The Scottish Government

Monitoring and Evaluation of the Smarter Choices Smarter Places Programme

Going Smarter in Dumfries

Final Report

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Version 3.1

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Contents

Executive Summary

The "Go Smart" programme, implemented as part of the Smarter Choices Smarter Places (SCSP) programme, encompassed a range of infrastructure and behaviour change measures to encourage more sustainable travel choices in Dumfries. The project assembled a total of £5.8 million for delivery from various funding sources, including £2.4 million from the Scottish Government, and was therefore the largest delivery programme amongst the seven SCSP areas. Go Smart also had the longest delivery period, and will continue until at least 2013.

The pilot sought a 5% reduction in car trips, with at least half of these journeys switching to walking and cycling and exceeded this with a 7.4 percentage point reduction in car driver trips and a similar increase in levels of walking.

Most of the programme was delivered as planned, with a large programme of infrastructure and service improvements backed up by a range of promotional measures. Infrastructure and service measures included walking and cycling improvements, multi-modal transport interchange facilities, bus network enhancements and introduction of the Bike2Go cycle hire scheme. Promotional measures included personal travel planning, employer travel planning activities and various promotional campaigns. Plans for implementation of a car club in Dumfries were delayed and plans for multi-modal tickets were dropped.

The main conclusions and observations on **travel behaviour changes**, taking account of the various sources of evidence available, are that:

- The proportion of all trips made by car as a driver dropped over the period of the Go Smart SCSP intervention.
- There was a rise in the proportion of trips made by walking.
- Bus use fell over the period 2009-12.
- Travel to school showed a marked rise in the proportion of trips reportedly made by bicycle (from a low base), but walking to school dropped markedly over the SCSP intervention period, at the expense of more school trips by car.

In the area of **physical activity**, fewer people reported undertaking at least 30 minutes of moderate exercise on most days of the week in 2012 than in 2009. However, there was some evidence that people who reported that they were walking more were at least undertaking moderate exercise on some days rather than none.

In terms of **attitudinal changes**:

- Attitudes towards the car remained relatively stable between 2009 and 2012.
- Perceptions of many aspects of bus travel deteriorated, which is in line with the observed fall in bus use (which was larger than that observed in comparable areas of Scotland).
- Attitudes towards many aspects of walking improved, including perceptions of the walking environment, crossings and pedestrian facilities.
- Attitudes towards cycling also generally improved, including perceptions of cycling facilities such as cycle lanes and cycle parking.

- Views on the environment show a mixed picture, with greater acceptance in 2012 of environmental problems, but more of a reluctance to accept personal responsibility for dealing with them.
- Perceptions of all aspects of the local neighbourhood improved slightly over the 2009-12 period.

Local **awareness** of the Go Smart Dumfries initiative was shown to be very high in the 2012 household survey, together with good brand recognition and understanding of its messages.

Go Smart Dumfries has had positive **impacts** by reducing travel costs, improved access, community development and environmental improvement. With SWestrans and the Council working closely together it has been possible to blend traditional public service delivery skills with new partnership building remits, to engage in new ways with over 100 community groups in the town. These partnerships are also seen as the key to sustaining the work into the future.

1.0 Introduction

1.1 This report describes monitoring and evaluation results for the "Go Smart" programme in Dumfries, which encompassed a range of infrastructure and behavioural change measures to encourage more sustainable travel choices. The programme of measures was designed to encourage people to adopt travel patterns which aim to save them money, make them healthier, reduce transport emissions and develop more cohesive communities.

1.2 This report reviews the period from 2008, when a proposal was made to the Scottish Government for funding, to May 2012 when the latest monitoring data became available. During that period there have been many changes to the approach, specification and delivery of the programme and this report reviews the factors leading to these changes.

1.3 This report :

- Describes the local SCSP programme in Chapter 2.
- Discusses in Chapter 3 how the SCSP programme relates to wider changes in the economy, society and transport over the programme period.
- Describes the delivery of the programme of measures (outputs) in Chapter 4 and reports feedback on how well the process of implementing the programme worked
- Presents the evidence on travel behaviour outcomes in Chapter 5.
- Discusses the outcomes related to changes in attitudes to travel and the wider community in Chapter 6.
- Reviews the awareness of SCSP delivery in Chapter 7.
- Discusses the potential impacts in different policy areas resulting from the changes in travel behaviour in Chapter 8.
- Reviews the specific learning points in Chapter 9.

2.0 Summary of Initiatives and Costs

2.1 Table 2.1 summarises the initiatives, costing and dates of delivery. The project has assembled a total of £5.8million for delivery from various funding sources including £2.4million from the Scottish Government. This is therefore the largest and longest delivery programme amongst the 7 Smarter Choices Smarter Places (SCSP) areas.

Table 2.1 – Initiatives Summary

Category	Initiatives delivered	Start and End Date	Outturn Cost
Provision			
Public transport provision	• Bus Service Improvements • Bus Network Improvements	Mar 2009-Mar 2012	£913k £1,085k
Infrastructure provision	• Multi-modal transport interchange with bus, cycling and walking facilities and Park and Choose sites on key commuter corridors • Town centre parking rationalised to give a maximum 2 hour stay • Public realm enhancements to footways, lighting and physical accessibility • Radial walking and cycling routes from commuter areas • Additional Town Centre 20mph zones • Self-Hire Bike Scheme	Mar 2009-Mar 2012	£1,089k £23k £150k £1,596k £109k £73k
Car and lift sharing provision	• Start a Car Club in the town	Mar 2009-Mar 2012	£0k
Promotion, Organising and Management			
Campaigns	• Part of brand development and travel information		
Travel planning	• Promote workplace travel plans • Dumfries and Galloway at the Royal Infirmary and Crichton Royal sites travel plan Implementation	Jan 2010 - Mar 2012	£25k
Personal travel planning	• Go-Smart Dumfries' - Personal Travel Plans with household and public marketing	Jan 2010 - Mar 2012	£377k
Cycle promotion	• Youth cycling development promoting cycling clubs, facilities and events working with the Stepping Stones developments.	Jan 2010 - Mar 2012	
General active travel promotion	• Part of travel information	Jan 2010 - Mar 2012	
Travel information	• Web-based journey-sharing database • A 'Sustainable Travel' Information Strategy • Carbon Footprint, health and economic impact monitoring	Jan 2010 - Mar 2012	£199k
Training and events	• Part of PTP		
Management and organisation	• Programme management	Jan 2010 - Mar 2012	£129k

2.2 The main promotional activities were launched in early 2010 and provision of new infrastructure and services started in advance of this in May 2009, and will continue through to 2013. The programme has continued to evolve with most initiatives now being completed. During 2012/13 financial year there were four Park and Choose sites completed, further changes to town centre parking, implementation of the car club, further investment in additional Bike2Go bus hubs and bikes and new investment in bus services. This report covers only elements of the programme delivered up until July 2012.

2.3 The planned ticketing improvements were not progressed. As a result of parallel developments with the National Entitlement Smartcard it was decided in consultation with Stagecoach to defer discussions on the multi-modal ticketing whilst Transport Scotland developed their scheme further. The £155,000 identified within the original plans for ticketing was added to the bus network and service improvement programme. Integration between bus and rail is also being promoted through the adoption of Dumfries station by local groups including the school and community groups, who were engaged within the earlier stages of the SCSP programme.

2.4 The investment programme was targeted at residents in Dumfries, but the town is a regional centre and the benefits extend well beyond the boundary of the target area. In particular, the changes to bus services result in improvements to public transport across the region, and account for a large proportion of the programme budget. Therefore it is recognised that only some of the benefits of the pilot can be measured accurately. Where there are likely to be substantial impacts beyond the immediate study area these are noted.

2.5 The Council stated that its aim was to use GoSmart Dumfries to achieve a 5% reduction in single occupancy car trips, with half of these trips converted to cycling and walking.

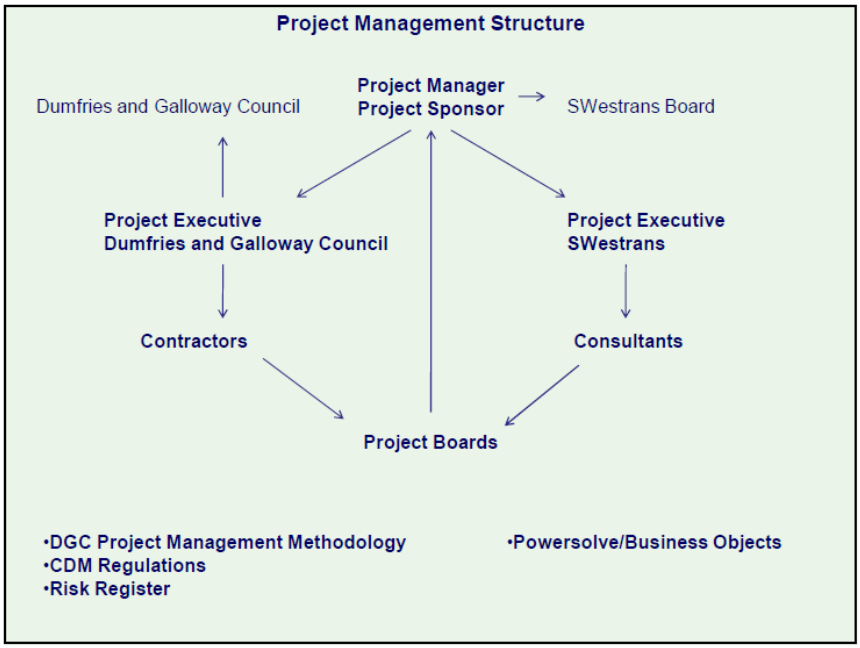
Management

2.6 The programme as a whole has been extremely complex covering many disciplines and several public authorities. The joint roles of the Council and SWestrans enabled the required range of partnerships to be developed but gaining agreement to proceed took much longer than expected. The time spent in programme planning was helpful in debating how to achieve effective management of sometimes controversial, cross sectoral, and multi-dimensional programme activities. Political accountabilities were both to the Council and to SWestrans as shown in Figure 2.1.

2.7 With different perspectives amongst the Councillors and boards of the public agencies, the staff in the Council report that there were debates about whether all elements of the SCSP programme would be effective and popular. The local paper is reported to have printed letters from local residents supporting the SCSP programme, and officers

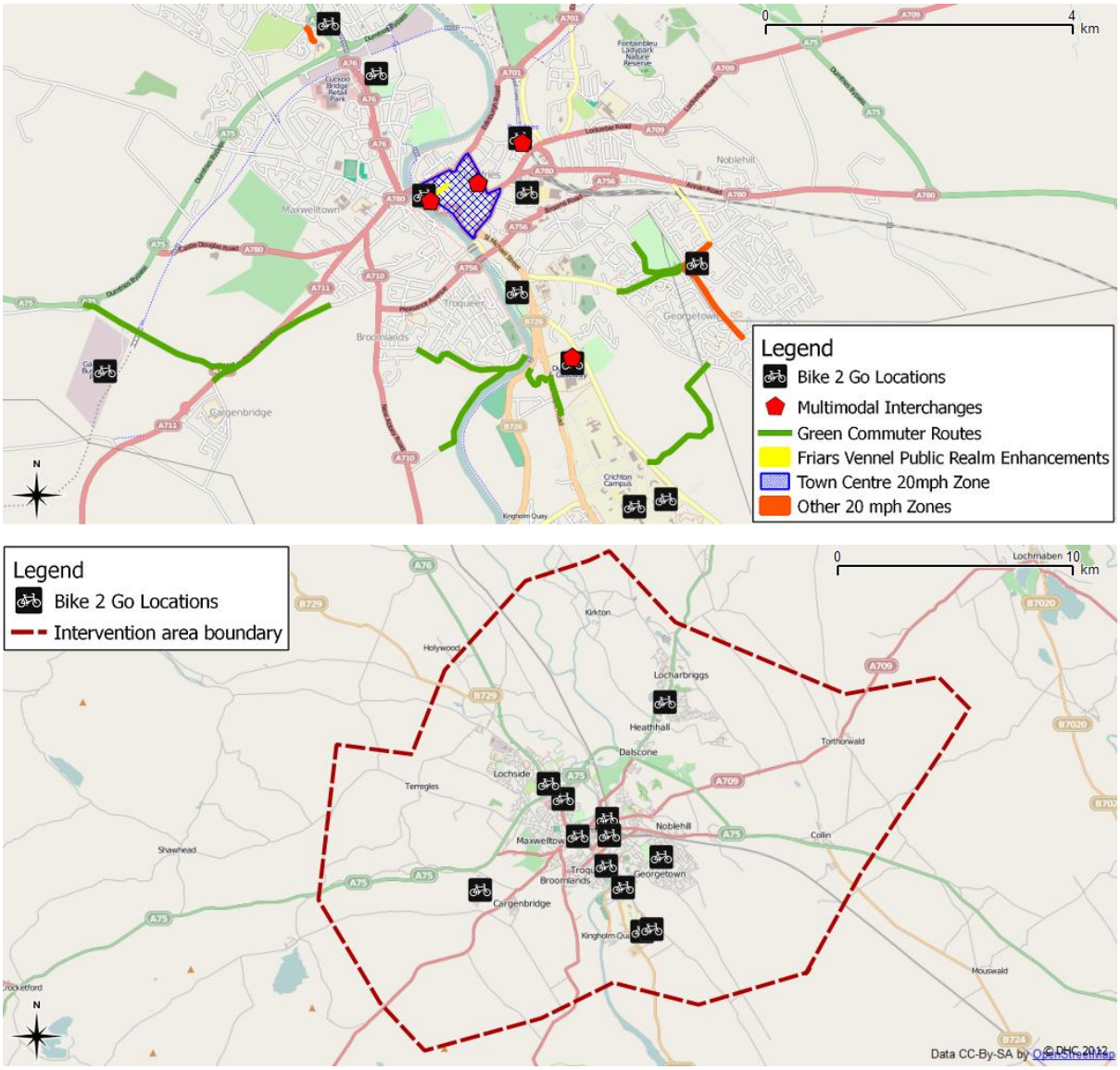
considered that this was influential in helping to move the local debate about Go Smart forward.

Figure 2.1 - Management



2.8 Figure 2.2 shows the town centre and the locations of the Bike2Go Hire Hubs, the additional 20mph zones, the Green Commuter Route upgrades, Public Realm upgrades on Friars Vennel and the Multimodal Transport Interchanges at Whitesands and Dumfries and Galloway Royal Infirmary. These are spread broadly across the town.

Figure 2.2 – Dumfries Infrastructure Location Map



3.0 Background to the Programme and Parallel Activity

Previous activity

3.1 The SCSP plans form part of the land use and transport investment programme in Dumfries having been developed in the Structure plan since 1999, the local transport strategy since 2001, and the Town Centre Action Plan since 2004. The SCSP provision is therefore a development of a larger programme that has been planned and progressively delivered over more than a decade.

3.2 Key features of the recent investment have been:

- The Bus Network Quality Strategy to put the development of the bus network on a more financially sustainable footing has involved many changes in bus routes and services with a further step change within SCSP.
- Dumfries Town Centre Public Realm Improvements including Walking and Cycling Enhancements.
- The cycle route network has received over £3m of investment over the last decade. A considerable length of traffic free cycle network had already been developed prior to SCSP, including the Caledonian Cycleway to Locharbriggs, Riverside paths to Kingholm Quay, and Maxwelltown Railway Path to Garroch. In 2008 these paths were linked together by the Queen of the South Viaduct, the first project to be completed as part of the Sustrans Connect2 initiative.
- Public Transport Improvements, including Real Time Information, new bus interchanges including with rail in Dumfries, new bus shelters, improved Rural Bus Pick-up Points, an Integrated Ticketing Strategy, and Bikes on Rural Buses.
- Street resurfacing and remodelling works around Midsteeple which complements the £1.5m refurbishment of the early 18th century town house.
- Car sharing promoted through DG Tripshare.
- Bus and Rail Information Strategies, Cycling and Walking Information, and Marketing approaches including Workplace Travel Planning and associated infrastructure and marketing.
- Enhanced traffic control and parking management in Dumfries and 20mph zones in residential areas.

3.3 Dumfries has experienced an economic decline during the 1990s but in the last 10 years there have been over 3,000 new homes built, and the regeneration strategy for the town is expected to enhance employment, retailing and other social activities. The Council's strategy recognises that this will bring with it associated transport problems such as traffic congestion and poor air quality unless action is taken.

Parallel activity to SCSP 2009-2012

3.4 The SCSP investment includes specific proposals to improve information, frequencies and quality on target routes where plans had identified the potential for growth. However this took place within a context of more fundamental change in the networks. Around 85% of the local bus network in Dumfries and Galloway is supported by SWestrans funding. Throughout 2011/12 SWestrans undertook a comprehensive review of the local bus network to develop a framework in which unsustainable levels of cost increases in tendered services could be addressed. Some 75% of the network was due to be re-tendered for contracts expiring in April 2012. As a consequence of the review new contracts were issued within the available budget without significant impact on the general level of bus service available across the region making the bus network as a whole more financially sustainable.

3.5 There have also been substantial land use changes. A new Tesco supermarket opened at the Peel Centre whilst other major retailers in the town centre closed. As part of new development work Debenhams opened a store in the town centre.

3.6 One of the largest employment changes occurred when a maintenance contractor for housing associations (Dumfries and Galloway Housing Partnership) went into administration shedding many jobs.

3.7 The Dumfries economy is considered by the Council to be heavily dependent on public sector spending and employment, and since 2008 the public sector has been unable to drive growth in the town. Therefore the impact of the broader economic climate is considered to have contributed to increasing concern about the sustainability of the Dumfries economy.

4.0 Outputs from SCSP Initiatives

Infrastructure Improvements

4.1 Multimodal interchange facilities have been upgraded at:

- Whitesands
- Great King Street
- Dumfries Railway Station
- Dumfries and Galloway Royal Infirmary

Figure 4.1 - Multi-Modal Interchange at Whitesands

4.2 Additionally interchanges between car and other modes have been created on the periphery of the town and these "Park and Choose" sites have been completed at Lochthorn Library on Edinburgh Road, Criffel Road, Lincluden, and King George V Playing Fields. The facilities seek to encourage people to park on the periphery outside the town centre and use one of a range of alternative transport modes including bus, shared cars, shared lifts in cars, bike or walk to get to their destination.

4.3 Over fifty Real Time Information displays have been installed at public locations across Dumfries and on the A709 Lockerbie Road corridor. Other improvements have also been made at bus stops with new poles, flags and timetable panels at around 200 sites across Dumfries.

4.4 Public realm improvements have been made in Friars Vennel to provide a high quality pedestrianised street link between Dumfries town centre and the Whitesands Multimodal Transport Interchange location.

4.5 New routes and paths have been constructed at a number of locations, to ensure that attractive, safe and convenient pedestrian and cycling routes reach all parts of the town from which commuters currently drive but which are also within easy walking or cycling distance from the town centre. This includes:

- Craigs Ridge
- Georgetown to Town Centre
- Kirkpatrick MacMillan Bridge to Crichton via Castledykes Park
- Links to Mavis Grove and Broomlands
- Railway Station to Town Centre
- Dumfries-Lockerbie Rail/Bus Link
- Paths around Dumfries Station
- Burns Walk
- Signing on Garroch Loaning
- Bank Street
- Heathhall Forest Link

4.6 20mph zones have been completed around St Theresa's Primary School, at Georgetown and Calside, and in some Town Centre Areas.

Figure 4.2 - 20mph Zone at Bank Street

Public Transport Services

4.7 A new bus service 5A has been introduced connecting Georgetown to the Dumfries and Galloway Royal Infirmary and the Crichton. This was established to provide better bus

connections with the town centre and between Georgetown and the Crichton. There are more than 700 residents in Georgetown that are employed by the hospital and the Crichton, and the new service was developed as part of the travel plan proposals.

4.8 Eight new buses were also introduced and the town centre network rationalised with new interchange opportunities at the improved Whitesands multi-modal interchange. In addition three buses were funded by Stagecoach in a partnership agreement with the Council.

4.9 A new range of ticket prices was introduced by Stagecoach and this has been important to make the most of the new services and infrastructure.

Personal Travel Planning

4.10 The first wave of Personal Travel Planning (PTP) was carried out during the summer of 2010, between May and August. One-to-one household engagements were undertaken by travel advisors recruited from local people living within the communities, in the Georgetown, Troqueer, Kingholm Quay, Maxwelltown and Summerhill areas. Individuals were encouraged to try out ways of travelling sustainably through the provision of information resources, challenges and competitions.

4.11 The team undertaking the PTP collected feedback and scheme delivery statistics. These are not independently audited but provide a useful overview of what has been achieved. A total of 7,381 households were contacted within the target area. Of these households, 2,399 people (33%) became active participants in the project by engaging in a conversation and accepting project resources. 699 (9%) told a travel advisor that they already travelled as sustainably as possible and supported the aims of GoSmart Dumfries. The remaining 58% either chose not to participate (1,710 individuals (23%)) or were not contactable after three visits (2,573 people (35%)). The conversion rate (those who were successfully contacted and chose to participate in the project), which includes those who were deemed to be “already travelling sustainably”, was 64%.

4.12 PTP staff also attended 38 public events during the summer of 2010, providing information and presentations to community groups and stands at major Dumfries events. A total of 610 participants signed up to PTP at these events and took up resources, took up a challenge or joined the GoSmart Travel Club. The Council report that some people who did not take up PTP at the doorstep where happy to do so at events but this evidence is anecdotal, as records were not kept.

4.13 In total 3,708 people received resources and incentives such as cycle maps and pedometers. Of these 2,037 agreed to take on challenges. The challenges were personalised as agreed with the travel advisor at the doorstep or at events. Challenges were self reporting and self-monitoring but participants were invited to send back a challenge postcard to return to say they had completed the challenge. At this point users

were entitled to receive a reward of a £2.50 voucher towards any activity at DGOne (the local leisure centre), with the option of obtaining a further £2.50 on a local retail payment scheme.

4.14 392 (19%) initial challenges were returned. People who did not return their challenge were followed up by phone to ask how they were getting on and encourage them to complete the challenge. Out of the 234 follow-up phone calls successfully made, 58% of respondents claimed to have completed the challenge, 29% planned to complete the challenge and 14% were not intending to complete the challenge.

4.15 People who completed their first challenge were offered the opportunity to complete a second "GoSmart Advanced Challenge" which was a challenge to log 30 minutes of active travel on at least 5 days during the course of a week. 219 "Advanced Challenges" were requested and issued. Thirty one (14%) of these were returned.

4.16 A PTP user survey was undertaken of 213 participants. This self-reported data provides a useful indicator of the scale of change occurring. The results shows that of this sample:

- 62% of respondents said they had taken up challenges. Of these, 70% said they had completed the challenge and 75% of these returned the report card.
- Participants who said they had increased or decreased their amount of travel with a particular mode were asked to estimate roughly how much more or less they were travelling via this mode over the course of a week. 40% of the sample said they were walking more and 23% said they were driving less. There were also 13% of respondents saying they cycled more and 12% saying they travelled by bus more.

4.17 Table 4.1 summarises the impact on those reporting change and the average across the sample of 213. If these self reported statistics were confirmed as accurate then these changes would be encouraging, and broadly consistent with some other successful PTP programmes.

Table 4.1 – Reported Travel Behaviour Change from PTP Survey Sample (N 213)

Change	Average change per person per week reporting behaviour change	Average change per person per week for sample
Walking increase	66.3 minutes	25.7 minutes
Cycling increase	63.8 minutes	8.2 minutes
Bus use increase	64.8 minutes	9.1 minutes
Car use decrease	21 miles	5.95 miles

4.18 If this sample of participants is representative of all participants, and that 46% of people participate in PTP, then the average impact of PTP per person targeted would be to reduce car use by 2.73 car miles per week and increase the amount of walking by 11.8 minutes.

4.19 To consolidate and expand the scheme it was continued beyond 2010 into 2011, and a further 900 participants were recruited. An occasional newsletter has continued to be produced into 2012 and circulated to travel club members. The terms of use of this database of members allow it to be used to market other travel related initiatives and in 2012 the database will be used for promotion of the Car Club as it is introduced. The Council is considering setting up the Travel Club as a Community Interest Company to secure its sustainability into the future but details of this have not yet been finalised.

Information provision

4.20 Transport strategy and planning in the Council had identified through consultation that a lack of, or poor, information was a barrier for some people switching to sustainable modes of transport. A range of resources were produced which included bus, cycle and pedestrian route maps as well as information regarding the other initiatives covered by GoSmart Dumfries. The information was designed to focus on the full integration of all transport modes and to fulfill the information requirements of all user groups. New marketing materials have supported the PTP and it is reported by the Council that the GoSmart Dumfries brand has been successful in providing a programme under which the partners such as the NHS, Colleges, schools and businesses involved with the project can work. Where more specific brands are needed GoBus, GoWalk, GoBike, GoShare and GoSave provide consistency under the overall programme brand and this has helped to bring focus within a complex project.

4.21 Web based promotion has also been used with a project website based on the GoSmart brand image. A dedicated information contact email address has been created and a GoSmart Travel Club has been created, allowing participants to register and to remain informed of upcoming events and receive the GoSmart newsletter.

Bike2Go Usage

4.22 The Bike2Go self-service, on-street public bike hire scheme was launched in September 2010. Although public bike schemes are common in cities across the world, Dumfries is a small town. In small towns, bike sharing is usually more informal such as in university towns such as St Andrews in Scotland where students do not always know who owns the bike they are riding.

4.23 Dumfries has a strong claim to be the home of the bike, being the place where Kirkpatrick MacMillan invented the bike. The Bike2Go scheme celebrates cycling as part of the culture of the town. The baseline studies showed that levels of cycling in Dumfries were high for Scotland, so there is some evidence that cycling is more part of Dumfries culture than elsewhere in Scotland.

4.24 The Bike2Go bikes were made available for hire from nine Hire Hubs across the town on a 24 hour, 365 days a year basis. The scheme continues to operate and there is a £10

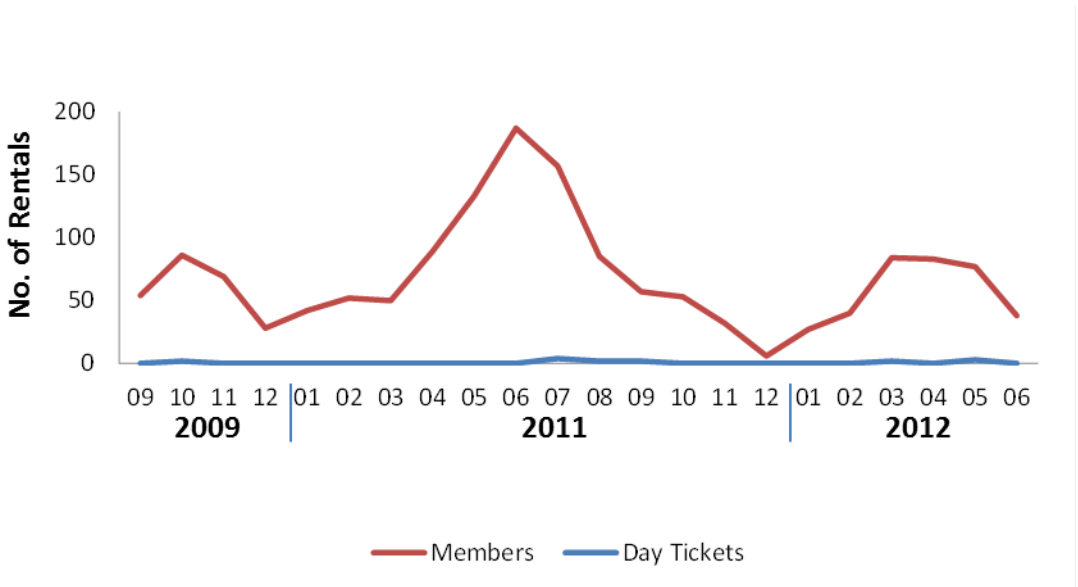
membership fee, which gives users free hires for 30 minutes which should meet the needs of local trips in the town. Longer hires are charged at £1 per hour. All the Hire Hubs are within 30 minutes cycle time of each other. The scheme is aimed at residents making short local journeys, commuting to work to avoid traffic and for visitors to hire for sight-seeing purposes.

4.25 The nine Hire Hubs are located at:

- Crichton Campus
- Crichton Business Park
- Dumfries and Galloway Royal Infirmary
- Dumfries Railway Station
- DG One
- Dock Park
- Georgetown Library
- Lochthorn Library
- Whitesands

4.26 Between 8th September 2010 and 31st June 2012, 1,529 rentals were made by members. May 2011 has been the peak month for rentals with the lower number of rentals in 2012 being attributed to the poor weather. There are also few rentals in winter. The top 20 users have all been steadily increasing their use of the system and membership continues to rise.

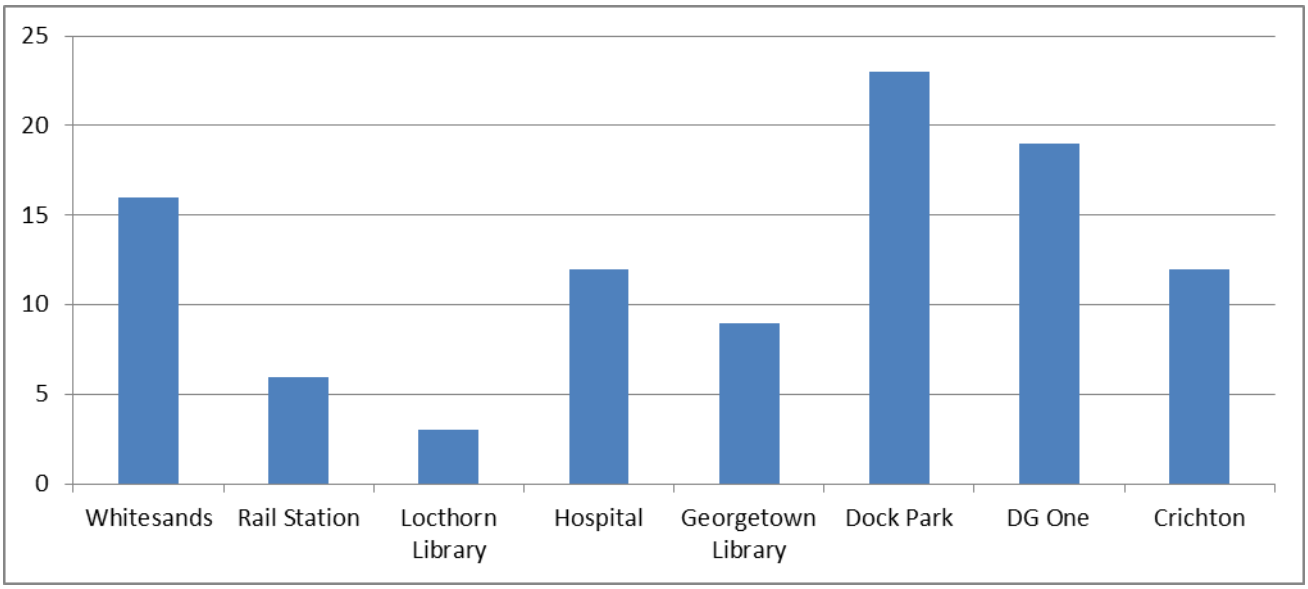
Figure 4.3 – Bike2Go Rentals by Month



4.27 148 people have signed up as members and this number continues to rise month by month, but usage continues to be dominated by a core group of around 20 users.

4.28 Several members regularly use the bikes for commuting to the Hospital and Crichton areas. The town centre sites remain the most popular with Dock Park and the DG One leisure centre generating the most trips as shown in Figure 4.4. There are more rentals from the stations that are uphill at the Crichton and the hospital. This may suggest that people either walk or get the bus uphill but are happy to cycle downhill. Other sites have a more even balance of outbound and inbound trips, suggesting there is a more balanced use. The analysis shown below is a report of destinations that are being cycled to from each station. 88% of rentals are within the 30 minutes allowed for free use of the scheme by members.

Figure 4.4 - Rentals by Rental Station



4.29 Media interest has continued about the Bike2Go project including comparisons on bike usage comparing Dumfries unfavourably with London. The focus group evidence suggests that local people see the bikes as good for the town, but something better suited to tourists who will not necessarily have their own bikes available. However the use of the bikes by tourists is not entirely straightforward. Although tourists can telephone for a card number and pin number, there is no evidence that tourists are actually doing this, or even that tourists have yet been persuaded that they want to see Dumfries by bike. The membership of the scheme is better optimised for regular users who use a smartcard and identification number. Users are encouraged to join online so that they will be sent a card and pin number but this means that trial use by local people is no simpler than for tourists, and the scheme does not yet seem to have found its core market. One focus group participant noted that:

"I don't like the idea that you sign up for it. It would be a lot easier if it were a case of putting money in a slot. That would get me using it"

4.30 For Dumfries to be seen to be celebrating its status as the home of the bike it needs to identify new larger markets than the current small group of 20 or so local people, who appear to like using the scheme when the weather is good, and particularly for downhill trips.

4.31 The scheme does not yet appear to be embedded and this may take time. Tourist guides do not yet list using Bike2Go as 'must do' activities for visitors and local people need some incentive to try the scheme out. The sign up process will not seem like a problem to those that have done it, but making Bike2Go an easier option for turn up and go hires might help, based on the focus group evidence. If people could get their first hire free by entering a few details about themselves and their credit card details then the main barriers to use identified in this research would be overcome. It may be that other barriers would emerge, but a consistent drive to find the core markets for the scheme is still needed. At present it is a helpful addition to the Dumfries streetscape largely as a piece of public art so is broadly welcomed by the public. However embedding the culture of cycle use in the town needs further work. The long term future of the scheme will require a sponsor, but continued sponsorship will depend on the scheme being increasingly popular, building from the current positive perceptions in the town.

Business travel plan surveys

4.32 300 businesses were identified for potential contact to promote travel planning processes. Despite the offer of support to help develop these plans, take up proved to be poor, with only one employer completing a Travel Plan.

4.33 Work continued on the delivery of the Dumfries and Galloway Royal Infirmary and Crichton Educational Campus Travel Plan which had been developed prior to the SCSP programme. Activities were as follows:

- Lift sharing - 486 members are registered on DGtripshare.com to seek or offer lifts or to find a cycle or walk partner. 251 of those registered are seeking daily or weekly regular car share matches. Of the 486 members, 31% are seeking a lift, 48% are seeking and offering a lift, 16% are offering a lift, 2% are seeking a cycle partner and 2% are seeking a walking partner. There is no information on actual numbers taking lifts but DGtripshare.com records show that 49 people have at some time made contact with others to enquire about the possibility of lift sharing.
- Improved bus services and walking and cycling routes and facilities, to and at business locations, have been delivered through SCSP as described above under infrastructure and service changes.

Cycle Training

4.34 A youth cycling development project was promoted to develop youth cycling clubs, facilities and events. The club has provided a programme of coaching, and guided rides throughout the year.

Carbon Footprinting Research

4.35 The planned local analysis of carbon footprint, emissions, journey times, health, and economic activity has yet to start. The Council plan that this will be taken forward by SWestrans staff in 2013.

Processes for Change Evident from Focus Group Evidence

4.36 Two focus groups were undertaken in the area to explore how local people perceived the recent changes. The focus groups include research to obtain unprompted feedback on the changes and also prompted responses on how people had reacted to each element of the recent investment. On some of the initiatives, participants had no views or experience of the changes but on others valuable insights were gained into the mechanisms that led to attitude and behaviour change. The focus group findings are reported in detail separately but Figure 4.5 summarises the main mechanisms identified by participants where the SCSP investment was perceived to impact on the town.

4.37 Participants felt that there were no major problems driving into the town and congestion was much less than in cities.

"Well, you've got the big car park at Broom Rd where you can park all day"

4.38 Although many bus users in the focus groups had concerns about the new routes and schedules the new discounted weekly tickets and real time information were considered to have encouraged more bus use.

"I've noticed they've re-done the bus shelters with the electronic thing. That would encourage me to use the bus. If you have some idea of when the bus is coming, you will stay and wait for it"

4.39 People did not consider that there had been particular problems with road safety for walkers, but construed safety improvements as relevant for improving personal security. Health benefits and cost savings were considered to be the main factors leading to more active travel.

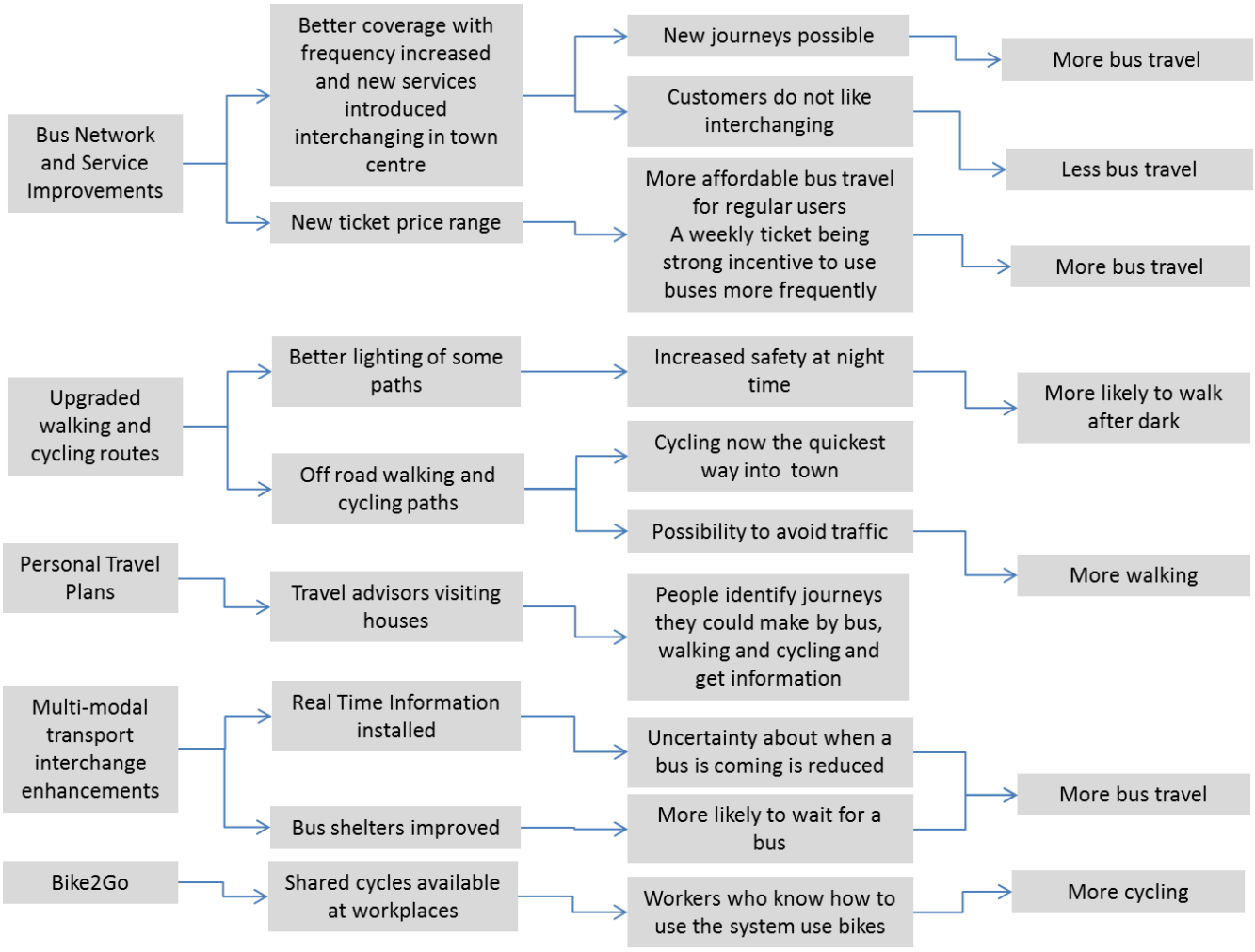
"I've recently lost a lot of weight...I've started walking a lot more"

4.40 The Dumfries focus groups demonstrated a relatively good awareness of the SCSP programme but a tendency for participants to view the programme as not relevant to themselves. This may not be representative of people in the area but with such a large investment in infrastructure and services, including high profile schemes like Bike2Go and

the bus network changes, there were strong views about what would and would not work. If this reflects wider views in the area then the infrastructure changes may be running ahead of public opinion indicating that greater spending on campaigning and marketing is needed.

4.41 However some people explained how they had changed or considered changing behaviour as a result of the changes with all of the main programmes being identified. It is interesting that people recognise that cycling is often the fastest way into town but did not think that this would lead to more cycling.

Figure 4.5 - Mechanisms for Change identified in Focus Groups



4.42 The main outcomes and impacts that people thought would be delivered were increases in bus travel and active travel.

5.0 Travel Behaviour Outcomes

Household travel survey

5.1 One of the main sources of evidence on changes in travel behaviour was the "before and after" household travel survey. Household surveys were undertaken in 2009, before the start of the SCSP interventions, and in 2012 after completion of the programme. These included a detailed travel diary and questions about travel attitudes and behaviour. The survey approach is described in the Final Evaluation Report.

5.2 The changes observed in the target area were also compared with the changes recorded in equivalent sized settlements in the Scottish Household Survey between 2008 and 2011. This helped place the results in context and gave an indication of how they compared with "background trends".

5.3 The main results from analysis of the travel diaries diaries and the remainder of the household survey are set out below. In reading these, it is worth noting the following:

- The household survey was undertaken using random sampling across the pilot area. Changes observed are therefore area-wide and may not pick up more localised responses to specific small-scale interventions, which may be apparent from other local data collection sources.
- Prior to analysis it was necessary to weight the sample data to achieve samples which were broadly representative of the population in the town. All figures quoted are based on weighted data analysis, with weightings by age and gender calculated according to 2010 mid-term Census estimates for age and gender for the pilot area.
- Statistical significance tests were conducted on the main results cited, and statistically significant changes at the 95% confidence level are highlighted below. However, it should be recognised that lack of statistical significance does not necessarily mean that there is no change within the population of interest – merely that we cannot say with 95% confidence that there has been a change within the population given the size of observed change in the sample and the sample size.

Household survey sample characteristics

5.4 The survey was completed by 1,600 Dumfries respondents in 2009 and 1,227 in 2012. However, not all respondents provided valid answers to every question so the numbers of valid responses vary according to the aspect being analysed. The "n" figures reported under the graphs in the following sections are the weighted sample sizes – either in terms of numbers of respondents or numbers of reported trips.

5.5 Table 5.1 shows the key characteristics of the achieved weighted Dumfries sample in 2009 and in 2012. As age and gender were used to weight the sample, these characteristics are identical in the pre- and post-intervention surveys.

Table 5.1 Weighted sample characteristics (% of total) Dumfries in 2009 and 2012

	2009 sample (%)	2012 sample (%)	Population (where available, see footnote) (%)
Gender			
Male	*47.7*	*No change (due to weighting)*	*47.7*
Female	*52.3*		*52.3*
Age			
16-24 years	*12.1*	*No change (due to weighting)*	*12.2*
25-34 years	*11.6*		*11.7*
35-44 years	*15.1*		*15.1*
45-54 years	*17.7*		*17.5*
55-64 years	*21.0*		*21.1*
65-74 years	*12.1*		*12.0*
75+	*10.3*		*10.3*
Economic Status*			
Employed Full Time + Self-employed	*35.1*	*33.1*	*39.0*
Employed Part Time	*14.4*	*10.9*	
Not employed	*49.6*	*55.6*	
Household composition*			
Adults living as a couple/ married	*60.4*	*63.0*	
House-share	*1.8*	*1.1*	
Single Adult household	*36.9*	*35.9*	
Other	*0.9*	*0.0*	
Presence of Children			
With children			
Without children			
Illness and Disability*			
With	*19.5*	*22.8*	
Without	*80.5*	*77.2*	
Household income (annual, gross)*			
Less than £14,999	*51.7*	*38.0*	
£15k - £19,999	*13.0*	*16.0*	
£19k - £29,999	*17.2*	*19.3*	
£30k - £39,999	*9.7*	*10.1*	
£40k – 59,999	*7.1*	*13.0*	
£60k or more	*1.2*	*3.6*	
[Refused/don't know/ missing]	*[35%]*	*[65%]*	
Education*			
No Qualifications	*33.4*	*22.6*	*38.0*
School leaving certificate	*6.4*	*8.5*	
O Grade, Standard Grade, GNVQ equivalent	*21.5*	*35.1*	
Higher, A Level or equivalent	*15.1*	*13.7*	
Degree/Professional	*23.6*	*20.2*	

Ethnicity			
White	*99.0*	*99.3*	
Asian	*0.5*	*0.4*	
Black	*0.2*	*0.3*	
Mixed	*0.1*	*0.0*	
Other	*0.4*	*0.0*	
Household car ownership			
None	*28.1*	*37.5*	*29.0*
1	*46.9*	*43.6*	
2	*23.2*	*16.0*	
3 or more	*1.8*	*2.9*	
Driving licence*			
Yes	*65.1*	*55.4*	
No	*34.9*	*44.6*	
Adult bicycle ownership*[1]			
None	*60.6*	*80.3*	
One	*19.9*	*10.2*	
Two	*15.9*	*7.6*	
Three or more	*3.5*	*2.0*	
Children bicycle ownership			
None	*n/a*	*84.5*	
One	*n/a*	*8.2*	
Two		*5.8*	
Three or more		*1.6*	
Concessionary travel passholder*			
Yes	*31.0*	*34.7*	
No	*69.0*	*65.3*	

*Differences between 2009 and 2012 proportions are significant at p<0.05 for those characteristics marked with *. Differences in bicycle ownership figures should be viewed with caution due to the inclusion of an additional question on child bike ownership in the 2012 survey. For population data, for age and gender, mid-year population forecasts for 2010 are shown, as provided to the research team by the GRO. For other demographics, 2001 Census figures are shown (where available) as the most recent data available at the pilot area level. These should be treated as illustrative only, and are not directly comparable with the sample data because of their age.*

5.6 There were some differences between the 2009 and 2012 survey samples. One possible explanation for this is that the non-response biases using the modified 2012 survey methodology were different to those in the 2009 survey. In particular, there was a higher proportion of respondents from households without a car in the 2012 survey sample than in the corresponding 2009 survey sample. The research team was mindful of this in the analysis, and where possible undertook separate behavioural change analyses for people from car-owning and non-car-owning households. However, this potential source of bias should be borne in mind when reviewing the analyses on the overall aggregated samples.

[1] *Note that in 2009, only adult bike ownership was asked in the survey. This means that the bicycle ownership figures are not directly comparable between the two years. It is possible, for instance, that some people would have included bike ownership with their adult bike total in 2009 and this could be one reason for the apparent decline in adult bike ownership in 2012.*

Modal split of journeys from the Travel Diaries

Observed changes

5.7 The travel diary element of the household survey recorded trip-making behaviour on a specific day[2]. Figure 5.1 shows the changes in mode choice by Dumfries residents between 2009 and 2012 based on the share of all journeys made by main mode. The main mode of travel is defined as the mode used to travel the furthest distance in cases where a journey was conducted over more than one stage[3].

5.8 Decreases occurred in the modal share for bus, car driver and car passenger journeys ranging from 0.9 to 7.4 percentage points. Marginal increases in the mode share of less than 1 percentage point occurred for all other modes with the exception of walking trips, where an increase of 7.6 percentage points was observed.

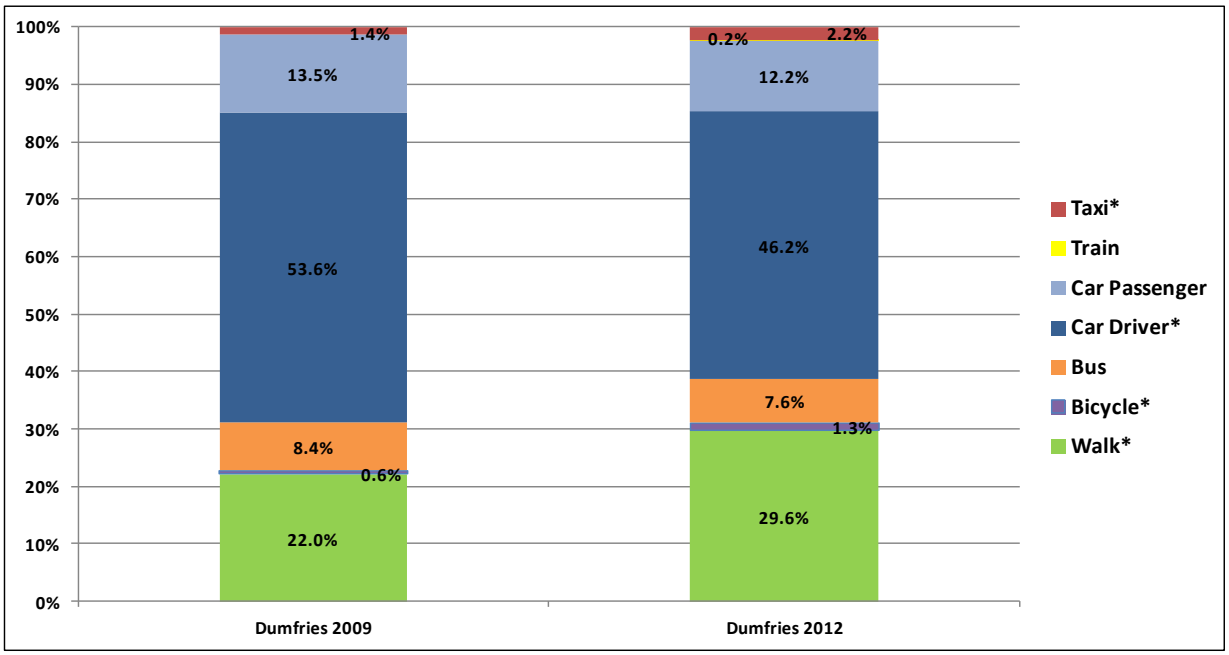
5.9 The differences between the modal splits of respondents in the baseline 2009 survey and the 2012 post-implementation survey were found to be significant at the 95% confidence level for journeys by:

- Bicycle;
- On foot;
- Car driver; and
- Taxi.

Figure 5.1: Comparison of mode choice by % of journeys made (main mode only)

[2] *Note that the analysis of the travel diary data concentrates on mode share relating to the proportion of all trips by main mode. Average number of trips and trip distances are not reported for two reasons (i) there was a change in the overall number of trips reported in 2009 and 2012 likely to be due to better prompting of respondents to list each trip and trip stage so this means that the reported distances are misleading (ii) there are very few statistically significant changes in average distance between 2009 and 2012 when the sample is divided into sub-samples such as journey purpose, age categories etc.*

[3] From this point on 'journey' refers to the mode used for the longest (distance) stage of a journey so that so that comparisons can be made between attributes of travel and travel choices.



*Travel Diary samples of N = 2,606 trips, weighted for 2009 and N = 2,289 trips for 2012. Differences between 2009 and 2012 proportions are significant at p<0.05 for all modes marked with **

Comparison with Scottish Household Survey Data

5.10 A comparison between the changes which occurred in the modal choices of respondents from Dumfries between 2009 and 2012 and the percentage point change in share of journeys by each mode from the equivalent sized settlements in the Scottish Household Survey is shown in Table 5.2.

5.11 The most notable point from this comparison is that the changes in the mode share for walking and car use are quite different from the "background trends" as represented by the SHS data. The proportion of walking trips increased in Dumfries by almost five times more than in the comparable SHS locations. Car driver trips also reduced by around five times more than this 'background' trend. Cycling rates increased very slightly more but bus use reduced against a very slight increase in comparable locations.

Table 5.2: Comparison of mode share by % of journeys made (main mode only) between Dumfries and SHS data between 2008/2009 and 2011/2012

Mode	%-point Change in Modal Share of Journeys	
	Dumfries 2009 - 2012	SHS 2008 - 2011

Mode	%-point Change in Modal Share of Journeys	
	Dumfries 2009 - 2012	SHS 2008 - 2011
Walk	+7.6*	+1.6
Bicycle	+0.7*	+0.5
Bus	-0.9	+0.1
Car Driver	-7.4*	-1.5
Car Passenger	-1.3	-1.5
Train	+0.2	+0.9
Motorbike	+0.1	*included in 'other'*
Taxi	+0.8*	-0.3
Other mode	+0.1	+0.2

*Differences between 2009 and 2012 proportions in SCSP data are significant at p<0.05 for all modes marked with **

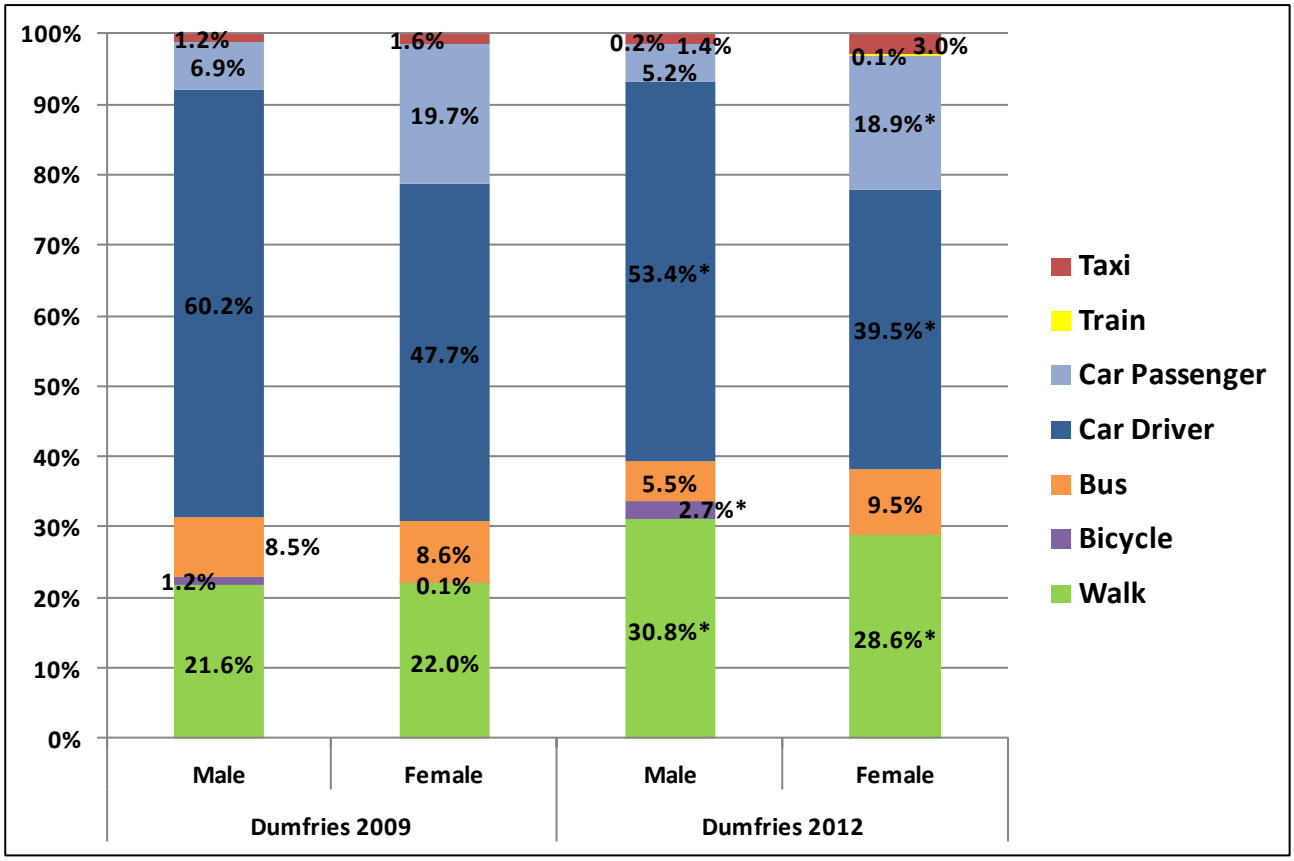
Modal split of journeys by gender

5.12 Figure 5.2 details the changes in mode choice by Dumfries residents between 2009 and 2012 based on the share of all journeys made by main mode disaggregated by gender.

5.13 The modal share of journeys on foot increased by 9.1 and 6.6 percentage points for men and women respectively. There was a marginal increase in the modal share of bus journeys amongst female respondents whilst the share for male bus passengers fell. The modal share for car driver journeys fell for both sexes.

5.14 Significant differences at the 95% confidence level were found between the proportions of journeys made on foot and by car driver by both sexes in 2009 and those made in 2012. The differences between the proportions of respondents travelling by bicycle and taxi were found for males and females respectively.

Figure 5.2: Comparison of mode choice (by % of journeys made) by gender



*Travel Diary samples are 1,208 trips (male) and 1,374 (female) for 2009 and between 1,111 (male) and 1,175 (female) for 2012. Differences between 2009 and 2012 proportions are significant at p<0.05 for all modes marked with **

Modal split of journeys by age

5.15 Table 5.3 compares the mode choice by Dumfries residents between 2009 and 2012 based on the share of all journeys made by main mode disaggregated by age.

5.16 The modal share for walking journeys increased across all age groups by between 3.8 and 22.3 percentage points with the exception of those in the 18-24 years age group where walking declined by 13 percentage points.

5.17 The modal split for car driver journeys amongst respondents fell between 4.8 and 26.5 percentage points in 2012 compared to 2009 in all except in the youngest and oldest age groups where increases of 25.3 and 8.3 percentage points respectively occurred.

5.18 From this it is clear that the changes in mode share recorded in the youngest age group were quite different as walking, cycling and bus use declined, but car driving increased significantly.

Table 5.3: Change in mode share 2009-2012 (by % of journeys made) by age

2009 – 2012 percentage-point change							
	18 - 24 years	25 - 34 years	35 - 44 years	45 - 54 years	55 - 64 years	65 - 74 years	75 or over
Walk	-13.1*	+5.3	+10.1*	+22.3*	+3.8	+9.2*	+14.4*
Bicycle	-1.6	+1.5	+2.0	+0.4	+0.9	+0.7	+1.9
Bus	-12.3	+1.1	-0.7	+2.1	+1.4	-4.0	-9.1
Car Driver	+25.2*	-4.8	-6.1	-26.5*	-8.8*	-9.0*	+8.3
Car Passenger	+0.1	-4.4	-5.5*	+1.6	-0.7	+1.2	-11.8*
Train	0.0	0.0	+0.4	0.0	0.0	0.0	+0.8
Taxi	+1.7	-0.2	+0.9	-0.9	+2.8	+1.3	-3.4

*Travel Diary samples range between 258 trips (65 – 74 years) and 587 (55-64 years) for 2009 and between 232 (35-44 years) and 570 (55-64 years) for 2012. Differences between 2009 and 2012 proportions are significant at p<0.05 for all modes marked with **

Modal split of journeys by journey purpose

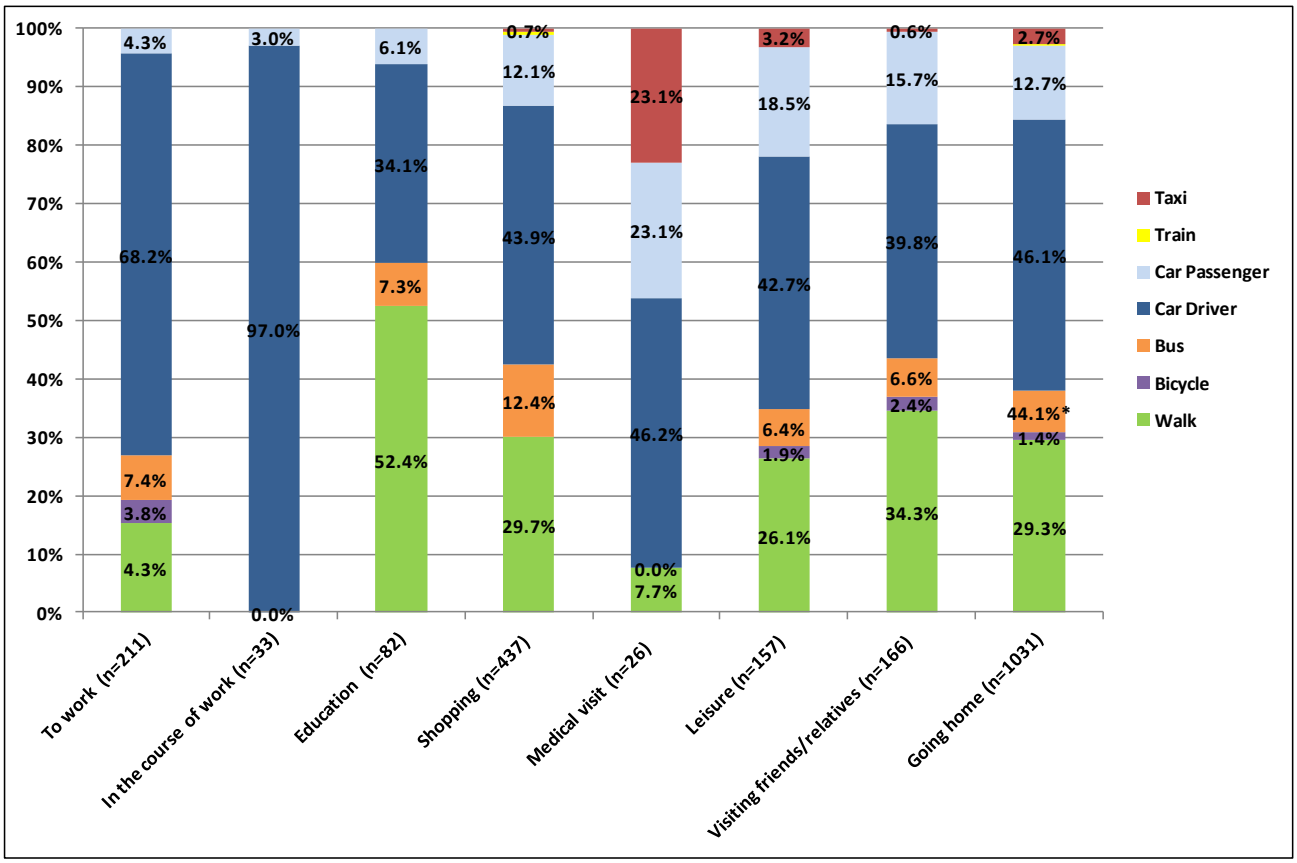
5.19 Figure 5.3 shows the modal share for each journey purpose in 2012 and Table 5.4 compares the mode choice by Dumfries residents between 2009 and 2012 based on the share of all journeys made by main mode disaggregated by journey purpose.

5.20 The modal share for walking journeys increased across most journey purposes ranging from 1.9 percentage points for shopping to 29.3 percentage points for journeys for education purposes. In contrast decreases were seen in the proportion of journeys which were made on foot in the course of work, medical visits and leisure trips.

5.21 Decreases in the modal share for car as driver journeys occurred across all journey purposes with the exception of journeys in the course of work and medical visits which experienced increases of 14.1 and 4.0 percentage points respectively.

5.22 Significant differences at the 95% confidence level were found in the modal share of walking and car driver journeys to visit friends/relatives and to go home. In addition, significant differences were also found in the proportions of shopping journeys made by bus and as a car passenger.

Figure 5.3: Comparison of mode choice (by % of journeys made) by purpose



Travel Diary samples range between 26 trips (medical visit) and 1,031 (going home) for 2012.

Table 5.4 - Change in mode share 2009-2012 (by number of journeys made) by journey purpose

2009 – 2012 percentage-point change								
	To work	In the course of work	Education	Shopping	Medical visit	Leisure	Visiting friends/relatives	Going home
Walk	+2.5	-8.6	+29.4	+1.9	-8.1	-2.2	+14.0*	+7.6*
Bicycle	+2.7	0.0	0.0	-0.2	0.0	+1.1	+2.4	+0.7
Bus	+1.1	-5.7	-5.5	+4.1*	-5.3	-4.7	-0.5	-1.7
Car Driver	-2.9	+14.1	-14.6	-1.9	+4.0	-0.6	-18.6*	-6.7*
Car Passenger	-3.8	+0.2	-9.3	-4.9*	-3.2	+4.8	+3.3	-1.5
Train	0.0	0.0	0.0	+0.5	0.0	0.0	0.0	+0.2
Taxi	-0.3	0.0	0.0	-0.2	+12.6	+1.1	-1.2	+1.1

*Travel Diary samples range between 19 trips (medical visit) and 1,005 (going home) for 2009 and between 26 (medical visit) and 1,031 (going home) for 2012. Differences between 2009 and 2012 proportions are significant at p<0.05 for all modes marked with **

Modal split of journeys by household car ownership

5.23 Figure 5.4 illustrates the modal choice of Dumfries residents in 2009 and 2012 according to whether or not the respondent lives in a household with a car. As would be expected the use of modes such a walking, cycling and bus are much higher among respondents not living in households with a car in both the 2009 and 2012 surveys. In 2012 the proportion of trips made on foot increased for both groups.

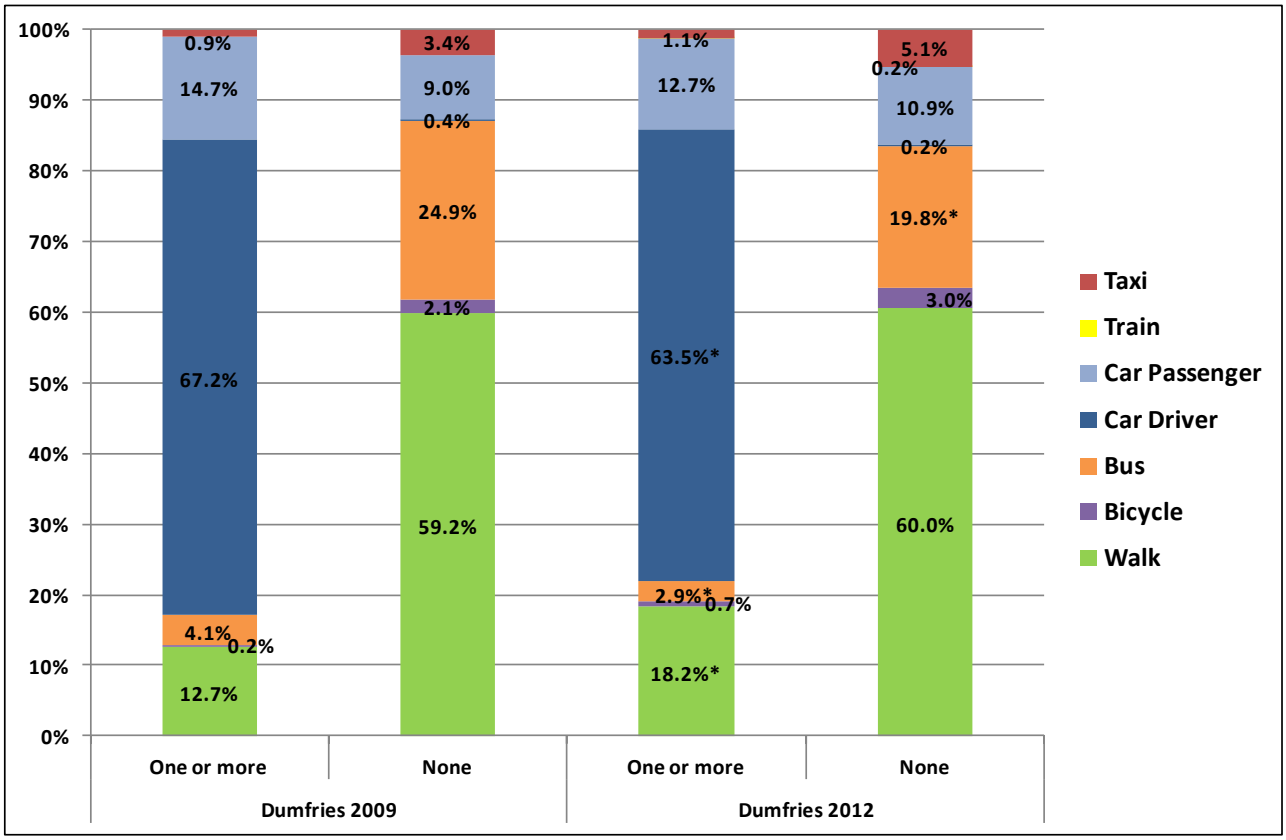
5.24 Changes between the modal split of the two surveys are generally greater in those in car owning households with the exception of bus travel. The modal share of bus journeys has fallen for respondents both in car-owning and non-car owning households by 1.1 and 5.1 percentage points respectively.

5.25 For respondents with access to a vehicle significant differences were found between the modal splits of journeys made by:

- bus;
- walking; and
- car driver.

5.26 For respondents without vehicular access a significant difference only occurs between the modal split of journeys made by bus between the baseline and post-implementation surveys.

Figure 5.4: Comparison of mode choice (by number of journeys made) by household car ownership



*Travel Diary samples are 2,077 trips (one or more cars) and 522 (no car) for 2009 and 1,665 (one or more cars) and 625 (no car) for 2012. Differences between 2009 and 2012 proportions are significant at p<0.05 for all modes marked with **

Modal split of journeys by weekday/weekend

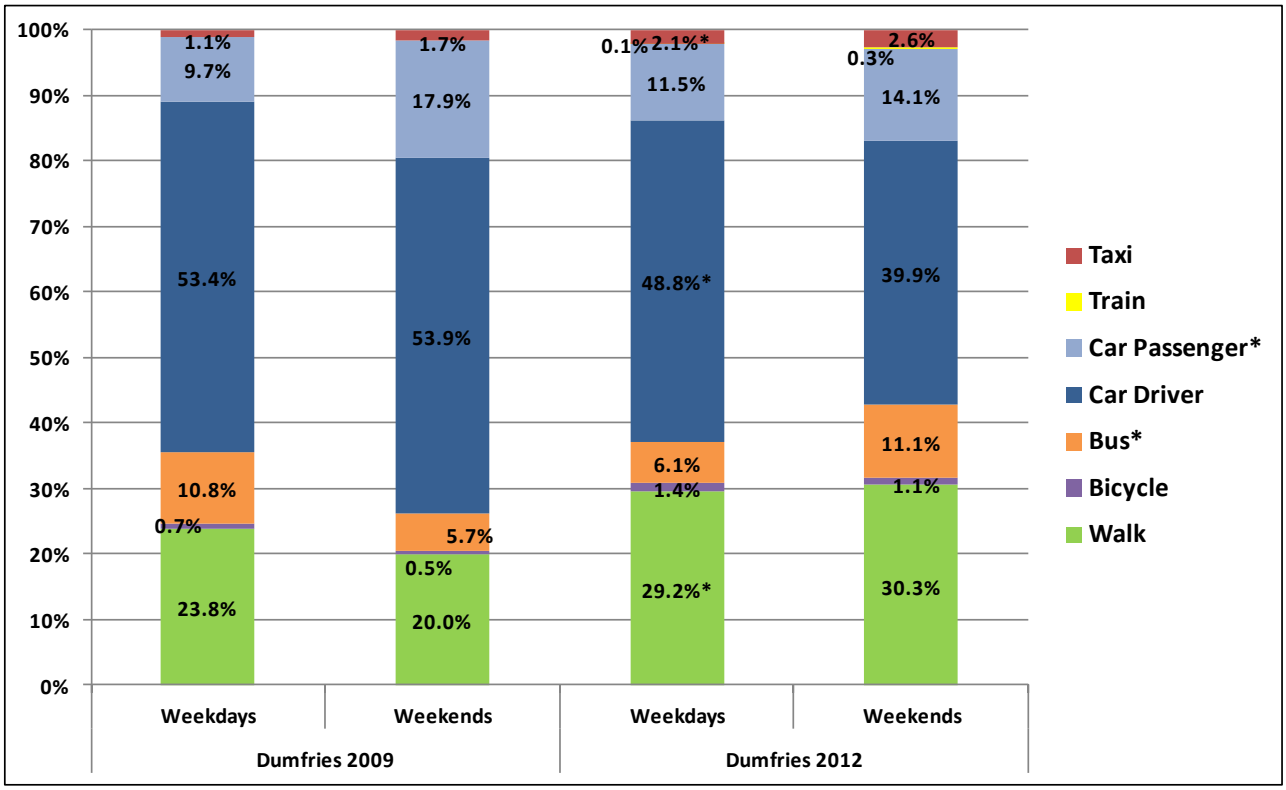
5.27 Figure 5.5 compares the modal choice of Dumfries residents in 2009 and 2012 based on the share of all journeys made by main mode and disaggregated by weekday/weekend.

5.28 The main observations are that the modal split of journeys by car drivers fell in the period 2009 to 2012 for journeys made during the week and at the weekend. The opposite was true for the modal split of walking trips which increased by 5.4 percentage points on weekdays and 10.3 percentage points at the weekend.

5.29 Marginal increases of less than a percentage point occurred in the modal split of cycling, taxi and train journeys for both weekday and weekend trips.

5.30 Significant differences at the 95% confidence level were found for the modal shares of walking and car driver journeys during the week and at weekends. Significant differences were also found in the proportions of weekday taxi and weekend car passenger journeys.

Figure 5.5: Comparison of mode share (by number of journeys made) by weekday/weekend



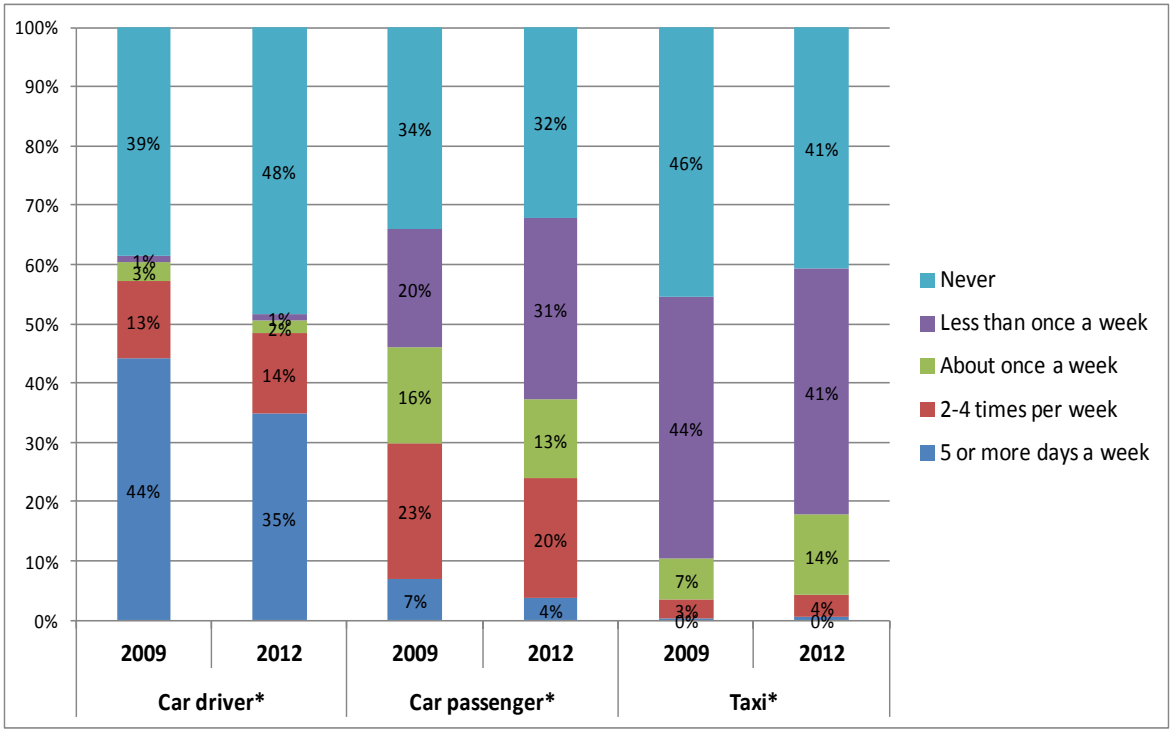
*Travel Diary samples are 1,392 trips (Weekday) and 1,210 (Weekend) for 2009 and 1,598 (Weekday) and 696 (Weekend) for 2012. Differences between 2009 and 2012 proportions are significant at p<0.05 for all modes marked with **

Self-reported frequency of use of each mode

5.31 In the household survey people were asked to indicate the frequency with which they used each mode. The data in 2009 and 2012 for car use (as a driver, as a passenger and use of taxis) is shown in Figure 5.6, and for other modes (bus, train, walking and cycling) in Figure 5.7.

5.32 Fig 5.6 shows that frequency of use of the car appears to have dropped. The number of people who say they drive on five or more days per week has fallen from 44% to 35% (21% reduction, or a 9 percentage-point drop). Also, the proportion of people who say they never drive has increased from 39% to 48% (36% or a 9 percentage point increase). In contrast, the number of people who say they never use the car as a passenger has fallen slightly from 34% to 32% with much more frequent occasional use as a passenger than in the baseline. Taxi usage of once to up to four times a week has risen from 10% of the sample to 18%.

Figure 5.6 - Self reported use of car in 2009 and 2012



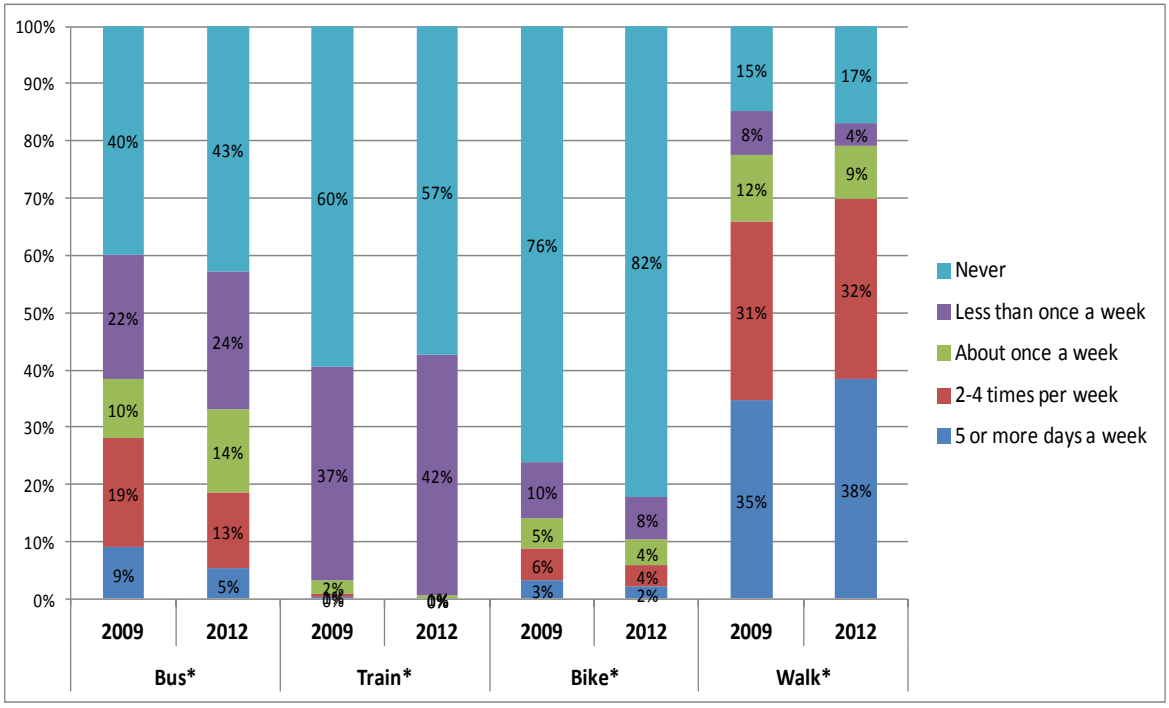
*Household survey samples of N = 1,600 respondents, weighted for 2009 and N = 1,227 for 2012. Differences between 2009 and 2012 proportions are significant at p<0.05 for all modes marked with *.*

5.33 Figure 5.7 shows that there has been a slight reduction in bus use but that overall almost the same number of people are using the bus at least some of the time. The number of people using the bus most days has fallen from 9% to 5% (44% or 4 percentage point drop), and those who say they use it 2-4 times a week has fallen from 19% to 13% (32% or 6 percentage point increase). The proportion of people that say they never use the bus has increased from 40% to 43%. Train use in Dumfries is not high with 60% in the baseline and 57% in the post-implementation survey saying they never use this mode.

5.34 The 2012 survey also asked people to register their frequency of use of dial-a-ride services. In Dumfries, 98.6% said they never used this service.

5.35 With respect to cycling, in the post-intervention sample, there has been a 6 percentage point increase in the number of people who say they never cycle. Indeed, reductions were reported in all the use-frequency categories. Walking shows a mixed picture with the number of people saying they never walk increasing slightly (from 15% to 17%), but the number saying they walk most days increasing slightly from 35% to 38%.

Figure 5.7 - Self reported use of non-car travel modes in 2009 and 2012



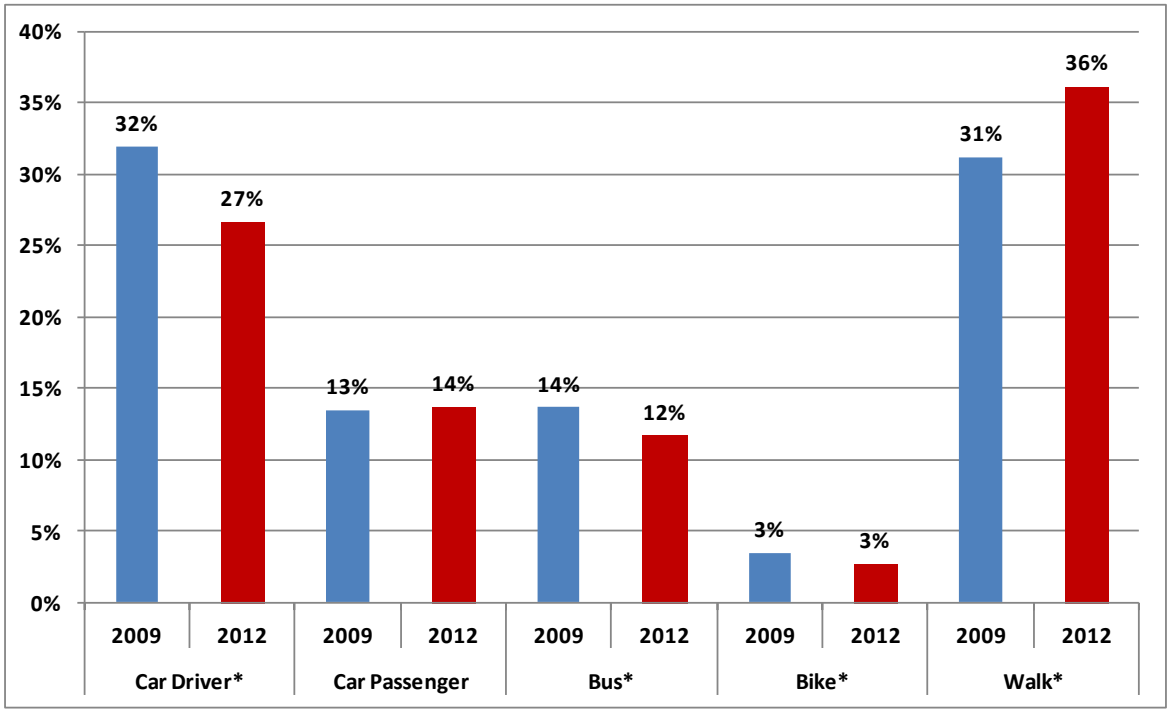
*Household survey samples of N = 1,600 respondents, weighted for 2009 and N = 1,227 for 2012. Differences between 2009 and 2012 proportions are significant at p<0.05 for all modes marked with *.*

Multi-modal travel behaviour

5.36 From the data collected on the frequency of use of each mode, a number of composite indices of travel behaviour were calculated in order to understand the degree to which respondents in each location seem to be more or less dependent on certain modes or, instead, tend to use a mixture of travel options[4]. Figure 5.8 illustrated the degree to which each mode is relied upon in 2009 and 2012. The figures depict the average proportion of trips undertaken by each mode as a fraction of total trips. This is a crude measure, but it has been measured and calculated the same in each survey and so the comparison between years is helpful. The analysis mirrors the analysis above and suggests that car driving has reduced as a proportion of total trips. It also shows the relative importance of walking trips in Dumfries and suggests that this has increased as a proportion of total journeys made. Although the fall in cycling shown in the Figure is small it is still statistically significant.

[4] They were derived by recoding the original travel frequency categories (as outlined above) to reflect the average number of days per year on which a mode was used. This allowed a crude 'total travel frequency score' to be calculated and, from this, the proportional role of each mode in the overall travel portfolio of the respondents. Any mode as a proportion of total travel could range from 0%-100% and could then be classified in to different percentage bands. Note that this relates to frequency of trips and not distance travelled.

Figure 5.8 - Average proportion of trips undertaken by each mode in 2009 and 2012

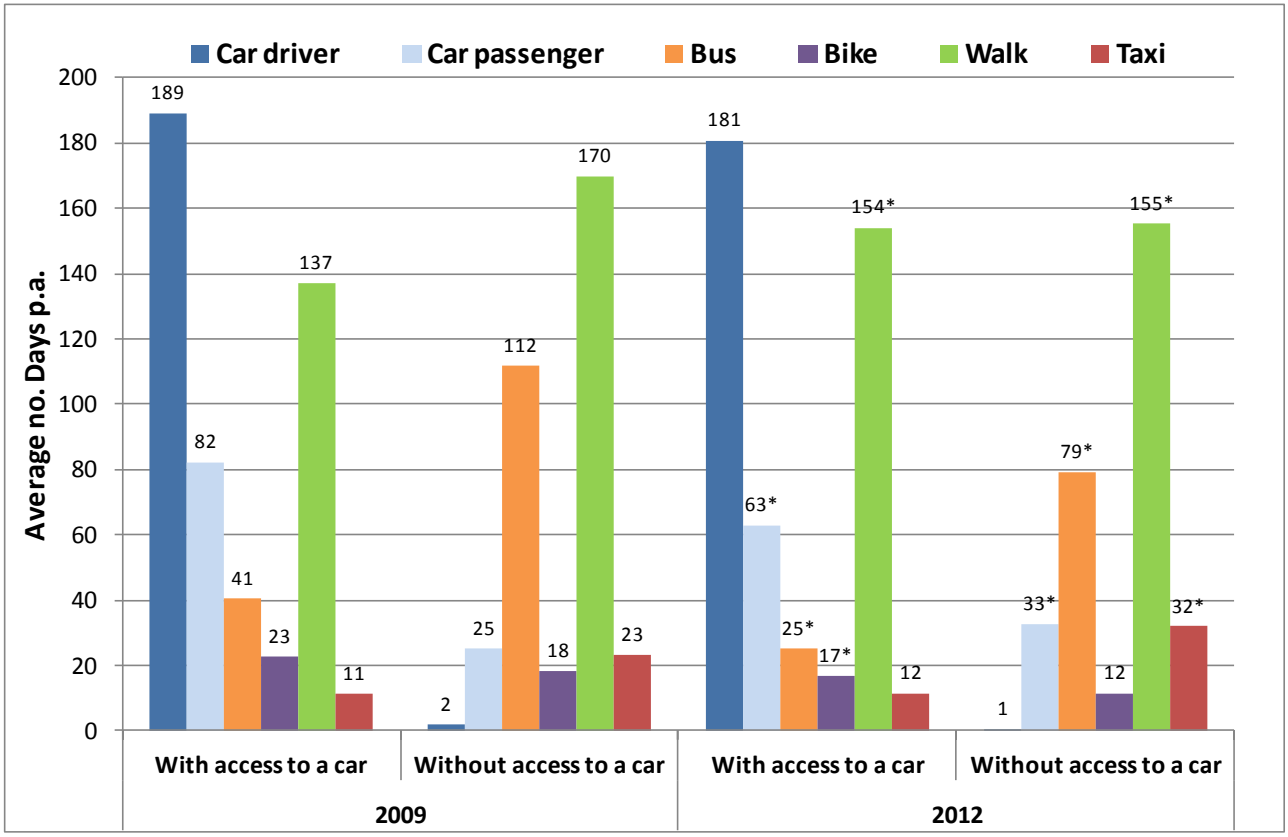


*Household survey samples of N = 1,353, weighted for 2009 and N = 1,040 for 2012. Differences between 2009 and 2012 proportions are significant at p<0.05 for all modes marked with *.*

Demographic differences in self-reported frequency of mode-use

5.37 Figure 5.9 contrasts the average number of days travelled by each mode in households with or without cars. Bus use is much lower in car owning households and car owning households make slightly more use of bicycles. When comparing across years, it appears that walking has increased among car owning households but has reduced among those without a car.

Figure 5.9: Frequency of use of each mode in households with or without a car in 2009 and 2012 (ave. no. days. per annum)



*Household survey samples of N = 1,600 respondents, weighted for 2009 and N = 1,227 for 2012. Differences between 2009 and 2012 for each type of household are significant at p<0.05 for all modes marked with *.*

5.38 There are many other relationships between demographic characteristics and travel patterns that could potentially be examined. Table 5.5 gives a sense of the magnitude and direction of the differences between various sub-groups and examines changes in their travel behaviour in the two survey periods. It uses the 'average number of days per annum' indicator as a way of capturing self-reported frequency of use of each mode.

Table 5.5 – Average no. of days per annum indicator for key socio-demographic factors in 2009 and 2012

	2009 Ave. no. days p.a.					2012 Ave. no. days p.a.					Percentage Difference between 2009 & 2012				
	Car driver	Bus	Cycle	Walk	Taxi	Car driver	Bus	Cycle	Walk	Taxi	Car driver	Bus	Cycle	Walk	Taxi
Male	151	58	34	145	13	130	37	24	155	15	-14%	-35%	-30%	6%	23%
Female	124	65	10	148	17	98	53	7	154	23	-21%	-19%	-31%	4%	35%
With children	173	45	37	155	13	137	35	21	179	17	-21%	-22%	-43%	16%	32%
Without	124	67	16	143	16	105	49	13	146	20	-15%	-27%	-20%	2%	28%
In work	184	40	34	148	13	176	31	23	166	15	-5%	-23%	-31%	12%	17%
Not working	88	83	10	143	17	62	57	9	144	23	-30%	-32%	-9%	1%	33%
With disability	98	55	10	106	23	57	47	4	93	28	-42%	-15%	-61%	-12%	24%
Without	146	63	24	156	13	130	45	18	173	16	-11%	-29%	-24%	11%	27%
16-34 years	114	60	27	161	16	100	55	24	183	20	-12%	-9%	-10%	14%	26%
35-64 years	166	53	26	149	13	138	38	16	159	18	-17%	-29%	-36%	7%	43%
65+ years	91	81	5	125	18	67	53	1	113	20	-27%	-34%	-74%	-9%	10%

Differences between demographic characteristics are significant at p<0.05 for all modes unless the box is shaded dark grey.

5.39 Men report higher car and cycle use in both survey years. Both genders reduced their bus use over the study period but in the post intervention survey, women are more likely to use bus than men, implying that men disproportionately reduced their bus use. Walking rates are the same between the genders. Over the study period, women increased their use of the taxi more than men.

5.40 Those with children drive more than those without but take taxis at a similar frequency to those without children. Both types of household walked a similar amount in the baseline, but those with children increased their amount of walking in contrast to those without. Those without children reduced their rates of cycling, but less than those with children.

5.41 Those in employment are much more likely to use the car and they demonstrated a less pronounced reduction in car use over the period than those out of work. They are also much more likely to walk and cycle although cycling decreased somewhat over the period

whereas walking increased much more than for those out of work. Employed people are also much less likely to use the bus and this remained the same after the intervention.

5.42 Those with a long standing illness or disability (20% in 2009, 23% in 2012) used all modes except taxi less frequently than their able bodied counterparts, although in the post intervention survey, there is no difference in bus use. They are less reliant on the car in both periods and reduced their car use proportionally more than those without a disability. In 2009, those with a disability appeared more reliant on the bus but in the after survey there is no difference suggesting they may not have reduced bus use as much, compared to non-disabled people.

5.43 Younger age groups are more likely to use the bus, cycle, walk in both years. In 2009 they were more likely to use taxis, but not so in 2012. The youngest age group has seen the smallest reduction in car use and the greatest increase in walking. Older age groups were much more reliant on the bus in 2009 than other groups, but not so in 2012 and they are the only age group to report a reduction in walking.

Self reported change in mode use

5.44 The household survey asked respondents to indicate whether their use of each mode had increased, reduced or stayed the same in the past 12 months. In 2012 (the after survey), it also asked respondents to indicate whether they had experienced one or more 'life events' such as changing job, moving home, having a child etc. By looking at these indicators, it is possible to gauge, the extent to which travel behaviour changes may be related to other changes in peoples' lives.

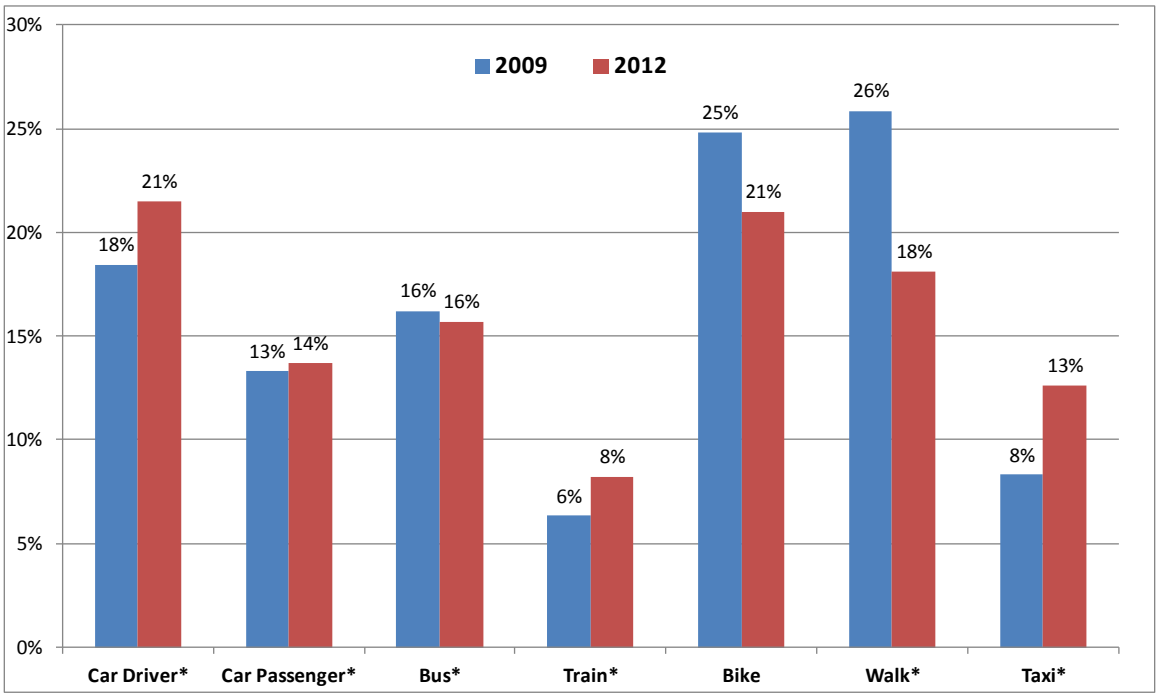
5.45 Figure 5.10 shows the proportion of respondents who reported that they had changed each mode of transport in the past 12 months[5]. The chart shows reported that their use of each mode had changed in either 2009 or 2012.

5.46 Overall, car driver, train and taxi trips underwent more change in the previous twelve months to 2012 than in 2009. When looked at in conjunction with Figure 5.11, we can see that this change was made up predominantly of people reducing each of these modes of transport. With car use, for example, almost three times as many people said they had reduced car driving as said they had increased it.

5.47 There was less change in cycling and walking in 2012, but 21% and 18% respectively said they did alter their frequency of using these modes. In the case of cycling, this was made up of more people saying they had increased it (13.2%) than had decreased it (7.8%) and similarly for walking 13.8% said they had increased walking and only 4.3% reduced it.

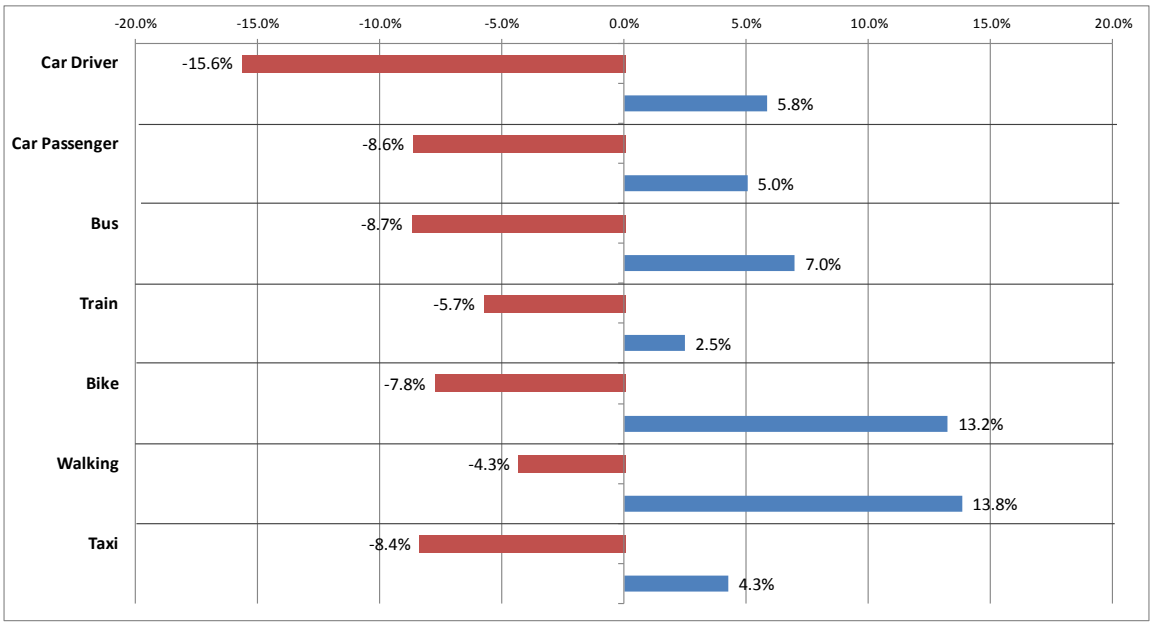
[5] Only those who had reported that they had used each mode at least once in the last 12 months.

Figure 5.10 – Percentage of respondents who reported some change (up or down) in their use of each mode in the previous 12 months



*Household survey samples of N = between 348 & 1,270 - respondents for 2009 and 219 & 1,020 for 2012. Differences between 2009 and 2012 are significant at p<0.05 for all modes marked with *.*

Figure 5.11– Self reported reduction or increase in each mode in the 12 months prior to 2012



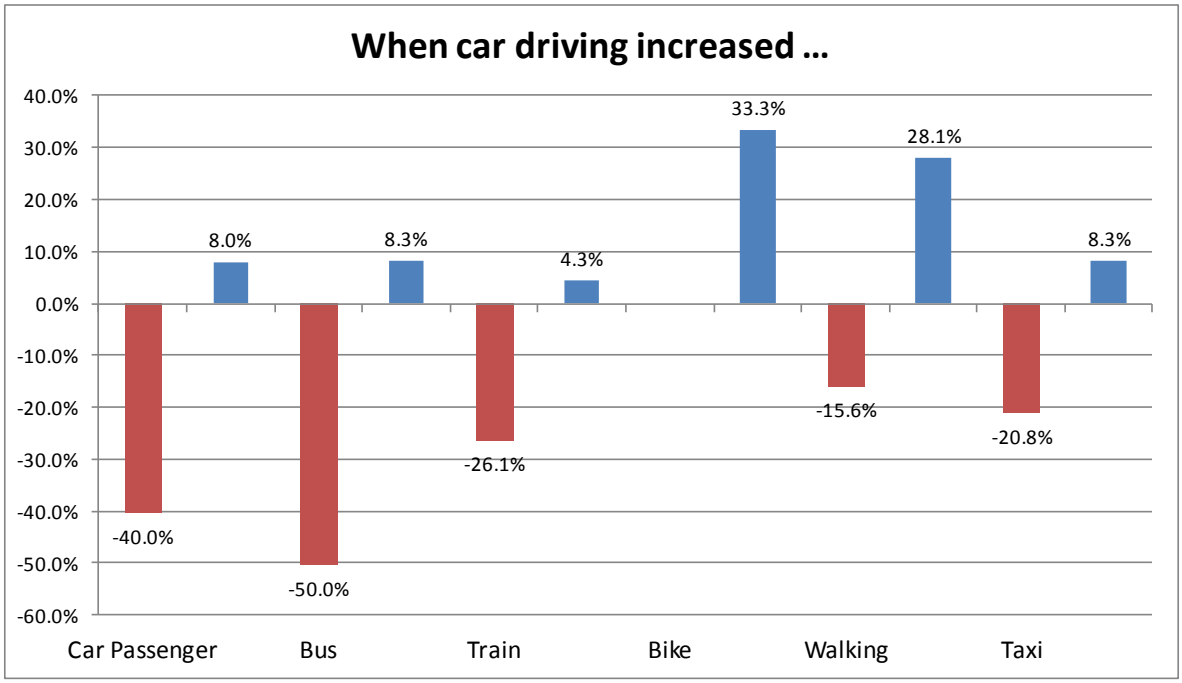
Household survey samples of N = between 219 & 1,020 (2012).

5.48 The survey allows us to examine the relationship between changes in behaviour that individuals undertake. In this case we wanted to understand whether a self-reported

increase or decrease in car use tends to correspond with changes in other mode use[6]. Figures 5.12 and 5.13 show that when car driving is reported to increase (5.8% of respondents), these people tend to report a corresponding reduction in almost all other modes, particularly car passenger and bus use. The exception is cycling, which also increased among those who said they did more car driving. Also, the majority of these people say that their walking increases rather than decreases.

5.49 When car driving is reported to reduce (15.6% of respondents), there was a notable net increase in cycling, walking and bus use in Dumfries.

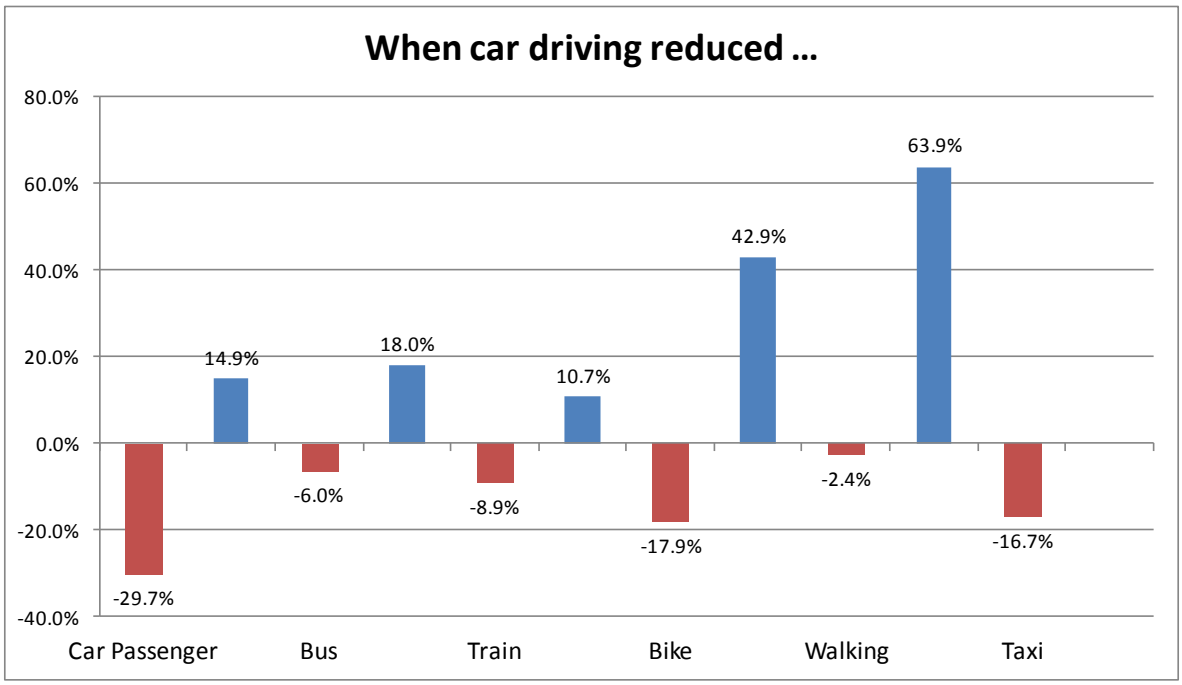
Figure 5.12– Self-reported changes in other modes when car driving increased



Household survey samples of N = between 219 & 1,020 (2012).

[6] Bearing in mind It is not possible from this repeated cross-section survey approach to determine whether these changes are direct trip substitutions, only average behaviour across individuals in the sample.

Figure 5.13– Self-reported changes in other modes when car driving reduced



Household survey samples of N = between 219 & 1,020 (2012).

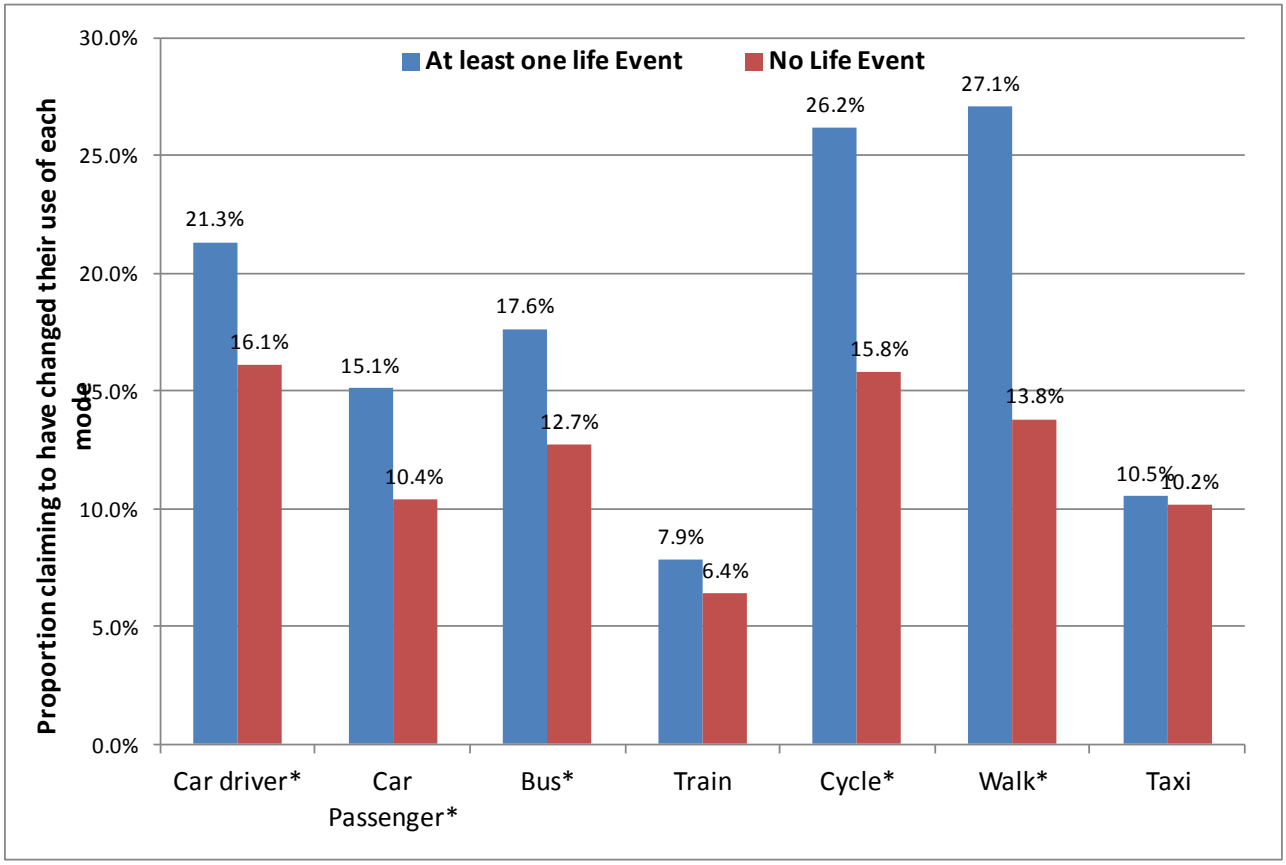
Self reported change in mode use related to 'life events'

5.50 Change in travel behaviour may occur when people undergo an event in their life such as changing job or moving house[7]. These life events, or 'moments of change' were recorded in 2012 (though not in 2009). Figure 5.14 shows that life events lead to greater change in all modes except for train and taxi use. In particular, it seems that cycling and walking are affected by such moments of change[8].

[7] *These included changes in the last 12 months such as: starting work/ changing place of employment; stopped working/ retired; started/ finished college or university; moved house; birth/ adoption of a child; child started school; child left home/ gone to college or university; bought a car; got rid of a car; obtained a driving licence; new health problem.*

[8] *These data do not include people who 'never' used a mode in the past 12 months. But as this should only pick up those people who stopped using the mode before the past year (otherwise they would have had at least some use of it in the past 12 months), this means that the life events in the past year could not have been the cause of never using the mode.*

Figure 5.14– The proportion of people claiming to change use of each mode according to the experience of life events in the previous 12 months (2012)



*Household survey samples of N = between 219 & 1,020 (for 2012). Differences between life event/ no life event significant at p<0.05 for all modes marked with *.*

Pedestrian and Cycle Count Data

5.51 Cycle counts were undertaken at four locations in 2009, in two locations in June 2010 and in five locations in 2012. The counts were undertaken in June and the locations of these counts are shown in Figure 5.15.

5.52 For most locations number of cyclists in 2012 was generally around the same level as it was in 2009. More cyclists are observed on Edinburgh Road, Broom Road and St. Mary Street, but overall numbers are low and subject to daily variation. For sites with both 2009 and 2012 data there has been an average fall in cycle numbers of about 11%. However the two counts undertaken in 2010 and 2012 at Edinburgh Road and College Mains are some distance from the town centre and show an 80% increase between 2010 and 2012.

Figure 5.15 - Pedestrian and Cycle Counter Locations

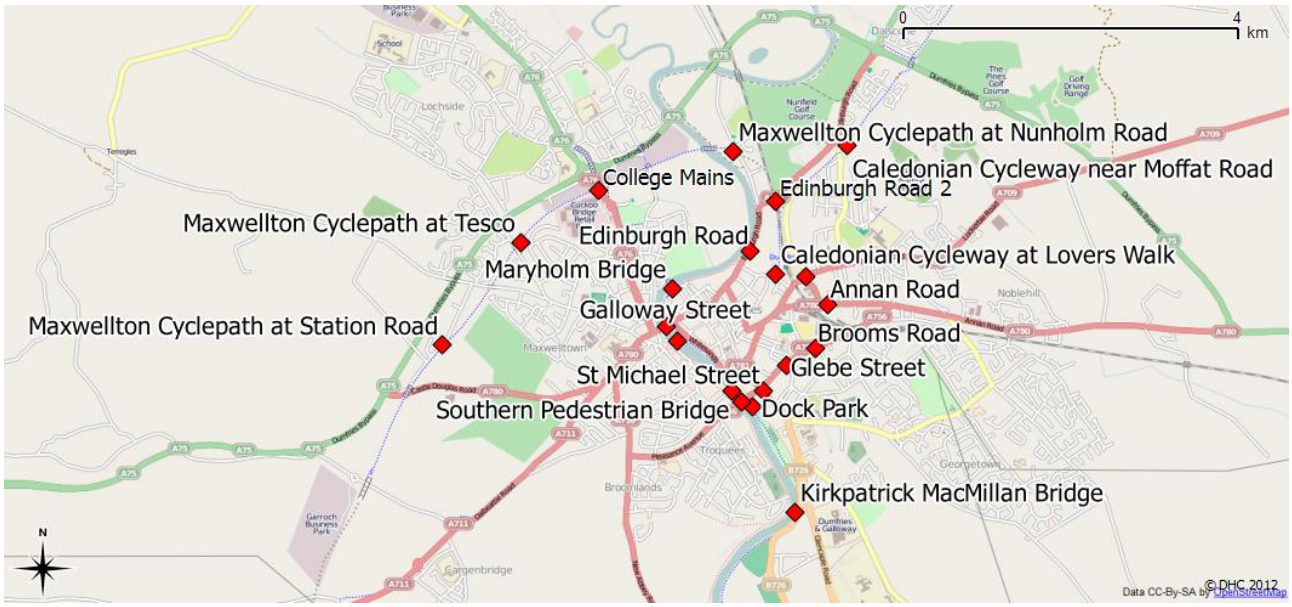


Table 5.6– Cycle Count Data

	Daily Averages (12 hour counts 0700-1900)		
Site	**June 2009**	**June 2010**	**June 2012**
Dock Park	60	-	35
Maxwellton Cyclepath at Tesco	-	-	36
Maxwellton Cyclepath at Nunholm Road	82	-	-
Caledonian Cycleway at Lovers Walk	54	-	33
Caledonian Cycleway near Moffat Road	129	-	120
College Farm	-	182	336
Loreburn Bridge	-	-	94
Edinburgh Road	37	-	69
Edinburgh Road 2	-	79	133
St Mary's Street	58	-	75
Annan Road	72	-	47
Brooms Road	79	-	101
Glebe Street	23	-	42
St Michael Street	113	-	95
St Michael's Bridge Road	99	-	73
Southern Pedestrian Bridge	-	-	68
Northern Pedestrian Bridge	-	-	16
Galloway Street	167	-	109

5.53 Table 5.7 shows the pedestrian counts from the classified count data. It can be seen that for most locations average daily number of pedestrian in June 2012 is lower than in June 2009. The average fall is 8%. Eexceptions are St Michael's Bridge Road where numbers grew 9.7%, Brooms Road with growth of 3.2% and Southern Pedestrian Bridge (2.2% increase). There has been an increase between the counts undertaken in 2010 and 2012 with a 42% increase in pedestrian activity on these two paths. Without 2009 data for these two locations it is not known whether 2009 had unusually high June counts, perhaps due to factors such as good weather experienced in the survey period.

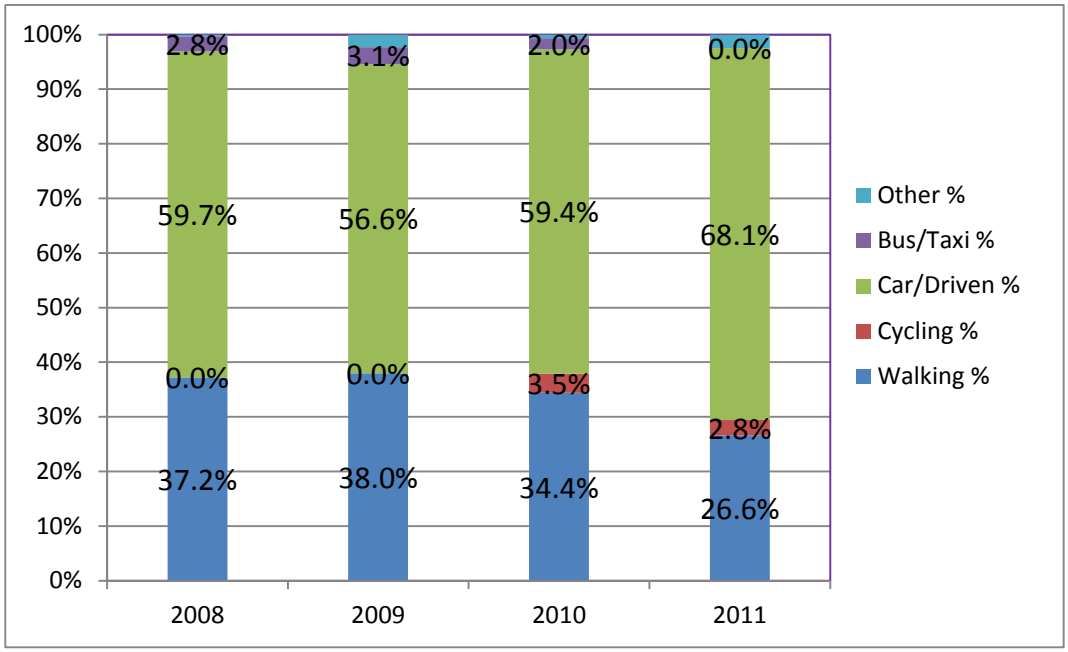
Table 5.7 –Pedestrian Count Data

	Daily Averages (12 hour counts 0700-1900)		
Site	**2009**	**2010**	**2012**
Annan Road	595	-	531
Brooms Road	950	-	981
College Mains	-	232	342
Edinburgh Road	422	-	262
Edinburgh Road 2	-	235	321
Galloway Street	2,443	-	2,325
St Mary's Street	991	-	933
Glebe Street	662	-	622
St Michael Street	1,861	-	1,622
St Michael's Bridge Road	708	-	777
Southern Pedestrian Bridge	1,260	-	1,288
Northern Pedestrian Bridge	1,369	-	903

School travel data

5.54 There has been an increase in the number of students being driven to school. Figure 5.16 shows that the proportion of students walking, and travelling by bus has fallen. In 2009 there were no recorded cyclists but in 2010 and 2011 a small number of students report that they cycle to school.

Figure 5.16 – Average Mode Share for Travel to School



Bus patronage

5.55 The project secured an agreement with Stagecoach that the project's consultants (JMP) would be allowed access to bus patronage data for Dumfries provided a confidentiality agreement was signed that ensured that the analysis would report only percentage changes rather than absolute numbers. Table 5.8 summarises the results of the JMP analysis[9]. Two periods of the year were compared by JMP, May to November and November to May. The trends in both periods are similar, so for the purposes of this analysis so the results have been averaged to annual changes.

Table 5.8 – Change in Bus Patronage

	2008-2009	2009-2010	2010-2011	2011-2012
Overall change in patronage on Dumfries town services	• + 2.4%	• - 2.9%	• + 2.5%	• -5%
Largest increase in patronage	• +9% at the St Michaels Street/ Nithbank cordon (D5 services)	• + 41% on the D5A service	• +8% on Edinburgh Road/Lockerbie Road	• +5% in St Michaels St/ Nithbank
Largest decreases in patronage	• - 5% drop on Brooms Road from Georgetown	• - 7% at the Annan Road and Brooms Roads	• -5% on Glebe Street south of Broom Road	• -18% at St Michael Street Bridge

[9] *SWestrans 2011 Go Smart Progress Report Update. March 2011 and JMP 2012 Bus Patronage Report. August 2012.*

5.56 In the absence of the detailed patronage data, the summary data presented by JMP allows only broad conclusions to be made. However it does seem that the greatest volatility in the bus market is on services south of the town centre to the Hospital and Crichton College. This is consistent with the changes made to the bus services which included the new high frequency D5A service. Restructuring the bus services to put them on a more sustainable financial footing without major patronage losses is positive.

5.57 In 2010-11 overall bus patronage demand in Dumfries increased at a time when national bus patronage was falling. This followed the main phase of marketing activity in the town which included the bulk of the household personal travel planning. By 2011-12 when there was a lower level of activity on marketing activities, the decline in patronage appears to have fallen back closer to the national national average (6%) level of decline[10].

5.58 JMP also highlight that in 2010-11 the increases in bus patronage were greatest in the housing areas where the PTP was focused with St Michaels Street Bridge (service D7) seeing a 6% increase, the St Michaels Street/Nithbank (service D5/D5A) seeing a 4% increase and Brooms Road (service D4) seeing a 3% increase.

5.59 Stagecoach has sought to reduce the price of journeys for regular users to encourage occasional travelers to become habitual bus users. In 2010 they introduced a ticket for unlimited weekly travel in the town for £10 and across the region for £20. At the same time adult return ticket purchases increased by 5%.

5.60 This broad analysis only allows an indication of the impacts of SCSP on bus travel to be assessed as follows:

- If the target population of 37,200 made as much use of buses as a cohort group representing the average for Scotland, this would be about 3.3 million trips per year.
- If the SCSP investment has been the main factor affecting the difference in bus patronage between the national and local figures then this would account for about 200k extra bus trips in 2011[11]. By 2012 the impacts of the marketing appear to have fallen away but the fall in patronage is no greater than national averages suggesting that the 2010-11 impacts have at least been partly sustained.
- Fare structures for bus passengers are complex, but if £1 was taken as the average bus fare for these additional fare paying passengers, this would be equivalent to about

[10] *Scottish Bus and Coach Statistics April 2012 Table 2 shows boardings of local bus services in Scotland as 493 million in the baseline year 2009 falling to 467 million in 2010 and 438 million in 2011 equating to 95.4 falling to 89.9 falling to 83.9 passenger journeys per head of population per year. x trips per head of population. Bus use in Dumfries is unlikely to exceed national averages but many smaller towns are facing larger falls in bus patronage than national averages.*

[11] *Based on someone using a £10 weekly Megarider and travelling 10 times*

£200k additional revenue per year compared with the situation where no marketing had been undertaken.

Summary of travel behaviour outcomes

5.61 Evidence about travel behaviour outcomes is summarised in Table 5.9. Changes in mode share from the travel diary are compared with the equivalent figures from the SHS survey and other corroborating evidence. Where percentage point changes are given, this means, for example, that a change from 21.5% of trips being made on foot to 36.3% is a 14.8 percentage point change.

5.62 The main conclusions and observations on travel behaviour that can be drawn are:

- The proportion of all trips made by car as a driver and as a passenger has dropped. This is particularly notable when contrasted with the background trend as represented by data from the SHS for comparator areas over a broadly similar timescale where car driving fell by a much smaller amount.
- There has been a rise in the proportion of trips made by walking and this has increased by almost five times more than in the comparable SHS locations. This is backed up by an increase reported in self-reported frequency of walking. However, the walking count data recorded a fall at monitoring sites.
- Whilst only small, the increase in cycling trips from the travel diary is statistically significant and slightly larger than the comparison data. However, the cycle counts suggest a fall in cycle use on the core cycle path network and the self-reported frequency data does not align with the travel diary statistic.
- The proportion of trips made by bus has dropped and this is compared to a very slight increase in the comparison data and corroborated by a reduction recorded in bus patronage during the period.
- Travel to school has shown a marked decrease in the proportion of trips made by walking.

Table 5.9 – Summary of Changes in Travel patterns

	Change in trip mode share (main mode) across SCSP target areas			Change in trip mode share in comparable areas	Corroborative support for change		
	From SCSP evaluation travel diaries 2009 - 2012			From analysis of national SHS data 2008-11	Self-reported frequency from household survey (use > 2 days a week)	Count data	Local user surveys
	2009	2012	%-point change	%-point change	%-point change		
Walking	22.0%	29.6%	+7.6	+1.6	+4.1	Average fall of 8% at monitoring sites but some sites increase by up to 80%	Travel to school data shows less walking
Cycling	0.6%	1.3%	+0.7	+0.5	-2.9	Average fall of 11% at monitoring sites but some sites increase by up to 42%.	N/A
Bus	8.4%	7.6%	-0.8	+0.1	-9.3	A fall of 7.8% is recorded in bus patronage	N/A
Car as driver	53.6%	46.2%	-7.4	-1.5	-8.7	N/A	N/A
Car as passenger	13.5%	12.2%	-1.3	-1.5	-6	N/A	N/A
Train	0.0%	0.2%	+0.2	+0.9	-1	N/A	N/A
Motorbike	0.1%	0.3%	+0.2	+0.2	-0.8	N/A	N/A
Taxi	1.4%	2.2%	+0.8	-0.3	+0.8	N/A	N/A
Notes	*Blue shading shows observed change is statistically significant* *n/a means data not available or not collected*						

6.0 Attitudinal Outcomes

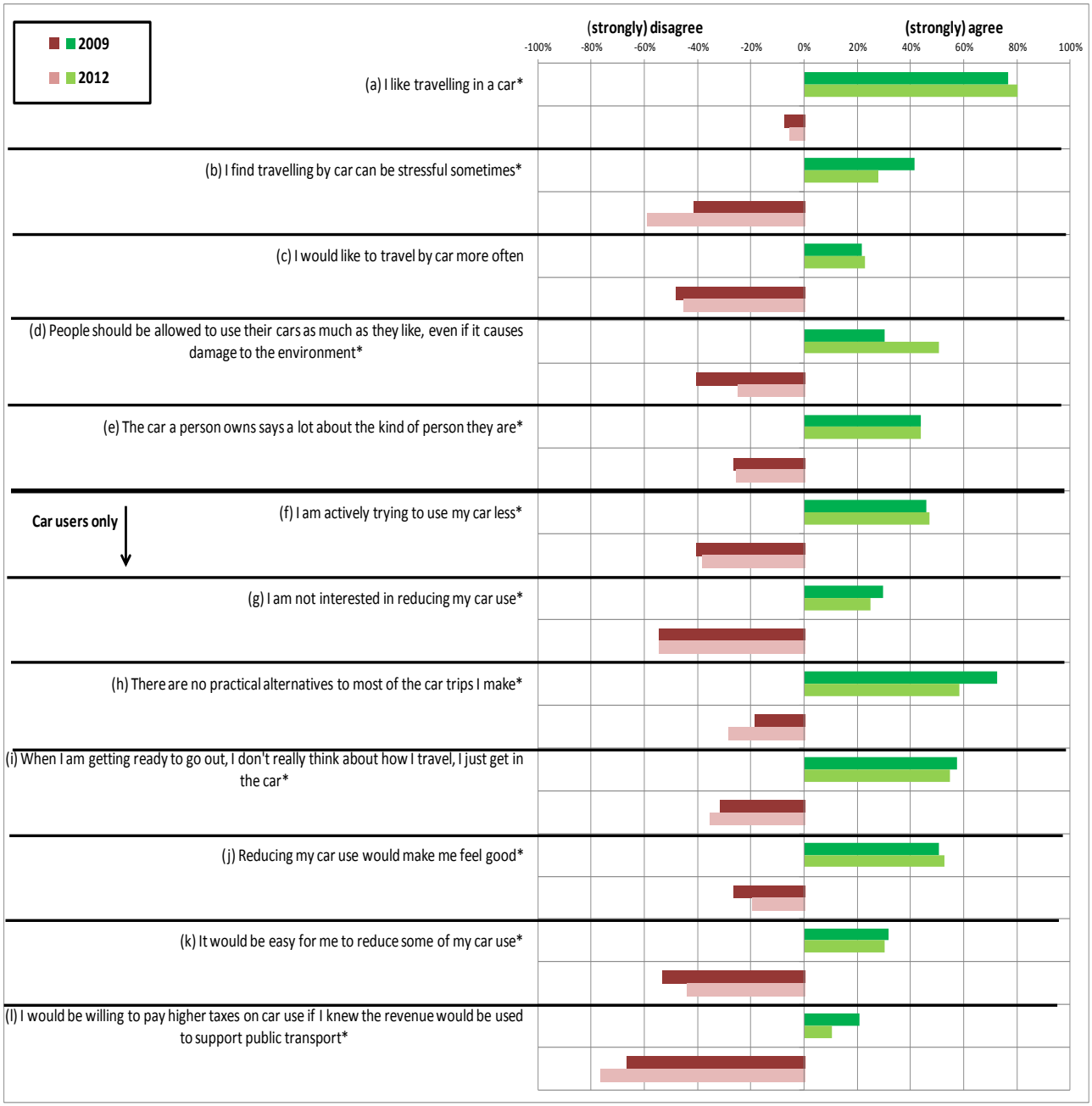
Attitudes to the car

6.1 Figure 6.1 shows the changes between 2009 and 2012 for all the attitudinal measures related to the car. Although all changes (except (c)) are statistically significant, the overall pattern is one of relatively stable attitudes (although it should be noted that Figure 6.1 disguises some shifts between strongly (dis)agree & (dis)agree). Note that question a – e were asked of the whole sample but questions f – l were asked of car users only.

6.2 The results suggest that car travel in 2012 is regarded as slightly *less* stressful than in 2009 (b). It appears from these results that the environmental impacts of car use are less of a concern in 2012 as there is a greater belief that people should be able to use their cars as much as they like (d) and car users are less inclined to be willing to pay higher taxes on car use, even if they knew the revenue would be used to support public transport (l).

6.3 For car users, there is a small increase saying they are actively trying to use their car less or interested in reducing it in the future (f & g) and fewer people saying they don't think about the car before they get in it (i). Car drivers are also less inclined after the study period to believe they have no practical alternatives to the car (h). This suggests that there is scope for further reductions in car driver trips if people feel they could reduce their car use further.

Figure 6.1 - Attitudes to car use in 2009 and 2012

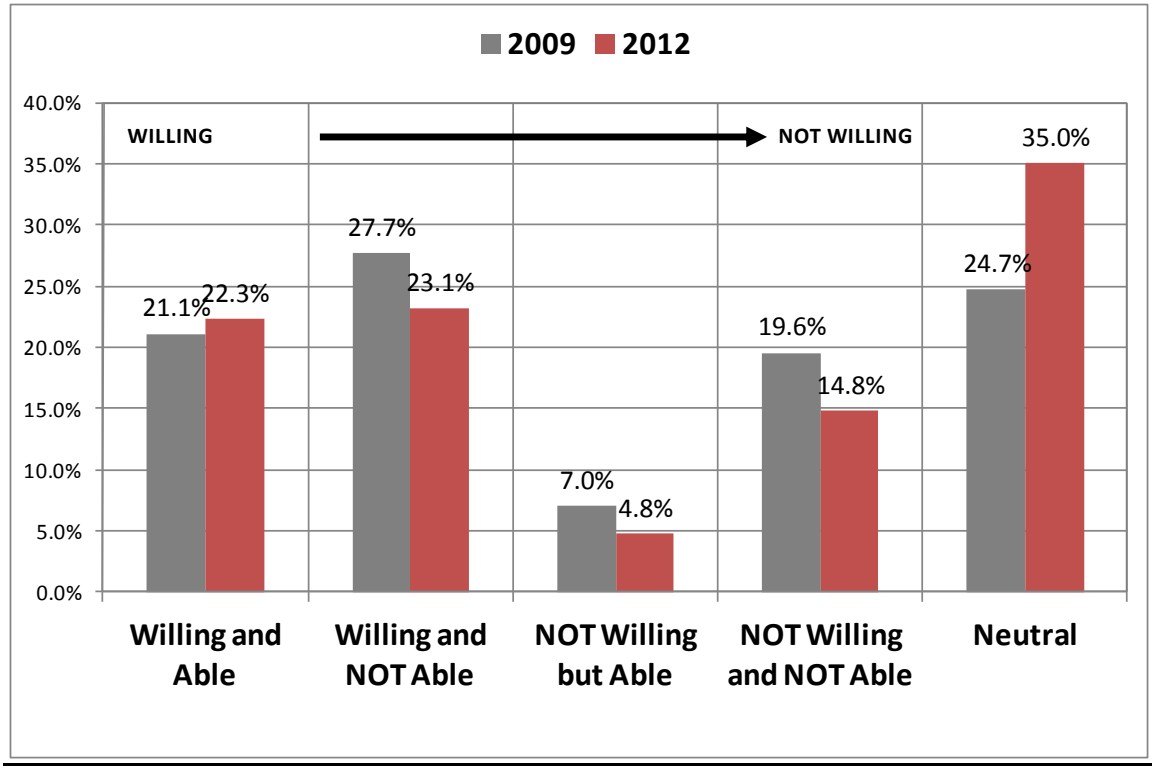


*Household survey samples of N = 1600, weighted for 2009 and N = 1227 for 2012. Samples for individual questions vary. Differences between 2009 and 2012 proportions are significant at p<0.05 for all questions marked with *.*

6.4 Using scores on '(g) I am not interested in reducing my car use' and '(k) it would be easy to reduce some of my car use', the sample can be segmented into four groups depending on their combination of scores on these two items. Figure 6.2 compares the sample proportions which fell into these four groups in 2009 and 2012. The change in the proportion of respondents in each segment was statistically significant between the two years and suggests a slight increase in the proportion of car users that say they are both

willing and able to reduce their car use and a reduction in those groups who are not willing.

Figure 6.2 – Segmentation of attitudes to car use reduction

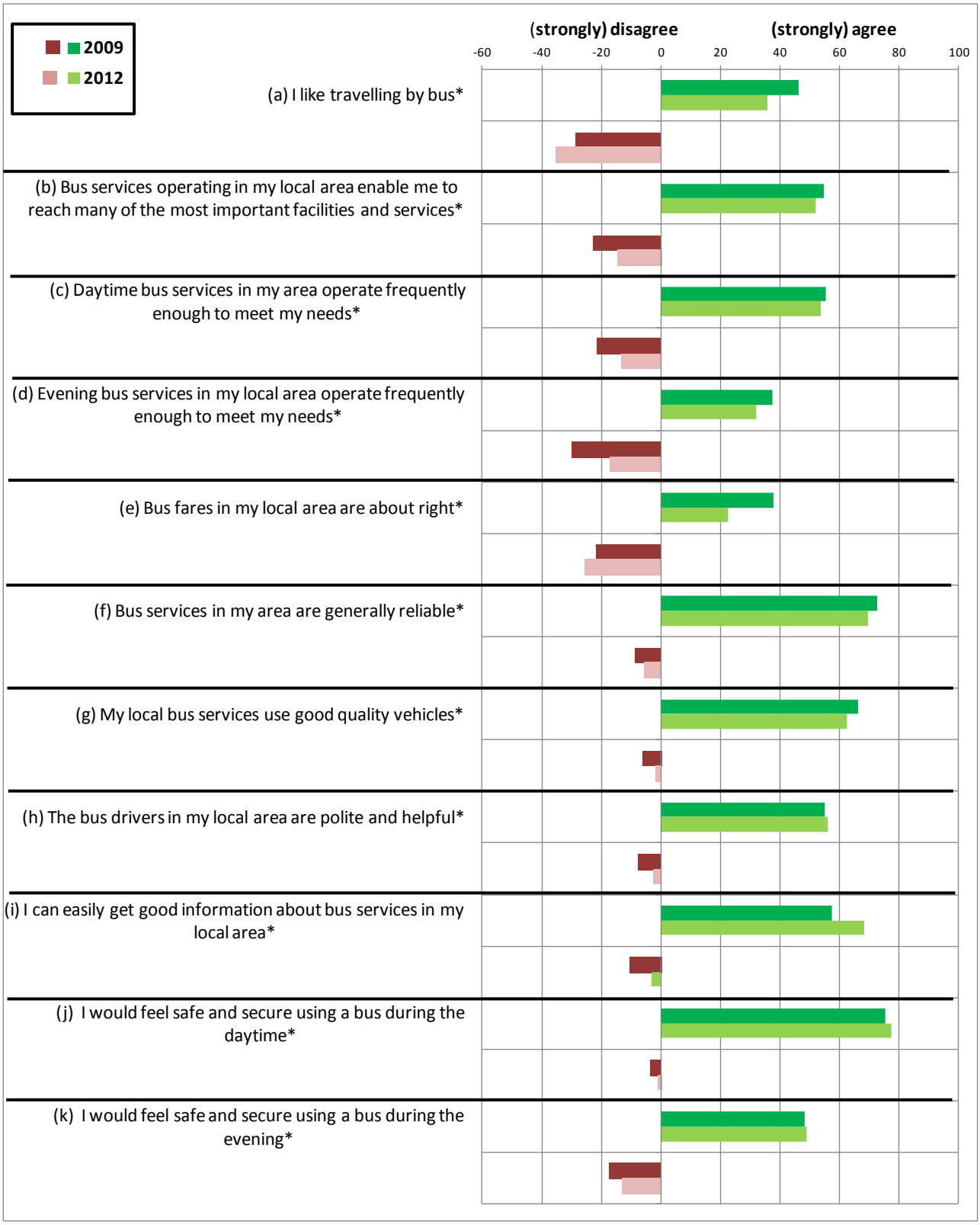


Household survey samples of N = 1,353, weighted for 2009 and N = 1,040 for 2012. Samples for individual questions vary. Differences between 2009 and 2012 are not statistically significant.

Attitudes to the bus

6.5 Attitudes towards many aspects of bus travel appear to have deteriorated since 2009 and this would be consistent with the reduction in use of the bus we have seen elsewhere from the household survey. Figure 6.3 displays the agree/disagree scores for all the attitude questions in 2009 and 2012. Overall, fewer survey respondents say they like travelling by bus (and more disagree) (a). A similar pattern is shown with bus fares (e). With respect to the access the bus brings to goods and services (b), frequency (c), reliability (f) and vehicle quality (g), fewer people agree that these are all good in Dumfries, but fewer people also disagree suggesting a more neutral set of attitudes in the post-implementation. This could also reflect the fact that there are less people using these services. However, there is a notable improvement in the satisfaction with information about bus services and some improvement in perceptions of safety and security (day and nighttime).

Figure 6.3 - Attitudes to bus travel in 2009 and 2012



*Household survey samples of N = 1,600, weighted for 2009 and N = 1,227 for 2012. Samples for individual questions vary. Differences between 2009 and 2012 proportions are significant at p<0.05 for all questions marked with *.*

Attitudes to walking

6.6 As shown in Figure 6.4, attitudes to many aspects of walking have improved, but some have deteriorated. Dumfries residents have improved their perceptions of the walking environment and believe there are safer crossings and pedestrian facilities (a & b). There has also been an improvement in the perceptions of personal security with many fewer people agreeing and many more disagreeing that they would be worried about being a victim of crime when out and about (c & d). But, fewer people in 2012 agree (and more disagree) with the statement that they should walk more to keep fit (e) although slightly more people in 2012 disagree with the idea that they do not walk because it takes too long (f).

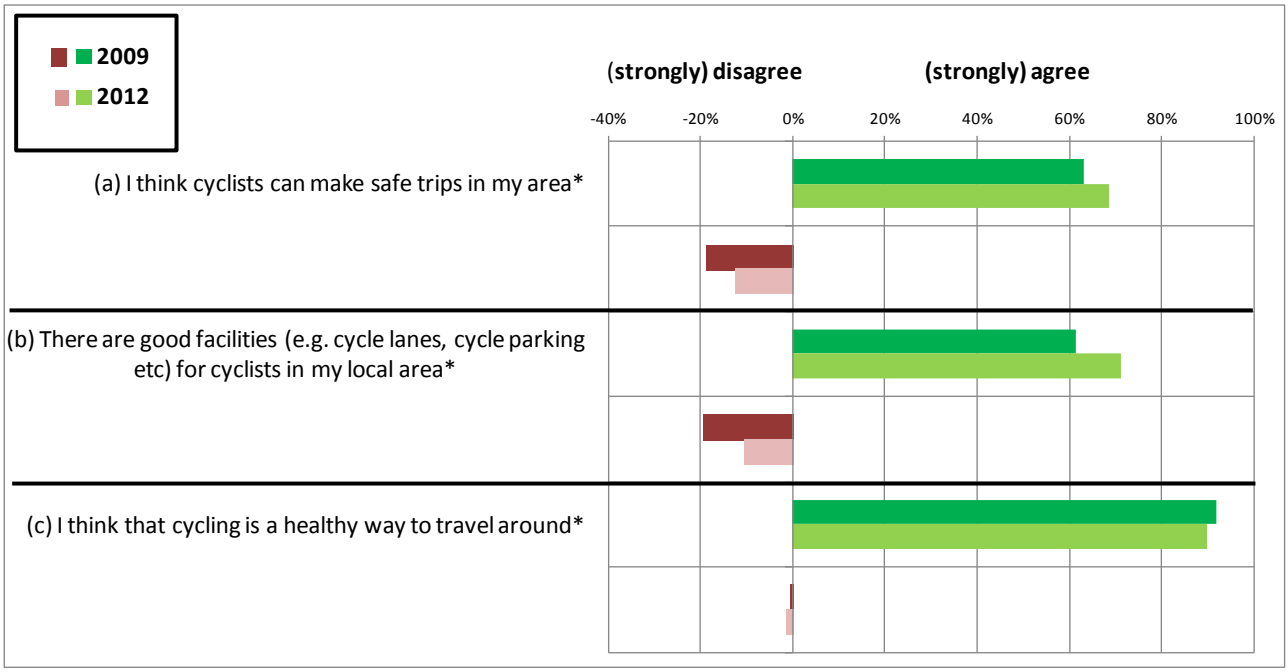
Figure 6.4 - Attitudes to walking in 2009 and 2012

*Household survey samples of N = 1,600, weighted for 2009 and N = 1,227 for 2012. Samples for individual questions vary. Differences between 2009 and 2012 proportions are significant at p<0.05 for all questions marked with *.*

Attitudes to cycling

6.7 Attitudes to cycling facilities have improved. More people agree (and less disagree) that cyclists can make safer trips (a) and the same is true for perceptions about facilities for cycling such as cycle lanes and cycle parking (b). However, there has also been a slight (but statistically significant) decrease in the number of people who believe that cycling is a healthy way to travel around (c).

Figure 6.5 Attitudes to cycling in 2009 and 2012

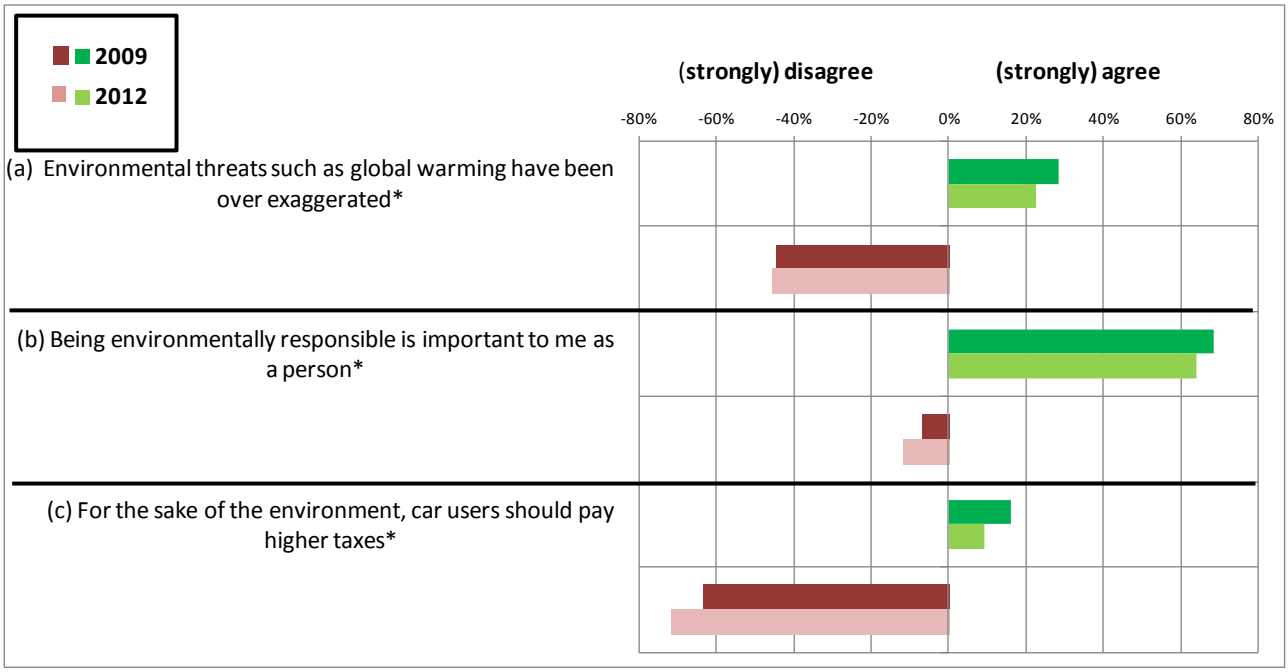


*Household survey samples of N = 1,600, weighted for 2009 and N = 1,227 for 2012. Samples for individual questions vary. Differences between 2009 and 2012 proportions are significant at p<0.05 for all questions marked with *.*

Attitudes to the environment

6.8 Dumfries residents appear not to have become more sympathetic to environmental issues. Since 2009, fewer people agree (and more disagree) that environmental problems have been exaggerated (a). There is less sympathy to the idea that car drivers should pay higher taxes (c) and environmental identity has not strengthened (b).

Figure 6.6 - Attitudes to the environment in 2009 and 2012



*Household survey samples of N = 1,600, weighted for 2009 and N = 1,227 for 2012. Samples for individual questions vary. Differences between 2009 and 2012 proportions are significant at p<0.05 for all questions marked with *.*

Attitudes to the local neighbourhood

Observed changes

6.9 Figure 6.7 shows a reduction in the degree to which congestion is seen as a problem in Dumfries and fewer people believe that more roads are required (a & b). On other neighbourhood indicators, there has been less of a change, but in each case there has been a small statistically significant improvement in perceptions. Overall rating of the neighbourhood has improved marginally (c), as has agreement that the built environment makes for a pleasant place to live (d), that there is good access to local shops and services (e) and there are friendly people and a good sense of community (f).

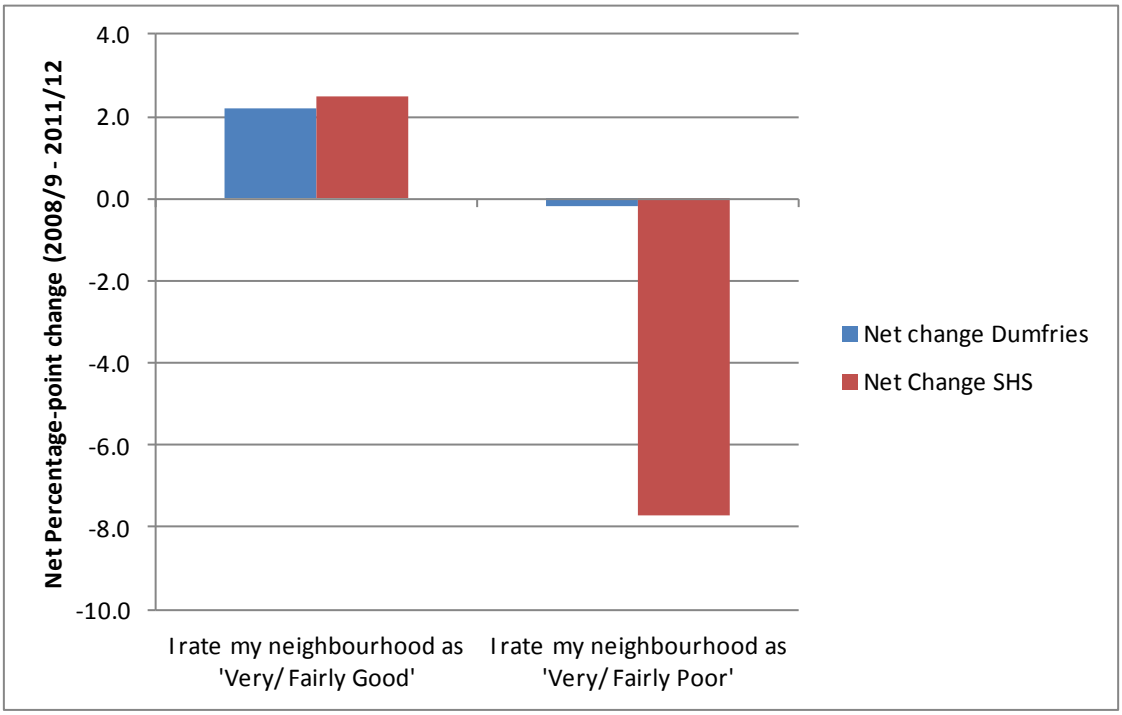
Figure 6.7 Attitudes to the local neighbourhood in 2009 and 2012

*Household survey samples of N = 1,600, weighted for 2009 and N = 1,227 for 2012. Samples for individual questions vary. Differences between 2009 and 2012 proportions are significant at p<0.05 for all questions marked with *.*

Comparison with SHS statistics

6.10 The SCSP survey asked an identical question to the SHS survey 'How would you rate your neighbourhood as a place to live'. In Figure 6.8 we see that the increase in the number of people rating their neighbourhood as 'very' or 'fairly' good has increased much more than the SHS data for equivalent sized downs. However, there has also been a small increase in the number rating it as poor.

Figure 6.8 Comparison of SCSP and SHS trends in neighbourhood rating (net percentage-point changes 2008/9 – 2011/12)



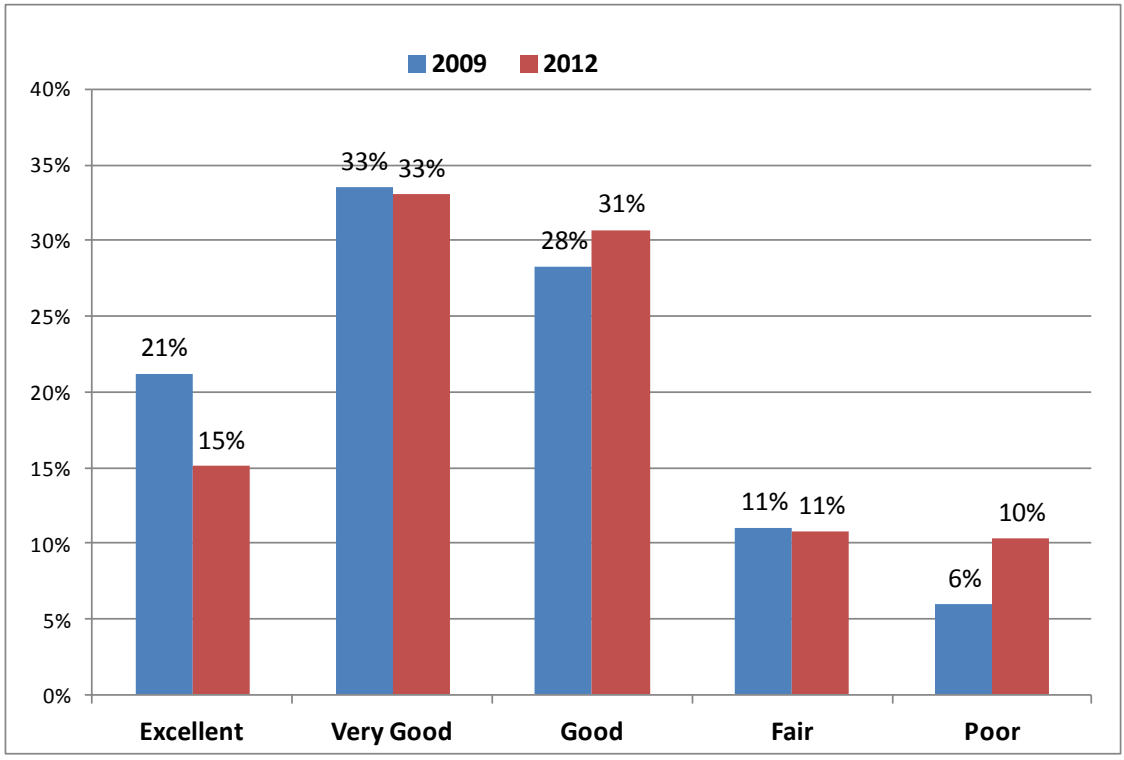
Household survey samples of N = 1,600, weighted for 2009 and N = 1,227 for 2012. Differences between 2009 and 2012 proportions in SCSP sample on the neighbourhood rating question are significant at p<0.05.*

Self-reported health and physical activity

6.11 Both self-reported levels of physical activity and self-reported health were surveyed to establish the degree to which active travel may be contributing to physical activity levels and to monitor any changes over the intervention period.

6.12 Figure 6.9 summarises the responses to self-rating of general health in 2009 and 2012. This shows that there has been a drop in the proportion of people who say their health is excellent or very good (from 55% to 48% combined) and an increase in those who claim their health is only poor or fair (from 17% to 21% combined). When broken down by gender (Figure 6.10), there are no particularly strong patterns as both sexes have seen a reduction in numbers reporting excellent health and an increase in those reporting poor health.

Figure 6.9 - Ratings of general health in 2009 and 2012



Household survey samples of N = 1,600, weighted for 2009 and N = 1,227 for 2012. Differences between 2009 and 2012 proportions are significant at p<0.05.

Figure 6.10 - Ratings of general health by gender in 2009 and 2012

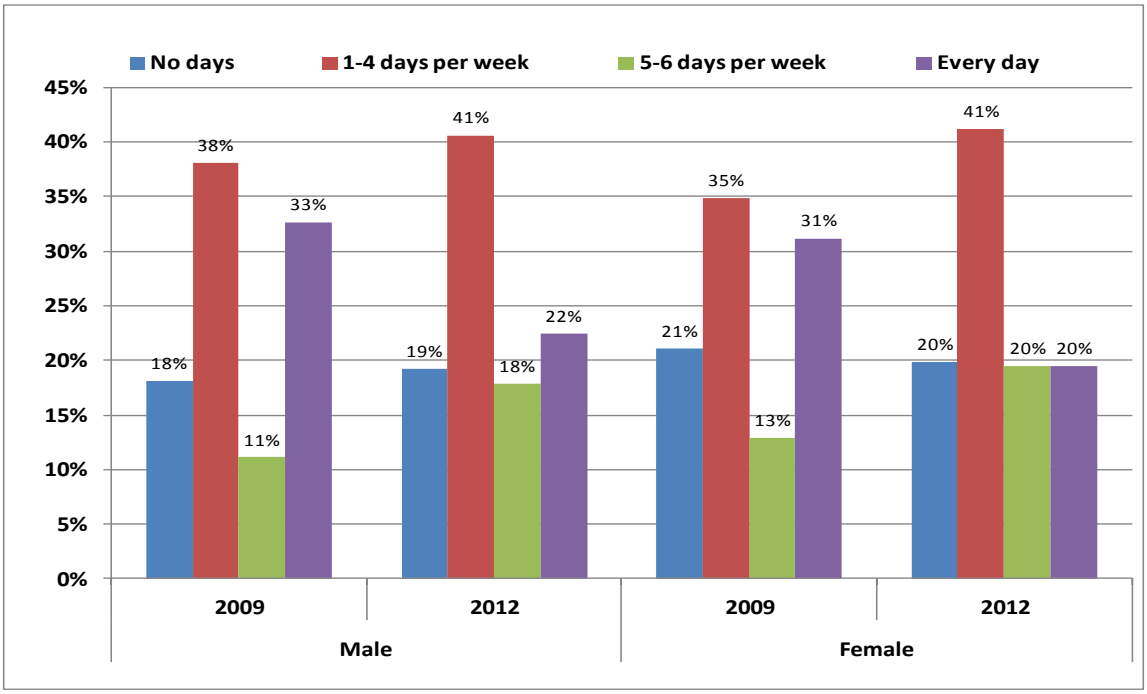
Household survey samples of N = 1,600 (Male N=757, Female = 830), weighted for 2009 and N = 1,227 for 2012 (Male N=585, Female = 642). Differences between 2009 and 2012 proportions are significant at p<0.05.

6.13 Respondents were asked to record how many days per week (outside of work) they typically undertake at least 30 minutes of moderate exercise. The wording from the Scottish Household Survey was used to explain that this activity did not need to be undertaken all in one go, but could be across more than one session in a day. The Scottish Physical Activity Strategy recommends that adults should be accumulating 30 minutes or more of moderate activity on most days of the week[12]. There is a long term target in Scotland for 50% of all adults over 16 to meet this level by 2022.

6.14 Overall, in 2009 43.8% of the sample undertook this level of exercise and this had reduced to 39.7% in 2012. Also important is the reduction in the number of people who say they exercise on 'no days' but this was static (19.8% to 19.5%).

6.15 Figure 6.11 looks at physical activity levels by gender. Here we see that in 2009, the same proportion of men and women reached the target (44%), but this fell very slightly more for women than for men. The greatest increase for both genders was in those undertaking 1 – 4 days of exercise per week, but this seems to have been at the expense of more frequent physical activity as there was only a slight reduction for women (and none for men) in the number saying they did no exercise. Around a fifth of both sexes in Dumfries still undertake no physical exercise at all.

Figure 6.11 - Frequency of at least 30 mins per day of moderate exercise per week

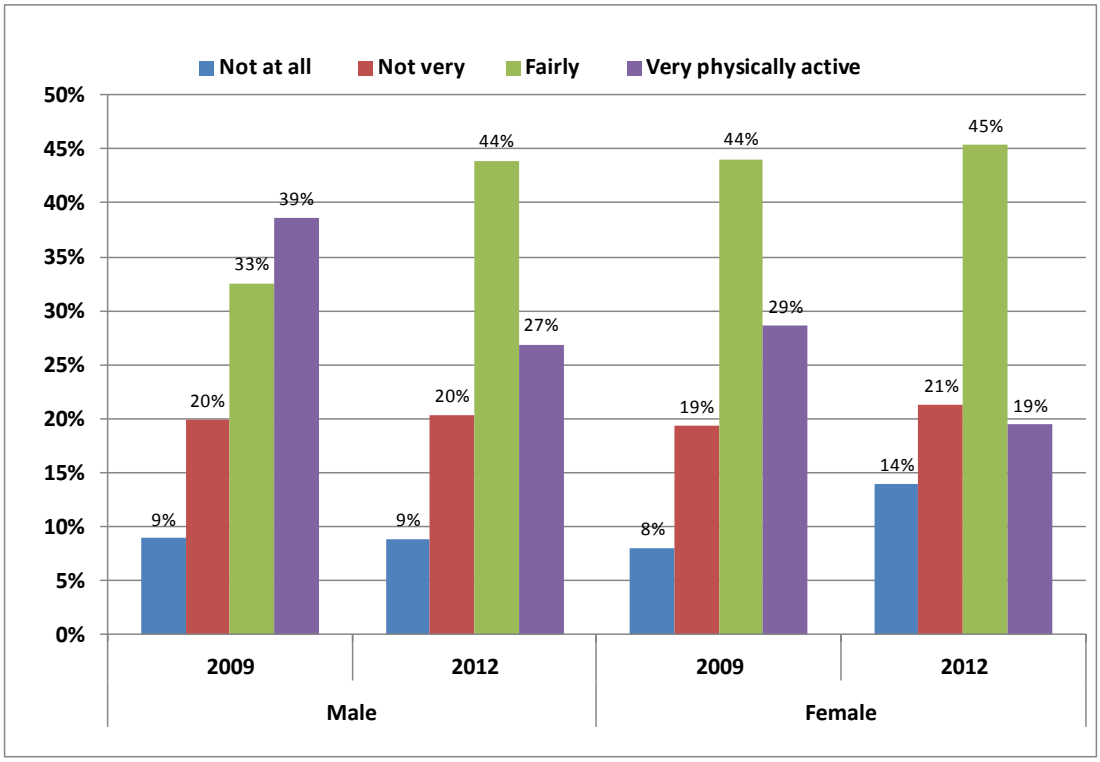


Household survey samples of N = 1,600 (Male N=757, Female = 830), weighted for 2009 and N = 1,227 for 2012 (Male N=585, Female = 642). Differences between 2009 and 2012 proportions are significant at p<0.05.

[12] *http://www.scotland.gov.uk/Topics/Health/health/Introduction*

6.16 Respondents were also asked to record how physically active they are at work or college. Overall, there has been a reduction in workers saying they are very physically active at work from 33% to 23%. However, when males and females are analysed separately, the reductions overall seem to be more marked for women whereby those who say they are fairly or very active at work have dropped from 73% to 65% (combined) but this level has stayed the same for men at 71%.

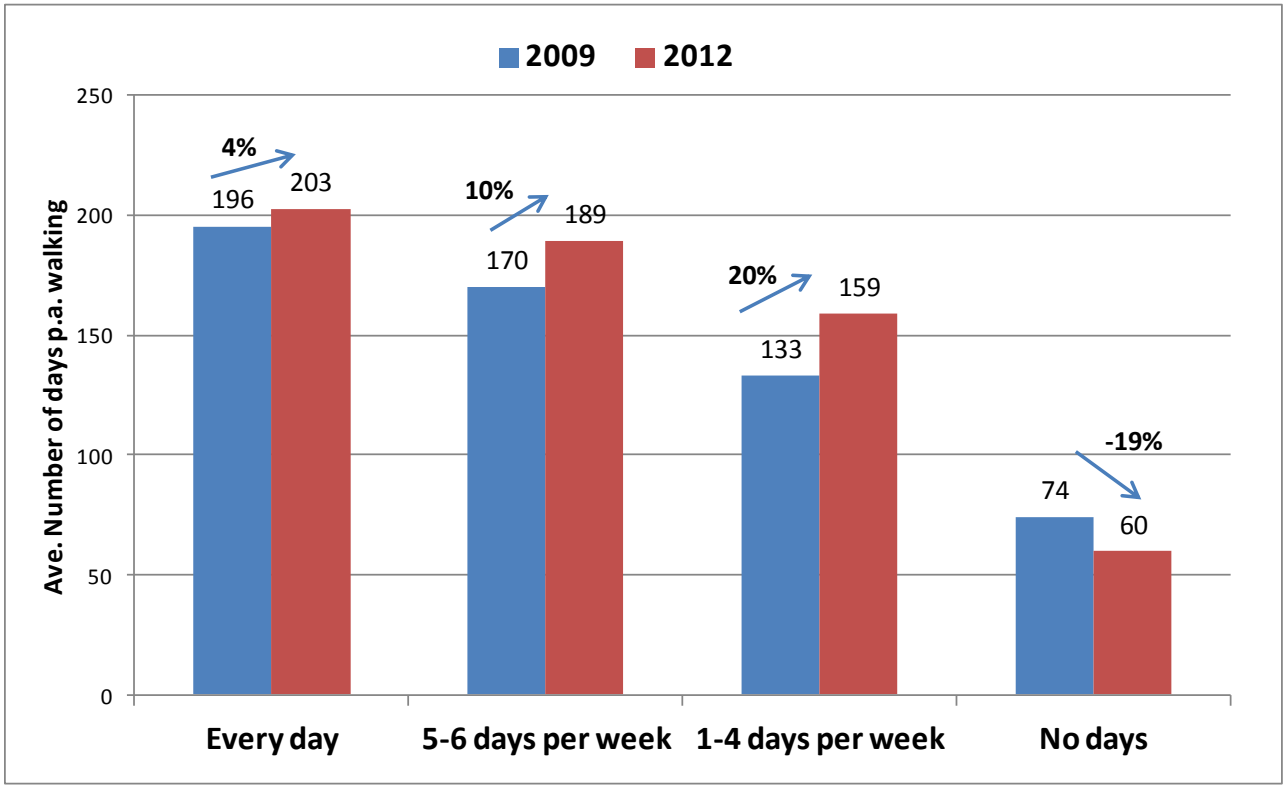
Figure 6.12 - Physical activity carried out at work by gender in 2009 and 2012



Household survey samples of N = 1,600 (Male N=757, Female = 830), weighted for 2009 and N = 1,227 for 2012 (Male N=585, Female = 642). Differences between 2009 and 2012 proportions are significant at p<0.05.

6.17 It is not possible to determine for definite whether the increased levels of walking that the analysis has shown have been directly responsible for the increases in activity levels. Figure 6.13 looks at the walking information taken from the general household survey (not the travel diary) and relates this to self-reported physical activity. From this, it can be seen that there is a relationship – the higher the walking activity, the higher the self-reported levels of physical activity. In 2012, people at all levels of activity except those exercising on 'no days' say they are walking more, but the largest percentage increase in the average number of days walking is for those exercising 1-4 days a week, which suggests that walking may make the difference between people not exercising at all and exercising at least some days of the week.

Figure 6.13 - The relationship between physical activity and average number of days walking per annum in 2009 and 2012



Household survey samples of N = 1,353, weighted for 2009 and N = 1,040 for 2012.

Comparison with the Scottish Health Survey

6.18 The SCSP asked identical or similar questions on health and physical activity to the Scottish Health Survey (SHeS). When comparing the change in these indicators between 2009 and 2012 to the changes reported in this comparison data (Table 6.1) (although note the period covered in the SHeS is only 2008 – 2010), it suggests that the SCSP sample residents of Dumfries have shown a deterioration in self-reported general health compared to the wider region covered by the Health Board for the area. The number of people who say their health is good has reduced compared to a slight increase in the Health Board Region, and the number of people reporting poor health has relatively increased.

6.19 With respect to the physical activity target, the picture is similar, with a greater reduction in the number of people reaching the target in the SCSP sample than the Health Board statistics indicate.

Table 6.1 - Difference in self-reported health indicators in Dumfries and Scottish Health Survey between 2009-12 or 2008-10

	%-point Change	
	Dumfries SCSP (2009 – 2012)	**Scottish Health Survey^ (2008 – 2010)**
How is your health in general?		
Excellent~/ Good/ Very good	-4.2	+2.0
Fair	-0.2	-1.0
Poor	+4.4	-1.0
Physical Activity Target		
% reaching the target	-4.1	-1.0

^ Dumfries and Galloway Health Board. ~Note that the category 'excellent' is additional in the SCSP data.

7.0 Awareness Outcomes

7.1 The 2012 household survey asked a variety of questions about people's awareness of changes to transport infrastructures and services. It also attempted to gauge recognition and interpretation of the various SCSP campaigns and brands. As these questions were not asked in 2009, awareness is compared with data from comparator areas[13]. This allows perceptions of improvements and campaigns in areas without an SCSP programme to be identified helping to control for survey bias in these types of questions[14].

Perceptions of improvements to transport infrastructure and services

Observed attitudes and comparison to the comparator areas

7.2 Figure 7.1 compares scores for Dumfries with comparator areas on various questions about infrastructure and service improvements. It can be seen that, compared to the comparator areas, Dumfries residents are more convinced that their town has witnessed improvements to various transport related services. Most notable is the much greater acknowledgement that cycling facilities and information and walking routes and information have been improved. Parking management and improvements to public spaces generated the most ambivalent response.

Awareness and understanding of the SCSP programme

7.3 In order to gauge how much people recognised the branding that had been used during the SCSP programme, respondents were asked if they had heard of the Go Smart Dumfries action (or an equivalent campaign in comparator areas)[15]. Figure 7.2 shows that just over two thirds said they had heard of the campaign, compared to only 9% in the comparator areas. Likewise, 85% recognised the logo for these campaigns, compared to 21% in the comparator areas.

7.4 Respondents were also asked what they thought the campaign was about and were given a number of options or an 'other' option. Figure 7.3 shows that the campaign in Dumfries was primarily thought to be about encouraging people to be more active, with slightly less people believing that it was about getting people to use cars less. In the comparator areas, people thought the campaign was more to do with encouraging bus use and much less to do with encouraging physical activity.

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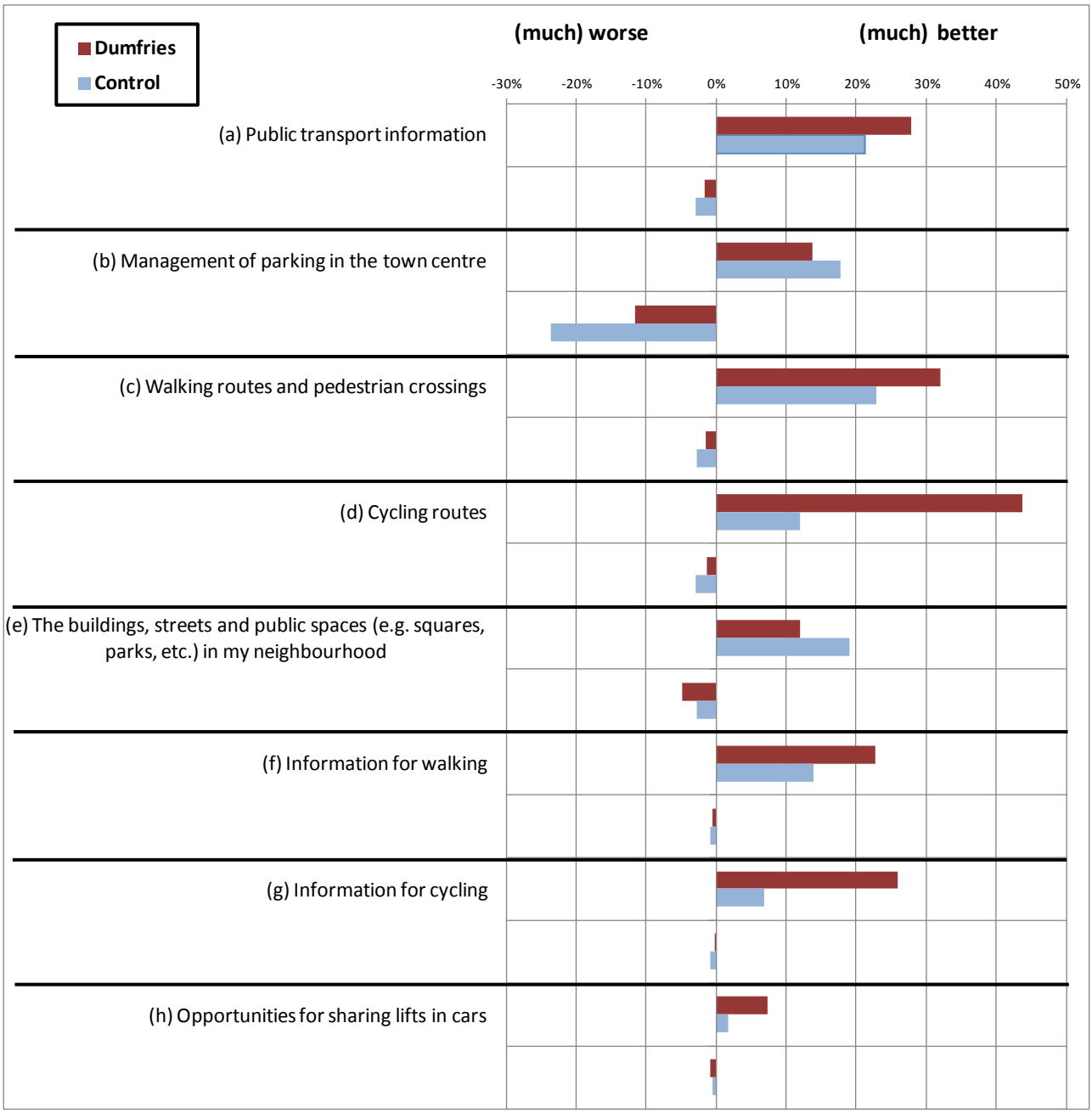
[13] *With weightings applied so as to ensure the same demographic matching from the comparator samples..See the 'Going Smarter' SCSP Monitoring and Evaluation report for further details.*

[14] *i.e. the idea that a proportion of people are likely to say they recognise something even when they don't and we assume this tendency is the same in both the SCSP area and the comparator towns.*

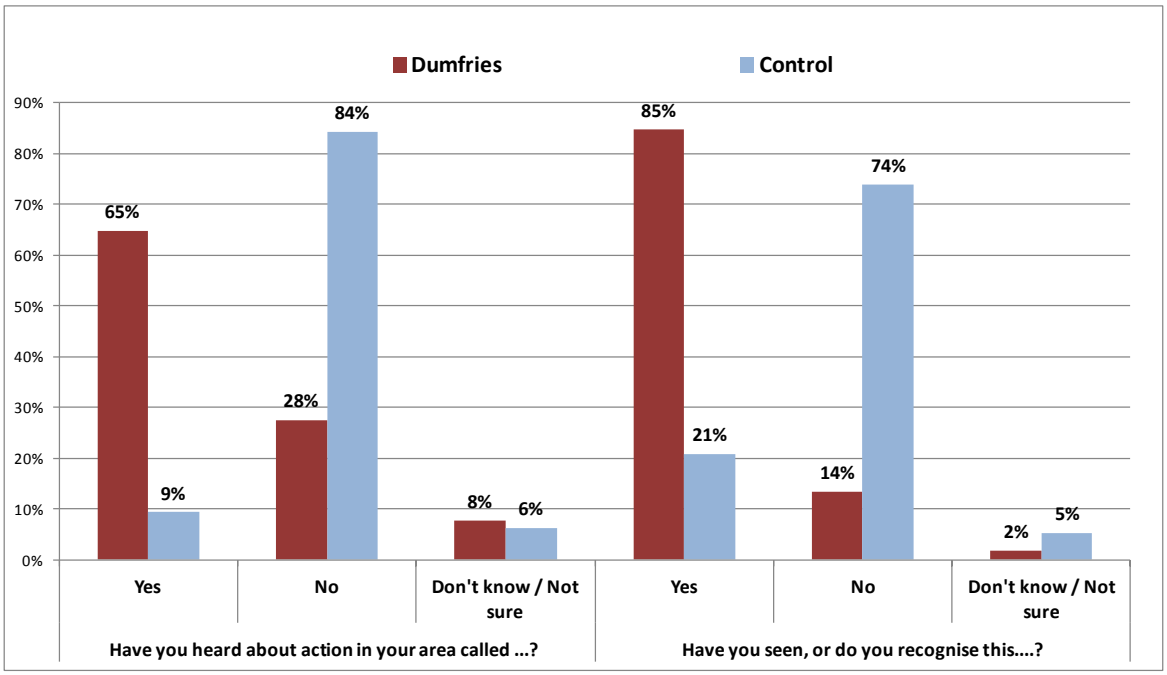
[15] *Arbroath: Travelwise Angus; Bearsden: Stepchange; Dalkeith: Travel wise.*

Figure 7.1 - Comparison of perceived changes to infrastructure and services in Dumfries and comparator areas



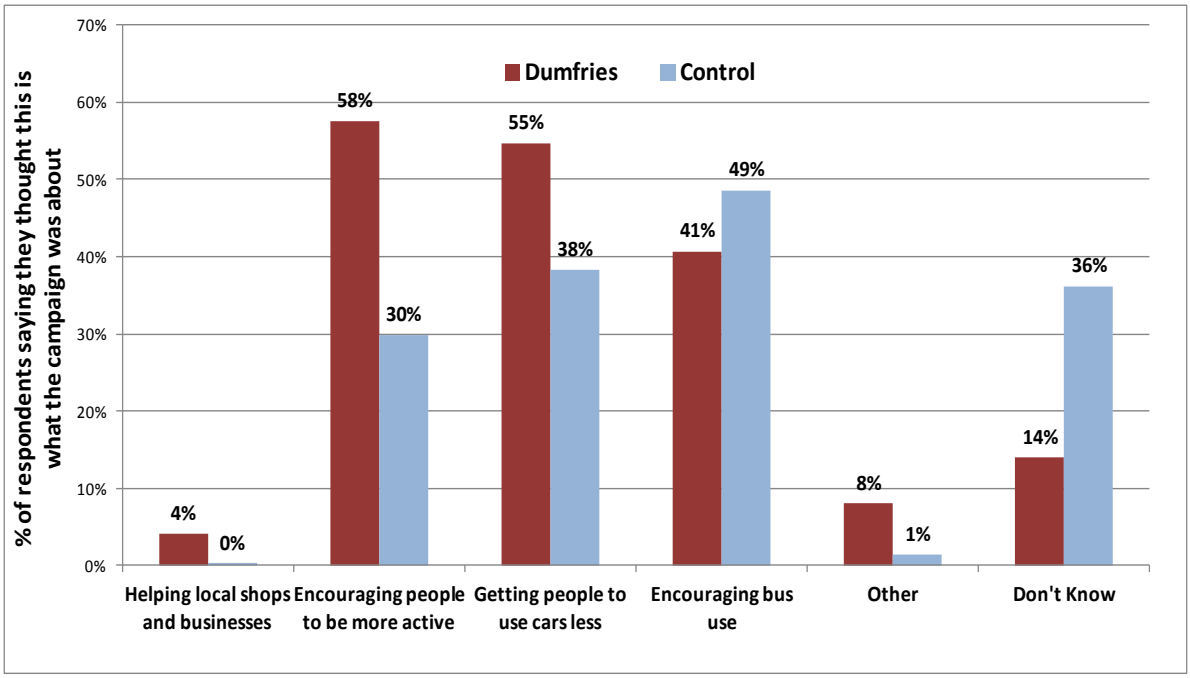
Household survey samples of N = 1,227 (for Dumfries weighted in 2012) and N= 2,316 (for comparator area weighted in 2012) Samples for individual questions vary. The above analysis misses out the 'neutral' and 'don't know' scores.

Figure 7.2 - Recognition of the SCSP brand in Dumfries and in the comparator area



Household survey samples of N = 1,227 (for Dumfries weighted in 2012) and N= 2,316 (for comparator area weighted in 2012) Samples for individual questions vary.

Figure 7.3 – Purpose of the SCSP campaign in Dumfries and in the comparator area



Household survey samples of N = 1,227 (for Dumfries weighted in 2012) and N= 2,316 (for comparator area weighted in 2012) Samples for individual questions vary.

8.0 Impacts of the Dumfries SCSP Programme

8.1 The SCSP programme implemented in Dumfries sought to change travel attitudes and behaviour to support a number of wider policy objectives. The monitoring and evaluation activities were unable to measure impacts directly, as changes in the local economy and society are affected by many factors. The assessment of impacts is therefore derived from the travel attitude and behaviour surveys and associated data collection activities.

8.2 The impact summary table in Table 8.1 gives an indication of where the potential impacts are likely to lie, with qualitative commentary based on the evidence collected in the monitoring and evaluation exercise. This is divided into five key areas:

- Economy
- Accessibility
- Environment
- Health and integration with other social issues
- Safety

Table 8.1 – Impacts of Dumfries SCSP Programme

Policy aim	Direction of impact relative to policy aims	Commentary
Economy		
Reducing the cost of travel	Positive	• Savings have been made due to reduced use of cars and the increased proportion of walking trips.
Travel time savings	Neutral	• The increased proportion of trips made on foot is a dis-benefit as people spend longer travelling more slowly. However as a result of the reduction in car use there should have been reductions in congestion which will have helped improve some journey times.
Net benefits to transport operators	Positive	• Bus services are now on a more financially sustainable footing with the new routes and services requiring less financial support and offering prospects for growth.
Wider economic benefits and location impacts	Positive	• The regeneration of the town centre with the public realm improvements has helped the town centre to become more competitive but detailed data is not available to assess the scale of the changes identified by stakeholders and residents.
Accessibility		
Access to opportunities	Positive	• Improved walking routes, and pedestrian crossings have improved safety and security when accessing local services. • Improved bus network coverage has enabled more bus trips to access the town centre, railway station, the hospital and other local services near these locations.

Policy aim	Direction of impact relative to policy aims	Commentary
Social inclusion and community development	Positive	• Residents perceive Dumfries as a better place to live.
Environment		
Emissions	Positive	• Reductions in car trips should have led to a reduction in greenhouse gas emissions.
Air quality impacts	Positive	• Reductions in car trips have led to a reduction in local pollutant emissions. People perceive a better local environment.
Cultural heritage and townscape	Positive	• People rate the improvements in the town as positive with public realm investment improving local quality.
Integration with Health, Regeneration and other Policy		
General health	Negative	• Self-reported perceptions of health have fallen.
Physical activity levels	Neutral	• People are more active with increased walking playing an increasing role in levels of activity. • Fewer students are walking or cycling to school
Regeneration and land use planning	Positive	• SCSP programme has been well integrated with regeneration aims for the town centre.
Political value of changes	Positive	• Politicians have demonstrated that they are able to try new things and received widespread media coverage for the project.
Safety		
Personal security	Positive	• Improvement in self-reported perceptions of personal security and safety when travelling.
Road safety	Neutral	• Not identified.

9.0 Learning Points

9.1 The project has been a landmark for SWestrans and the Council helping it to build partnerships across a very wide remit. With SWestrans and the Council working closely together it has been possible to blend traditional skills with new partnership building remits to engage in new ways of working with over 100 community groups in the town. The partnerships are also seen as the key to sustaining the work into the future. The Council and SWestrans have sought to build in-house skills and specialist teams and supporting staff have been brought in to assist with this.

9.2 The Council's aim for GoSmart Dumfries to achieve a 5% reduction in single occupancy car trips, with half of these trips converted to cycling and walking has been exceeded. Car trips have reduced by 7.4% and walking trips have increased by a similar scale.

9.3 Delivery has been very complex but the promotion and provision have been taken forward in parallel. The PTP and travel planning have been used to manage and support the promotion and feed back into the design of the provision.

9.4 Partnership working is time consuming and the Council is looking at whether in the future the partnerships may be more easily managed through a community interest company. Current funding runs until 2013 and final decisions have not yet been made on future investment. The partnership with Stagecoach has been particularly helpful. Stagecoach has funded three of the new buses, set up £10 unlimited weekly bus travel tickets, and provided free taster day tickets for Travel Club members working towards bus travel challenges. The bus network is now on a more sustainable footing, but the network changes appear to have reduced overall patronage by reducing loss making services and replacing them with new services with the potential to grow. The intensive marketing programme, including the PTP, appears to have provided a short term boost to patronage levels.

9.5 The GoSmart branding has helped to give an identity to the work. Including the NHS, Crichton, Stagecoach, and EU branding publicly alongside SWestrans and Council logos has demonstrated the breadth of public and private support to people in the town.

9.6 Some things have proved to be too challenging, so rather than get bogged down with these elements of the programme, some initiatives have been delayed and the funds diverted to boost programmes that appear to be working. The joint ticketing initiative was dropped and the car club implementation was delayed.

9.7 Key learning points have included:

- The database of Travel Club members is a good platform to help build the future of GoSmart in the town.

- Working closely with the community has meant that GoSmart activities have been integrated into events already taking place in the area and through schools and businesses.
- The focus on infrastructure delivery leaves scope for future growth in promotion to help make the most of the new infrastructure and services. The promotion was undertaken once substantial progress had been made with infrastructure provision.
- For a substantial segment of the population, attitudes have hardened and any reduction in car use is now perceived more negatively. To tackle this issue more investment may be required in projects which help to foster more multi-modal behaviour, and the planning for the car club should help to address this.
- The aims for growth in the bus market have not been achieved. The new ticketing products are targeted at regular users seeking to keep them on the bus. The taster tickets have helped people to try the bus and the marketing appeared to work for a short period. To consolidate these achievements new ticketing approaches could target the market between experimental travellers and regular users. These could be used to help local residents to become more multi-modal recognising that cars are sometimes needed in a rural area but for most trips walking, cycling and bus travel can help people save money and improve their health.

9.8 Overall SCSP in Dumfries has been an ambitious project which has achieved most of its aims, both in terms of reduced car use and more walking, and also nurturing new partnership working arrangements within the Council and SWestrans and with other partners.