

# **Virtuous Cycles**

**demonstrating the benefits  
of a sustainable development  
approach**



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**Golder Associates  
for  
the London Sustainable Development Commission**

## Introduction

Sustainability is about ensuring we have a better quality of life now and for the future, whilst protecting and enhancing the earth's resources. In practice, achieving a better quality of life is about:

- having access to quality education, jobs, services, housing and leisure;
- living in an environment which is healthy, resilient and stable now and into the future;
- living and working within a society which is democratic, just, engaged, diverse, responsible, supportive and vibrant;
- being fulfilled, healthy and with sufficient personal resources to enjoy life; and
- ensuring these qualities are equitably distributed across society as a whole.

Sustainable development is about maximising the benefits to the environment, the community and economic progress. Sustainable approaches fully integrate these three elements in preference to single issue based thinking. **Virtuous Cycle Thinking** can help to demonstrate the integration of sustainable approaches. This document provides an explanation of **Virtuous Cycle Thinking** supported by a number of case studies. The case studies demonstrate how **Virtuous Cycle Thinking** can be used in project and policy application and illustrate how taking this integrated approach to sustainability can enable benefits to be identified. Many of these benefits cut across policy areas and are benefits realised beyond those conventionally anticipated through a single issue approach.

This document is primarily designed to assist public sector policy makers and others in using **Virtuous Cycle Thinking** such that, sustainable development becomes an integral and tangible part of their day-to-day decision making processes.

## The London Sustainable Development Commission

The London Sustainable Development Commission (LSDC) was established in 2002 to promote sustainability in London. The Commission is made up of individual experts from economic, social, environmental and London governance sectors. Commissioners give their time voluntarily, promoting sustainable development, embedding sustainability into London wide strategies, and helping make sustainability a meaningful and understandable concept for all Londoners.

### How to use this document

The LSDC has produced this report for public sector decision makers to help them in incorporating **Virtuous Cycle Thinking** into their approaches to policies and projects and to realise the benefits of fully integrated sustainable approaches. The report outlines a definition of **Virtuous Cycle Thinking** and presents details of London based **Virtuous Cycle** case studies. Each case study includes a description of the project or policy-based plan, provides an illustration of a **Virtuous Cycle**, described in the section on **Virtuous Cycles** below, shows the cost savings, including non-quantifiable financial benefits, and other mutually beneficial outcomes of taking this integrated approach.

An assessment of the non-financial benefits has been undertaken utilising the LSDC Quality of Life Indicators. A framework was developed from these indicators, from which a multi-criteria analysis was undertaken. This allowed a score to be assigned against each indicator according to the relative significance and magnitude of the impact compared to the project or policy having not taken place (i.e. against the "do nothing" scenario). For each indicator a score was allocated between +100 (a highly significant sustainability improvement) and -100 (a highly significant negative change). The results of multi-criteria analysis were summarised into three categories: social, environmental and economic. The results are presented graphically in a "pie-diagram" for each case study.

The "pie-diagram" representation of the multi-criteria analysis shows social elements in yellow, environmental in green and economic in red.

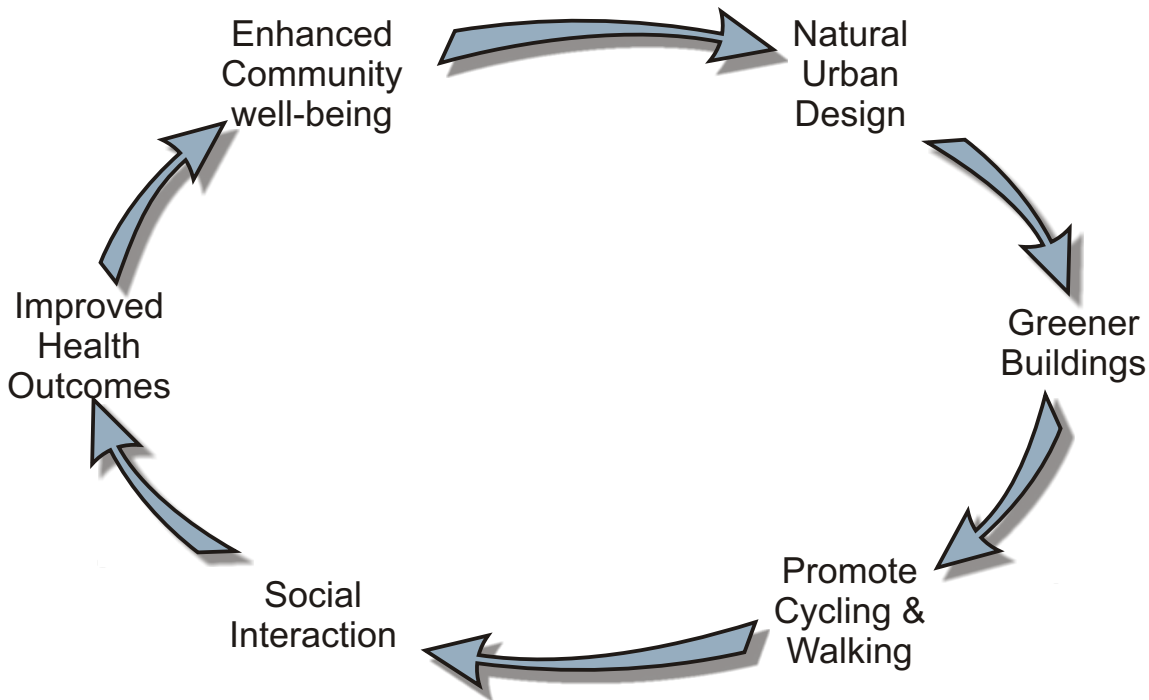
For more information on the London Sustainable Development Commission, LSDC Quality of Life Indicators and the multi-criteria analysis please refer to the LSDC website: <http://www.londonsdc.org/>

## What is a Virtuous Cycle?

A **Virtuous Cycle** is one in which economic, environmental and social benefits flow from each other to improve quality of life now and in the future.

**Virtuous Cycle Thinking** can help policy and decision makers plan and deliver objectives in an integrated way. The major advantage is that environmental and social value can be increased at a lower whole life cost.

An example of a simple **Virtuous Cycle** is shown in the figure below:



A **Virtuous Cycle** diagram is presented for each of the case studies. Each diagram shows a simple cycle in the centre of the diagram, similar to that shown above, together with an outer elliptical area. The elliptical area shows examples of the additional or “knock-on” effects resulting from the **Virtuous Cycle**. These are actual outcomes of the case studies which demonstrate the broader benefits of the **Virtuous Cycle** approach. The benefits are sub-divided into social (illustrated with a yellow background), environmental (illustrated with a green background) and economic (illustrated with a red background), however, many of the outcomes will incorporate multiple aspects with elements crossing social, environmental and economic issues.

The remainder of this document provides a number of case studies of projects in Greater London where a **Virtuous Cycle** can be demonstrated. The case studies include:

- Walking Plan, Camden; and
- Handyperson Service, Southwark.

These case studies were selected following a process of reviewing a number of examples of projects where **Virtuous Cycles** could be demonstrated. These particular case studies were selected by the LSDC as it was felt they presented the best examples of **Virtuous Cycle** thinking at a project level and policy / planning level in London. The case studies capture all of the elements of sustainability (social, environmental and economic), and use integrated approaches resulting in broad benefits across multiple policy areas. The case studies were also selected based upon information, including cost related information, being available and in the public domain.



## Walking Plan, Camden

Since 1999 the London Borough of Camden has developed and been implementing a plan to change the way streets are used. The aim is to encourage a move away from street areas dominated by the movement and parking of cars, to an environment where people can meet socially and enjoy a high quality urban realm. The Camden Walking Plan has been developed to include inputs from local residents and footpath users. It is integral to the borough's Green Transport Strategy which sets out to improve the quality of life of people in the borough by reducing traffic and improving air quality. The Walking Plan aims to provide adequate links to, and between, public paths, sites of interests and workplaces. The Walking Plan is to be considered in planning applications, and in developing and maintaining streets and roads.

The Camden Walking Plan sets out a series of practical actions and initiatives to improve pedestrian facilities (including facilities for wheelchair and mobility scooter users) and to encourage walking. These include:

- School Travel Plans;
- Business Travel Plans;
- Traffic calming schemes; and
- Pedestrian skills training for children, amongst others.

The implementation of the Walking Plan through education and training and through infrastructure improvements has resulted in demonstrable benefits for road safety. Such improvements have included pedestrian / cyclist facilities at signal controlled junctions, road and pavement repairs, improvements in street lighting and street cleaning, etc. These improvements have generally exceeded the average across other London boroughs.

The Walking Plan generates and supports other broader benefits such as:

- community benefits, for example through providing meeting places, providing easy access to recreational places, commuting routes, etc;
- economic benefits, for example easier access to and use of local shops and restaurants, a pleasant environment created for office workers, and supporting/influencing new urban sustainable development.

Evidence from the Central London Partnership shows that reducing traffic levels, speed, noise and pollution results in streets that are more pedestrian friendly. This increases the wider use of streets as beneficial public space, creates more social interaction between residents and can facilitate the creation of a sense of community. As the feeling of community develops, concerns about the safety of walking diminish, encouraging more people to use the street and creating greater community interaction. Local business is also supported by making walking an easier and more pleasurable experience.

Increasing physical activity levels by walking can make an important contribution to the prevention and management of diseases including coronary heart disease, diabetes and cancer, positive mental health and weight management.

# Case Study – Walking Plan, Camden

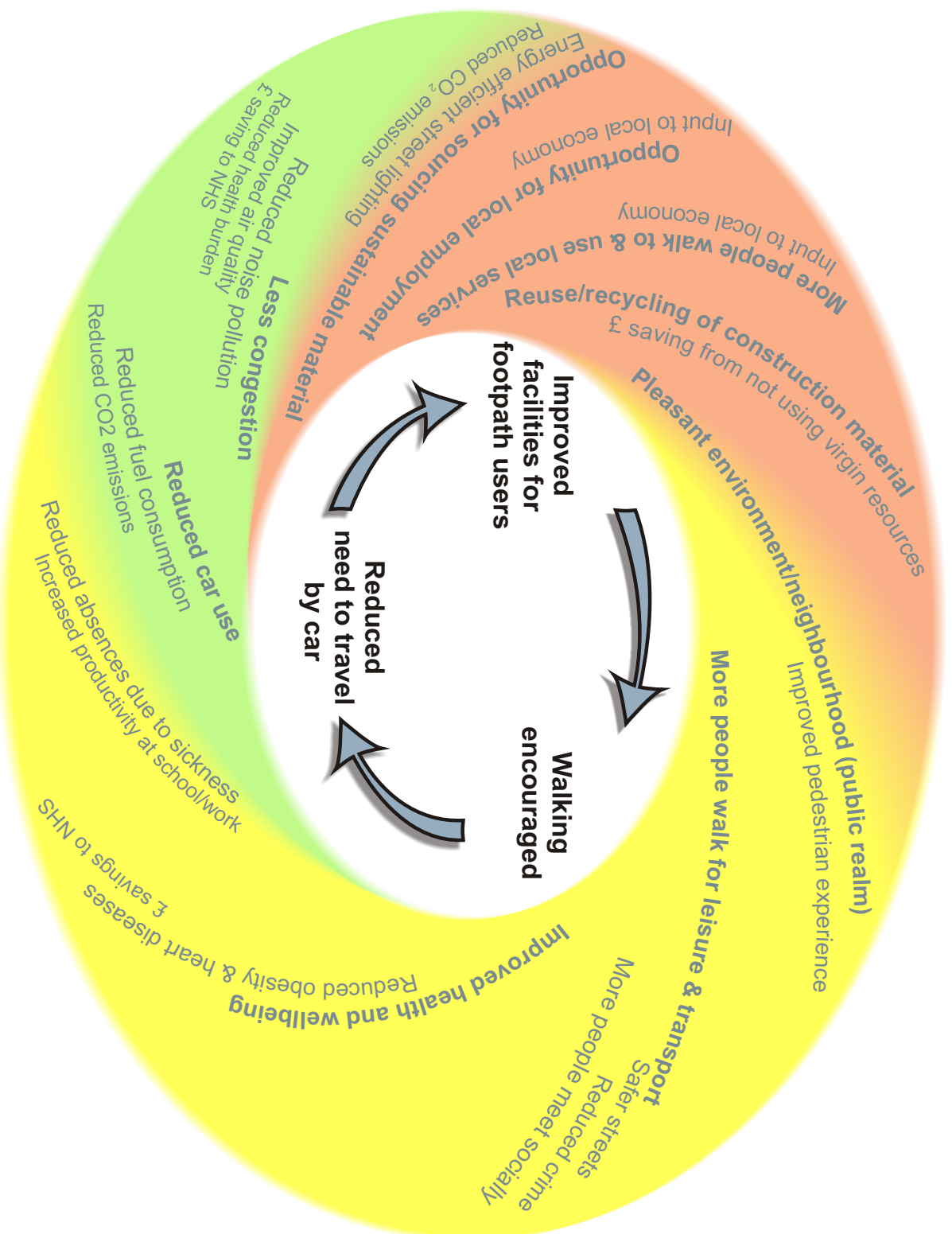


Figure 1: Virtuous Cycle Diagram for the Walking Plan, Camden

## Guidance Note:

The diagram above shows the **Virtuous Cycle** thinking behind the Camden Walking Plan. The core cycle shows the main objectives of the strategy and their inter-relation. The outer elliptical area shows the benefits and impacts resulting from the Walking Strategy. These are arranged in clusters around the core cycle. This diagram attempts to represent the broader thinking beyond the core aims of the Walking Strategy.

Utilising a **Virtuous Cycle** approach to the Walking Plan, demonstrates numerous benefits to the community and Council. These include:

- Providing easy access to walking facilities and encouraging walking through improving these facilities can assist in a modal shift away from car use;
- Providing and improving walking commuting routes makes walking an easier and more pleasurable experience. This creates more social interaction between residents and a sense of a local community. It increases the use of streets as public space;
- Providing meeting places and easy walking access to recreational places encourages people to spend time outdoors;
- Providing easier walking access to local shops and restaurants is vital to improved business. Economic benefits can also result from creating a pleasant walking environment for office workers;
- Education, training and infrastructure improvements provided through the Camden Walking Plan has demonstrated benefits for road safety;
- Increased pedestrian movement can lead to reduced travel by car, reducing noise and improving air quality in the borough;
- As the feeling of community develops, concerns about the safety of walking diminish, which can further encourage more people to use the streets for walking, which then creates increased community interaction;
- Increasing physical activity levels by walking can make an important contribution to good health and well-being and can contribute to the prevention and management of conditions and diseases including coronary heart disease, diabetes and cancer, positive mental health and weight management.

The benefits/impacts resulting from the main objectives of the Walking Strategy can be sub-divided into the three main inter-related categories of sustainability:

- environmental (green background) e.g. improved quality of the environment in Camden through reduced car use and less congestion;
- economic (red background) e.g. contributing to the local economy in the Borough through use of local shops and services;
- social (yellow background) e.g. people use the streets in Camden due to (and further contributing to) the creation of a pleasant and safe place to spend time.

It should be noted that further **Virtuous Cycles** result from the implementation of the core Walking Strategy, for example:

- the more people utilise the streets for walking, the safer people feel, encouraging more walking and social interaction;
- increased numbers of people walking in Camden has been shown to increase the use of local shops which has a positive impact on the local economy and encourages more local businesses and greater variety of products. This in turn encourages more people to visit and buy locally.

Annual Project Costs (examples of various projects included in the Walking Plan) <sup>1</sup>											
Scheme name	Total cost of scheme (£000)	Costs									
		2006/07		2007/08		2008/09		2009/10		2010/11	
		TfL <sup>2</sup> (£000)	Camden & other non TfL (£000)	TfL (£000)	Camden & other non TfL (£000)	TfL (£000)	Camden & other non TfL (£000)	TfL (£000)	Camden & other non TfL (£000)	TfL (£000)	Camden & other non TfL (£000)
Walking programme	1,640	275	0	485	0	360	0	260	0	260	0
School Travel Plans programme	1,538	334	0	286.6	0	317	0	300	0	300	0
20mph Zone programme	2,300	420	120	400	120	300	20	450	60	370	40
Streets for People programme	3,515	456	232	712	0	765	0	600	0	750	0

<sup>1</sup> Camden Local Implementation Plan 2005/06 to 2010/11. Camden County Council 2005

<sup>2</sup> TfL, Transport for London

The costs of implementing various elements of the Walking Plan are shown in the table above. However there are a variety of non-quantifiable financial benefits resulting from the implementation of the Camden Walking Plan. The table below shows a number of these non-quantifiable financial benefits.

#### Non Quantifiable Financial Benefits

- Pedestrian casualties in Camden were 15% less in 2007 compared to 2006<sup>3</sup> resulting in reduce burden to the NHS and reduced loss of productivity;
- The number of claims made to Camden Council due to pedestrian falls on footways has reduced from 18 in 2001/02 to 10 in 2004/05<sup>2</sup>. Between 1997 and 2000, total claims amounted to £367,496 for 152 trips or falls<sup>4</sup>;
- Improved street lighting and more people using the streets can help to reduce incidents of crime (by up to 20%) and ameliorate the associated fear of crime<sup>5</sup>;
- Local economic benefit resulting from improved access to and use of local services by pedestrians;
- Reuse and recycling of material used for physical improvement of walking facilities. In 2006/07 the total volume of excavated material removed from Camden streets was 9,600 tonnes. Approximately 98% of this material was recycled with only approximately 2% sent to landfill (due to contamination);
- Walking as a physical activity can contribute to the prevention of conditions and diseases such as coronary heart disease, diabetes and cancer, positive mental health and weight management with positive impacts on the associated use of NHS resources;
- Physical activity can contribute to better general health and well-being, reducing absences from work or school due to sickness, and resulting in increased productivity;
- Reduced use of cars for local journeys results in reduced congestion and fuel cost savings; and
- Carbon emission reductions from modal shift from car use to walking.

<sup>3</sup> Camden Walking Plan Second Edition, First Biennial Review, 2008

<sup>4</sup> Camden Walking Plan Second Edition, 2006

<sup>5</sup> House of Commons Transport Committee report on local roads and pathways, fifth report session 2002-03

An assessment of the non-financial benefits of the Walking Plan has been undertaken utilising the LSDC Quality of Life Indicators. Utilising a framework developed and described in the section titled “how to use this document” above, a multi-criteria analysis was undertaken. The results of are summarised in the “pie-diagram” below.



The diagram above shows that for the Camden Walking Plan there are social, environmental and economic benefits associated with implementing the Plan. The greatest benefits are realised in terms of the environment, with a lesser level of economic and social benefits.

**Further Information:**

Camden Council website

<http://www.camden.gov.uk/ccm/content/transport-and-streets/cycling-and-pedestrians/file-storage-items/the-camden-walking-plan.en;jsessionid=88CB6D506777E9E89AE61736D1B9D443>

Camden Council Walking Plan Team on Tel: 020 7974 5140



## Handyperson Service, Southwark

**Handyperson Services** support elderly and vulnerable people by carrying out small improvements and repairs to their homes. There are a number of Handyperson projects in London, including those implemented in the boroughs of Lewisham, Ealing and Greenwich. This case study looks at the Handyperson Service in Southwark. The service covers the whole of the London Borough of Southwark and specifically targets residents over the age of 60, or those residents considered vulnerable due to a disability. The project supports elderly and/or vulnerable residents who are council or other private-sector tenants (except those in Housing Association homes), as well as those living in their own home who do not have anyone to help them with small repairs and improvements to their homes. The overall aim of the project is to assist in maintaining safe and independent living for these residents.

The project started in 2004 and currently employs seven people, five of which are handypersons (three of whom are local people). The project team is employed by the local authority.

Information on the handyperson service, including how to contact the services, is advertised at GP surgeries, hospitals, in local newsletters, at local events and in other local places.

The type of repairs and maintenance which are undertaken by the handypersons include:

- Changing light bulbs, hanging curtains etc. which potentially reduces the likelihood of residents experiencing falls and other accidents associated with undertaking such repairs;
- Taping down carpets to reduce trips and falls;
- Installation of draft excluders which increases the warmth of homes and can also reduce energy bills.

There are a number of tangible additional benefits which result from the Handypersons Services. These include:

- Elderly and vulnerable residents are less susceptible to bogus tradesmen;
- Visits from the handyperson provide some social interaction for residents;
- The service provides a “gateway” to other services available to elderly and vulnerable residents, such as other social and health services, organisations who can undertake larger home repairs, organisations who can provide more assistance with energy efficiency improvements, etc.

Other additional benefits are shown in the Virtuous Cycle diagram below.

### Guidance Note:

The diagram above shows the **Virtuous Cycle** thinking behind the Handyperson Service. The core cycle shows the main objectives of the service and their inter-relation. The outer elliptical area shows the benefits and impacts resulting from the Handyperson Service. These are arranged in clusters around the core cycle. This diagram attempts to represent the broader thinking beyond the core aims of the Handyperson Service.

# Case Study – Handyperson Service, Southwark

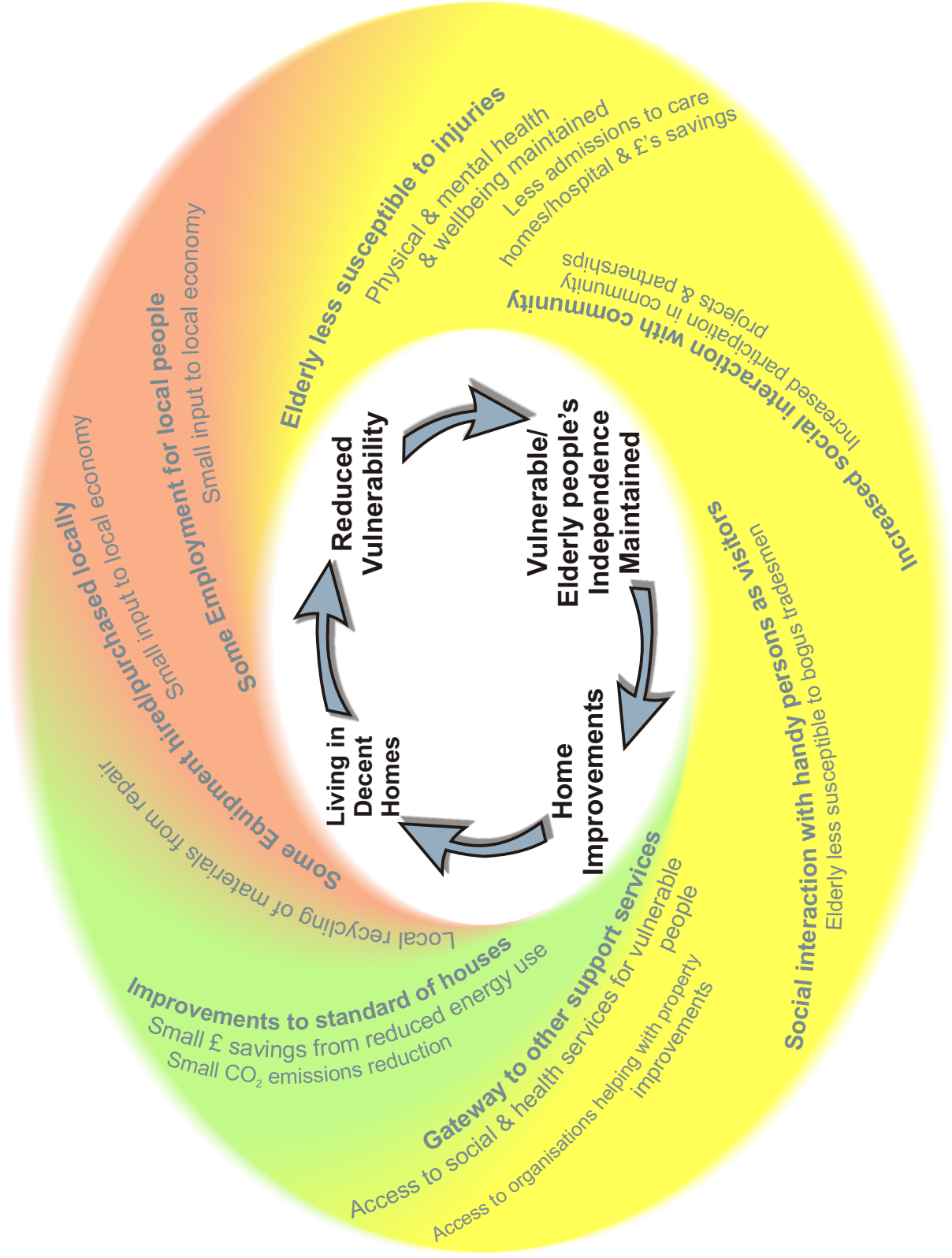


Figure 2: Virtuous Cycle Diagram for the Handyperson Service, Southwark

Utilising a **Virtuous Cycle** approach to the Handyperson Service demonstrates numerous benefits to elderly and vulnerable people. These include:

- The Handyperson Service provides small repairs to elderly and vulnerable people's homes, maintaining the fabric of their homes and preventing accidents such as trips and falls;
- Preventing trips and falls enables the elderly and vulnerable people to maintain their independence and stay in their own homes. This in turn reduces their vulnerability by enabling them to continue to participate in their communities and by providing access to other support services;
- Reducing the numbers of elderly and vulnerable people getting injured from trips and falls in their homes reduces the number of hospital admissions. Remaining active and mobile is important in maintaining general good health and well-being;
- Effort is made by the Handyperson Service to hire or purchase equipment and materials locally, thus potentially contributing in a small way to the local economy. Similarly, where possible local people are employed as handypersons, again potentially contributing to the local economy.

The benefits/impacts resulting from the main objectives of the Handyperson Service can be sub-divided into the three main inter-related categories of sustainability:

- environmental (green background) e.g. providing small improvements to home to save energy results in cost savings to the residents and reduces carbon emissions;
- economic (red background) e.g. hiring and purchasing equipment locally can potentially input into the local economy;
- a wide range of social (yellow background) e.g. the elderly and vulnerable are more able to participate in community life as they can maintain their independence and home life.

#### Annual Project Costs

- Annual budget (2008/09) is approx. £200,000 funded from Southwark Council (approx £80,000 from various internal budget sources) and the Southeast London Housing Partnership (£112,000 funded from the GLA to support residents not eligible for benefits). The funding covers the cost of the following:
  - Salary for handypersons (2008/09) is between £22,000 - 23,000 per annum for four handypersons;
  - Project management / admin costs are approx. £25,000- £32,000 per annum (2008/9);
  - Cost for operating and maintaining two leased vans and two vans owed by the council is approx. £30 000 annually (2008/09);
  - Material / stock / replacement tools cost approx. £5,000 annually (2008/09);
- Householders on benefits pay for the cost of materials when these exceed £10. Householders not on benefits contribute to the cost of materials and labour where costs exceed £10. Most repair costs are generally kept to under £10.

The costs to Southwark Council of implementing the Handyperson Service are shown in the table above and has been taken from the annual budget review of the project. However there are a variety of non-quantifiable financial benefits resulting from the implementation the Service. The table below shows a number these non-quantifiable financial benefits that are beyond the immediate benefits of undertaking physical repairs in the homes of elderly and vulnerable people in Southwark.

**Non Quantifiable Financial Benefits**

- Approx. 40% of NHS expenditure is for people over the age of 65 (1998/99)<sup>1</sup> and 50% of social services budget is for those over 65 years of age. A major contributor to these costs is treatment resulting from falls which are prevalent amongst older people;
- In 2002 an estimated 500,000 people over 75 years of age attended A&E as a result of a fall<sup>2</sup>. Hip fracture is the most common serious injury related to falls in older people resulting in an annual cost to the NHS of £1.7 billion for England (2000)<sup>1</sup>. Of this sum, 45% of the cost is for acute care, 50% for social care & long term hospitalisation and 5% for medication;
- Most falls do not result in serious injury but the consequences can include: psychological problems, loss of mobility leading to social isolation & depression, increased dependency & disability; hypothermia; pressure related injury; infection. Fear of falling can be a significantly limiting factor for daily activities;
- Potential small input to the local economy through local individuals employed as handypersons and the purchasing of local materials for repairs;
- Savings to elderly and vulnerable residents from reduced energy bills resulting from improvements in home insulation, draft exclusion and other energy saving and efficient measures being undertaken in homes (through links to other organisations / schemes such as the “Coldbusters” scheme<sup>3</sup>); and
- Small Carbon savings resulting from energy efficiency savings.

<sup>1</sup> Reference: National Service Framework for Older People, 2004

<sup>2</sup> Department of Trade and Industry “Home accidents surveillance surveillance system: 24th annual report”. London: DTI, 2002

<sup>3</sup> “Coldbusters” scheme is a community based energy project funded by the Energy Saving Trust

An assessment of the non-financial benefits of the Handyperson Service has been undertaken utilising the LSDC Quality of Life Indicators. Utilising a framework developed and described in “how to use this document” above, a multi-criteria analysis was undertaken. The results of multi-criteria analysis are summarised in the “pie-diagram” below.



The diagram above shows that for the Handyperson Service there are social, environmental and economic benefits associated with implementing the Plan. The greatest benefits are realised in the terms of the social benefits, and to a lesser extent the Handyperson Service has some environmental benefits. However, there are neutral economic benefits based upon the LSDC Quality of Life Indicators.

Further Information:

Southwark Council website

<http://www.southwark.gov.uk/YourServices/HousingandHomes/supportinyourhomenew/handyperson.html>

Melanie Poyser, Handyperson Project Manager on Tel: 020 7525 6254

## Summary

This document provides a definition of **Virtuous Cycle Thinking** and shows London based case study examples of where **Virtuous Cycle Thinking** can be applied. The case studies show how using this kind of approach in policy and project decision making can help with thinking beyond the immediate benefits and objectives of the policy or project to maximise sustainable outcomes. Cost savings and other benefits from taking this integrated approach are shown for each of the case studies.

As can be seen from the case studies described above there are a number of benefits derived from the plans / projects which result from utilising a **Virtuous Cycle** approach. These include increased social interaction and local economic generation from the implementation of the Camden Walking Plan, as well as the more obvious health benefits and modal shift from cars associated with such a plan. Similarly, with the Handyperson Service, by undertaking small repairs to the homes of the elderly and vulnerable and preventing trips and falls, this contributes to maintaining their independence as well as health and well-being. Moreover, the service reduces their vulnerability and increases social interaction by enabling them to remain in their homes contributing further to positive well-being. Other benefits are derived from ensuring that the small improvements include energy saving initiatives, which provide financial benefits to the residents and contributes to reducing carbon emissions.

A significant benefit of using **Virtuous Cycle Thinking** is that it can assist in identifying the broader potential benefits and opportunities of a project / strategy prior to implementation such that the project or strategy can be developed to ensure that these are realised. It enables opportunities beyond the immediate to be identified and considered to realise more sustainable results, and to identify additional or “knock-on” effects resulting from the **Virtuous Cycle** approach.

For further information about **Virtuous Cycles**, the Quality of Life Indicators and multi-criteria analysis, and how they can help you with policy and project decision making please contact the London Sustainable Development Commission.

More information on the work of the London Sustainable Development Commission and application of the Virtuous Cycle approach can be found on the website: [www.londonsdc.org](http://www.londonsdc.org).