated the Town Centre Review. The working group, led by Architect Malcolm Fraser, recognised the major and overlapping issues in town centres (including increased vacancy rates and falling footfall) and the need for change through leadership and collaboration. In response, the Scottish Government published a 'Town Centre Action Plan' in 2013 with a 'town centre first' principle where high streets are supported before considering development elsewhere.

This in turn led to the development of the Scottish Government's Town Centre Toolkit (2015, see Box 1) which considers the pedestrian experience central to reinvigorate high streets.

¹www.bristol.gov.uk/page/transport-and-streets/walking

Information from:

Scottish Government Town Centre Toolkit:
<https://s3-eu-west-1.amazonaws.com/stpfiles/resources/Town-Centre-Action-Plan-Masterplanning-Toolkit.pdf>

Town centre planning pilot: Grantown-On-Spey how to guide. 2016.
<https://beta.gov.scot/publications/town-centre-planning-pilot-grantown-spey-providing-platform-local-stakeholders/>

Town Centre Planning Pilot – Perth And Kinross Council City Of Light Action Plan – Delivering Sustainable Lighting – 'How To' Guide
<https://beta.gov.scot/publications/town-centre-planning-pilot-perth-kinross-council-city-light-action/>

East Dunbartonshire Council, 26 April 2018, Kirkintilloch Town Centre Masterplan Progress Report
 Appendices [https://dbs1.eastdunbarton.gov.uk/INTRANET/ACE/EDCCMTT.NSF/7475f03a69d1d87d80256cfa003ffbba3/e5b95a2a5648b47580258275004d6f40/\\$FILE/Kirkintilloch%20Town%20Centre%20Masterplan%20Progress%20Report%20-%20Appendices%201%20-%207%20-%20Online.pdf](https://dbs1.eastdunbarton.gov.uk/INTRANET/ACE/EDCCMTT.NSF/7475f03a69d1d87d80256cfa003ffbba3/e5b95a2a5648b47580258275004d6f40/$FILE/Kirkintilloch%20Town%20Centre%20Masterplan%20Progress%20Report%20-%20Appendices%201%20-%207%20-%20Online.pdf)

Background

The Town Centre Toolkit (2015) was created by the Scottish Government as a practical way to help implement its Town Centre Action Plan (2013) and Creating Places policy statement (2013). Pilot schemes in Grantown-on-Spey and Perth, to deliver facilitated workshops (costing £4,525) and sustainable lighting (costing £20,000) helped test the proof of concept. The Toolkit builds on co-operation between local authorities, designers, developers, residents and businesses.

Intervention

Underpinning the Toolkit is the priority given to pedestrian footfall as the 'lifeblood of town centre businesses'. Suggested interventions aim to create high quality, accessible public realm while making the most of existing high street assets. More recently the Toolkit influenced the delivery of a major regeneration project to reinvigorate Kirkintilloch town centre in East Dunbartonshire. Public realm improvements to rebalance the town centre towards the needs of pedestrians included: lowering vehicle speeds to 20 mph, removing traffic signals, removing clutter, widening footpaths and improving cycling infrastructure (£1.5 million). A new public square with seating overlooking the canal was created and the town hall has been repurposed as a centre for heritage, arts, culture and community use (£5.5 million). As the elements of the design were controversial, East Dunbartonshire Council sought advice from Living Streets Scotland to confirm the final design supported the principles advocated in the Town Centre Toolkit.

In addition, Sustrans carried out before and after evaluation of the scheme's impacts including the economic activity (Sustrans 2017).

Outcome

Early monitoring data collected by Sustrans indicates that overall trip frequencies by bike and bus increased although further exploration of the value of the trips was required. Results suggest that respondent perceptions of the retail area post-scheme intervention improved with the majority (71%) of survey respondents indicating that Cowgate is a good retail area, compared with 46% before development, an increase of 25 percentage points. Overall reaction to the scheme has been mixed with shared space elements of the scheme proving particularly controversial. Reaction to these novel changes to street layout meant the project was still bedding in 2018, with further improvements agreed by the council in April 2018. However, there is evidence the Town Centre Toolkit approaches of prioritising people on foot has had a positive impact. For example 61% of pedestrians experienced wait times to cross the junction before the improvements, this reduced to 27% after the work.

02

METHODOLOGY

In 2013, economics databases and 'grey literature' were searched.

In 2013, a comprehensive review of the literature was carried out to locate relevant studies. Economics² and 'grey literature' databases were searched using relevant terms tailored to each research question, including variants on:

- “economic/commercial value/return” AND
- “walking investment/pedestrianisation/public realm” AND
- “business/retail/economic development/regeneration/high street”.

Much of the available research focused on capital investment.

The health of our high streets and town centres is, of course, as much about people and the management of spaces as it is about the quality of the public realm. However, these issues were largely absent from the literature assessed in 2013. The data and research then available focused on the capital investment (i.e. 'bricks and mortar') elements of public realm investment.

In 2018, Living Streets updated the review. There has been some movement towards more people-centred ways to measuring the health of high streets.

In 2018, the economics and 'grey' literature review was repeated by Living Streets.³ Whilst most studies still focus on capital investment there has been a notable move towards more holistic and people-centred approaches to measuring the health of high streets and urban centres (Biggar, 2015). Much of the evidence published since 2013 references data and examples from the United States where large cities, such as New York, measure both the commercial and wider impact of public realm improvements, cycling infrastructure and public transport investment.

The three key measures used in the 2013 report – footfall and retail, urban regeneration, and consumer and business perceptions – form the basis of the 2018 update.

In 2013, three key performance indicators (KPIs) were identified from the literature. These were drawn from a report prepared by Ecotec for the East Midlands Development Agency (EMDA). These three measures also form the basis of the 2018 update, alongside a new fourth section on the impact of the digital economy. The report evidence is divided into four sections, including three of the key performance indicators identified by Ecotec:

- Impact on existing business performance (footfall and retail)
- Urban regeneration (new business, investment, employment etc.)
- Improved consumer and business perceptions

This 2018 update also considers the future of the high street in the digital age and the emergence of the place economy.

Since 2013, the impact of the digital economy on how we shop, work and play has increased. High streets in 2018 are undergoing what has been termed 'dynamic' change. Reflecting this, the fourth section of the report explores the future of the high street and the increasing emphasis on the place economy (Hoyne, 2016), changing shopping patterns and how this impacts on the commercial benefits of better walking environments. The updated report again draws on national and international literature, and case studies that have been evaluated and are considered to have a sound evidence base.

²ASSIA Applied Social Sciences Index and Abstracts (CSA) (ProQuest XML), Business Source Premier (EBSCO), ESDS (Economic and Social Data Service), IBSS: International Bibliography of the Social Sciences (CSA) (ProQuest XML), NBER Working Papers, JSTOR, OECD iLibrary, Oxford Scholarship Online Economics and Finance E-books Collection, Palgrave Connect ebook collections in Business and Management, ScienceDirect, SCOPUS – V.4 (Elsevier), UN Comtrade, UNCTAD TRAINS, Web of Knowledge

³Open access searches on Elsevier, Oxford Scholarship Online Economics and Finance E-books Collection and ScienceDirect. ProQuest databases and Web of Science were not used. Additional open access searches made using Google Scholar, JSTOR, Statista, SAGE Journals, Zanran search engine and the National Bureau of Economic Research.

03

ISSUES WITH MEASURING THE ECONOMIC IMPACT OF PUBLIC REALM INVESTMENTS

There have been hundreds of studies exploring this relationship, but hard, quantitative assessments are very rare.

This is a challenging area within which to measure impact. A key issue is to establish whether public realm investment creates additional benefits over and above what would have happened anyway.

Key challenges in measuring impact include the difficulty in isolating variables, a poorly-defined public realm and the long-term nature of the change being measured.

There have been hundreds of studies exploring this relationship, but hard, quantitative assessments are very rare.

Identifying a fully attributable, causal link between investment in the public realm and direct commercial returns is a challenge. A key issue in any quantitative analysis is to establish whether the investments create *additional* benefit. For example, is an increase in sales attributable to the intervention, or is it the result of other factors, such as an improved offering by shops, reduced competition from other sources, or wider economic forces? In the social sciences, these 'deadweight' factors are often accounted for by incorporating a reference group of some kind. However, for area-based interventions it can be difficult to identify good control groups. Other components of additionality include: "leakage effects", displacement, substitution and economic multiplier effects (English Partnerships, 2004). The Glossary at the end of this report gives a brief description of each.

The former East Midlands Development Agency (Ecotec, 2007) reported some of the difficulties associated with measuring outcomes from public realm investment:

- The quality of the public realm is often influenced by interrelated processes, making it difficult to isolate the impact of different variables.
- The public realm is not clearly defined, particularly given its rising privatisation.
- The economic impacts of investment in the public realm are often long-term (and beyond the timescale of the evaluation).
- In addition to the direct economic impacts, it is important to recognise the contribution made by the social and environmental impacts of the public realm.

For a variety of reasons, this means that studies tend to suffer from insufficient data regarding the direct impact that better streets and places can have on sales. In a synthesis of the literature, Whitehead *et al.* (2006) reported a lack of studies of business performance. He also noted that information needed for the analysis of cost versus benefits – about prices, rents and attributes of business properties – was difficult to obtain because of its confidential nature. His literature review indicated that several hundreds of studies have been undertaken on the link between urban quality and economic activity since the late 1970s, but that "hard quantitative assessments" are extremely rare and not easily transferable to formal economic forecasting and appraisal methods (*ibid.*).

Transport economics often undervalues the indirect benefits of walking. As walking is low cost, this may also give it low status.

Based on the assessment of a large range of projects, public realm improvements have been estimated to deliver a cost benefit ratio of 0.9.

Indirect benefits are often inferred using revealed preference data or stated preference data but these methodologies also have their limitations.

As walking is low cost this may give it a low status.

The difficulty of making a direct link between public realm investment and wider socio-economic benefits was recognised in research by Trowers & Hamblins (Trowers & Hamblins, 2016). Based on an assessment of a large range of projects the researchers showed that a cautious valuation of regeneration, produced a benefit cost ratio of 2.3 (every £1 of expenditure = £2.30 benefit). As a subset of regeneration, public realm improvements tend to deliver a benefit-cost ratio of 0.9 (*ibid.*)

There is some evidence that small businesses choosing a new business location rank open space, parks and recreation as high priority. However, the measurement of indirect benefits to businesses, such as improved perceptions of an area, impacts on productivity from attracting better employees and enhancing the wellbeing of existing staff is limited. These less tangible benefits are usually valued using revealed preference data from surrogate markets (e.g. travel cost, hedonic pricing) or through stated preference data from hypothetical markets constructed with the use of survey instruments (e.g. contingent valuation) (CABE Space, 2005). The former suffers from a lack of data, whereas the latter are expensive and suffer from other methodological problems. See Fujiwara *et. al.* (2011) for a summary of issues with valuation techniques.

As well as the direct benefits to businesses, better streets provide indirect benefits for customers, visitors and the wider economy. Litman argues that walking and walkability are undervalued in transport economics, relative to other modes (Litman, 2017). Conventional transportation planning practices treat walking as a minor transport mode and recognise only modest benefits from improved walkability and increased walking activity. This is the result of evaluation practices that tend to undercount non-motorised travel and undervalue walking benefits. He argues that this is because walking is more difficult to measure, it is low cost (and, therefore, lower status) and because it is assumed that it will take care of itself.

The absence of rigorous analysis is an issue that affects all forms of business support measures (Department for Business, Innovation and Skills, 2011), and can make the merits of different types of urban investment difficult to compare. Projects also tend to come as a package, making it hard to distinguish between them empirically. However, the same Department for Business, Innovation and Skills report found case study evidence of significant benefits to consumers, such as more enjoyable visits, feelings of safety, more frequent visits, longer visits and a higher propensity to spend. They also found that public realm improvements exerted some level of influence over decisions about whether to live or work in the centre of towns and cities. The limitations outlined here underline the importance of including both qualitative and quantitative measurements in making the case for investment in the public realm.

Most of the evidence in support of public realm investment exists in case study form; this is a response to the challenges of conducting quantitative research in this area.

04

THE IMPACT OF PUBLIC REALM IMPROVEMENTS ON EXISTING BUSINESSES PERFORMANCE

Investing in better streets and spaces for walking can provide a competitive return compared to other transport projects.

Footfall on the UK's high streets has fallen by 22.2% since 2007. However, research suggests that well-planned improvements to public spaces can boost footfall and trading by up to 40%.

Investing in better streets and spaces for walking can provide a competitive return compared to other transport projects.

In Stoke-on-Trent, a £10 million investment to make the area more pedestrian-friendly has increased footfall by 30%.

The number of shopping trips to the UK's high streets has fallen over the past two decades. Since 2007, footfall – a common measure of business performance – has fallen by 22.2%.⁴ Nevertheless, well-planned improvements to public spaces within town and city centres have been shown to boost commercial trading by up to 30%. For example, in the 1990s comparative analyses in Germany and the UK carried out by Hass-Klau (1993) reported commercial benefits ranging from 20% to 40%. A review of studies by Newby (1992), Hass-Klau (1993) and the European Federation for Transport and Environment (EFTE, undated) suggests a range of 10% to 25% for retail turnover (Whitehead et al., 2006). The authors calculated that retail footfall increased by about a third (32.3%) and retail turnover by an average of 17% as a direct result of improvements to the pedestrian environment.

Investing in the public realm and walking can provide a competitive return compared to other transport-related measures. Modelling by Whitehead et al. (2006) of urban quality improvements in Manchester City Centre found small, but significant, positive effects for businesses and workers (ibid.). The results also suggested that the positive impacts from environmental improvements might be of the same order of magnitude as those expected from public transport improvements. Litman estimates that walking and other non-motorised transport projects typically increase retail sales by 30% (Litman, 2002; Burden and Litman, 2011).

Most of the available evidence, however, is still anecdotal or is based on individual cases. That evidence though is increasingly forming the basis of decisions to invest in public realm improvements aimed at improving the pedestrian experience (Litman, 2017). For example, in Piccadilly, Stoke-on-Trent, a £10 million investment to make the area more pedestrian-friendly has increased footfall by 30%. Measures such as widening footpaths, replacing existing footpath surfaces, installing trees and seating has encouraged large numbers of people back to the town centre. New businesses, cafes and restaurants have opened. The project's success has led to further strategic investment in public realm improvements to boost business performance.⁵

⁴ IPSOS Retail 2017

⁵ City of Stoke-on-Trent Council, City News, Winter 2017

In 7 out of 8 cities in New Zealand, simple street improvements increased footfall by 7%–90%.

Case studies are used to evidence the economic basis for investment in the public realm.

A study in Bangkok found that pedestrianisation encouraged people to buy their goods and services locally.

In 7 out of 8 cities in New Zealand, simple street improvements increased footfall by 7%–90%.

The case study approach is perhaps most appropriate then given the methodological limitations previously outlined in section 3 and the business case evidence used by both the public and private sectors to support investment in the public realm. The rest of this section highlights some of the strongest case study evidence from the international literature as well as from the UK. Boxes 1 and 2 illustrate more in-depth studies. Box 3 provides an example of the importance of evaluation and partnership work with the community. Box 4 is an example of public realm investment in a small, historic market town.

A summary of published benefits is listed in Table 1 at the end of this section.

A study in Bangkok by Kumar and Ross (2006) found that pedestrianisation had a positive impact on businesses. They reported on previous research, which found that pedestrianisation encouraged local people to buy goods and services in their own neighbourhoods and attracted more customers from a wider area. They argue that improving the public realm, often at low cost, creates a positive cycle, increasing property values and attracting wealthier customers. On the other hand, poor pedestrian, cycling and public transport options can also harm businesses by losing potential workers.

Improvements to the pedestrian environment are also associated with increased footfall. Turner et al. (2011) conducted a before and after study of new or improved facilities in eight New Zealand cities known to create difficulties for pedestrians. These included the provision of kerb extensions and refuge islands and controlled crossings. Pedestrian use increased in seven of the eight sites, ranging from 7% to 90%.

BOX 02

Sheffield, Heart of the City

Background

In the early 1990s, Sheffield faced several challenges, not least the decline in steel and engineering industries, and the opening of Meadowhall, a huge shopping centre on the outskirts of the city. The city had to rethink its offer to bring investment, employment and visitors back into the centre.

Intervention

The Heart of the City project was the first in a succession of regeneration projects (that now make up the Gold Route) designed to welcome visitors to the city. Phase One of the project was completed in 1999 with the delivery of three key public realm improvement projects: the re-construction of the Peace Gardens; the re-alignment and narrowing of Pinstone Street to create a new event and gathering space outside the Town Hall (the new Town Hall Square), and the narrowing of the carriageway in Surrey Street to give pedestrians more space.

Outcome

An evaluation of the public realm improvements to the Peace Gardens reported a 35% increase in footfall in the City Centre (Genecon, 2010). The authors estimated an attribution rate of 20% – 44%, or a net increase of visitors of 350,000–770,000, and a net increase in spending of £4.2 million (based on 7% attribution of additional spend of £12.20 per visitor). Reported regeneration outcomes included an increase of £1.60–£2.40 / sq. ft. rental value and the creation of 341–527 additional net jobs (ibid.).

BOX 03

Make it Ealing, West London

Pedestrian improvements at the intersection of St. Nicholas Avenue and Amsterdam Avenue in New York led to a 48% increase in local retail sales.

Evaluations of pedestrian improvements in Coventry and Bristol showed a 25% increase in footfall on Saturdays and predicted £1.4 million benefits respectively. Ten years on and Broadmead Business District has been extended several times.

In 2013, the New York Department of Transportation published a report on seven case studies from sustainable travel projects across three boroughs in the city. Data assessments showed that pedestrian improvements at the intersection of St. Nicholas Avenue and Amsterdam Avenue led to a 48% increase in local retail sales, that traffic calming and bike lanes on Vanderbilt Avenue in Brooklyn contributed to retail sales significantly higher than both neighbourhood and borough averages; and that a faster bus route along Fordham Road in the Bronx contributed to a 71% increase in retail sales in the years after installation. The report highlights how cities can assess and benefit from streets designed around pedestrian needs (New York Department of Transportation, 2013).

Case studies from several English cities illustrate or predict the same benefits. For example, a range of improvements to Coventry City Centre – new pedestrian areas, a new civic square, clearer signs and better placement of street furniture – were credited with a 25% rise in footfall in the town centre on Saturdays (NWDA/RENEW Northwest, 2007). In Bristol, the Broadmead Business Improvement District (BID) was set up in 2005 to create a better shopping environment and a more seamless transition between the new and existing retail areas. An analysis of Bristol's Shopping Quarter by Drivers Jonas LLP and Colin Buchanon (2008) assessed the benefits of the proposed scheme over the next ten years. This analysis predicted that the improvements would generate £1.4 million in terms of quality benefits to shoppers and passers-by. Ten years on, the Broadmead Business Improvement District has been extended several times and now aims to build on the success of the initial public realm investment still further with a focus on marketing, maintenance and street cleansing.⁶

Background

Make it Ealing (formerly The Ealing Broadway Business Improvement District) was established in 2005 in response to rival out-of-town developments. Its vision is to ensure Ealing town centre leads as a place to do business and thrives as a creative place for culture, arts and enterprise. The BID invests in cultural and social events, street cleansing and measures to reduce business crime, as well as public realm improvements. In 2015 local businesses voted to continue the BID for a further term to 2021.

Intervention

Public realm improvements included: new street lighting, hanging baskets, de-cluttering and improved directions for visitors, anti-littering campaigns and power washing pavements which aim to enhance the overall environment. Additional investment in cycling and walking has improved accessibility for visitors and employees, and the BID works with businesses on smarter travel, travel planning and encouraging sustainable forms of transport. According to its business plan (2016 – 21) a further £2.6 million will be invested over five years to help increase footfall and sales (Make it Ealing, 2016).

Outcome

The 2008/09 review highlighted the positive outcomes (Ealing Broadway BID, 2009). For instance, footfall monitoring cameras installed in 2007/08 demonstrated that the town centre had performed better than the national benchmark over the year. There had been a 60% reduction in late night town centre violence compared to the previous year and a 25% reduction in pick-pocketing. Surveys identified that visitors described Ealing as a 'safe', 'friendly' and 'affordable' town centre. The project also claims to have achieved a significantly higher profile for Ealing Broadway as a place to shop, do business and unwind. This has resulted in more people coming to the town centre, more often and staying longer.

⁶ www.broadmeadbristolbid.co.uk

There is strong evidence that pedestrians spend more than people arriving by car.

In Altrincham, £15 million of investment in the public realm and diversifying the town centres' offering reduced shop vacancy rates by 22.1% and increased footfall by 25%.

Improved routes to and from Wanstead High Street increased footfall by 98%, and the transformation of a canal towpath is estimated to have saved businesses £5 million in absenteeism costs.

There is strong evidence that pedestrians spend more than people arriving by car.

Small-scale improvements to the pedestrian environment can also increase spending.

In Altrincham, Greater Manchester, £15 million of investment in the public realm, a new market and increasing food and drink premises has been credited with reducing shop vacancy rates from over 30% in 2010 – when the town centre was labelled a 'ghost town' in the national media⁷ – to 7.9% as of December 2017. Better streets, pavements and crossing points are also credited with increasing footfall by 25% between 2010 and 2017, with further year-on-year increases in footfall predicted. Additional investment of £3 million is planned in 2018 and the local council is exploring ways the model can be used to revitalise high streets in neighbouring towns (Trafford Council, 2017).

In London, Wanstead High Street achieved an average increase of 98% in pedestrian numbers after enhancing the walking routes between its two stations, the bus terminus, school, library and high street (Tolley, 2011). Investment in better walking environments has been found to benefit businesses in other ways too. For example, the transformation of a canal towpath in London into a high-quality route for walking and cycling is estimated to have produced £5,487,130 of benefit through reduced absenteeism stemming from health benefits (Davis, 2010).

There is strong evidence that pedestrians and cyclists spend more than people arriving by motorised transport. Several international studies have compared the differences. In a 2009 study of the Bloor Street area in Toronto, people who biked and walked there reported they spent more money there per month than those who arrived by car (Tolley, 2011). In 2011, a report on shopper travel behaviour in Dublin city centre concluded that traders on Dublin's two main shopping streets considerably over-estimated spending by shoppers travelling by car while significantly undervaluing the spend of bus passengers and pedestrians (O'Connor et. al. 2011).

Small-scale improvements to the pedestrian environment also offer evidence of increased spending. In June 2017, a temporary 'parklet' in Shoreditch, East London – which turned a space normally occupied by two cars into seating for 14 people and 8 cycle parking spaces – increased the adjacent shops takings by 20% (Hackney Council, 2017).

⁷ Manchester Evening News. 18 February 2018. 'From ghost town to boom town: how Altrincham became the place to be.'

BOX 04

Railton Road, Herne Hill, south London

Background

Lambeth Council undertook a programme of public realm improvements to address pedestrian safety issues at Herne Hill junction, long traffic tail-backs and bus delays at Railton Road. This included the part-pedestrianisation of Railton Road, closing it off to through traffic and creating a new public space. As part of its Step Out in London project, Living Streets worked with the Herne Hill Forum and local businesses to encourage walking in the newly revitalised area.

Intervention

Activities, including a Sunday market and a "shop local" card giving a discount for use in local shop, were introduced over a six-month period from February to October 2012. A unique feature was the designation of Railton Road as a community run space managed by a community forum of businesses and local organisations.

Outcome

A follow-up survey was carried out with the public, local businesses, market stall holders, shop local card holders and people who had signed a pledge to walk more. The evaluation highlighted the increased footfall and economic activity created by rebalancing the area for pedestrians:

- 66% of pedestrians surveyed agreed or strongly agreed that they now shopped more;
- 90% of local businesses surveyed agreed (31%) or strongly agreed (59%) that the changes to the street had resulted in an overall improvement;
- 38% of people agreed or strongly agreed that people were spending more money in the area;
- 78% of businesses agreed that the new market brought more people to the area;
- 41% of traders had employed someone to work on the stall;
- 78% of those employed lived locally. (Social Research Associates Ltd., 2012)

Comparisons of spending in Canada and New Zealand revealed pedestrians spend up to 6 times more. In 2011, walkers in London spent £147 more per month than people arriving by car.

Giving more space to pedestrians and cyclists more than compensates for the loss of customers arriving by car.

As well as buying less than pedestrians or cyclists, motorists often carry few bags and could therefore travel by foot or bike.

Wooller (2010) considered the effect of pedestrianisation in the Takapuna shopping district in Auckland, New Zealand and put a figure to the increase in spending. She found that although shoppers spent similar amounts per trip, the pedestrian shopper spent approximately \$80 more per month after the improvements. This was six times the amount spent by those in cars. In 2011, a similar study in London found that whereas car drivers spent more on a single trip, walkers and bus users spent more over a week or a month (The Means, a review for London Councils, 2012). They found that walkers spent £147 more per month than those travelling by car. Compared with 2004, spending by public transport users and walkers had risen; spending by car users and cyclists has decreased (ibid.).

In recent years, the economic impact of cycling infrastructure schemes has provided further evidence of the commercial benefits of reducing car dominance in urban centres (see also Box 15 Waltham Forest). The European Cyclists Federation has found that if a street is transformed in a way that gives more space to cyclists and pedestrians and less to cars, the absence of customers that came by car is more than compensated for by the customers that come by foot or by bike afterward (ECF, 2015).

Lastly, motorists are not necessarily better customers than pedestrians, cyclists or public transport users. A report by the European Commission (1999) reports the findings of a study in Munster, Germany in which approximately 75% of motorists surveyed purchased two or fewer bags of goods. Many could easily have carried their shopping on foot, by bicycle or on the bus (Tolley, 2011). Indeed, several reports make the point that most shopping trips involve distances that could be walked or cycled (Commission, 1999; Sinnott et al., 2011; Tolley, 2011; Sustrans, 2006).



Kelso, Scottish Borders

Information from:

Kelso Connections,
Townscape Heritage Initiative:
www.kelsoconnections.co.uk
kelsothi.asp

Scottish Borders Council.
2016. Footfall Report

Background

Kelso is a market town in the Scottish Borders with a population of 5,639. The town centre is part of the Conservation Area of Kelso and includes the ruins of the twelfth century Abbey and an eighteenth-century market square which is the largest of its kind in Scotland. Despite its distinctive historic townscape and character, Kelso had been significantly affected by decreased footfall, declining inward investment and traffic management issues with vehicles dominating the market square.

Intervention

Partnership working across the public, private and charitable sectors resulted in a £4.8 million investment from Scottish Borders Council, the Heritage Lottery Fund, Historic Scotland, European funds and funding from Sainsbury's and property owners. This enabled traffic management and public realm enhancements, the erection of a gap site building, shop front enhancement scheme and public art installations. The £1.4 million Kelso Townscape Heritage programme also sought to improve the town centre by assisting over 40 properties with traditional repairs or reinstatement of architectural features. The Council invested £1.8 million in a programme of town centre improvement works, including a new traffic management system and improved provision for pedestrians. This included re-surfaced and expanded footways and new crossing points.

Outcome

Since the improvements, Kelso is considered to have consistently performed well in footfall measures and in terms of town centre floorspace and retail unit occupancy. Footfall remains 28% above the levels recorded in 2011. In 2015, the Kelso town centre regeneration won an award at the Scottish Awards for Quality in Planning with judges commending "an impressive commitment from both planning and transport to resolve modern day activity within an historic place" and the partnership working between the agencies, local business and residents.

TABLE 01

**Public realm investments:
ex-post changes in
footfall and turnover**

Country	Location	Activity	Outcome	Source
UK	Altrincham, Greater Manchester	Various public realm improvements and new market	Increased footfall by 25% and reduced retail vacancy 22.1%	Trafford Council, 2017
	Bristol	Various public realm improvements	Projected £1.4 million over ten	Drivers Jonas LLP and Colin Buchanon, 2008
	Coventry	Pedestrianisation, a new civic square, clearer signage and better placement of street furniture	25% in footfall on Saturdays	NWDA/RENEW Northwest, 2007
	Ealing	Improved lighting, street cleansing, de-cluttering, better signage	Improved visitor perception and reduction in crime	Ealing BID, 2009
	Kelso, The Scottish Borders	Public realm improvements better placement of street furniture	28% increase in footfall	Scottish Borders Council, 2016
	London (Wanstead High Street)	Intervention to increase walking for short trips	98% increase in pedestrian numbers	Tolley, 2011
	London	Canal towpath	£5.4 million in reduced absenteeism	Davis, 2010
	London (Shoreditch)	Temporary 'parklet'	20% increase in takings over three-month period	Hackney Council, 2017
	Sheffield	Peace Gardens	35% uplift in the number of visits for shopping and a net increase in spending of £4.2m	Genecon, 2010

Country	Location	Activity	Outcome	Source
New Zealand	Eight locations	Kerb extensions, refuge islands and controlled crossings	7% – 90% increase in footfall	Turner et al, 2011
Thailand	Bangkok	Pedestrianisation	44% of retailers reported an increase in sales although 33% reported no change	Kumar and Ross 2006
United States	New York	Pedestrian improvements at the intersection of St. Nicholas Avenue and Amsterdam Avenue	48% increase in local retail sales	New York Department of Transportation, 2013
	San Francisco	Various 'parklets' and plazas to improve pedestrian experience	37% increase in pedestrian traffic in the area during weeknights. 350% increase in people walking with bikes during the weekend	Global Designing Cities Initiative, 2015

05

THE IMPORTANCE OF PUBLIC REALM IMPROVEMENTS FOR URBAN REGENERATION

Well-planned regeneration of the public realm can boost commercial trade by up to 40%

The quality of the public realm is acknowledged as being important to regeneration and renewal. Quantifying this value, however, is a challenge.

Evidence explicitly linking public realm improvements to business start-ups is more limited.

Investment in the public realm is often part of regeneration strategies with the assumption that this stimulates and supports new markets and enterprise opportunities.

Well-planned regeneration of the public realm can boost commercial trade by up to 40%.

Most urban renewal projects aim to improve public space in some form, as its importance is commonly acknowledged (Bohl, 2002; Litman, 2003). In practice, however, public space is often seen as performing a secondary role within urban regeneration projects, rather than being the driving force (Van Melik and Lawton, 2011). Quantifying the economic value of public realm improvements for urban regeneration remains a challenge (RTPI 2015).

There are four aspects of urban regeneration reviewed in this section:

- Investment, tourism and business start-up rates;
- Retail rents;
- Employment;
- Social inclusion and equalities.

Investment, business start-up rates and tourism

Increasing business activity in deprived areas has, for many years, been an important part of national and local policy efforts to address disadvantage (Seex, 2007). Evidence linking public realm improvements with business start-up rates is, however, limited. One of the reasons for this may be that studies quote total turnover figures, which include business start-up rates. There are also significant displacement issues with new business formation; it is necessary to be able to demonstrate that those businesses would not have been established elsewhere, which is challenging. If increases in turnover or footfall already reflect the creation of new businesses, then counting the number of new businesses and the increase in turnover or footfall would run the risk of double counting the same benefit.

Nonetheless, public realm investment is often used to improve the appearance of business areas and town centres as part of regeneration strategies with the general understanding that this stimulates and supports new markets and enterprise opportunities.⁸ Whilst it is not conclusive, there is strong case study evidence of redevelopments, such as the creation of 'cultural quarters', or 'waterfront developments' that coincide with large increases in new business.

For retailers, a good-quality public environment improves trading by attracting more people into an area. It has been shown, for example, that well-planned improvements to public spaces within town centres can boost commercial trading by up to 40% and generate significant private sector investment (CABE Space 2004).

⁸ See, for example, the East Midlands Competitiveness Programme (Department for Communities and Local Government, undated) or Chelmsford Borough Council's town centre public realm strategy (2011)

In Melbourne and Barcelona the regeneration laneways and creation of new public spaces has enabled outdoor cafes to flourish and boosted annual visitor numbers from 1.7 million to 7.4 million respectively.

In Dublin, the redevelopment of the Temple Bar District led to a 300% increase in employment. More modest gains have occurred in Sheffield and Manchester.

The presence of good quality parks and public spaces also leads to an increase in new businesses.

The city of Melbourne renovated its pavements and street furniture and turned narrow back alleys into a walkable network that increased pedestrian traffic by 40% (Arup, 2015). In 1994 just 8% of the laneways were accessible and active but by 2004 92% were walkable and had become destinations with new cafes and restaurants (The Urbanist, 2015). As a result, outdoor cafes have increased from just two in the 1980s to over 600 in 2018 (ibid.). Barcelona implemented a public space policy that created hundreds of new parks, squares and promenades, increasing new business start-up rates and its annual visitor numbers from 1.7 to 7.4 million.

In Ireland, prior to its redevelopment by a state-owned company, the Temple Bar area of Dublin was home to 60 businesses. A decade later this rose to 450 businesses and a 300% increase in employment. Most of this growth took place within four years of the area's transformation, before the economic boom of the late 1990s took hold (Montgomery, 2004). In the UK, similar (albeit less dramatic) improvements have been found for Manchester's Northern Quarter and the Cultural Industries Quarter in Sheffield (ibid).

The public realm also includes green spaces and again case study evidence shows that the presence of good quality parks and green spaces leads to an increase in new businesses (CABE Space, 2005). The emergence of parklets – an extension of pedestrian space into parking spaces – is another example of the growing importance of public space in urban areas (see Box 5).



San Francisco: Pavement to Parks

Information from:

<http://pavementtoparks.org>

Global Designing Cities Initiative: "Case Study: Pavement to Parks, San Francisco" 2015

San Francisco Planning Department "Pavement to Parks". Conference Presentation

https://nacto.org/docs/usdg/pavement_to_parks_sanfran.pdf

Background

The Pavement to Parks Programme was created in 2010 as an inexpensive and non-permanent way to convert underused land on the city's streets into pedestrian spaces. The project is part of several policies and activities aimed at improving San Francisco's streets. It is a joint venture between the San Francisco Mayor's Office, Planning Department, Department of Public Works, and Municipal Transportation Agency. The project seeks to reimagine the public realm, strengthen commerce and engage the public in ways to use underutilised public space in the city.

Intervention

Pavement to Parks creates temporary 'parklets' (parking spaces converted into publicly usable space) and plazas (courts or squares that have a surplus of space). The city engages local business, non-profit groups and residents to test ideas in the public realm through pilot concepts. The programme also makes temporary interventions into plaza spaces by closing off unused portions of streets and activating them for community use. Projects include a movable parklet with seating and planting, located outside different retailers along Ocean Avenue and the creation of the Jane Warner plaza with seating, tables, tree screening and plants at one of the city's busiest road junctions. Parklet projects are relatively low-cost interventions with an average cost of \$10,000 to \$15,000. Most use donated materials, time and expertise with volunteers and community groups working in partnership with the business and arts communities. Plaza projects have an average cost of \$50,000.

Outcome

By 2015, more than 60 parklets had been built in San Francisco. The first trial parklet brought a 37% increase in pedestrian traffic in the area during weeknights and a 350% increase in people walking with bikes during the weekend. Similar increases in footfall and business trade have been recorded across the programme, however, projects do rely on donated construction materials or materials purchased at cost, and volunteers are required to help build and maintain spaces. Some experiments – such as the Jane Warner Plaza – have transitioned to permanent improvements to the pedestrian environment.

BOX 07

The Grassmarket, Edinburgh

Information from:

Gillespies Architects, Scottish Government Award for Quality in Planning 2011

Background

The Grassmarket is the largest open space in Edinburgh's Old Town and is one of the UK's most dramatic, situated below Edinburgh Castle. The area includes pubs, restaurants and cafes at street level as well as a hotel, holiday apartments and independent shops. The upper levels are mainly in residential use. In 2009 – 2010 over £5million was invested in the public realm to enhance the character and appearance of the area, tackle negative perceptions associated with late night drinking, and rebalance the space from vehicle to pedestrian use. The public realm improvements brought a wider range of business uses to the area and an improvement in road safety, however, the reinvigorated streetscape and spaces for public events remained underused.

Intervention

From 2013 – 2018 the Greater Grassmarket Business Improvement District (BID) delivered a series of targeted interventions, in partnership with residents, community groups, the local authority and retailers to bring additional daytime footfall to the area. This included a series of events to animate the public space:

- Weekly market
Travelling gallery & open-air art exhibitions
- BlueGrassmarket music festival
Jazz Festival
- Greater Grassmarket Historic Trail
Vintage weekend

Four pedestrian footfall monitors are monitoring the pedestrian traffic flow at entry routes to the Grassmarket. Week-to-week data is available and 12-month data will be available from July 2018.

Outcome

Key lessons learned from the project included the importance of engaging with the community and the need for active management of redesigned public space.

"The regenerated Grassmarket recovers many of its original qualities, previously lost due to increased traffic over the years. Changing the balance between vehicles and pedestrians was key to improving Grassmarket's appeal as a walkable neighbourhood and has seen local pubs and cafes embrace a continental-style cafe culture. Together with a vibrant retail scene... it makes for a thriving economic district."

BOX 08

Stockton-on-Tees

Information from:

National Urban Design Awards 2016, Stockton High Street Public Realm
<https://www.youtube.com/watch?v=5dxqY65o6Vo>

Northern Design Awards 2016

<https://www.northerndesignawards.com/entry/2015/stockton-high-street-public-realm>

Stockton-on-Tees Town Centre uses Study 2016

<https://www.stockton.gov.uk/media/7769/town-centre-uses-study-nov-16.pdf>

Background

Stockton-On-Tees is a market town in north east England. Its high street has experienced some of the highest vacancy rates in the UK, attributed to the growth in out-of-town retail and leisure opportunities. The negative perception of the high street was seen by local businesses as a barrier to investment. In 2011, following the publication of the Stockton Town Centre Urban Design Guide, Stockton Borough Council set out a vision to secure the future of its high street for residents and businesses with a £38 million regeneration project to create a vibrant, successful town centre and a destination for events.

Intervention

A new public square was created to build on existing heritage assets, provide a focal point and a central hub of activity to the town centre. This was complemented by a series of open spaces to support a market and an annual programme of events.

The project included the replacement of paving, additional seating, a central water feature and a specialist LED lighting scheme which could also be used for events. Collaboration with local disability groups was key to ensuring the design and chosen materials supported access and the visually impaired. A 'less is more' action plan sought to address issues of unnecessary and redundant signage and street furniture.

Outcome

Stockton's transformation into a visitor destination (hosting events such as cycling championships, street theatre and specialist markets) has helped the town centre attract crowds of up to 65,000 people and vacancy rates have fallen by 6%.

Although few studies attempt to model the impact on tourism, one such example found that the new North Terrace of Trafalgar Square had increased visitors by over 300%.

Walkability has been developed from the perspective of pedestrians who are permanent residents rather visitors. More research is needed into the ways non-residents use our urban spaces.

The relationship between investment in walking and the public realm, and the positive impact on tourism, is often cited. It also underpins efforts made by many local authorities to improve streetscapes and public spaces. Reinvigorate York (Box 14) is just one example of visitor surveys acting as a catalyst for investment in the public realm and the pedestrian experience. While some of the effects on tourism will have been captured in section 4 (the impacts on existing business of increased turnover and footfall), few studies attempt to model the impact empirically. One such example looked at the effect of rebuilding the North Terrace of Trafalgar Square. The transformation of the quality of the pedestrian environment led to an increase in visitors of over 300% – to the point where this is now the third most popular attraction in London (Tolley 2011).

However, more research into the ways non-residents use our urban spaces is required. In 2018, a study examined the relationships between walkability as measured by Walk Score, a widely used index of assessing walking potential (see Page 29), and indicators of successful tourism (number of visitors, TripAdvisor rankings) at over 300 tourist attractions in England (Hall and Ram, 2018). The authors found that a high Walk Score contributes only marginally to the number of visitors, reviews and ranking. They noted that one-off leisure or holiday visitors potentially have very different walking behaviours compared to frequent repeat visitors, second home tourists and residents.



Oxford Circus diagonal crossing, London

Information from:

⁹ Intervention description from 'Re-imagining Oxford Circus' by Kate Alexander in Architects Journal, 9 April 2009 <http://www.architectsjournal.co.uk/re-imagining-oxford-circus/5200512.article>

¹⁰ Personal communication, The Crown Estate

¹¹ Pers. Com. (ibid.).

Background

Oxford Circus is one of the world's most congested intersections with more than 80 million pedestrians crossing it every year and over 200,000 pedestrian movements each day (Transport for London, 2010). Prior to its transformation, the footways were severely overcrowded and there were delays to bus services. In addition to improving the pedestrian experience, and bus journey times, the aim of this scheme was to help revitalise retail and ensure that the West End retained its position as a world-class shopping destination ahead of the 2012 London Olympic Games (ibid.).

Intervention

An audit by Atkins found that Oxford Circus had over 150 items of street furniture each creating 1.2m² of 'dead space'. In October 2009 the scheme removed street clutter and reduced this by half. The pavement area was increased by 63% and existing crossings were re-aligned, reducing the detour made by pedestrians to continue along Oxford Street and Regent Street. New diagonal crossings were inserted (loosely based on the Shibuya crossing in Tokyo, Japan) and crossing times were re-phased (removing staggered crossing periods) allowing all pedestrians to cross at the same time.⁹

Outcome

The introduction of the diagonal crossing has increased walking speeds, decreased the time it takes to get from one side of Oxford Circus to the other and reduced personal injury accidents (10% in the first year since). Bus delays have been reduced too (Atkins, ibid.). The project cost £3.9 million.¹⁰ Using the business case developed during the scheme, anticipated pedestrian benefits were more than £5.1 million; when actual post-scheme journey times were applied, the benefits increased 4.5% to £5.4 million (Atkins, ibid.). It is reported that the turnover of a retailer occupying one of the four corners of the Circus increased by 25%, from £20 million to £25 million, in the year after completion of the scheme.¹¹

There is substantial evidence that improvements to the public realm increase property prices.

A US study found that visitor spend on items, such as food, lodging, clothing, equipment and accessories, increased sales and tax revenue. Visitors experience of the pedestrian environment requires further research.

Private sector investment is itself suggestive of commercial gain. Many public realm schemes are financed solely by private investors or a mix of public and private funding.

There is substantial evidence that improvements to the public realm increase property prices.

In an undated study, Snyder lists the economic benefits to local businesses and municipalities identified in eight different studies of walking and cycling investments in the United States. Municipalities, for instance, gained from increased sales tax revenue from visitor spend on food, lodging, clothing, equipment and accessories. For example, a \$4.5 million investment in streetscape and pedestrian improvements in Lodi, California, combined with economic development incentives, were credited with attracting 60 new businesses, halving the vacancy rate and increasing sales tax revenue by 30%. Research by the Department for Transport has highlighted the need for a better understanding of visitor experience of the pedestrian environment and their valuation of townscapes and heritage sites (Atkins Consultants, 2011). However, as Box 8 demonstrates, the calculation of pedestrian benefits is already an established methodology.

Private sector investment in public realm improvements, where there is every expectation of receiving a return on that investment, is itself suggestive of commercial gains. The argument is that quality public space can enhance values for developers, the rental potential of real estate for investors and generate higher revenues for retailers and other occupiers (Van Melik and Lawton 2011). All the case studies relating to business start-ups received substantial private sector development following public sector improvements in the area (Montgomery, 2004). For example, the total public funding for Temple Bar was approximately IR £40.6 million but over the period 1991–2001, the private sector is estimated to have invested over IR £100 million in the area (or a return of 1:4).

Effect on property and rent

There is substantial historical evidence that public realm improvements positively affect retail property prices (Buchanan and Gay, 2009). For example, in Wellington, New Zealand, an initiative involving new street paving and landscaping saw gains in rents, capital values, pedestrian counts and the presence of cafes. An economic assessment of property values there suggests that by the late 1990s values were approximately double what they would otherwise have been (Reid, 1999). In the UK, CABE (now part of the Design Council) argues that investment in design quality brings quantifiable financial returns (CABE 2007). Genecon's evaluation of regeneration in Sheffield (see section 4, Box 1) reported a net increase in rental value of £1.60–£2.40 / sq. ft. and a 1–1.5% yield improvement (based on 40% – 60% attribution rate). Box 9 illustrates the impact on rental values and private sector investment in a small coastal town in Lancashire.

Between 2010 and 2015, the market share of walkable urban places in the US increased in all 30 cities, with growth in 27 cities doubling since 2010.

Rents reveal preferences to locate and shop locations. A controlled study in Hong Kong revealed a 17% increase in rents from pedestrianisation.

In 2016, a new report looked at wealth and equality of walkable neighbourhoods in the largest cities in the United States (Leinberger, 2016). It found that while neighbourhoods identified as walkable occupy only 1% of the land mass across the 30 largest urban areas, they account for most of office and multi-family rental development. Between 2010 and 2015, the market share of walkable urban places increased in all 30 cities, with 27 cities seeing their growth double since 2010.

As well as generating income, higher rent is taken as an indicator for better business opportunities, on the presumption that if businesses are willing or able to pay more for rent their revenues must be correspondingly higher (Hack, 2013). Rental values, by inference, are therefore a measure of the attractiveness of an area. By extension, shoppers' preferences for better streets and spaces (e.g. for pedestrianised schemes) can be indirectly quantified by the change of retail rent (Yiu 2011). Yiu's study evaluates the impact of pedestrianisation using panel market data in Hong Kong to estimate the effect in a two-street-two-period controlled model. This addressed the need for a reference group identified in section 3. The results showed a net increase of 17% in rental value of retail shops in the pedestrianised area, other things being equal.

BOX 10

St. Anne's on the Sea, Lancashire

Information from:

*Background information and the description of the regeneration works are drawn from the St. Anne's on the Sea Town Plan 2011: Fresh Horizons, 2011

Background

St. Anne's on the Sea is located on the Lancashire Fylde Coast, four miles south of Blackpool. Once a prosperous coastal resort, decline set in, in the 1970s because of changing patterns of tourism, out of town shopping and demographic change. By the 1990s, in some streets over half the shops and buildings were vacant. The town centre needed significant regeneration to be attractive and appealing within a high-quality tourism niche.

Intervention

A major consultation exercise carried out in 1999 identified several areas for improvement, such as better paving, street furniture and lighting, better landscaping, restoration of historic buildings and more street activity and events. In 2000 The Square was refurbished. The scheme included pavilions for seating and retail uses, landscaping, public art, open seating spaces and a performing arts arena. This work was funded from several sources including a significant grant of £1.75m from The Northwest Regional Development Agency.

Outcome

A report by the Northwest Regional Development Agency concluded that the regeneration of St. Anne's had increased the vibrancy of the local area as a whole because of the greater levels of activity drawn to the town centre. This in turn stimulated further regeneration (Amion Consulting and Taylor Young, 2007). They estimated that the design of the scheme may have contributed to increasing rental values by up to 10%, and vacancy rates reduced from 25% in 1998 to 4% in 2006. The confidence of the private sector was greatly improved and overall £4 million of regeneration works attracted over £20 million of private sector investment to the town (ibid.).

A report for the Northwest Regional Development Agency in 2007 found that good urban design raised commercial rents by up to 20%.

Walking projects typically increase land values anywhere between 70–300%. A review of earlier literature suggests retail and commercial rates increase in the range of 10–30%.

Walkscore software assesses the relationship between house prices and walkability. Easy proximity to local shops and services is linked to higher property values.

A one-point increase in Walkscore typically increases US house prices by \$700–\$3000.

Litman estimates that walking and cycling projects typically increase land value from 70% to 300% (Litman, 2002; Burden and Litman, 2011). In a synthesis of the literature on the relationship between walking interventions and property value, Whitehead et al. (2006) found an increase in value of 21.7% for retail rents and 24.2% for commercial rents and that a reasonable range was in the order of 10% to 30% (based on work by Hass-Klau (1993) and Colliers Erdman Lewis (1995)). He also found a mean increase in office rents of 24% from waterfront regeneration/water features installation. He notes that this is almost identical to the mid-point of the range reported in Frederick et al. (1996) for the seven case studies they investigated (i.e. about 3% to 53%) (Whitehead, ibid.).

Walk Score (see also page 26) is a private commercial property information company that provides walkability services and apartment search tools through a website and mobile application. It created a walkability index that assigns a numerical walkability score to any address in the United States, Canada, and Australia.¹² Its Walkscore software has been used by academics to assess the relationship between house prices and walkability. Walkability is determined by the presence of desirable destinations, such as shops and restaurants within walking distance. Pivo and Fisher (2011) found that greater walkability promoted higher values and higher net operating incomes for office, retail and apartment properties, though it had no effect on industrial property. Their study concluded that walkable properties have the potential to generate returns as good as or better than other property investments. The commercial value of assessing walkability was reaffirmed when Walk Score launched a new price index based on the value of walkability for commercial properties in 2015.

Cortright (2009) investigated the impact of walkability on housing values across 95,000 real estate transactions in 15 cities in the United States using the Walkscore programme. He found a strong correlation between walkability and variations in home values. A one-point increase in Walkscore (scored out of 100 points) was typically associated with an increase in the value of a residential property of between \$700 and \$3000. Although there may be other confounding variables, this is consistent with other research on the impact on commercial and residential property prices.

¹² www.walkscore.com

A US study compared the number of jobs created through the construction of walking, cycling and road infrastructure. Road projects created the fewest jobs.

A report for the Northwest Regional Development Agency in 2007 found that good urban design raised commercial rents by up to 20%.

Quality green spaces increase commercial rents and property prices too. A report for the GLA in 2003 suggested that a 1% increase in green space in a typical London ward led to 0.3% – 0.5% rise in average house price.

Higher property prices do have a downside: restricting access to home ownership and pricing local businesses out of the market.

Good urban design and access to green spaces have also been found to positively affect UK rental values. A study by the Northwest Regional Development Agency/ RENEW Northwest found that good urban design can lead to an increase of up to 20% in capital value and accelerate lettings and sales rates (Amion Consulting and Taylor Young, 2007). In a follow-up study 74% of estate agents said good design had a positive effect on rental and capital values, while 75% thought the impact of design on occupancy and take-up rates was either important or very important (NWDA/RENEW, Northwest 2009).

In their review of the literature on the value of green space, CABE (2005) cite a report by Ernst and Young which found that rental values (residential and commercial) for properties near a well-improved park generally exceeded those in surrounding areas. In the six case studies examined the rental premium ranged from 10% to 40% (ibid.). For example, property on Bryant Park in New York was shown to have a 220% increase in commercial rental values (after improvements), compared to a maximum 75% increase in the surrounding area over the period studied. In London, a study by the Greater London Authority established a relationship between property value and the amount of green space in the area (a 1% increase in green space in a typical ward was associated with a 0.3% to 0.5% increase in average house price).

High property prices can have a downside, however, potentially restricting local access to home ownership, increasing inequality and reducing retail diversity, as smaller businesses are priced out of the market. This should be borne in mind in designing public realm improvement projects to ensure that high street and residential diversity is promoted. For example, in Temple Bar in Dublin the state-owned development company bought up properties prior to regeneration and the monies generated from increased rental income were reinvested in the property renewal programme and used to cross-subsidise cultural projects (Montgomery, 2004).

A US study compared the number of jobs created through the construction of walking, cycling and road infrastructure. Road projects created the fewest jobs.

About three additional jobs were created per \$1 million spend on pedestrian-only projects, benefiting local employment.

Outside the construction sector it is more difficult to show a direct causal link to additional jobs created. However, higher employment can be inferred from higher turnover and investment.

Employment benefits

A study in the United States looked at the employment benefits that could accrue from investing in walking and cycling infrastructure. It considered jobs that were created in all the phases of design and construction of facilities including the manufacturing of materials and equipment. Pedestrian-only projects created about 10 jobs per \$1 million spent, which is greater than multi-use or road construction with pedestrian and cycling access. Of the options, road only projects created the fewest jobs (Garrett-Peltier, 2011, 7.8).

About three additional jobs per \$1 million spend on pedestrian-only projects were created when spill over benefits in the supply chain were included (ibid.). Although employment on specific projects is short-term in nature, this finding has more relevance in terms of boosting the construction sector from a local, regional or national perspective. The report's author concluded that there should be more investment in pedestrian and cycling access, not just because of the environmental, safety and health benefits, but for local employment too.

Outside of construction, the evidence relating to employment is slimmer. However, there are some positive examples. In Washington DC, improvements to Barrack's Row (new patterned sidewalks, more efficient public parking and new traffic signals) attracted 44 new businesses and 200 new jobs. Economic activity there has more than tripled since the inception of the project (Tolley, 2011). In the UK, Genecon (2010) reported the creation of 341–527 net jobs in their evaluation of the public realm improvements in Sheffield. These were based on attribution rates of 20% – 90%, which varied depending on proximity to the original investment (see Box 1). It is not clear whether the lack of data here reflects the absence of a relationship or whether it is influenced by the methodological problems outlined earlier.

The impact of public realm improvements on local people is sometimes absent from evaluations. The process of gentrification associated with rising property prices can be detrimental to existing residents.

A third of UK households have no access to a car. Urban design often assumes car ownership, excluding those who cannot or do not want to own a car. This disparity has broad economic impacts.

Inclusion & equalities

A key objective of many public realm projects is to improve the economic performance of the local area, and as a result, reduce unemployment. However, the impact of public realm investments on local people is sometimes absent from evaluations. Areas that have the potential to benefit most from investment in the public realm and increases in walkability often have higher than average levels of unemployment and lower than average business start-up and survival rates. A risk with urban renewal policies, as seen with rent increases in regenerated urban areas, is that they can be detrimental, rather than beneficial to existing residents. This is particularly the case with increases in property and land values; a central component of the gentrification process. Whilst local councils or business groups may favour policies which result in gentrification because of the increased rental income associated with rising property values, from a social and equalities perspective it can be a damaging dynamic that results in reduced social cohesion as residents are displaced (Lees 2008; Stevens 2009).

Across the UK, one third of households are identified as car-free with the lowest levels of car ownership in urban areas.¹³ Yet, much of the population live in neighbourhoods where streets are designed predominantly for the private car, moreover, people who have poor access to travel (economic barriers, disability, age, sex, employment status) suffer the greatest effects of other people's private car use (air pollution, traffic accidents). This disparity has broad economic impacts.

¹³ National Travel Survey statistics "Household car ownership by region and Rural-Urban Classification: England, 2002/03 and 2014/15" and Scottish Government: Scottish Household Survey 2015

A third of UK households have no access to a car. Urban design often assumes car ownership, excluding those who cannot or do not want to own a car. This disparity has broad economic impacts.

BOX 11

Church Street regeneration, Ebbw Vale, Wales

Information from:

The information in this case study is drawn from the Action for Market Towns case study database. The regeneration of Church Street in Ebbw Vale was commended in the 2012 Welsh Zone Action for Market Towns Awards (Business and Economy category). See <http://towns.org.uk/>.

Background

Following on from the closure of Corus in 2002, Church Street in the town of Ebbw Vale suffered from a decline in business activity and the withdrawal by public sector organisations from several key properties. As a result, the area lacked investment and experienced a drop in business confidence. The local press highlighted its poor condition – desolate, run down, characterised by vacant and boarded up properties – and its desperate need for regeneration. Amongst the issues identified in the masterplan for this area as detrimental to the area were: high unemployment, high property vacancy rates, low property prices and the poor quality of the public realm (e.g. litter and graffiti).

Intervention

Residents and businesses were contacted personally ‘on the street’ to take part in public seminars and events. A comprehensive scheme for the regeneration of Church Street was developed, with three main strands: the delivery of public realm improvements, reuse of vacant properties, and assisting businesses with improvements to their properties and marketing. The public realm works included 1500m² of pennant sandstone paving, 200m of new fencing, 360m of new refurbished stone walls, new seating, litter bins, CCTV cameras, street lighting, art projects and pedestrian links from the steelworks to the town centre. Empty properties were acquired and refurbished by the United Welsh Housing Association and given new uses as office, residential and retail space.

Outcome

The cost of the project was £2.5 million and a further £5 million was attracted through partnership funding. Close partnership working with residents, businesses and third sector organisations was essential to the project’s success. Regenerating Church Street enabled businesses to capitalise on the re-development of the former steel works. The implementation of high quality public realm improvements encouraged both private investors and housing associations to have the confidence and commitment to invest. This ‘quick win’ was important to encourage buy-in and to continue to involve stakeholders. The profile of the area has now been raised and there is demand for private sector investment.

BOX 12

Lochgelly, Fife

Information from:

¹⁴ The Observer. 25 January 2004. “For misery go to Lochgelly.”

¹⁵ Fife Council. 2003 ‘Regeneration of Lochgelly’ <https://fifedirect.org.uk/news/index.cfm?fuseaction=feature.display&objectId=8002627B-71DF-400F-8A2D0D0CB3AFA17A>

¹⁶ <https://ecda.co.uk/portfolio/lochgelly-regeneration/>

Background

Lochgelly is a former mining town in Fife with a rich industrial heritage and good train links to Edinburgh, Kirkcaldy and Dunfermline. It declined rapidly during the late 1980s and 1990s. The run down and depressed town centre with its boarded-up shops contributed to the lowest house prices in the UK and Lochgelly was named ‘worst place to live’ in 2004.¹⁴ Fife Council identified two key issues affecting the town – the run down physical environment and the depressed shopping corridor.¹⁵ It also identified a long-list of opportunities, with creating a revitalised and thriving town centre a priority.

Intervention

The regeneration was led by a collaboration between Fife Council, Ore Valley housing association, ECD Architects and Purvis Group. Local community groups were involved in planning from the outset and led elements such as the creation of heritage trails. Key elements included investment in the physical environment with the restoration and refurbishment of the Miners’ Institute (£1.6 million) and the creation of a Business Centre in the town centre (£2.4 million).¹⁶ The two buildings now house 16 local businesses and charities. A new parade of flats and commercial units (£1.1 million) were also created on Main Street. There was a strong emphasis on creating new and appropriate housing opportunities in the heart of the town.

Outcome

The regeneration has led to re-vitalised commercial, residential and leisure facilities. Town centre vacancy rates fell from 37% in April 2009 to 18% in April 2016.

Promoting walking is a stated policy aim at UK, national and local level. Yet urban planning and transport design is still car-orientated.

Better streets and places are good for everyone: raising self esteem for residents and promoting confidence in inward investment.

Low income households spend more than 25% of their income on car ownership. For comparison, the threshold for fuel poverty is 10%.

People who live in deprived areas need better connectivity, notably places to walk. In 2016, 23% of households in the UK did not have access to a car, and households in the highest income quintile travelled over three times further by car than the lowest income quintile (Department for Transport, 2016). In a study of walking in deprived areas, Mason et al. (2011) found that amenity use, especially of parks, play areas and general shops (mainly in the neighbourhood), was associated with more walking. Although promoting active travel is Government policy across the UK – for example, the England Cycling and Walking Investment Strategy 2017 (Department of Transport), the National Walking Strategy 2014 (Scottish Government) and Active Travel Action Plan 2016 (Welsh Government) – there is still a dichotomy with the car-orientated nature of urban planning and transport design. Creating public spaces that are reliant on access by car or other forms of transport can, therefore, reduce access to amenities for significant numbers of people.

The ability to walk around the area where we live also affects consumer transport costs, which makes up a large proportion of household budgets for low income families (McCann, 2000). Almost two thirds of benefit claimants do not have access to a car. For low income households with a private car the total cost of ownership (c. £6,000 a year) can amount to a quarter of household income. For people on a low or average income the share of disposable income used to meet the costs of car ownership is far greater than the 10% threshold set for fuel poverty. Public realm improvements which support walking therefore have a wide role to play in increasing inclusion and reducing inequality.

There is little evidence to link property or infrastructure-led development to economic improvements for the most deprived communities. However, CABE Space (2005) have described how important the perceptions of an area are to prevent urban decline, raise the self-esteem of residents and promote confidence in others for inward investment. Box 12 shows the value of including residents of all ages in evaluations and how people connect with their places. Box 13 demonstrates the importance of wide consultation to ensure projects aimed at increasing walkability are inclusive. Public realm improvements contribute to urban renewal but they also need to be accompanied by economic development strategies which create business and employment opportunities – or they run the risk of leaving people behind (Litman, 2003).

BOX 13

Youth Street Audit, Rye Lane, South London

Background

In February 2012, Living Streets undertook a youth street audit in Rye Lane, Peckham, in the London Borough of Southwark. The aim of the audit was to assess the walking environment from young people's perspective, to identify the barriers young people face and to encourage a healthy and active approach to travel. This location was chosen because it is an obesity hotspot and public realm improvements were planned in near future. Through the audit, participants were included in a meaningful process contributing to real change.

Intervention

Rye Lane is a busy street in Peckham town centre. As well as a walking audit, the street was filmed early in the morning when people were going to work and vans were making their deliveries. The virtual audit showed how pedestrians compete for space with delivery vans, trolleys, shop goods, bins, road works and bus stops. Overcrowding was a key issue around the train station where the buses stop and pedestrians have to wait on a very narrow pavement. The young people's most common words were Peckham, Playground and People – revealing a strong desire and need for people-friendly places.

Outcome

The youth street audit worked with young people to identify underused spaces, understand why they are not used and consider what physical changes or activities could take place there. Recommendations were made for short, medium and long-term public realm improvements. The audit and the recommendations have since been fed into the Pocket Places initiative which enabled Sustrans to work with residents to develop the underused and unloved spaces along Rye Lane and to create temporary and semi-permanent interventions such as a band stand in a public carpark, artwork, resurfacing, tree pits and restricted parking/loading bays.

BOX 14

Wayfinding: Legible Leeds

Information from:

<https://citywayfinding.com/2018/02/15/legible-leeds/>

Leeds City Council. October 2009. Legible Leeds Project, Report to Scrutiny Board, City Development:

<https://democracy.leeds.gov.uk/documents/s35284/Legible%20Leeds%20Project.pdf>

Leeds City Council. September 2015. Design & Cost Report for Legible Leeds City Centre Wayfinding Scheme, Report to Scrutiny Board, City Development

<https://democracy.leeds.gov.uk/documents/s137822/Report%20to%20Chief%20Officer%20Economy%20and%20Regeneration.pdf>

Leeds – The Compassionate City: Tackling Inequalities, Equality Progress 2016 -2017

<https://www.leeds.gov.uk/docs/Equality%20and%20Diversity%20Update%202017.pdf>

Background

Legible Leeds is a strategic wayfinding system which seeks to homogenise pedestrian signage, link new retail developments with the rest of the city centre and promote Leeds as an accessible destination. The need for improved signage was identified by the City Centre Retail Group who provided £25,000 to initiate the project. At peak times, the central shopping streets in Leeds have a footfall of 40,000 people.¹⁷ Before Legible Leeds, route mapping and signage for pedestrians was inadequate and confusing. At least six competing or conflicting on-street systems were in use. The visitor map for Leeds also focused on the road networks rather than highlighting walking routes and did little to reveal destinations and attractions.

Intervention

Funding of £1.2 million from Leeds City Council and Yorkshire Forward enabled the first phase to March 2011. A range of internal and external stakeholders were consulted throughout the development including: Visit Leeds, The Leeds Civic Trust, University of Leeds, Aire Action Leeds, the Waterfront Association, NHS, property owners, retail developers, shopping centre managers, key retailers, hoteliers, and city centre residents. Targeted consultation took place with equality focus groups made up of representatives from the council's Equalities Hub. The project team also spoke to people and organisations that represent disabled people including: the RNIB, Action on Hearing Loss, Guide Dogs for the Blind and Mencap. The 'Legible Leeds' system consists of over 80 on-street signs and a suite of maps and trails.

The key features are:

- Walking routes throughout the city centre, including internal routes within shopping centre, covered arcades and along the Waterfront;
- Prominent and attractive buildings have been drawn as pictograms so that they are highlighted as landmarks for visitors to locate themselves by. The pictograms also act as a visual guide, supporting those with reading difficulties or those where English is not the first language;
- Average walk times to show just how compact and easy to walk the city centre is. The time to destination information also enables those with restricted mobility to better plan their routes;
- Main entrances to buildings, steps, ramps and pedestrian crossings;
- Map colourways specifically selected to give good visual contrast;
- Transport hubs including the train station, bus and coach station and bus interchanges.

Outcome

As a measure of its success two further expansions of the scheme have been financed by development companies (to connect the centre with the opening of the Trinity and Victoria Gate commercial centres in 2013 and 2016 respectively). In 2015, further funding of £115,000 was approved by Leeds City Council to contribute to updates and extensions to the wayfinding system.

¹⁷ http://www.lacockgullam.co.uk/walkit_leeds.html

06

PUBLIC REALM
IMPROVEMENTS
AND CONSUMERS
AND BUSINESS
SATISFACTION

Retailers have been shown to over-estimate the importance of the car for customer travel. In studies, more people walked, cycled or came by bus than car.

There is significant evidence that perceptions of an area – to businesses and consumers – matter.

Across Europe, studies have linked the quality of public spaces to perceptions of attractiveness, quality of life – and where we shop. Even so, it is often assumed that more parking is the answer to struggling high streets.

Retailers have been shown to over-estimate the importance of the car for customer travel. In studies, more people walked, cycled or came by bus than car.

This section discusses attitudes towards public spaces and public realm improvements from the point of view of both consumers and businesses. Although the direct economic value of public realm improvements can be difficult to quantify, there is a significant amount of evidence that suggests that the benefits are derived from people's perceptions of an area (NWDA/RENEW Northwest, 2007). Box 14 illustrates the importance of people's perceptions of the public realm in York. There is also some evidence that, over time, urban quality improvements alone may enhance the attractiveness of an area, and put a premium on locations within it (Whitehead et al., 2006).

Across Europe, a broadly positive relationship has been observed between the quality of public spaces and people's perceptions of the attractiveness of the local area (Holcomb, 1994; Barke and Harrop, 1994; Whitehead, et al., 2006) and their quality of life (Gehl, 2011). As discussed in section 4, this also affects people's propensity to shop and spend. Nevertheless, it is often assumed that our struggling high streets need more parking and should be easier to get to by car. For example, the Federation of Small Businesses has argued that businesses in towns with insufficient car parking lose customers to other destinations. They have claimed that access to parking has a 'significant impact' on store performance.¹⁸ More recently the Association of Town Centre Managers concluded that parking in towns is a complex issue and a successful strategy depends on at least twelve factors – including having an integrated transport and accessibility strategy, minimising traffic in the core and wayfinding (ATCM, 2014).

In a survey of shoppers and retailers in Edinburgh, the shoppers' main concern was for a good range of shops in an attractive environment (Tolley, 2011). However, in 2013 the Royal Institute of Chartered Surveyors cited pedestrianisation as a cause of high street decline, with Holyhead in Wales as an example (Deardon, 2013). This simplistic correlation ignored many other factors contributing to high street decline – most notably the way we shop (see section 8). People value pedestrian-orientated environments. Other studies have shown that retailers support and benefit from pedestrian improvements once they have been implemented (Kumar and Ross, 2006). In a 2017 survey of London's Business Improvement more than 85% agreed that a good environment for walking and cycling is important for business performance (TfL, 2017). Repeated studies show that shoppers are more likely to have negative opinions about traffic and transport than retailers (Hass-Klau 1993, Kumar and Ross 2006, Tolley 2011).

¹⁸ www.fsb.org.uk/101/assets/Car%20park%20survey.pdf

Pedestrianisation has also been attributed to falling sales, ignoring the many contributing factors. In fact, there is consistent evidence that customers like pedestrian environments and dislike traffic.

There is a clear body of evidence that retailers, businesses and agencies overestimate the importance of the car for customer travel. In 2006 Sustrans interviewed 840 shoppers and 126 retailers on two neighbourhood shopping streets in Bristol to find out how customers travelled, and were perceived to travel. This replicated a survey in the city of Graz, in Austria, which found that retailers overestimated the importance of the car for customer travel (retailers assumed 58% of their customers arrived by car, when in fact 44% walked, 8% cycled and 16% arrived by bus). In Bristol, retailers overestimated the importance of the car by almost 100%. They assumed that 41% of their customers arrived by car; only 22% had done so (Sustrans, 2006). Similarly, in 2015 a survey of local businesses in Waltham Forest (see Box 15) found that business believed 63% of their customers arrived by car and only 49% walked. A survey of visitors to the street revealed that only 20% had arrived by car and 64% had walked.¹⁹

¹⁹ www.enjoywalthamforest.co.uk/wp-content/uploads/2015/03/LBR-BUS-3.jpg



Reinvigorate York

Information from:

Cabinet papers:

http://www.york.gov.uk/info/200174/planning_and_building_control/686/reinvigorate_york

https://www.york.gov.uk/downloads/file/3346/streetscape_strategy_and_guidance_low_resp.pdf

City of York 'A' Boards Policy
https://www.york.gov.uk/downloads/download/3412/a_boards_policy

City of York 'City Transport Access Measures' <http://democracy.york.gov.uk/documents/s121198/City%20Transport%20Access%20Measures.pdf>

Background

In 2012 The York Visitor Survey found that, overwhelmingly, the top activity of the seven million visitors to the city each year is to "stroll around and enjoy the ambience of York", together with "eating and drinking out". Less than 2 million of the 7 million visitors reported going into the major attractions. This illustrates the vital importance of the quality of public spaces. The City of York Council put forward the economic case that improving the public realm in the city centre is vital to attract "entrepreneurs, investors, students and people looking for jobs".

Intervention

In September 2012, the Cabinet approved a £3.3 million investment across six city centre locations to 'Reinvigorate York'. The key objectives of the programme were to reinvigorate the city centre economy, increase footfall, improve quality of life for residents, increase the sense of York as a special place and maintain its position as a top tourist attraction. An initial £200,000 was allocated to a package of measures including improvements to paving, lighting, seating, bins and de-cluttering public spaces. The economic benefits of improving the environment for pedestrians, cyclists and public transport and increasing accessibility is a theme throughout.

In February 2017, York introduced a trial 'A Boards' policy which banned pavement advertising boards from within York's inner ring road and detailed alternatives such as wall-mounted signs and awnings which do not obstruct the footways.

In February 2018 York took further action to increase pedestrian safety by deciding to identify additional locations where vehicle restrictions will take precedence over access requirements due to the potential conflict between pedestrians and vehicles.

Outcome

This case study demonstrates both the importance of people's perceptions of quality of the public realm and the City of York Council's confidence of the economic benefits of more attractive streets through their willingness to pay for public realm improvements. The decision to invest in the city's public spaces anticipates the value of enhancing the city's image as an international destination and widening its offer: as a place to live and work, as a means of attracting higher value employment and providing a catalyst for private sector investment.

Charging road users and ring fencing the revenue for public realm investment could also enhance business performance in the long run.

Restricting traffic does not necessarily reduce the number of customers.

There is also evidence that shows that traffic calming measures do not adversely affect small businesses (Drennen, 2003). Contrary to expectations at the time, a combined traffic restraint and pedestrianisation scheme in Oxford in 1999 did not lead to a reduction in visitor numbers despite a 17% reduction in car trips to the centre (Parkhurst, 2003).

It is not only the business sector that can be sceptical about measures that restrict vehicular traffic. For example, a survey of local authority and academic attitudes towards road user charging reported that about 83% of respondents were either 'very concerned' or 'fairly concerned' with the economic impact on the urban area (Ison, 2000). However, research by Whitehead, which has modelled the impact of road user charging on urban areas, has found that where revenue is ring-fenced for public realm investment it may enhance business performance in city centres in the long term (Whitehead, 2002).



Waltham Forest – 'Mini Holland'

Information from:

²⁰ <https://www.enjoywalthamforest.co.uk/wp-content/uploads/2015/03/LBR-BUS-3.jpg>

²¹ www.outspokendelivery.co.uk/waltham-forest/

²² Enjoy Waltham Forest Walking and Cycling Account 2017

²² <https://www.enjoywalthamforest.co.uk/wp-content/uploads/2018/01/WFC179782-Walking-Cycling-Account-Bro-v3.pdf>

²³ Waltham Forest Economic Growth Strategy 2016 – 2020 https://walthamforest.gov.uk/sites/default/files/Economic_Growth_Strategy_Report_2016_20_0.pdf

Background

In 2014, the Borough of Waltham Forest was one of three London communities awarded £30 million by Transport for London as part of the 'Mini Holland' cycling infrastructure programme. Rat-running by traffic along narrow residential streets had been identified as a key issue. The programme worked with residents and local businesses to improve conditions for pedestrians and cyclists by redirecting non-local vehicular journeys and re-allocating road space for walking and cycling.

Intervention

Pedestrian improvements included the creation of wider footways and raised junction tables, new street furniture, tree planting, zebra crossings, improved street lighting, seating and cycle parking. New public spaces, street art and pocket parks were introduced in areas formally used by traffic. The project also includes a 4 kilometre segregated cycle lane. Non-local through traffic was redirected onto the main road network and dozens of blended 'Copenhagen' crossings were installed. These give priority to pedestrians crossing side streets on main roads. Engagement, consultation and evidence-based decision making was key to the project. A 2015 survey found that local businesses believed that 63% of their customers arrived by car and only 49% walk. A survey of visitors to the street, however, revealed that only 20% had arrived by car and 64% had walked.²⁰

Deliveries to shops and residents were also cited as a barrier to reducing vehicular traffic. In response, seed funding of £400,000 from the London Air Quality Fund sought to support a cargo bike and electric vehicle delivery service to serve businesses and residents (ZED Waltham Forest). The service also provides last-mile deliveries for goods coming into the area from national delivery services and is expected to be a profitable business by 2019.²¹

Outcome

The project dramatically lowered traffic levels and created more space for people to walk and cycle to and through the area. The final scheme demonstrates how streets laid out before the era of the car can be re-balanced to create a safer environment which benefits both residents and businesses. The number of vehicles recorded on 12 key roads in the borough reduced by 56%. Concerns that vehicles would move to nearby roads outside the 'Mini Holland' area have not been realised. Traffic levels on nearby roads have only increased by 3 – 11%. Across the borough there are 10,000 fewer cars on the road each day.²² The scheme has also encouraged more businesses to open in the area leading to increased economic and employment opportunities.²³

BOX 17

Connecting Leicester

Information from:

<https://www.leicester.gov.uk/your-council/city-mayor-peter-soulsby/my-vision/connecting-leicester/>

Ecotec (2007) **Economic Impact of the Public Realm: A Final Report to the East Midlands Development Agency**

Leicester Public Realm Strategy (2005) www.leicester.gov.uk/your-council-services/ep/economic-regeneration/regenerationnews/strategies-forchange/prs/

Leicester City Council Scrutiny Review, review of 'Connecting Leicester', November 2012

Leicester City Council, **Economic Action Plan 2016 – 2020**

<https://www.leicester.gov.uk/media/57817/economic-action-plan-2016-2020.pdf>

University of the West of England. 2017. "Traffic Removal and the Renaissance of Leicester" <https://trafficremoval.wixsite.com/home/videos>

Background

Connecting Leicester is the successor to 'Streets and Spaces' initiative. It is a series of projects, spearheaded by Leicester's first City Mayor Sir Peter Soulsby, to improve routes through the city centre for pedestrians and cyclists, and make the city centre more attractive to investors and developers. This builds on the three-year 'Streets and Spaces' programme which invested £19 million in improvements, including almost completing the 'retail circuit' of Gallowtree Gate, High Street, Hotel Street and Market Street. The Mayor has stated his aim is to greatly improve the pedestrian experience and reverse the impact of the car, encouraging visitors to explore the rest of the city.

Intervention

Connecting Places, a further £19 million of investment, reconnects the retail heart of the city with the medieval quarter and the Golden Mile. Individual projects include the new The King Richard III visitor centre (£4 million), Leicester food market (£5.8 million) and Cathedral Gardens (£2.5 million). Pavements have been resurfaced and widened throughout the main shopping areas. Public realm investment in Peacock Lane and St Martin's has created principally pedestrian spaces. The creation of Jubilee Square (£4 million) transformed an area dominated by car parking, a bus terminus and road. As at March 2018, Leeds City Council is investing £8.5 million from Local Growth Fund and developer contributions from a new retail park to create a traffic-free environment in Church Street, a main shopping area.

Outcome

Connecting Leicester has been credited with attracting £30 million of private sector investment in retail, restaurants, bars, new businesses and residential developments in the city centre. In 2015 Leicester was ranked third in Property Week's hot 100 UK retail locations. In 2017, the University of the West of England produced a video on how Leicester has reclaimed its city centre for pedestrians and the transformation has been the subject of awards and conferences.

Good quality public realm is considered by entrepreneurs to be an effective part of managing high streets. Landowners and retailers are even willing to pay to improve the streetscape to attract tenants and customers.

Various techniques have been employed to measure the relative value of street improvements. In each case the main attributes of a good pedestrian environment include: cleanliness, safe crossings, connectivity and a sense of security.

However, it is a measure of the importance placed on public realm that some retailers have expressed a willingness to pay for it (Sinnott et al., 2011). In 2003, the Central London Partnership (CLP) and Transport for London (TfL) commissioned a study to examine the economic benefits of walking and public realm improvements. The study included a series of interviews with people from a range of business sectors (landowners, developers, businesses). 85% of respondents identified the quality of the streetscape as important to the ability to attract customers or tenants. All the landowners interviewed had made significant investments in improving the quality of their street environment. It was further argued that a failure to improve the quality of the public realm may lead to businesses reconsidering their investment (Llewelyn Davies, 2003). Box 16 above shows how street improvements in Leicester were integral to attracting John Lewis to the new Highcross development. A study by Whitehead of entrepreneurs' attitudes found that they considered good quality public realm to be an effective part of town and city management (Whitehead et al., 2006).

Various techniques have been developed to measure pedestrian preference for more appealing public spaces and better walking environments. Kelly et al. (2011) used three approaches to measure the relative value of different street improvements (e.g. high-quality materials or safety attributes) and compared the findings. Their methods were:

- A computer based tool developed using stated preference surveys;
- An on-street survey designed to investigate values and attitudes towards different attributes of the pedestrian environment along a route;
- An 'on the move survey' where pedestrian volunteers were interviewed while walking along the route to get an actual account of their experiences as they walk.

While each approach provided a different perspective on walkability, the general attributes of a good pedestrian environment were found to include: pavement cleanliness, safe crossing places, good connectivity and a sense of security (ibid.).

Householders and customers are willing to pay for better streets too, revealing preferences for more attractive and sophisticated street designs.

Londoners were willing to pay an extra £14.78 to £17.35 per year on their council tax for improvements in the walking environment.

Outside London data has identified a WTP of £20 to £45 p.a. per person for different townscape improvement packages.

It is not only retailers who express a willingness to pay (WTP) for better streets and places. For example, Willis et al. (2005) found in their survey that the mean willingness to pay for improved street lighting was £16 per household per year, although in some instances this was less than the cost of implementing the scheme. An earlier study by Garrod et al. (2002) revealed that people had a positive willingness to pay for a reduction in the negative impacts of road traffic and for more attractive, sophisticated traffic calming measures – rather than basic designs such as road humps, speed cushions and chicanes. This approach enables urban designers and planners to assess people's preferences through the relative values they give to public realm improvements. For example, as part of the design of the Castlegate Square area in Aberdeen, Davis and Laing (2002) found that the public placed a negative value of £5.60 on replacing the current railings in the square with new railings and a positive value of £6 on replacing the railings with bollards (i.e. a difference of £11.60).

The state of our streets really matters to people and this can be used to estimate the value of urban realm improvements. For example, Transport for London (TfL) have developed a 'Valuing the Urban Realm' toolkit based on the Pedestrian Environment Review System (PERS) – see Box 18. Research using the PERS evaluation tool has found that Londoners are, on average, willing to pay an extra £14.78 to £17.35 per year on their council tax for improvements in the walking environment (Accent and Colin Buchanon, 2006). Similarly, Stated Preference experiments by Sheldon et al. (2007), also in London, produced willingness to pay estimates for high street improvements amounting to £45 per person per annum across all the high streets visited. These findings prompted the Department for Transport to commission research into the use of Stated Preference techniques to value public realm improvements more generally (Atkins Consultants, 2011).

The authors concluded that there was evidence of significant, positive WTP for townscape improvement packages in towns and cities outside of London too. They gathered new survey data from four non-London sites and found a WTP of £20 to £45 per annum per person using the street, depending on the elements in the townscape package. The research provides values for different improvement packages (see Table 2).

Householders and customers are willing to pay for better streets too, revealing preferences for more attractive and sophisticated street designs.

BOX 18

Applying Transport for London's (TfL) Urban Realm Toolkit to Croydon High Street

Background

Croydon's town centre has persistently struggled since the early 1990s with higher vacancy rates (up to 32% office vacancies) and lower footfall trends than national averages. In 2012, Croydon Council launched a strategy to address these long-standing issues to "attract future private sector residential, retail and commercial investment" (GLA 2012). This would involve investment in the public realm and public transport, to help change people's perception of the area by creating more attractive, functional and safe public places.

Intervention

The public realm improvements include a wide range of measures, including: de-cluttered streets, extended and/or replaced footways, new planting, new street furniture, rationalised parking and servicing, pedestrian crossings and road junction improvements. This will be complemented by improvements to buildings and facades and direct measures to support retailers. The project has two quantifiable objectives. The first is to achieve a 5% increase in footfall – based on comparative results for Harrow Town Centre public realm improvements. This would result in an additional yearly footfall count of approximately 400,000. The second objective is to increase the amount spent on the high street. Currently the average spend is £29 per person; if this remains constant, the increase in footfall would deliver £47m of additional retail expenditure per year within the intervention area (although this could be displaced from elsewhere).

Outcome

The outcomes of the project will be measured using existing data capture methods (e.g. vacancy rates) and through user and business surveys. However, the project has also been reviewed using TfL's toolkit 'Valuing the Urban Realm 2012'. The toolkit provides monetary values for proposed improvements to public space utilising the Pedestrian Environment Review System (PERS). This generated a value for an increase in public wellbeing arising from streetscape improvements of £11.4 million. This results in a benefit/cost ratio of 1.36:1. The private property value uplift from the proposed urban realm improvements or shop rental value increases are estimated at £89.2m (ibid.).

The way we shop has changed and so have our expectations of the high street. Shoppers now seek to 'experience' something different. More needs to be known about how better streets can add to that experience.

TABLE 02

Willingness-to-pay for attributes of different improvement packages

Attribute	Willingness-to-pay, £ per annum		
	Central estimate	Judgemental 95% confidence interval on WTP	
		Lower Bound	Upper Bound
Priority: Shared Space	20 to 25	2	50
Priority: Full Pedestrianisation		10	30
Priority: Limited Vehicle Access		15	35
Surface (material high quality)	10	2	17
Activity (high, where complementary to uses on street)	10	3	6

As discussed in the introduction, our high streets have been under pressure for many years. The way we shop has changed and so too have our expectations of what high streets should offer residents and visitors. A report by the Department for Business, Innovation and Skills (BIS, 2011) describes how consumers now seek more 'experiences' and a greater choice. It highlights the need for high streets to respond to these changing markets; the most successful examples are those with something different to offer, that are places to visit for leisure, culture and specialist shopping rather than for routine purchases (ibid.). The Department for Business Innovation and Skills rightly identified a gap in understanding in terms of how consumers balance notions of value and price. More evidence is needed on the contribution that key elements, such as the quality of the public realm, retail diversity and service, can make to increase what the high street offers.

07

FUTURE OF THE HIGH STREET AND THE PLACE ECONOMY

This section looks at the future of high streets and how the digital economy impacts on the place economy and the commercial benefits of walkability.

Digital connectivity is important, but high streets and town centres also need to be walkable and accessible with a diverse mix of services to thrive in the digital age.

Economics literature explores the growth of retail hybrids that combine online retailing with physical platforms.

Retail change is not new but the pace of change is and is seen across all ages.

The first three sections of this report assessed commercial benefit against three key performance indicators: the impact on existing business performance using measures of footfall and trading; urban regeneration using measures such as new business, investment and employment; and improved consumer and business perceptions. This fourth section looks at the future of high streets and town centres and how the digital economy impacts on the place economy and the commercial benefits of better walking environments.

The evidence reviewed in the first three sections of this report shows that people value walkable places. Investing in the public realm and the pedestrian experience produces measurable commercial benefit to retailers and a wide range of additional and measurable economic benefits. Digital technology, however, is changing many aspects of our lives and, particularly the way we shop and do business. The importance of digital connectivity and the services that support it are illustrated by commitments such as the Scottish Government pledge to extend high speed fibre broadband to 95% of Scotland in 2018. Many of these changes are an opportunity to improve not just the retail 'experience' but our relationship with high streets and urban centres – the wider place economy. To thrive in the digital age, high streets need to be walkable, accessible, diverse and vibrant offering a mix of residential accommodation, workplaces, services and shop (Distressed Retail Property Taskforce, 2013). It is this multiplicity of uses that define successful high streets and town centres and which, crucially, are enabled and boosted by investment in the public realm and walkability.

The way we shop is increasingly digital. Extensive research in economics literature has explored the rise of online retailing and its impact on traditional retail models (Lieber and Syverson, 2012). Research on the future of the high street and the place economy is itself dynamic, as new retail technologies are adopted within weeks or months rather than years. Predictions largely centre around two narratives: that retail will move online and physical shopping will largely disappear, and that large, out-of-town retailers will continue to grow (Hortascu et al., 2015). These narratives, however, have been challenged (ibid.) and current models highlight the growth of retail hybrids – shops that combine online retailing with physical platforms. The impact of such models on our high streets, and the economic case for investing in better streets and the public realm, is discussed further in this section.

High streets and town centres have been undergoing change for decades, presenting both challenge and opportunity. The rise of regional and out-of-town retail parks in the late 1980s and 1990s, and the increased use of the internet and online shopping since the 2000s, has

Hybrid retailing – which requires both a physical and online presence – is predicted to be the dominant form of retail in coming years.

sparked years of media headlines that the high street is in inevitable decline. One research team notes that Google Trends has declared the 'death of retail' in numerous forms since 2009 (Hotascu, 2015). While the number of shops has been declining since the 1920s, high streets now account for less than a third of the consumer products and experiences on offer compared to 50 years ago (Grimsey, 2013).

One of the key challenges for the high street has been the pace of digital change, with the growth of online shopping taking place in a short period of time. In 2017, 77% of adults bought goods or services online compared to 53% in 2008 (ONS, 2017). The largest rise in online spending was in those aged 55 to 64 years, where there has been an increase of 30 percentage points since 2008, to 75% in 2017 (ONS, 2017). Some of the biggest retailers have no physical stores and trade solely online, leading some analysts to conclude that there is now an over-supply of high street retail units which is underpinning vacancy rates (Wrigely, 2015 and Dobson, 2016). At least one independent retail analyst predicts that 20% of shops will need to close in the next few years due to rising costs and falling sales in physical stores.²⁴

The social value of high streets and urban centres, once thought to be exclusive to physical location, is also being altered by technology (Digital High Street Advisory Board, 2015). The high street and urban centres are essential for face-to-face meetings, social inclusion, and community cohesion (Joseph Rowntree Foundation, 2007) but social media trends are changing these long-standing behaviours. At the beginning of 2017, the total number of social media users in the UK reached over 39 million users, with estimates of up to 42 million users. This translates to a penetration rate of 58% and 62% of the UK population respectively.²⁵

There are several features identified in the literature which are changing both the way we shop now and the role of our high streets and town centres. These are summarised below.

Omni-channel retailing

Omni-channel retailing is a type of retail which offers different integrated methods of shopping e.g. in a physical shop, online or by phone. Consumers can engage with a retailer on traditional and mobile websites, tablet apps and smartphone apps and move to a competitor instantly online. Products can be ordered for home delivery on the same day or at a named day and time, and collected from a local store or from a network of national collection points. This type of hybrid retailing – which requires both a physical and online presence is predicted to be the dominant form of retail in the short to medium term (Hortascu, 2015).

Oversupply of high street retail units is one reason for vacancy rates. At least one retail analyst predicts 20% of shops will need to close over the next few years due to rising costs and falling sales.

The social value of high streets is changing as the number of social media users grows.

Hybrid retailing – which requires both a physical and online presence – is predicted to be the dominant form of retail in coming years.

Physical locations need to be digitally interactive to attract footfall.

High street retailers are becoming more creative to encourage footfall and sales. Shopping on the high street and in town centres is increasingly being re-branded as an 'experience'.

Smart Shops: in-store experiences, augmented reality and virtual reality

Physical stores are making their locations interactive to attract footfall and justify the costs of physical operations. Many are using tablets and smartphones for taking payments, demonstrating products, offering information, and encouraging social sharing. Through transmitters (BLE beacons) that communicate with smartphones, retailers can send personalised notifications to each shopper's mobile phone/device.

As a result, high street retailers are becoming more creative to encourage footfall and sales. From in-store DJs to selfie booths and test kitchens, shopping on the high street and in town centres is being re-branded as an 'experience'. Large retailers are investing in augmented reality and virtual reality technologies. In 2017, Topshop on Oxford Street transformed its window into a virtual reality waterslide ride through London.²⁶

The same technology was used at a new footwear store in Camden to offer shoppers a tour of the brand's UK factory.²⁷ Amongst the technological innovations in Marks and Spencer's store in Amsterdam, is a 'virtual rail' which allows customers to browse life sized imagery of clothing on a touchscreen, imitating a real-life clothing rail.²⁸ At Westgate Oxford UK, Uniqlo is hosting in-store events such as yoga mornings, mindfulness workshops and tennis events.²⁹

²⁴ The Observer. 17 February 2018 "Apocalypse now for Britain's retailers as low wages and the web cause ruin" <https://www.theguardian.com/business/2018/feb/17/uk-retail-industry--gloom-high-street-shift-consumers>

²⁵ Statista: "Social Media Usage in the UK" <https://www.statista.com/topics/3236/social-media-usage-in-the-uk/>

²⁶ www.topshop.com

²⁷ <http://www.drmartens.com/uk/dmsbootroom>

²⁸ <https://www.marksandspencer.com/en-nl/>

²⁹ www.uniqlo.com

A retail perceptions report found that 71% of shoppers surveyed would visit a store more often if augmented reality was available.

Augmented virtual reality shopping can increase footfall by 200%.

A retail perceptions report found that 71% of shoppers surveyed would visit a store more often if augmented reality was available.

Augmented reality has the potential to increase walkability and navigation in town centres -supporting the wider implementation of wayfinding projects.

Heritage and arts projects are using augmented and virtual reality to encourage visitors and interaction in public spaces.

Retailers are reporting that these new strategies – creating an ‘experience’ and using technology to augment in-store activities – increases footfall and sales. In 2017, retailer Rebecca Minkoff increased sales by more than 200% following the introduction of interactive touch-screens that let shoppers choose products to be sent to their dressing rooms.³⁰ Touch screen order points and tablets have become commonplace in many retailers, enabling customers to browse the full catalogue and order for delivery to store or home. For some retailers this has supported reduced floorspace and/or the merging of brands within a single unit.

A retail perceptions report by Manatt Digital Media in 2016 found around 40% of shoppers would pay higher prices for a product they could experience through augmented reality; 61% preferred to shop at stores with augmented reality implementation, and 71% of shoppers suggested they would frequent a store more often if augmented reality options were offered (Leggatt, 2016).

An emerging area of research is the impact of augmented reality on urban planning, and specifically, using technology to increase permeability, walkability and navigation. Augmented reality can apply navigational information in real time for pedestrians. Pedestrians soon, could use personal wearable displays capable of providing routes and directions based on factors like construction, crowding and updated footpaths. The technology could also help highlight poorly maintained paths or routes based on public data participation or official tracking to increase accessibility. Wayfinding best practices like pedestrian circulation, consistent design, colour and font selection could also be digitally implemented at lower cost to elements of physical infrastructure (Berck, 2017). Such technology – when widely available – is likely to increase the economic benefits of physical wayfinding interventions in city centres such as Legible Leeds (See Box 14).

The High Street Stories project is another example of how virtual reality can be used to integrate digital features into real world environments.³¹ The 2011 earthquake destroyed over 70% of the historic and cultural landmarks in Christchurch, New Zealand. New Zealand’s Historic Places Trust has harnessed virtual reality technology to enable people to walk around the area using a mobile phone to see images and listen to the history of the now demolished buildings in the High Street as it was before the quakes. Several public art projects are also using augmented and virtual reality to encourage footfall and interaction, notably in Miami, Las Vegas and New York.

Walkable high streets and urban centres will increase in importance as retailers and other businesses no longer compete on price alone and customer experiences are key to attracting sales.

In the coming years, retailers and other businesses are unlikely to be able to compete on price alone. Consumer experience will be key to attracting and retaining sales. To achieve this, walkable, accessible high streets and town centres are likely to grow in importance (Quercia et al., 2015). This focus on improving the pedestrian environment and using technology to improve shopping experiences is reflected in very recent projects such as the temporary animation of Bird Street in London (see Box 19).

³⁰ CNBC, 9 September 2017. Interview with Rebecca Minkoff. <https://www.cnbc.com/2017/09/09/how-rebecca-minkoff-uses-tech-to-drive-triple-digit-sales-growth.html>

³¹ www.highstreetstories.co.nz

Heritage and arts projects are using augmented and virtual reality to encourage visitors and interaction in public spaces.

BOX 19

Bird Street, London

Information from:

<https://newwestend.com/delivery/advocacy/transformation-projects/>

Background

Bird Street is a cul-de-sac on the northern side of Oxford Street. The street's limited footfall and proximity to one of Europe's busiest shopping areas presented an opportunity to engage the public with ways digital technology and social media could re-vitalise high streets. The project sought to re-purpose the underused space and facades into a traffic-free destination. In 2016, the area's BID – the New West End Company – organised 11 traffic-free events on Oxford Street and Regent Street which attracted an additional 8 million visitors to the area. The Bird Street project was viewed as an extension of these.

Intervention

From July – December 2017, Bird Street was re-purposed into the world's first 'Smart Street'. The pilot project secured £180,000 of funding through Transport for London's Future Streets incubator scheme and the Marylebone Low Emission Neighbourhood. It also attracted private donors. The street showcased a range of new sustainable technologies, including Airlite's clean air bench and air purifying paint which neutralises pollutants such as nitrogen oxide and nitrogen dioxide. A Pavegen surface converted the footfall of visitors into electricity to power bird sounds during the day and lighting in the evening. The technology can be used to link with consumer apps.

The project offered low trading fees of £108 per day to give small traders and brands the opportunity to trade in a prime retail location and a collection of pop-up retailers offered visitors a changing mix of fashion, technology and out-door dining on the street. One store offered customers ways to pay without going to a physical checkout – using an app or selfie mirrors, where they could take a picture with a product to pay.

Outcome

The Bird Street pilot was intended to be a catalyst for further redevelopment and technological innovation in the Oxford Street area. The New West End Company is exploring whether the air filters could be installed at bus stops to improve local air quality. Footfall, dwell time, air quality and commercial revenue was monitored as part of the pilot.

Mobile wallets and the use of marketing technology which is increasingly individualised, enables consumers to manage finances, purchases and transactions 'on the go' and instantly.

People often engage with digital marketing and location based mobile marketing services before they visit town centres.

Social commerce is expected to grow dramatically over the next few years.

Mobile wallets and marketing technologies

In 2017, 78% of adults had used the internet "on the go" (that is, away from home or work) using a mobile or smartphone, portable computer or another handheld device. For young people the figure is even higher, almost all adults aged 16 to 24 years (98%) had accessed the internet "on the go" (ONS, 2017). Mobile wallets, most often located on mobile phones, allow consumers to manage their finances and process transactions instantly. They can also be set up with personal data such as purchase history, loyalty points and vouchers to encourage personalised offers.

Prior to a visit to the town centre, people often engage with digital marketing as they search for information, check social media or plan travel (Digital High Street Advisory Board, 2015). Through contactless technologies such as QR codes, NFC tags and BLE beacons, a visit to a town centre will generate data about individual preferences and trigger targeted marketing from companies. Geo-location of mobile devices also enables location-based mobile marketing through services such as Google Maps and Facebook Place.

Social shopping

Two-thirds of the UK's online adults have a current social networking profiles. Nearly all are on Facebook, 20-30% are also on Twitter, YouTube or WhatsApp, and most visit social sites more than once a day. A substantial number of adults seek information and recommendations from YouTube, user reviews and closed social networking groups. Digitally aware businesses are increasingly providing offers and services to customers via social media.

While social commerce is currently less than 2% of total retail sales, its share of the retail market is expected to grow dramatically over the next few years with research suggesting revenue generated could reach \$165 billion globally by 2021.³²

Retail alone cannot reinvigorate high streets and urban centres.

Pop-up retail grew by 12.3% in 2015 and accounted for a turnover of £2.3 billion. Space for markets is a feature of many town centre public realm and regeneration schemes.

Other high street and town centre businesses are changing their offer in response to changing technology. National Theatre Live is just one example of this.

Retail alone cannot reinvigorate high streets and urban centres.

Pop-up and street-trading

Since 2014, the mobile company EE has commissioned the Centre for Economic and Business Research to report on the pop-up retail sector in Britain. In 2015, the report found that the pop-up retail economy grew 12.3%, employed over 26,000 people and had a turnover of £2.3 billion (Centre for Economic and Business Research, 2015). Mobile point of sale systems and other cloud applications enable businesses to open relatively inexpensively to compete on the high street (see Box 19). However, reliable internet connections are key to most pop-ups success. More temporary, on-the-go stores such as street food carts, pop-up stores for crafts and seasonal goods have become a feature of many high streets and town centres, with markets a feature of many projects.

Beyond retail

Restaurants, cafes, pubs, cinemas and other high street businesses are also affected by the pace of digital innovation. Many restaurants, cafes and pubs now engage in digital marketing and offer online reservations. Many local theatres and cinemas are changing their offer in response to the availability of home entertainment streaming services. For example, the expansion of National Theatre Live which broadcasts theatre productions to cinemas around the UK and internationally.

Research suggests that retail alone cannot reinvigorate high streets and town centres (Dobson, 2016, Distressed Retail Property Taskforce, 2013 and Quercia et al., 2015). The place economy is increasingly being shaped by community-led regeneration and cross-sector partnership working and this is likely to strengthen over the coming years. Swansea (Box 20) offers an example of arts organisations spearheading the reinvigoration of a city centre and working in partnership with a housing association and private investors to create a vibrant, walkable destination. This has led to substantial private investment and the 'saving' of a high street through further residential development.

³² Technavio. July 2017. "Global Social Commerce Market 2017-2021"



Swansea, Wales

Information from:

Coastal Housing Association:
www.coastalha.co.uk

The Observer. 8 October 2016. "How art restarted the heart of Swansea's high street"

BBC News. 6 November 2016. "The amazing change behind Swansea's high street"

Wales Online. 25 March 2017. "How Swansea's hip high street is evolving into something cooler still"

Background

Swansea high street was one of the UK's most deprived urban quarters (Littlejohn and Davies, 2017) and suffered from high vacancy rates and declining footfall for many years. An area once associated with empty shops and decline is now amid a revival, led by community housing, the art and digital sectors.

Intervention

Since the 1990s, housing association Coastal has invested £30 million in buying the high street's empty clothes shops, call centres and nightclubs. Some premises were leased to artists at low rents and a former Iceland supermarket is now home to a theatre and gallery with 36 studios and library. Other high street buildings were demolished as part of an Urban Village strategy to bring residential accommodation into the high street and surrounding area. 133 flats, office accommodation, independent businesses and Swansea's TechHub, which provides space for 20 digital start-ups has reinvigorated the high street. One of the most visible signs of change and vibrancy is the street art, with around 100 artists now working in and around the high street.

Outcome

Private investment is now following the housing, art and digital sectors who led the regeneration. In 2017 a £500 million transformation of Swansea city centre was announced with an arena and 'city beach', area with bars, restaurants and a five-star hotel. A 700 flat student tower on the high street will be finished in summer 2018. It is hoped this development will bring further footfall to the high street and help create a new gateway to the city centre.

08

CONCLUSIONS

There is still evidence that investment in better streets and places supports the delivery of a range of commercial returns.

The Pedestrian Pound made the case that investment in better streets and places can deliver a range of commercial returns. The evidence then, and now in 2018, suggests there is a positive impact on retail footfall, turnover, property values and rental yields, particularly for well-designed projects. There was and still is evidence that well-planned and implemented public realm investments could support regeneration efforts. It remains more difficult to link public realm improvements to an increase in business start-up or survival rates, net employment and tourism. It was also important to acknowledge that data did not exist on potential negative effects of gentrification on communities in deprived areas. The report noted that the public appear willing to pay for pedestrianisation and better townscapes. In contrast, business organisations and some businesses can be out of step with the views of their customers – valuing accessibility by car more than the quality of the public realm.

Walking is still undervalued, but progress has been made with the measurement of the commercial impact of walkability.

Five years ago, the report concluded that research in this area is largely underdeveloped. Walking is still undervalued; however, this update demonstrates that there has been some progress. Cities such as New York are measuring the commercial impact of improved 'walkability' – for example on retail sales. Case studies remain the main source of evidence because it can be difficult to identify good control groups for area-based interventions (as identified in section 3).

The focus on high streets as places and brands coincides with a shift in emphasis towards the consumer 'experience'.

In this report, the emergence of the digital economy and its intersection with the high street is explored for the first time. From the offer of augmented realities, use of mobile wallets, growth in 'social' shopping or pop-up vendors, the nature of shopping has fundamentally changed. Retail alone cannot save the high street. The focus on high streets as places – and as brands in themselves – coincides with a shift in emphasis towards the consumer experience. Making places better for walking puts people at the forefront of this reinvention of our high streets and opens new opportunities.

Pedestrian friendly streets are essential to support businesses as they adapt in this digital age.

As online shopping and emergent technologies continue to grow, businesses will adapt and consider their offering. Pedestrian-friendly environments will be key to supporting not just retail but all kinds of high street and town centre businesses and services. The role of the high street in our daily lives is fundamentally changing, presenting opportunities to retain and attract footfall and sales.

This report, produced by Living Streets, can be downloaded from www.livingstreets.org.uk/pedestrianpound

SIX TAKEAWAYS



01

Investments in the public realm and walkability make economic sense. The evidence we have – from the UK and internationally – demonstrates increased footfall and trading.

02

High street decline is a long-standing trend with many causes and variables. It is not, however, inevitable. Businesses, high streets and urban centres are responding to the changing ways we shop and live with a range of actions to encourage footfall and increase sales. The most successful of these recognise the economics of place and the need to improve the pedestrian experience and accessibility.

03

Consumers, and increasingly businesses, are willing to pay for improvements to the public realm that enhance the walking environment and increase accessibility. Public realm interventions should be carefully designed to ensure that local people – as well as the high street – benefit from them.



04

Business owners and organisations still over-value the importance of parking and car access to their footfall and sales revenue. Business organisations need to be aware of the evidence in this area to promote the economic benefits of walkability, public spaces and provision for cycling and active transport users to members.

05

Improvements to the public realm and pedestrian environment increase residential and commercial property values. High rents restrict local access to home ownership and reduce retail diversity, as smaller businesses are priced out of the market. Regeneration should be designed to ensure that high street and residential diversity is promoted.



06

Evaluation needs to be built into all project design. Information deficits act as a barrier to investment and sharing what works to create vibrant and economically successful high streets and town centres.

FURTHER RESEARCH

01

The field would benefit from better evaluations of public realm interventions. These should include baseline assessments of economic indicators as well as methods for calculating additional value.

02

Assessments should include the potential equalities impacts on communities from processes such as gentrification. Evaluation of regeneration spending is particularly in need of more rigour.

03

More research is required into the elements of public realm improvements that are likely to yield positive impacts to a wide range of stakeholders. We know that good design matters and pays for itself in the long-run, but we know less about how (for example) investments can be harnessed to create employment for local people.

04

Case study evidence suggests that partnership approaches to urban regeneration are more effective than solely market-led approaches. This hypothesis needs further testing.

05

The value of the high street to communities is often mentioned but has never been fully explored. The social value of the high street is an under-developed area of research, which would strengthen the case for better funding and more targeted policy measures to support its survival.



GLOSSARY OF TERMS

Additionality

is the extent to which something happens as a result of an intervention that would not have occurred in the absence of the intervention.

Contingent valuation

is a survey-based economic technique for the valuation of non-market resources, such as environmental preservation or the impact of contamination. It assesses people's willingness to pay for a good or service, or their willingness to accept compensation for its loss. It is sometimes known as the stated preference model in contrast to a price-based revealed preference model.

Counterfactual

is a scenario that expresses what has not happened or is not the case but could, would, or might happen under differing conditions. For example, an analysis of what outcomes would have taken place in the absence of a policy or intervention.

Deadweight

is the estimate of what level of target outputs/outcomes would be produced if the intervention did not go ahead. It is the 'do nothing' or do minimum option and the outputs/outcomes produced under this option are referred to as deadweight. In some cases, deadweight might be estimated by assuming that a proportion of the total gross additional local effects would go ahead anyway under the reference case.

Displacement

refers to the number or proportion of intervention outputs (occurring under the reference case and the intervention options) accounted for by reduced outputs elsewhere in the target area should also be deducted.

Economic multiplier:

This refers to further economic activity (jobs, expenditure or income) associated with additional local income, local supplier purchases and longer-term development effects then need to be added.

Hedonic pricing

The most common example of the hedonic pricing method is in the housing market: the price of a property is determined by the characteristics of the house (size, appearance, features, condition) as well as the characteristics of the surrounding neighbourhood (accessibility to schools and shopping, level of water and air pollution, value of other homes, etc.). The hedonic pricing model is used to estimate the extent to which each factor affects the price.

Leakage effects

refer to the number or proportion of outputs (occurring under the reference case and the intervention options) that benefit those outside of the intervention's target area or group should be deducted from the gross direct effects.

Substitution

This effect arises where a firm substitutes one activity for a similar one (such as recruiting a jobless person while another employee loses a job) to take advantage of public sector assistance.

APPENDIX: COMMENTS ON ANALYSIS AND DATA QUALITY

In response to the brief given by Living Streets, Just Economics identified four discrete research questions. These informed the search terms used in database searches:

01

Do investments in walking and the public realm contribute towards existing business performance, income, footfall and spending, survival rates etc.?

02

Do investments in walking and the public realm improve the attractiveness of an area as measured by customer perceptions, stated preference etc.?

03

Can investments in walking and the public realm improve the commercial viability of an area, as measured by inward investment, business start-up rate, increase in the value of retail property units etc.?

04

What UK examples might serve as useful case studies to explore the commercial benefits of walking?

Few of the papers that were accessed could be considered cost benefit analyses. The majority summarised case studies or provided descriptive material on the economic benefits of walking. Due to the limited amount of literature in the area, we included everything that was available. This comes with the caveat that there is variability in the quality of the data on which they are based. For example, it is not always clear whether counterfactuals have been taken into account (see section 3). An effort has been made to draw attention to this where relevant.

Urban centres are often the recipients of different kinds of public and private investment. Comparing the impacts of these can be challenging for the reasons outlined in section 2, but also because the scale of the investment can vary from small, localised high street improvements to large-scale regeneration projects which attract large employers (not just retail) and cultural investment. In this report we consider all types of investment, and attempt where possible to differentiate between them.

However, it is not always possible to identify where, on the spectrum of small to large projects, the investment is situated. Projects at different ends of the scale are not directly comparable and require different levels of rigour in their evaluation. Whilst we discuss high street improvements and urban regeneration projects alongside each other, we also recognise that they are very different in nature. Where possible, we have focused solely on the public realm components of regeneration projects.

The quality of evaluation applied to urban regeneration also tends to be mixed. This makes synthesizing findings from such projects particularly challenging. Although there has been a much greater emphasis in recent decades on evaluation (Ho, 1999), this is still an area that suffers from methodological weaknesses. A proper discussion of the issue is outside the scope of this paper.

One issue that is worth mentioning is the extent to which regeneration outcomes are over-claimed. Evidence suggests that successful regeneration is extremely difficult to do well. It is notoriously badly evaluated but what evidence exists, suggests that while programmes may be designed to slow the decline of deprived areas, few have been shown to close the gap with wealthier areas (North *et al.*, 2003; Griggs *et al.*, 2008; Potts, 2008; Robertson, McIntosh and Smyth, 2010).

The most successful examples are well-planned, holistic and focused on outcomes for the most deprived (Turok, 1992). Whilst property-based initiatives have been shown to have positive regeneration impacts an 'unrestrained, market-led' approach has also been found to be detrimental (*ibid.*). They are probably best described as a 'necessary but not sufficient' component of an urban regeneration strategy (Imrie and Thomas, 1993; Loftman and Nevin, 1995). For example, the evidence relating to one-off 'prestige projects' or public art installations and regeneration lacks a robust evidence-base (Loftman and Nevin, 1995; Hall and Robertson 2001; Evans, 2005).

REFERENCES

- Accent, and Colin Buchanon. 2006. "Valuing Urban Realm – Business Cases for Public Spaces". Transport for London.
- Alfonzo, Mariela. 2015. "Making the Economic Case for Walkability". Urban Land Magazine.
- Amion Consulting, and Taylor Young. 2007. "The Economic Value of Urban Design." www.placesmatter.co.uk.
- Arup. 2016. "Cities Alive: towards a walking world" <https://www.arup.com/publications/research/section/cities-alive-towards-a-walking-world>
- ATCM. 2014. "In Town Parking: what works?" <http://thegreatbritishhighstreet.co.uk/pdf/GBHS-What-Works.pdf?2>
- Atkins. (2010). "Oxford Circus Validation of Business Case Forecasts For Transport for London, 27 May 2010".
- Atkins Consultants. 2011. "DfT Pedestrianisation and Townscape Research." www.gov.uk/government/uploads/system/uploads/attachment_data/file/89395/pedestrianisation-townscape-research-report.pdf
- Banister, D. 2009. "Traffic Calming in the United Kingdom: The Implications for the Local Economy." *Pubblicazioni Ce. SET (22)*. <http://fupress.net/index.php/ceset/article/viewFile/7251/6752>
- Barke, Michael, and Ken Harrop. 1994. "Selling the Industrial Town: Identity, Image and Illusion." *Place Promotion: The Use of Publicity and Marketing to Sell Towns and Regions*: 93–114.
- Begg, Iain. 2002. "Urban Competitiveness: Policies for Dynamic Cities". The Policy Press.
- Berck, Colton. 2017. "Aug City: The Cyber-Spatial Impacts of Augmented Reality on the Field of Urban Planning" Community and Regional Planning Program: Student Projects and Theses.
- Bidwell, Susan. 2012. "Review of Studies That Have Quantified the Economic Benefits of Interventions to Increase Walking and Cycling for Transport."
- Biggar, Jeff. 2015. "Investing in the Public Realm." MITACS & ERA Architects
- Bohl, C. C. 2002. "Place Making: Developing Town Centers, Main Streets and Urban Villages, Urban Land Institute, 2002.
- Bostock, Lisa. 2001. "Pathways of Disadvantage? Walking as a Mode of Transport Among Low-income Mothers." *Health & Social Care in the Community* 9 (1): 11–18. doi:10.1046/j.1365-2524.2001.00275.x.
- Brog, W., and Nicola Mense. 2000. "Eight Cities Walking: Comparative Data on Walking as a Transport Mode from Cities in Europe, Australia and the US, Portland."
- Buchanan, P., and N. Gay. 2009. "Making a Case for Investment in the Public Realm." *Proceedings of the ICE – Urban Design and Planning* 162.
- Burden, Dan, and Todd Litman. 2011. "America Needs Complete Streets." *ITE Journal* 81 (4): 36–43.
- CABE Space. 2005. "Does Money Grow on Trees?"
- CABE Space. 2007. "Paved with Gold: the real value of good street design."
- CABE Space. 2004. "The Value of Public Space: How high-quality parks and public spaces create economic, social and environmental value."
- Cavill, Nick, Sonja Kahlmeier, Harry Rutter, Francesca Racioppi, and Pekka Oja. 2008. "Economic Analyses of Transport Infrastructure and Policies Including Health Effects Related to Cycling and Walking: A Systematic Review." *Transport Policy* 15 (5) (September): 291–304.
- Centre for Economics and Business Research. 2015. "Britain's Pop-Up Retail Economy 2015" <https://ee.co.uk/content/dam/everything-everywhere/documents/PopUp%20Economy%202015.pdf>
- Centre for Retail Research. 2012. "Online Retailing: Britain and Europe 2012."
- Centre for Retail Research. 2013. "Retail Futures 2018."
- Chelmsford Borough Council. 2011. "Chelmsford Town Centre: Public Realm Strategy."
- Colliers Erdman Lewis. 1995. "How to Get Pedestrian Rental Growth". London, CEL.
- Commission, European. 1999. "Cycling: The Way Ahead for Towns and Cities." Office for Official Publication of the European Communities, Luxembourg.
- Cortright, Joe. 2009. "Walking the Walk: How Walkability Raises Home Values in US Cities."
- Cycling Scotland. 2018. "The Value of Cycling to the Scottish Economy."
- Davies, A., and R. Laing. 2002. "Streetscapes: Their Contribution to Wealth Creation and Quality of Life". Final research report to Scottish Enterprise.
- Davis, Adrian. 2010. "Value for Money: An Economic Assessment of Investment in Walking and Cycling." United Kingdom: Department of Health, Government Office for the South West.
- Dawson, John A. 1988. "Futures for the High Street." *The Geographical Journal* 154 (1)(March 1): 1–12. doi:10.2307/633470.
- Deloitte. 2013. "The Deloitte Consumer Review: reinventing the role of the high street."
- Department for Business, Innovation and Skills, and Genecon and Partners. 2011. "Understanding High Street Performance." HM Government.
- Department for Communities and Local Government. undated. "East Midlands Competitiveness Programme 2007–13." www.gov.uk/government/uploads/system/uploads/attachment_data/file/132071/North_Derbyshire_and_North_Nottinghamshire_information.pdf
- Department for Transport. 2004. "Walking and Cycling: An Action Plan." London: DfT. 2011. "Statistical Release – National Travel Survey 2011". London: HM Government.
- Department for Transport. 2016. "National Travel Survey 2016: England"
- Department of Environment. 1997. "Managing Urban Spaces in Town Centres: Good Practice Guide". Stationery Office Books.

- Digital High Street Advisory Board. March 2015. "Digital High Street Report 2020."
- Distressed Retail Property Taskforce. 2013. "Beyond Retail: redefining the shape and purpose of town centres."
- Dobson, Julian. 2016. "Rethinking town centre economies: Beyond the place or people binary." In *Local Economy 2016*, Vol 31(3) 335-343
- Drennen, Emily. 2003. "Economic Effects of Traffic Calming on Urban Small Businesses." Masters Project, Department of Public Administration, San Francisco State University.
- Drivers Jonas LLP and Colin Buchanan. 2008. "Bristol Broadmead public realm study: baseline study July 2008".
- Ealing Broadway Business Improvement District. 2006. "Ealing Broadway BID business plan 2006–2011".
- Ecogen. 2009. "Evaluation of the Market Towns Initiative."
- Ecotec. 2007. "Economic Impact of the Public Realm: A Final Report to the East Midlands Development Agency". Birmingham.
- Encams. 2005. "The Link Between Local Environmental Quality and Economic Improvement."
- English Partnerships. 2004. "Additionality Guide: A Standard Approach to Assessing the Additional Impact of Projects." English Partnerships.
- Evans, Graeme. 2005. "Measure for Measure: Evaluating the Evidence of Culture's Contribution to Regeneration." *Urban Studies* 42 (5–6): 959–983.
- European Cyclists Federation. 2015. "Shopping by bike: best friend of your city centre". https://ecf.com/sites/ecf.com/files/CYCLE%20N%20LOCAL%20ECONOMIES_internet.pdf
- Frederick, Rod, Robert Goo, Mary Beth Corrigan, Susan Bartow, and Michele Billingsley. 1996. "Economic Benefits of Urban Runoff Controls." Urban Sources Section, Assessment and Watershed Protection Division, US Environmental Protection Agency, Washington, DC.
- Fujiwara, Daniel, Ross Campbell, Great Britain, and Great Britain. 2011. "Valuation Techniques for Social Cost-Benefit Analysis: Stated Preference, Revealed Preference and Subjective Well-being Approaches: a Discussion of the Current Issues". HM Treasury.
- Garrett-Peltier, Heidi. 2011. "Pedestrian and Bicycle Infrastructure: A National Study of Employment Impacts." Amherst, MA: Political Economy Research Institute.
- Gehl, Jan. 2011. "Life Between Buildings: Using Public Space". Island Press.
- Genecon. 2010. "Research & Evaluation of Public Realm Schemes."
- GLA. 2012. "Croydon's Town Centre High Street Improvement Project."
- Global Designing Cities Initiative: "Case Study: Pavement to Parks, San Fransisco" 2015.
- Green, Judith. 2009. "'Walk This Way': Public Health and the Social Organization of Walking." *Social Theory & Health* 7 (1) (February): 20–38. doi:10.1057/sth.2008.19.
- Griggs, J., A. Whitworth, R. Walker, D. McLennan, and M. Noble. 2008. "Person or Place-based Policies to Tackle Disadvantage? Not Knowing What Works." York: Joseph Rowntree Foundation.
- Grimsey, Bill. 2013. "The Grimsey Review: an alternative future for the high street" <http://www.vanishinghighstreet.com/wp-content/uploads/2016/03/GrimseyReview04.092.pdf>
- Hack, Gary. November 2013. "Business Performance in Walkable Shopping Areas." Robert Wood Johnson Foundation.
- Hall, Tim, and Iain Robertson. 2001. "Public Art and Urban Regeneration: Advocacy, Claims and Critical Debates." www.tandfonline.com/doi/full/10.1080/01426390120024457
- Hall, Colin Michael and Yael Ram. 2018. Measuring the relationship between tourism and walkability?: Walk Score and English tourist attractions. *Journal of Sustainable Tourism* January 2018.
- Hass-Klau, Carmen. 1993. "A Review of the Evidence from Germany and the UK." *Transport Policy* 1 (1): 21–31.
- Heckert, Megan and Jeremy Mennis. 2012. "The Economic Impact Greening Urban Vacant Land: A Spatial Difference-In-Differences Analysis."
- Ho, Suet Ying. 1999. "Evaluating Urban Regeneration Programmes in Britain Exploring the Potential of the Realist Approach." *Evaluation* 5 (4) (October 1): 422–438. doi:10.1177/135638999400830084.
- Hortaçsu, Ali and Chad Syverson. 2015. "The Ongoing Evolution of US Retail: A Format Tug-of-War" In *The Journal of Economic Perspectives*, Vol. 29, No. 4 (Fall 2015), pp. 89-111. American Economic Association.
- Holcomb, Briavel. 1994. "City Makeovers: Marketing the Post-industrial City." *Place Promotion: The Use of Publicity and Marketing to Sell Towns and Regions*: 115–131.
- Hoyne, Andrew. 2016. "The Place Economy – Placemaking"
- Imrie, R, and H Thomas. 1993. "The Limits of Property-led Regeneration." *Environment and Planning C: Government and Policy* 11 (1): 87–102.
- Ison, S. 2000. "Local Authority and Academic Attitudes to Urban Road Pricing: a UK Perspective." *Transport Policy* 7 (4): 269–277.
- Jones, Colin. 2010. "The Rise and Fall of the High Street Shop as an Investment Class." *Journal of Property Investment & Finance* 28 (4) (July 13): 275–284. doi:10.1108/14635781011058884.
- Joseph Rowntree Foundation. 2007. "Social interactions in urban places."
- Kelly, C.E., M.R. Tight, F.C. Hodgson, and M.W. Page. 2011. "A Comparison of Three Methods for Assessing the Walkability of the Pedestrian Environment." *Journal of Transport Geography* 19 (6) (November): 1500–1508. doi:10.1016/j.jtrangeo.2010.08.001.
- Kumar, Santosh, and William Ross. 2006. "Effects of Pedestrianisation on the Commercial and Retail Areas: Study in Khao San Road, Bangkok." *Splintered Urbanism*.
- Labadi, S. 2008. "Evaluating the Socio-economic impacts of Selected Regenerated Heritage Sites in Europe". European Cultural Foundation.
- Lees, Loretta. 2008. "Gentrification and Social Mixing: Towards an Inclusive Urban Renaissance?" *Urban Studies* 45 (12) (November 1): 2449–2470. doi:10.1177/0042098008097099.
- Leggatt, H. 2016. "Report reveals impact of augmented reality on retail." 19 October 2016. <http://www.bizreport.com/2016/10/report-reveals-impact-of-augmented-reality-on-retail.html>
- Leinberger, Christopher and Michael Rodriguez. 2016. "Foot Traffic Ahead: ranking walkable urbanism in America's Largest Metros."
- Lerner, Steve, and William Poole. 1999. "The Economic Benefits of Parks and Open Space: How Land Conservation Helps Communities Grow Smart and Protect the Bottom Line." <http://trid.trb.org/view.aspx?id=679877>.
- Lieber, Ethan, and Chad Syverson. 2012. "Online versus Offline Competition." In *Oxford Handbook of the Digital Economy*, edited by Peitz and Joel Waldfogel, 189-223. Oxford University Press.

- Litman. 2002. "Transportation Cost and Benefit Analysis." Techniques, Estimates and Implications, Victoria Transport Policy Institute.
- Litman, Todd Alexander. 2003. "Economic Value of Walkability." Transportation Research Record: Journal of the Transportation Research Board 1828 (-1): 3–11.
- Litman, Todd Alexander. 2017. "Economic Value of Walkability." Victoria Transport Policy Institute
- Littlejohn, John and Gareth Davies. 2017. "The Sustainable regeneration of the Swansea High Street – a cohesive community" in Sustainability in Energy and Buildings: Research Advances Vol. 6. No. 1.
- Llewelyn Davies. 2003. "Economic Benefits of Good Walking Environments". TfL and Central London Partnership.
- Loftman, Patrick, and Brendan Nevin. 1995. "Prestige Projects and Urban Regeneration in the 1980s and 1990s: a Review of Benefits and Limitations." Planning Practice and Research 10 (3–4): 299–316.
- Mason, Phil, Ade Kearns, and Lyndal Bond. 2011. "Neighbourhood Walking and Regeneration in Deprived Communities." Health & Place 17 (3) (May): 727–737. doi:10.1016/j.healthplace.2011.01.010.
- McCann, B. 2000. "Driven to Spend". Centre for Neighbourhood Technology.
- The Means. 2012. "The relevance of parking in the success of urban centres", a review for London Councils prepared by Sophie Tyler, Giles Semper, Peter Guest and Ben Fieldhouse
- Monheim, Heiner. 2003. "Better Mobility with Fewer Cars: a New Transport Policy for Europe". Department of Geography, University of Reading.
- Montgomery, John. 2004. "Cultural Quarters as Mechanisms for Urban Regeneration. Part 2: a Review of Four Cultural Quarters in the UK, Ireland and Australia." Planning Practice and Research 19 (1): 3–31. doi:10.1080/0269745042000246559.
- Moorhouse, N and Tom Dieck, MC and Jung, T. 2017. Technological Innovations Transforming the Consumer Retail Experience: A Review of Literature. Manchester Metropolitan University, Business School
- Newby, Les, Sean Spencer-Wort, and Peter Wiggins. 1992. "Paved with Gold?: A Study of the Economic Impact of Pedestrianisation and Its Relevance to Leicester". Environ.
- New York City Department of Transportation. 2013. "The Economic Benefits of Sustainable Streets"
- North, D. J., D. Smallbone, F. Lyon, and G. Potts. 2003. "Business-led Regeneration of Deprived Areas: a Review of the Evidence base. [Research Report 5]."
- NWDA/RENEW Northwest. 2007. "Economic Value of Urban Design Final Report." "Places Matter: The Economic Value of Good Design."
- O'Connor, D., Nix, J., Bradshaw, S., Shield, E. 2011. "Shopping Travel Behaviour in Dublin City Centre." University College Cork, 2011.
- Office for National Statistics. 2017. "Statistical bulletin. "Internet access – households and individuals 2017."
- Office for National Statistics. 2018. "Statistical bulletin: Retail Sales, Great Britain: February 2018."
- Parkhurst, Graham. 2003. "Regulating Cars and Buses in Cities: The Case of Pedestrianisation in Oxford." Economic Affairs 23 (2): 16–21. doi:10.1111/1468-0270.00410.
- Pivo, Gary, and Jeffrey D. Fisher. 2011. "The Walkability Premium in Commercial Real Estate Investments." Real Estate Economics 39 (2): 185–219.
- Portas, M. 2011. "The Portas Review: An Independent Review into the Future of Our High Streets." Department for Business, Innovation and Skills, London
- Potts, D. 2008. "Assessing the Impact of Regeneration Spending: Lessons from the UK and the Wider World." In Regeneration and Wellbeing Conference, April, Bradford Centre for International Development, University of Bradford: Bradford.
- Quercia, D, Luca Maria Aiello, Rossano Schifanella and Adam Davies. 2015. 'The Digital Life of Walkable Streets'. Cornell University Library.
- Retail Times. 2013. "Non-food Footfall Records Further Decline in February, Retail Traffic Index Shows." http://retailtimes.co.uk/non-food-footfall-records-further-decline-in-february-retail-traffic-index-shows/
- Robertson, Douglas, Ian McIntosh, and James Smyth. 2010. "Neighbourhood Identity: The Path Dependency of Class and Place." Housing, Theory and Society 27 (3): 258–273. doi:10.1080/14036090903326429.
- Roger Tym and Partners (2012). "Central Bedfordshire Council Retail Study, draft final report".
- Rousseau, Max. 2009. "Re-imagining the City Centre for the Middle Classes: Regeneration, Gentrification and Symbolic Policies in 'Loser Cities'." International Journal of Urban and Regional Research 33 (3): 770–788. doi:10.1111/j.1468-2427.2009.00889.x.
- The Scottish Government. 2013. "National Review of Town Centres Advisory Group Report: Community and Enterprise in Scotland's Town Centres".
- Seex, Patricia. 2007. "Business Investment in Deprived Areas: Creating the Conditions." Journal of Urban Regeneration and Renewal 1 (2): 119–128.
- Sheldon, R, C Heywood, P Buchanan, D Ubaka, and C Harrell. 2007. "Valuing Urban Realm – Business Cases for Open Spaces". Paper Presented at the European Transport Conference.
- Sinnett, Danielle, Katie Williams, Kiron Chatterjee, and Nick Cavill. 2011. "Making the Case for Investment in the Walking Environment: A Review of the Evidence."
- Stevens, Quentin. 2009. "'Broken Public Spaces in Theory and in Practice." Town Planning Review 80 (4) (July 1): 371–392. doi:10.3828/tpr.2009.3.
- Sustrans. 2006. "Shoppers and How They Travel."
- Sustrans 2017, Cowgate Street Design Project, Kirkintilloch A report into retail vitality, sociability and pedestrian priority, December 2017.
- Synder, Ryan. The Economic Value of Active Transportation.
- Technavio. July 2017. "Global Social Commerce Market 2017-2021."
- Tolley, R. 2011. "Good for Business: The Benefits of Making Streets More Walking and Cycling Friendly, Discussion Paper."
- Trafford Council. July 2014. The Altrincham Strategy.
- Trafford Council. 2017. Altrincham Town Centre Neighbourhood Business Plan. Adopted November 2017.
- Transport for London. 2002. "The Benefits of Town Centre Pedestrian and Public Realm Schemes."
- Transport for London. (2010). Draft: "Oxford Circus Diagonal Crossing Monitoring Report". Unpublished.
- Transport for London. (2017). "Active Travel and Businesses: How walking and cycling can make London great for business."
- Transport Scotland. September 2017. "Transport and Travel in Scotland 2016."

Trowers & Hamblins. 2016. "Highly Valued. Hard to Value". Oxford Brookes University.

Turner, Shane, R. Singh, P. Quinn, and T. Allatt. 2011. Benefits of New and Improved Pedestrian Facilities: Before and After Studies. 436. <http://trid.trb.org/view.aspx?id=1122909>

Turok, I. 1992. "Property-led Urban Regeneration: Panacea or Placebo?" *Environment and Planning A* 24 (3): 361–379.

The Urbanist. 2015. "Melbourne: A Case Study in the Revitalization of City Laneways". Part 1 <https://www.theurbanist.org/2015/09/16/melbourne-a-case-study-in-the-revitalization-of-city-laneways-part-1/>

Van Melik, Rianne, and Philip Lawton. 2011. "The Role of Public Space in Urban Renewal Strategies in Rotterdam and Dublin." *Planning Practice and Research* 26 (5): 513–530. doi:10.1080/02697459.2011.626681.

Whitehead, Tim. 2002. "Road User Charging and Business Performance: Identifying the Processes of Economic Change." *Transport Policy* 9 (3) (July): 221–240. doi:10.1016/S0967-070X(02)00021-5.

Whitehead, Tim, David Simmonds, and John Preston. 2006. "The Effect of Urban Quality Improvements on Economic Activity." *Journal of Environmental Management* 80 (1) (July): 1–12. doi:10.1016/j.jenvman.2005.01.029.

Willis, Kenneth G., Niel A. Powe, and Guy D. Garrod. 2005. "Estimating the Value of Improved Street Lighting: a Factor Analytical Discrete Choice Approach." *Urban Studies* 42 (12): 2289–2303.

Wooler, Leslie Ann. 2010. "What Are the Economic and Travel Implications of Pedestrianising a Roadway in Takapuna's Shopping Precinct". AUT University. <http://aut.researchgateway.ac.nz/handle/10292/999>

Wrigley, Neil and Dionysia Lambiri. 2015. "British High Streets: from Crisis to Recovery?". University of Southampton

Yiu, Chung Yim. 2011. "The Impact of a Pedestrianisation Scheme on Retail Rent—an Empirical Study in Hong Kong." *Journal of Place Management and Development* 4 (3): 1–1.

