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Breaking the Link

Fife and the Forth Road Bridge closure



ACKNOWLEDGEMENTS

The Carnegie UK Trust is an independent, endowed charitable trust incorporated by Royal Charter. We seek to improve the lives and wellbeing of people throughout the UK and Republic of Ireland by influencing public policy and demonstrating innovative practice.

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Introduction

The closure of the Forth Road Bridge

On 4 December 2015, transport authorities announced the temporary closure of the Forth Road Bridge to allow for inspection and testing of a faulty truss in its support structure.

After confirmation of a serious fault, the bridge operator undertook a significant programme of works to repair the bridge and make it safe for road traffic. These works were predicted to require a complete closure until 4 January 2016. In the event the bridge was reopened to light traffic on 23 December 2015. It remained closed to goods vehicles into the New Year.

During the bridge closure, a traffic redirection scheme was introduced encompassing multimodal transport. Additional trains were added to routes serving Fife, and new procedures introduced at Fife stations to accommodate increased commuter traffic. The Kincardine and Clackmannanshire bridges became the principal road

crossings from Fife into the rest of central Scotland, and a circular set of internal road diversions was introduced in Fife to separately stream car and heavy goods vehicles.

Commuting workers were encouraged by public authorities to consider alternative routes and modes of transport, in the expectation of significant delays to the pinch points of the temporary transport arrangement. Hauliers were advised to use other road routes to reach Fife and the north east. Transport Scotland, the Scottish Government and Fife Council all undertook large communications operations to prepare residents and travellers for sustained delays and disruptions.

The Forth Road Bridge is a key logistical asset connecting Fife to Edinburgh, the Lothians, and beyond. 24 million vehicles cross the bridge each year. Completed in 1964, the pressures of traffic volume on the bridge have been such that in 2007 the Scottish Government committed

to building a second relief bridge from Lothian, at South Queensferry, and Fife, at North Queensferry. This is due for completion later in 2016.

Fife, interconnectivity and wellbeing

Fife is Scotland's third largest local authority area. Just over 367,000 citizens¹ live in Fife. It is a 'kingdom of towns', without a metropolitan hub and with its population relatively evenly distributed. Many core services are spread between the principal towns of Glenrothes, Kirkcaldy, Dunfermline and St Andrews (with a host of other smaller towns acting as district and parish centres).

Fife is a highly interconnected, and interdependent, community. As its traditional industrial base has changed, many of its residents have travelled further to find work. Huge new housing developments along the Inverkeithing and Dalgety Bay coastlines, and the eastern expansion of Dunfermline,

have created areas designed to capitalise on proximity to the road and rail bridges to allow their occupants to find work. These are often referred to as 'dormitory' communities.

Nearly 34,000 residents² commute outwith Fife for work, which recent research has found to generate the equivalent of £1 billion per year in wages and represent a fifth of Fife's total economy³. Fife Council is currently working with local authorities in Edinburgh, West Lothian, East Lothian, Midlothian and the Scottish Borders to strengthen Fife's economic relationship with Edinburgh and the surrounding areas, through the Edinburgh and South East Scotland City Region Deal bid⁴.

1 National Records of Scotland, *Fife Council Area – Demographic Factsheet* National Records of Scotland (online) <http://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/fife-factsheet.pdf> [accessed February 2016]

2 Neighbourhood Statistics, *Where do we commute to?: Commuting patterns in the United Kingdom, 2011 Census* Neighbourhood Statistics (online) <http://www.neighbourhood.statistics.gov.uk/HTMLDocs/dyc193/#sty=true&flow=flow1&period=0&fix=S12000015&view=200-40.630.635&tr=0.0&sc=1> [accessed February 2016]

3 Fife Today (2015) *Forth road bridge is a vital £1 billion lifeline to Fife* Fife Today (online) <http://www.fifetoday.co.uk/news/local-headlines/forth-road-bridge-is-a-vital-1billion-lifeline-to-fife-1-3977689> [accessed February 2016]

4 Accelerating Growth Edinburgh and South East Scotland City Region Deal (2016) <http://www.acceleratinggrowth.org.uk/> [accessed February 2016]

Infrastructure challenges

The Forth Road Bridge closure tested the ability of a large, highly interdependent community to cope with a dislocation of one of its principal infrastructure assets. By ‘breaking the link’ with Edinburgh and the south in such an unexpected way, residents, businesses, workers and travellers had to find different ways to move around, to commute, and to consume.

This infrastructure disruption must be set in the context of other current UK logistical challenges. During the same 2015-16 winter in which the bridge was forced to close, a season (predicted to continue into future winters) of high winds and flash flooding incidents affected many other areas of Scotland, Cumbria, Lancashire and beyond. The Forth Road Bridge itself suffered numerous other temporary closures and reduced speed operating periods due to weather disruption.

Transport infrastructure across the UK – roads, railways, bridges, airport runways – is aging and under pressure from high usage. Its modernisation is a priority for

authorities in every jurisdiction, and is proving a slow and costly business. At the same time, challenging environmental conditions can create highly unpredictable short term events that consume resources and generate public hostility.

Breaking the Link and local places

The Carnegie UK Trust is one of the largest policy-led institutions to have a specific focus on town communities and their interrelationships⁵. Based in west Fife, the Trust undertakes practical and evidence led projects that promote innovative town communities – most recently, through delivering the TestTown⁶ youth enterprise programme on 30 high streets across the UK and Ireland, and by helping to develop evidence tools for towns such as Understanding Scottish Places⁷ and the Place Standard⁸.

5 Carnegie UK Trust, *Strategic Plan 2016-2020* Dunfermline: Carnegie UK Trust 2016 <http://www.carnegieuktrust.org.uk/publications/strategic-plan-2016-2020>

6 TestTown (2016) <http://www.testtown.org.uk/> [accessed February 2016]

7 Understanding Scottish Places (2016) <http://www.usp.scot/> [accessed February 2016]

8 The Place Standard (2016) <http://www.placestandard.scot/#/home> [accessed February 2016]

The Trust is interested in understanding people's attitudes to their local places, and how town and rural communities respond to changing circumstances. Whilst cities are crucially important to economic growth, our town communities play an equally vital role. Our work suggests that they need to act as more than just residential dormitories to satisfy the fast-changing needs and expectations of modern citizens.

'Breaking the Link' is a research project exploring how Fife's local communities responded to the Forth Road Bridge closure. The Trust commissioned Ipsos MORI Scotland to conduct a representative telephone survey of 500 Fife residents, investigating their attitudes to the closure and how it affected their behaviour. Participants were aged between 16 and 75 years from across the social spectrum, and proportionately from each of five different areas of Fife – Dunfermline, Glenrothes, Inverkeithing and Dalgety Bay, Kirkcaldy, and Cupar.

Simultaneously, through an invited online poll, the Trust surveyed 63 Fife-based businesses and

asked similar questions from an employer and business owner perspective. This provided a non-representative, indicative set of results. 16 different business types were represented in the survey, and businesses based in 17 of the 19 Fife postcodes took part.

Data was also collected from a range of other local authority, media, transport, business sector and partner sources to build a stronger understanding of the behavioural impact of this infrastructure disruption event.

Our aim, in providing these initial findings, is to contribute to the discussion about how places and people respond to unexpected change and what can be learnt to help the longer term development of more sustainable and satisfying town and district communities. All of the data and survey fieldwork for this project was undertaken in February 2016 – a month after the reopening of the bridge to car traffic but during a continuing period of diverted heavy goods traffic.

Resident behaviour during the Forth Road Bridge closure

The Forth Road Bridge is used extensively by Fife residents, with around one in three respondents having used the bridge about once a week or more (34% in 2015). A similar proportion, 28%, reported using it less than once a week but at least once a month in 2015.

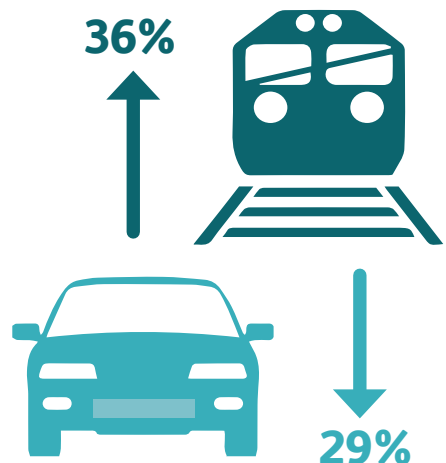
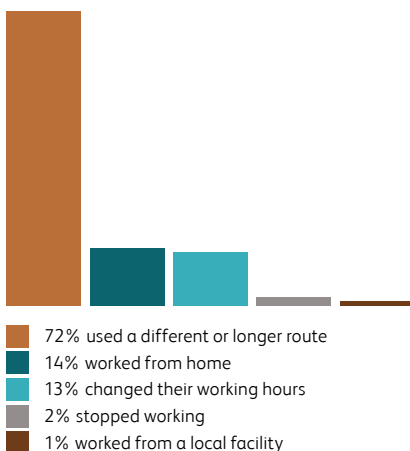
Work

Around a third of the Fife-based respondents (34%) used the Forth Road Bridge to commute to work

in 2015. Of those who had used the bridge to commute to work, 72% said they used a different or longer route to get to work outwith Fife during the disruption.

This behavioural change was also identified by the University of Leeds and University of Glasgow analysis of commuter activity during the closure. The universities' study also found an increased use of the rail network during the period, with rail mode share

Work and employment during closure



reported increasing from 17% to 53%. Total car use for commute fell from 65% to 36% for the journey to work⁹. The universities' survey found that 82% of participants reported the disruption had a negative/very negative impact on them as commuters in terms of both average daily journey times and costs¹⁰.

Leisure and social life

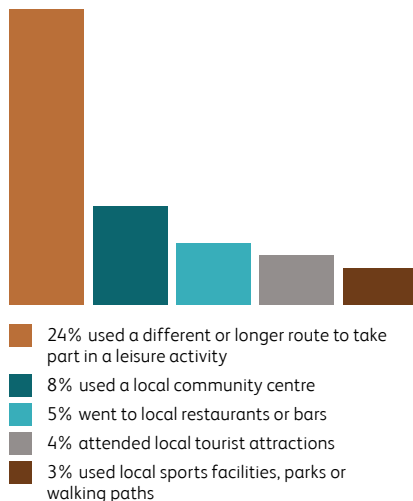
Access to leisure and social activities were cited most frequently by respondents when asked about their use of the Forth Road Bridge. Three-quarters of respondents used the bridge in 2015 to meet with family, friends or to socialise, and 69% for a specific social event, such as to attend a concert or comedy show.

Of those who used the Forth Road

9 Shires J. et al Forthcoming report. The University of Glasgow and the Institute of Transport Studies at the University of Leeds conducted a survey on commuter travel behaviour during the closure of the Forth Road Bridge in January 2016. The initial findings are based on the responses of 511 commuters out of the sample of 1242. The research team anticipate that the survey was most likely completed by those experiencing the most adverse impacts and, as such, the findings should be interpreted as an upper bound of impacts amongst those most affected. The initial findings from this survey were shared with the Carnegie UK Trust in February 2016.

10 Ibid

Leisure during closure



Bridge in 2015 for leisure activities, around a quarter (24%) said they took a longer or different route to take part in a leisure activity over the other side of the bridge rather than finding a local alternative. Fewer than one in ten said they used their local community centre (8%), went to restaurants or bars in their local area (5%), attended local tourist attractions (4%), used sports facilities or parks or walking paths in the local area (3%) during this time.

Shopping

71% of respondents travelled across the bridge for shopping during 2015. Respondents were more likely to change their shopping behaviour than they

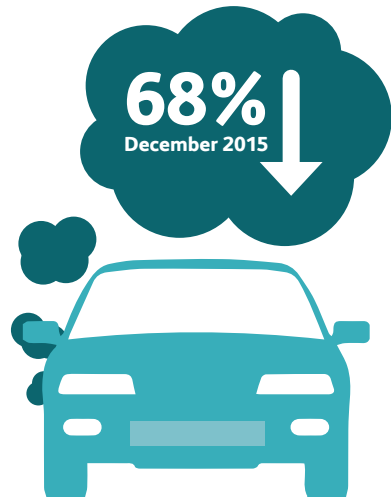
Shopping during closure



were to undertake alternatives to commuting to their place of work outwith Fife during this time. Around a third of respondents (32%) shopped more at a local store while the bridge was closed, while 22% visited an out of town store in Fife. A further 19% took a different or longer route, such as the Forth Rail Bridge, to do their shopping outwith Fife as they would normally have done.

Environment

With residents within Fife turning more to the rail network to commute to work and some to local alternative destinations for shopping and leisure during the closure, data from the air quality



monitoring station in Rosyth indicated a positive impact on air quality during this period. Monthly average rates for nitric oxide¹¹, nitrogen dioxide¹² and nitrogen oxides as nitrogen dioxides¹³ were all lower in December 2015 than in any other month in 2015 and in January and February 2016.

11 Air Quality in Scotland Fife Rosyth (2015) http://www.scottishairquality.co.uk/latest/site-info?site_id=ROSY&view=statistics [accessed February 2016]

12 Air Quality in Scotland Fife Rosyth (2015) http://www.scottishairquality.co.uk/latest/site-info?site_id=ROSY&view=statistics [accessed February 2016]

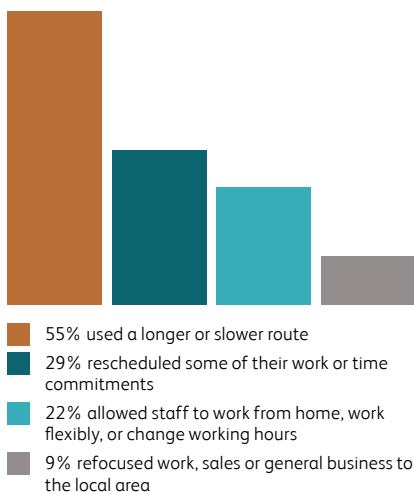
13 Air Quality in Scotland Fife Rosyth (2015) http://www.scottishairquality.co.uk/latest/site-info?site_id=ROSY&view=statistics [accessed February 2016]

Business behaviour during the Forth Road Bridge Closure

63% of businesses said that they and their employees used the Road Bridge 'very frequently' in 2015 (indicating daily or at least 2-3 times weekly). Only 13% used the bridge 'very infrequently'. For our respondent group, the road bridge was a very significant business asset.

In terms of changes to business practice during the closure, around half (55%) used a longer or slower route to get around the problem.

Changes to business practice during closure



“We suffered a massive impact on delivery times and costs in our service”

Fewer than one in ten took a strategic decision to focus on more localised sales or business development during the period, whilst around three in ten (29%) rescheduled some of their work or time commitments.

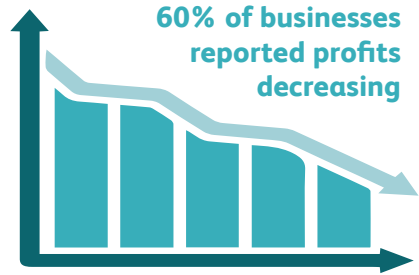
When asked what the businesses' workers had done differently, with employer support and approval, 22% reported that staff had been permitted to work from home, work flexibly, or shift around hours to accommodate the closure. For 72%, there had been no change to working practices or staff had been expected to use alternative routes to reach work or keep business appointments. Participants said that none of their staff had worked from a business centre, hot-desking hub, library or other similar facility as a result of the closure.

“ We introduced teleworking, changed working hours patterns, and rescheduled meetings to cope ”

Business survey respondents presented a broadly negative picture of the bottom line impact of the closure on business during the period. 43% thought that visitor and business enquiry numbers had decreased, with only 7% feeling they had increased. 60% thought that profits had decreased on a like for like period.

Anecdotal evidence of the impact on business performance is more mixed. Facility managers of the Kingdom Shopping Centre in Glenrothes and the Kingsgate Centre in Dunfermline both reported increased footfall during the period, suggesting retail

“ Had it continued, I would have had to close. The continued closure to HGVs impacts on our daily business ”



businesses may have benefited from residents shopping more locally. Leisure industries may also have gained from the closure as residents sought more local entertainment¹⁴. Businesses reliant on ‘exporting’ from Fife (for example, taxi companies normally transporting clients into Edinburgh) or those dependent on logistical connections may have suffered added costs and delays that hit profitability¹⁵.

“ I lost work, lost profits, and had to reduce staff ”

14 The Courier (2015) *Forth Road Bridge closure gives Christmas bonus to Fife shops* The Courier (online) <http://www.thecourier.co.uk/news/local/fife/forth-road-bridge-closure-gives-christmas-bonus-to-fife-shops-1.915928> [accessed February 2016]

15 The Courier (2015) *Forth Road Bridge closure: Cabbies in the Kingdom feel the pinch* The Courier (online) <http://www.thecourier.co.uk/news/local/fife/forth-road-bridge-closure-cabbies-in-the-kingdom-feel-the-pinch-1.915979> [accessed February 2016]

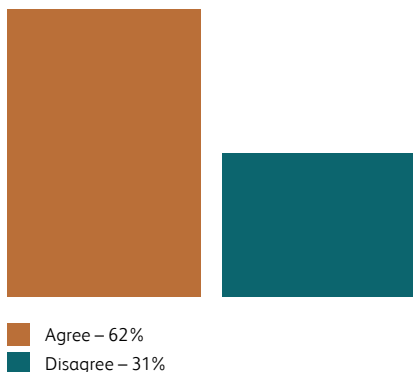
Satisfaction, attitude and future change

Residents

Residents polled as part of this research rated their local communities very highly. Across Fife, 60% of respondents rated their neighbourhood as a 'very good' place to live and a further 36% rated it as 'fairly good' (where neighbourhood was defined as the area within 15 minutes' walk of home). Only 3% rated their area as 'poor' or 'very poor'.

There were some differences by age and area. Older people were more likely than younger people to rate their area as 'very good'

'My area relies too heavily on the Forth Road Bridge'



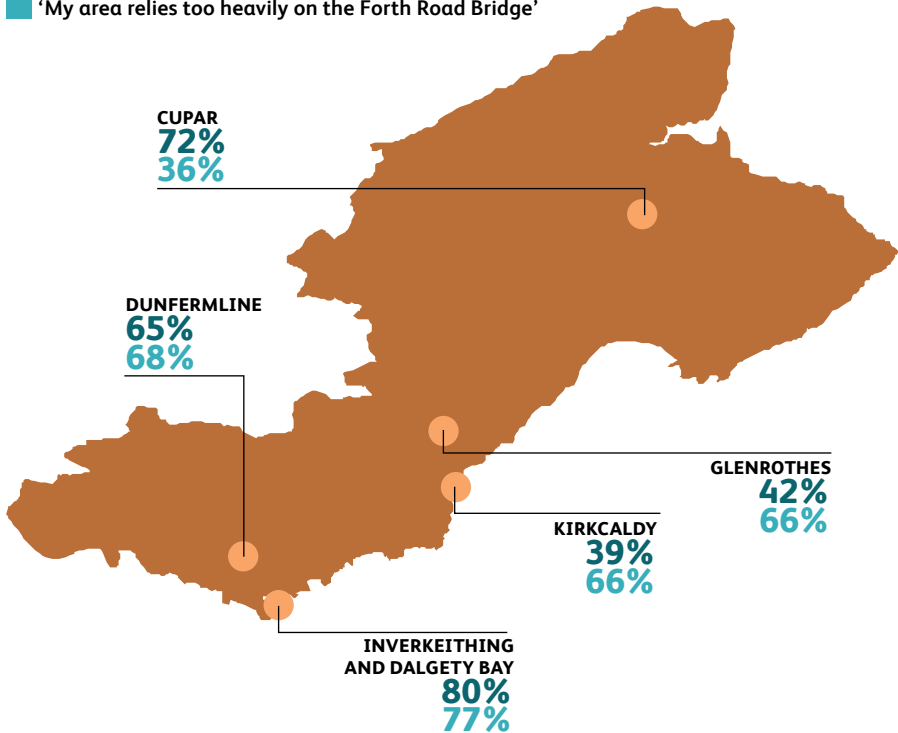
(69% compared with 49%). There was also an area distinction. Whilst 80% answered 'very good' to neighbourhood quality in Inverkeithing and Dalgety Bay, only 39% did so in Kirkcaldy.

Those taking part in the survey were also asked to consider if they felt that their local area was too reliant on the Forth Road Bridge. 62% agreed with this statement, 31% disagreed. Proximity to the bridge was an influential factor in this response, with Cupar participants less likely to agree (36%) than those in Inverkeithing and Dalgety Bay (77%). There was also some variation by how frequently residents used the Forth Road Bridge. Respondents using the bridge every day were more likely to agree that Fife had become too dependent on the road crossing, compared with those who used the bridge less than once a month (87% compared with 47%).

The combination of very strong satisfaction with local place, and a sense that Fife has become

Residents viewing their neighbourhood as very good

'My area relies too heavily on the Forth Road Bridge'



too dependent on its primary outbound road route, could merit further investigation. Residents are more positive about their communities than might be expected of 'dormitories'. However, the reliance on commuting and

leaving Fife for work and business might indicate residents would like to see more local economic and employment activity.

Business


Meanwhile, business survey participants reported little ongoing change to their operations in the wake of the bridge closure. 79% said that any business and employee practices changed to accommodate for the closure would not be continued in the future.

“ We had a loss of profits, loss of business and a loss of reputation ”

However, 9% said that staff might be allowed to work flexibly or from home more often. Overall, business respondents felt the closure had been disruptive of planned business activity, and that the aftermath of increased logistical costs meant a deeper impact still than that felt by residents.

Whilst inevitable that individual businesses would be focused on the immediate implications of the closure period, there is

some evidence that business representative organisations are calling for more strategic preparations for future disruption¹⁶. Some of our respondent businesses also reported an increased interest in local supply chains and business networks.



“ We’re using more local suppliers; and we’re trying to plan more in advance ”

16 The Courier (2015) *Forth Road Bridge: Business group says 'lessons must be learned'* The Courier (online) <http://www.thecourier.co.uk/news/local/fife/forth-road-bridge-business-group-says-lessons-must-be-learned-1.916403>

Emerging debates

The emergency closure of the Bridge and the ‘broken link’ between Fife and opportunities across the Forth provides a prism through which to consider emerging debates on the offer of towns and district areas in Scotland and across the UK.

Greater devolution or decentralisation could create a ‘double dividend’¹⁷ of economic and social success in the form of more jobs, decent wages, increased living standards and civic pride at the local level.

Organisations such as Scotland’s Towns Partnership¹⁸ are working to support towns as economic and social hubs, while award-winning campaigns such as Totally Locally¹⁹ are designed to

support strong, vibrant towns and sustainable local economies by encouraging residents to spend a portion of their weekly shop in independent businesses in their area. This approach also encourages local businesses to use local suppliers and encourages residents’ support for the high street.

Local authority areas in England like Leeds and Cornwall²⁰ have



17 McInroy, I. and M. Jackson, *The local double dividend: securing economic and social success* Manchester: The Centre for Local Economic Strategies 2015 <http://www.carnegieuktrust.org.uk/publications/2015/the-local-double-dividend>

18 Scotland’s Towns Partnership (2016) <http://www.scotlandstowns.org/> [accessed February 2016]

19 Totally Locally (2016) <http://totallylocally.org/> [accessed February 2016]

20 Shreeve, V. et al. *Healthy, working economies: Improving the health and wellbeing of the working age population locally* London: The Work Foundation 2015 <http://www.theworkfoundation.com/Reports/381/Healthy-Working-Economies>

taken the lead in fostering economic growth through creating more and better quality local jobs. One similar, independent initiative in Scotland is the Fairer Fife Commission²¹, which recommended that Fife Council and the Fife Partnership refocus their economic development strategy from a 'Fife-outwards' perspective to one that focuses on the assets within Fife. The Commission suggested that this could be achieved by a Fife 'Towns Deal' which emulates the principles of the City Region Deal, but would support towns to attract 'good jobs' to Fife, back private sector investment, and help to grow the regional economy through local procurement.

The Commission also recommended the development of Digital Business Hubs across Fife to support employees of organisations based outwith Fife to work locally more often, with economic benefits to the Fife economy, social benefits for families and communities, and

environmental benefits from reduced transport usage.

The provision of good quality opportunities for leisure and social activity to capture and sustain this local spend is also key to the regeneration and sustainability of towns. Evidence suggests that consumer spending on leisure is set to increase further over the next ten years, with restaurants, cafes and gyms continuing their growth, and that the 'leisure and experience aspect' of shopping trips is a significant driver of footfall and dwell time in town centres²².

There is a need for an independent research base, policy support and clear narrative on the importance of towns in the UK to the wellbeing of citizens. The Carnegie UK Trust is currently commissioning an evidence base on international best practice in the innovation, regeneration and sustainability of towns to allow public policy debates on towns to be further advanced.

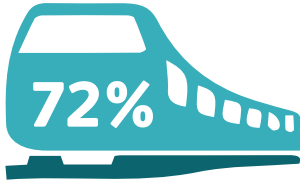
21 Fairer Fife Commission, *Fairness Matters Fife: Fairer Fife Commission 2015* <http://www.carnegieuktrust.org.uk/publications/2015/fairness-matters>

22 Wrigley, Professor N. and Dr Dionysia Lambiri, *High Street Performance and Evolution: A brief guide to the evidence* Southampton: University of Southampton 2014 <http://thegreatbritishhighstreet.co.uk/pdf/GBHS-HighStreetReport.pdf>

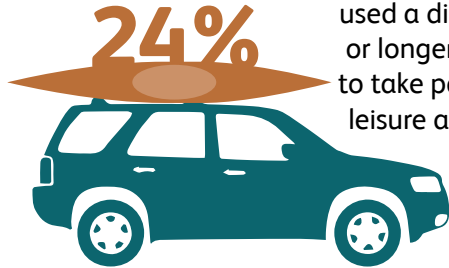
BRIDGE CLOSED

Use alternative route

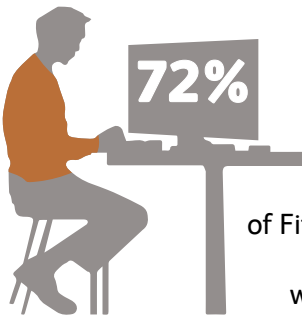
During closure of Forth Road Bridge...



used a different
or longer route
to get to work



used a different
or longer route
to take part in a
leisure activity



of Fife-based businesses
did not change
working practices



shopped more
at a local store

Welcome to YOUR NEIGHBOURHOOD



rated their
neighbourhood
as very good



believed their local area relies too
heavily on the Forth Road Bridge

Conclusions

The closure of the Forth Road Bridge was a dramatic, if short-lived, example of an infrastructure disruption around which the community struggles to reorganise itself. For residents and businesses alike, the significance of the bridge as the key link in the economic and transport system was clear from this project's research.

Fife residents affected by the closure appear to have taken a pragmatic approach to their individual responses. They were prepared to seek out more local shopping and leisure options that did not involve long journeys through the affected transport network. The collected polling, qualitative and anecdotal evidence concurs that, when leaving Fife was made less straightforward, residents were



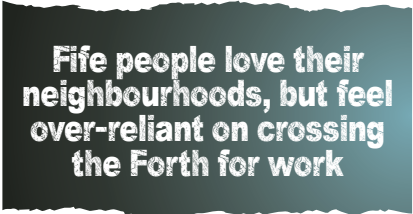
People were prepared to alter their behaviour as retail and leisure consumers

happy to use the retail, hospitality and entertainment industries much closer to home. There was little evidence that the disruption encouraged residents to seek out local recreation activities like walks, museum visits or sports clubs in any greater numbers.

Residents and businesses reported that, in terms of movement for work, they were more inclined to try and travel around the problem (by using the under-stress train network, or driving longer routes to work) than employ innovative alternatives like home working, altered shift patterns or remote meeting techniques. Whilst this is perhaps predictable – it was a short and unexpected disruption – it should be set against a backdrop of a significant public information



Commuters travelled around the bridge closure to get to work



Fife people love their neighbourhoods, but feel over-reliant on crossing the Forth for work

campaign encouraging workers and employers to minimise travel where practical.

Lastly, the contrast between residents' very positive attitudes to their neighbourhoods and their sense of collective over-reliance on the Road Bridge is an important piece of learning. The relationship between those groups and areas

most likely to be using the bridge for economic purposes, and the feeling of over-reliance, is also telling.

Addressing more of Fife's economic needs without the use of outbound transport infrastructure might have strong benefits for resident wellbeing and local productivity. It could also help to make Fife more resilient, in the event of future significant disruptions. Perhaps places where people work – as well as rest and play – could be still more attractive and satisfying for their residents.



The Carnegie UK Trust works to improve the lives of people throughout the UK and Ireland, by changing minds through influencing policy, and by changing lives through innovative practice and partnership work. The Carnegie UK Trust was established by Scots-American philanthropist Andrew Carnegie in 1913.

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