

Britain's town centres: From resilience to transition

DOBSON, Julian <<http://orcid.org/0000-0002-6164-2707>>

Available from Sheffield Hallam University Research Archive (SHURA) at:

<http://shura.shu.ac.uk/27151/>

This document is the author deposited version. You are advised to consult the publisher's version if you wish to cite from it.

Published version

DOBSON, Julian (2015). Britain's town centres: From resilience to transition. *Journal of Urban Regeneration and Renewal*, 8 (4), 347-355.

Copyright and re-use policy

See <http://shura.shu.ac.uk/information.html>

<rrh>Britain's town centres

<vrh>Dobson

Britain's town centres: From resilience to transition

Received: 15th May, 2015

Julian Dobson

is a writer, speaker and commentator on place-making, civil society and social policy. He is director of Urban Pollinators (www.urbanpollinators.co.uk), which researches and shares new thinking on creative solutions to the problems of place. Julian was co-founder and editorial director of *New Start*, the magazine for regeneration practitioners, and previously edited *Inside Housing* magazine. He is a Fellow of the Royal Society of Arts, a board member of the Centre for Local Economic Strategies, and member of the external liaison board for the University of Sheffield's Department of Town and Regional Planning.

Julian Dobson

Director, Urban Pollinators Ltd, 3 Silver Birch Avenue, Sheffield S10 3TA, UK

E-mail: julian@urbanpollinators.co.uk

Abstract 'Resilience' has become a watchword in the discussion of local economies in general, and the state of UK town centres in particular. This paper argues for a shift in focus by researchers and practitioners from resilience to transition. While both concepts draw on complex adaptive systems theory, 'transition' emphasises the need to move to a changed state rather than a return to equilibrium. The paper draws on the author's recently published 'How to save our town centres' to suggest what a discussion of transition might encompass.

Keywords: *High streets, regeneration, resilience, retail, town centres, transition*

INTRODUCTION

In the four years since the UK Government commissioned TV presenter Mary Portas to review the state of Britain's 'high streets',¹ the tone of debate over the economy of

town centres has shifted. Talk of crisis has given way to a discussion of resilience. Where newspaper headlines once spoke of the death of the high street, the focus is now on how high streets are adapting to a post-recession landscape.

This paper argues that, while a focus on resilience and adaptation is helpful, it is often too narrowly construed, and neglects the necessary debate about what types of future are desirable. Much of the academic literature echoes the popular notion of the 'high street' as a retail entity, disregarding the many other facets of successful town centres or treating them as if their main function is to support the retail economy.

This paper questions that supposition, arguing rather that it is the meshing of civil society, local governance and the wider economy that gives rise to the retail economy within town centres (a position also adopted by the Centre for Local Economic Strategies and the Association of Town and City Management in a recent paper²). The challenges for town centre economies are retail challenges, to be sure; but more fundamentally, they are issues of how places adapt and change in response to longer-term and more seismic shifts in climate and the natural environment, in culture and social expectations, and in the nature of community.

The paper proceeds in five stages. First, it recaps briefly on the nature and scale of change in UK high streets and town centres. Second, it examines the various functions and attributes of town centres that need to be taken into consideration in any discussion of the future of the 'high street'. Third, it examines concepts of resilience and considers how the notion of resilience is now being applied to town centres. It then discusses whether transition theory might provide a more helpful lens through which to consider the future of town centres. Finally, it suggests some alternative metrics or benchmarks that might be applied to monitor the transition of individual town centres.

INTRODUCTION: TOWN CENTRE CHANGE

Since the wave of retail closures that followed the global financial crisis of 2007–08, an argument has developed in the popular press and some policy circles that the high street, the traditional meeting point and marketplace at the heart of our towns, is dead or dying, and nothing can stop it. Commentators point to the rise of internet shopping on top of the 30-year advance of out-of-town malls as evidence that not only are the public turning their backs on town centres, they no longer care what happens to them.

Hallsworth *et al.*³ say that the car-based food superstore has already become the 'hegemonic retail format'.

Such comment is not new. In 1938, the editor of the *Architectural Review*, J.M. Richards, wrote:

'In many places the personal and local character of the shops is disappearing. This is because many shops are now only branches of the big multiple stores, which for convenience are made all the same, and because of the use of ready-made shop fronts and fittings. But it is no use regretting the coming of the multiple store and the standardisation of shop fronts, as these are part of our modern way of organising business and do, on the whole, make better goods available for more people.'⁴

Fifty years later, John Dawson, of the University of Stirling's Institute for Retail Studies, wrote in the *Geographical Journal*: 'there is a concern that the High Street shopping environment to which society has grown accustomed, whether as shoppers, investors, employees or entrepreneurs, is changing and we are not sure whether we will like either how it will change or what it will be changed to.'⁵

Around the same time the UK Government, led by prime minister Margaret Thatcher, commissioned a report, 'The future of the high street'. Introducing its findings, Ann Burdus, chair of the Distributive Trades Economic Development Committee, commented on the signs of decay already evident in many town centres, and the effects on surrounding communities:

'A decrease in the economic importance of a High Street has considerable social implications. Visiting a gradually deteriorating and derelict High Street is not an attractive proposition for most customers, particularly if many of the goods they want to buy are not available. High Streets of this type may have lost their function as meeting places because few people have an incentive to visit them; even fewer linger for social purposes.'⁶

In 2008, the UK's Competition Commission presented a snapshot of the decline of the independent high street grocer. The numbers of independent butchers and greengrocers fell from more than 40,000 each in the 1950s to one-quarter of that figure in 2000. The number of bakeries fell from around 25,000 to around 8,000; the number of fishmongers from 10,000 to 2,000.⁷

By early 2013, the failure of retailers in the UK since the onset of recession in 2008 had cost around 198,000 jobs and nearly £1.5bn in lost rent for landlords.⁸ By December that year, just under 12 per cent of all shopping was online, with British shoppers spending £675m a week on the internet.⁹ Not only the shops are going: many of the institutions that once anchored town centres, from churches to libraries and adult education classes, have disappeared or diminished. The activities that brought people into town in the 19th and early 20th centuries are often no longer there, and sometimes no longer anywhere.

The driving forces for these changes are complex. They include: the growth of out-of-town shopping and the planning regimes that have facilitated it; the increasing dominance of supermarket chains in the groceries market (notwithstanding Tesco's much-publicised difficulties in recent years); property deals that have left many towns saddled with unviable shopping centres; mergers and acquisitions that have left retailers with unsustainable debts coupled with demands for higher profitability; and the growth of internet shopping, which has made redundant much of the physical space provided for retail in recent decades.

The choice of Mary Portas to head the 2011 review of the UK's high streets was designed to send a clear message to the public that the government cared. Ministers knew she would generate headlines, and were not disappointed. A packed House of Commons debate in response to the review continued for more than six hours before legislators ran out of time. Presenting her findings in December 2011, Ms Portas was not afraid to ruffle feathers. 'The days of a high street populated simply by independent butchers, bakers and candlestick makers are, except in the most exceptional circumstances, over', she announced at the beginning of her report.¹

As the UK economy moves from recession into a new period of growth (which may or may not be a 'recovery' of equilibrium, and may or may not last), that narrative of decline and change on the high street is becoming more nuanced. Indeed, some commentators are suggesting that high streets are showing 'adaptive resilience',

overcoming the challenges of the recessionary years and developing new retail configurations.¹⁰

WHAT ARE THE FUNCTIONS OF A TOWN CENTRE?

The changing nature of retail premises is perhaps the most visible sign of change in British town centres. Empty shops are seen as symbols of decline; changes of use (perhaps from pubs into convenience stores, banks into bars, or outfitters into betting shops) become signs of economic and social changes.

This focus on retail obscures the multifunctional nature of traditional town centres, treating them on a par with other shopping destinations such as purpose-built out-of-town malls. I have argued elsewhere¹¹ that such a view masks and downplays the social functions of town centres — their role as meeting places, places of leisure and entertainment, and, not least, in providing public services and a forum for local democracy. These functions are supported not only by a healthy and diverse retail environment, but by factors that are sometimes given scant consideration in the literature on ‘high streets’. Such factors include the importance of high-quality green space,¹² the economic and social effects of walkable and accessible public spaces,¹³ and the foundational role of good quality and intelligently located public services such as libraries, health centres and educational establishments.¹⁴

The analogy of the ancient Greek agora captures this sense of the town centre as a multifunctional social space, a space that, in the words of the urban historian Lewis Mumford, is ‘above all, a place for palaver’.¹⁵ To think of town and city centres as a nexus for the interaction and mutual support of civil society, the retail economy, businesses and services, urban design, the public realm, transport networks and more is to think of an ecology of urban centres, not just an economy — and certainly not only a retail economy.

RESILIENT TOWN CENTRES?

The notion of a town centre ecology leads us to the question of resilience, a term that has a long history in ecological discourse, but is being used increasingly in a plethora of economic and social contexts,¹⁶ including that of the high street economy.

Wrigley and Dolega’s study of high street resilience¹⁰ asserts that British high streets are showing signs of ‘adaptive resilience’, evolving from pre-recession models into new configurations. They adopt Martin’s differentiation between ‘engineering

resilience' (the ability to 'bounce back' from shocks), 'ecological resilience' (the ability to absorb shocks without suffering crises or reaching tipping points) and adaptive resilience (an ability to 'bounce forward' to a new equilibrium).¹⁷

The notion of adaptive resilience is based on complex systems theory, and emphasises the ability of systems to evolve in response to shocks and crises. Duit and Galaz explain:¹⁸

'Complexity theory starts from the assumption that there are large parts of reality in which changes do not occur in a linear fashion. Small changes do not necessarily produce small effects in other particular aspects of the system nor in the characteristics of the system as a whole ...'

Within a complex adaptive system, there are numerous agents that behave according to their own rules and routines. Because they are not centrally controlled, they engage in self-organisation, responding to the behaviour of other agents. This gives rise to 'co-evolutionary processes' in which agents adapt to each other in a series of 'temporary and unstable equilibriums', which in turn generate unpredictable shifts within the entire system.

Duit and Galaz describe three overarching categories of system effects. 'Threshold effects' produce tipping points or punctuated equilibria where dramatic changes are observed. Climate change science, for example, predicts that the rise in global temperatures associated with greenhouse gas accumulation will produce such effects. Second, there are 'surprises' in which systems behave in ways that are qualitatively different from previous assumptions, because existing knowledge is insufficient to grasp the scale and nature of the various positive and negative feedback processes at work. Third, there are 'cascading effects' in which the impacts of threshold effects and surprises spread throughout and between different systems, geographical scales and periods of time. Bailey and Wilson point out that 'once a system or ideology accepts certain ways of doing things ... it is difficult to shift rapidly towards a different trajectory'.¹⁹

Complex systems theory acknowledges a host of interacting unknowns. The concept of 'adaptive resilience' describes how some systems appear to respond to change. This, however, leaves open the question of how we know when the changes

we are witnessing (such as the repopulation of empty high street premises with convenience stores) are a manifestation of adaptive resilience.

This question is particularly pertinent when observers declare that the high street is resilient. The Future High Street Forum, for example, takes the view that ‘the same adaptive flexibility which has kept our urban centres alive over centuries is still a creative presence’.²⁰ This position is taken within the confines of a focus on the high street as a retail entity, with little consideration of other aspects of the town centre ecology.

Martin and Sunley¹⁶ sound a cautionary note about the allure of resilience. Focusing on the notion of regional economic resilience, they warn against neglecting the context of geography and economic history. Resilience should be understood ‘as a set of multi-scale processes that need to be explained, rather than being a singular explanatory characteristic, or a catchword invoked without due definition and elaboration’, they argue (p. 35). It is advice particularly relevant to those who advocate a relocation of urban economies without considering the wider context:

‘Local and regional resilience is not just about how well local communities “fend for themselves”: local resistance and recoverability may depend crucially on a region’s or locality’s dependence on the wider economic and political system of which is a part, in which case the scope for locally based action and initiatives may be severely circumscribed.’¹⁶

Such recognition of context, and of the limits of local agency, is well founded. The author suggests that two shifts in emphasis are necessary in order to take the debate forward and inform future research. The first is to frame ‘resilience’ in ways that capture the social ecology as well as the economy of places. The second is to move beyond concepts of resilience to open up a wider debate about what type of town centre and high street people might want, not just what type of town centre and high street might evolve from current circumstances. To do that, the author suggests, requires a shift from ‘resilience’ thinking towards something rather more purposive.

SOCIAL-ECOLOGICAL RESILIENCE

Folke (2006) outlines a framework of adaptive renewal characterised by periods of rapid change, stabilisation and new disturbances.²¹ Resilience, in Folke's view, 'is not only about being persistent or robust to disturbance. It is also about the opportunities that disturbance opens up in terms of recombination of evolved structures and processes, renewal of the system and emergence of new trajectories'. Adaptive renewal, in Folke's conceptualisation, focuses on the internal characteristics of systems that enable them to move forward to new phases.

Beilin and Wilkinson adopt Folke's view of resilience as a dynamic process involving 'multiple stable states'.²² They warn against romanticising the idea of social-ecological resilience or reducing it to meaninglessness by applying the label inappropriately. Resilience can mean very different things in different contexts, they observe:

'When austerity-led governments argue for resilient communities, we know this is not a neutral adjective but one that aligns with self-help, and the cut back of social support for building adaptive capacity and learning that supports SER [social-ecological resilience]. By contrast, when a community network argues for incentives or agency support to achieve negotiated land management changes in order to increase local choices, build adaptive capacity and confront uncertainty with some ways of interrogating and acting — in fact, when they are self-organising — then we witness the resilience of their members and community.'

Beilin and Wilkinson's framing of social-ecological resilience puts an emphasis on the social, underlining the role of human agency in reshaping and reconstructing the local environment. Applying this back to town centres, a social-ecological approach to resilience might emphasise not only the robustness of local community and civic networks, but also their capacity to articulate and influence the futures towards which a process of adaptive renewal might lead.

TRANSITION: BEYOND RESILIENCE

While the word 'resilience' encompasses a wide range of notions of stasis, resistance to external shocks and adaptability, the concept is generally used in a defensive sense:

discussion focuses on how systems can cope with unexpected shocks and disturbances. Absent in such discussion is a discourse of purposive change in order to achieve a hoped-for new state of being.

Similarly, discussion of the ‘high street’ tends to focus on unwelcome or discomforting change. This leaves unvoiced any serious discussion of what town centres could be like, implying a consensus, while bypassing the dialogue necessary to achieve it.

‘How to save our town centres’¹⁴ sets out some of the landscape for such a debate. It seeks to analyse the failings and limitations of the retail-led approach to urban regeneration that became popular in local government and policy circles from the early 2000s, and to put the economy of town centres within the context of the social and cultural ecology of localities and wider society. It sets out various potential arenas for civic and policy action, including re-linking local consumer and producer economies, supporting and improving public services, and examining how questions of land ownership and property values affect the health of town centres.

To take the arguments in the book forward at a conceptual level, it may be helpful to shift from thinking about resilience to a discourse of transition. Like the notion of adaptive renewal, transition theory has its roots in complex systems theory and accepts similar assumptions of non-linearity, unpredictable disturbances and the possibility of network effects. Where it differs is in its emphasis on a shift from one state to another. The imperative of mitigating and adapting to the impacts of climate change has engendered a new focus among academics on examining historical transitions and modelling new ways of influencing or guiding transitions towards a goal of ‘sustainable development’.²³

While much of the recent literature on transitions deals with the overarching imperative of moving towards a sustainable or low-carbon economy, the concept can be applied generally to shifts within and between ‘sociotechnical systems’ — the complex bundles of economy, ecology, technology and society that dominate 21st-century life. Systems become embedded in society: shifts thus become questions of evolution and disruption, not simply of the pulling of different economic and policy levers. Systems and infrastructures also become more complex and contested through fragmentation and privatisation.²⁴

Rip and Kemp²⁵ observe that technologies are shaped by social, economic and political forces and, in turn, shape societies and human relations. In the context of

town centres, such pervasive technologies include both the relatively new digital technologies and historically embedded systems such as transport networks. These complexes of technologies, institutions and practices are described as technological 'regimes' that extend far beyond material artefacts and infrastructures.

Rip and Kemp's work is taken up by Frank Geels,²⁶ who explains and expands the concept of a 'multi-level perspective' as a way of understanding and describing processes of sociotechnical transition. In brief, the multi-level perspective argues that forces of change and innovation can be understood at three levels: the micro, which might be a research and development team within a company; the meso, which might describe a large firm or an industry; and the macro, which might describe the regulatory or political environment governing the industry, or external changes in societies and economies that affect how companies behave. Geels describes these levels as 'niche', 'regime' and 'landscape'. Drawing on innovation theory, he describes an evolutionary process in which new or divergent activity developed in niches can go on to transform regimes; at the same time, 'landscape' pressures might act to reinforce or destabilise regimes. Niches are protected spaces in which radical or novel actions and technologies can be envisaged and experimented with: Geels cites the example of the development within the military of technologies such as radar and the jet engine.

This approach leads advocates of the multi-level perspective into discussions of the dynamic relationships between societal structures and human agency. Geels argues that human beings live in a 'technotope'²⁷ in which technologies and infrastructures 'form a structuring context for human action', but in turn are influenced by networks of human actors; the structures 'not only constrain but also enable action'.

Berkhout *et al.*²⁸ add to the mix the notion of 'transition management'. They outline four different contexts for 'regime change', ranging from deliberate change caused by outside actors ('purposive transitions') to internal processes ('endogenous renewal'), spontaneous changes resulting from internal dynamics ('reorientation of trajectories') and the unintended consequences of external actions ('emergent transformations'). Loorbach²⁹ describes transition management as a fusion of 'insights from governance and complex systems theory' and 'practical experiment and experience'.

Loorbach²⁹ describes transitions as ‘multi-level, multi-phase processes of structural change in societal systems’. They happen when ‘regimes’ within society are put under pressure both by external changes and by innovation from within. ‘In a transition, a complex, adaptive system is successfully adjusted to changed internal and external circumstances, and the system thus arrives at a higher order of organization and complexity’, he argues.

Loorbach and other advocates of transition management contend that favourable circumstances for systemic change can be brought about by creating safe spaces for experimentation, overseen by academic experts as well as stakeholders within government, politics, industry and civil society. Transition management proceeds in a ‘cycle’, beginning with analysing problems, developing visions and constructing ‘transition arenas’ to guide progress; developing a transition agenda and outlining how it might be achieved; experimenting and mobilising ‘transition networks’; and monitoring, learning lessons and adjusting the vision and direction accordingly.

Transition theory, and transition management, in particular, has been criticised for its overly technocratic approach. Walker and Shove³⁰ argue that it underplays the politics of transitions, relies inordinately on external ‘experts’ whose intervention is assumed to be benign, and is limited in its accounts of how undesirable systems might be brought to an end. The ‘alluring combination of agency, complexity, uncertainty and optimism’ underlying transition management theories mask processes that are ‘not just a technical matter of analysis but a political, constructed, and potentially contested exercise in problem formulation’.

Such critiques are valid: while there are obvious risks in oversimplifying the challenges facing town centres, there are also risks in overcomplicating the responses. To accept that town centres are complex systems, nested within and influenced by other complex systems, does not require a reliance on arcane and esoteric governance mechanisms. It may demand, though, a readiness to be flexible, resourceful and experimental and purposive in articulating responses, whether at a policy level or on the ground.

CONCLUSION: TOWN CENTRE TRANSITIONS

The concepts of resilience and transition are both helpful in encouraging an understanding of town centres and high streets as complex adaptive systems, both in

themselves and as expressions of changes within the wider context of ‘economy-and-society’.³¹ But while resilience focuses on responses to shocks and disturbances, with an emphasis on recovery, transition is a forward-looking concept that underlines the shift from one state to another.

‘How to save our town centres’ focuses on such a forward-looking agenda. It argues that current models of retail-focused development are inadequate in creating new social, economic and civic hubs that echo the multifunctionality of the ‘agora’. But transition, unlike resilience, necessitates a conversation about what we are transitioning from and to. Resilience discourse tends to emphasise continuity, while transition focuses on change.

To use transition as a framework for thinking about the future of town centres, there must be a dialogue (and even a dialectic) about what types of future are desirable. This takes us away from the benchmarks and indicators beloved of town centre experts and consultants, which highlight retail spend, footfall and the shopping offer. Drawing on the themes of ‘How to save our town centres’, the author would suggest a new set of transition-focused questions, foregrounding some rather different concerns about the health of town centres in order to crystallise what type of transitions may be needed and desirable.

Such questions could include the following.

- What is the direction of economic flows? What proportion of money spent in a locality is reinvested within that locality?
- How accessible is the town centre? How easy is it for walkers, cyclists and public transport users — as well as motorists — to reach key facilities?
- What is the state of local public services? Are existing services and facilities closing or being reduced, or moved out of town centres? Are new public services being developed?
- How diverse is the town centre? Are there spaces for arts and cultural activities, play and leisure, or civic engagement? What type of businesses can flourish within the town centre?
- Who owns the property in the town centre? Is it managed in the interests of the locality, or in the interests of distant landlords? What changes of ownership and management may be needed?

— What opportunities are there for public participation? How much say do local residents, traders and community groups have over the future and what chances do they get to shape the work of planners and developers?

Critics of such an approach might demur that they open up contested issues of power, politics and values that have not traditionally been central to discussion of the future of high streets. But the fact that such issues are unvoiced does not mean that they are absent. There are norms and values implied both in a focus on stability and preservation (what are we trying to preserve and why?) and in the developer-led and retail-led models of town centre ‘regeneration’ that have dominated the last quarter-century. To bring such issues into open debate could help to focus minds on what is at stake.

References

1. Portas, M. (2011), ‘The Portas Review: an independent review into the future of our high streets’, Department for Business, Innovation and Skills, London.
2. Centre for Local Economic Strategies and Association of Town and City Management (2015), ‘Developing resilient town centres’, Centre for Local Economic Strategies, Manchester.
3. Hallsworth, A., de Kernevoael, R., Elms, J. and Canning, C. (2010), ‘The food superstore revolution: changing times, changing research agendas in the UK’, *International Review of Retail, Distribution and Consumer Research*, Vol. 20, No. 1, pp. 135–146.
4. Richards, J.M. (1938), ‘High street’, *Country Life*, London
5. Dawson, J. (1988), ‘Futures for the high street’, *Geographical Journal*, Vol. 154, No. 1, pp. 1–12.
6. National Economic Development Office (1988), ‘The future of the high street’, HMSO, London.
7. Competition Commission (2008), ‘The supply of groceries in the UK market investigation’, available at <http://webarchive.nationalarchives.gov.uk/20140402141250/www.competitioncommission.org.uk/our-work/directory-of-all-inquiries/groceries-market->

Julian Dobson 21/5/2015 10:31

Deleted: contest

investigation-and-remittal/final-report-and-appendices-glossary-inquiry, last accessed on 9th May, 2015.

8. Ruddick, G. (2013), 'Jessops, HMV and now Blockbuster — is the high street dying?' *The Telegraph*, 16th January.
9. Office for National Statistics (2014), 'Statistical bulletin: retail sales, December 2013', Office for National Statistics, London.
10. Wrigley, N. and Dolega, L. (2011), 'Resilience, fragility, and adaptation: new evidence on the performance of UK high streets during global economic crisis and its policy implications', *Environment and Planning A*, Vol. 43, No. 10, pp. 2337–2363.
11. Dobson, J (2012), 'Life beyond retail: a new and better vision for town centres', *Journal of Town and City Management*, Vol. 2, No. 3, pp. 201–214.
12. Dobson, J. (2012), 'Grey places need green spaces: the case for investing in our nation's natural assets', Groundwork UK, Birmingham.
13. Gehl, J. (2010), 'Cities for people', Island Press, Washington, DC.
14. Dobson, J. (2015), 'How to save our town centres', Policy Press, Bristol.
15. Mumford, L. (1961), 'The city in history', Harcourt, San Diego, CA.
16. Martin, R. and Sunley, P. (2015), 'On the notion of regional economic resilience: conceptualization and explanation', *Journal of Economic Geography*, Vol. 15, No. 1, pp. 1–42.
17. Martin, R. (2012), 'Regional economic resilience, hysteresis and recessionary shocks', *Journal of Economic Geography*, Vol. 12, No. 1, pp. 1–32.
18. Duit, A. and Galaz, V. (2008), 'Governance and complexity — emerging issues for governance theory'. *Governance*, Vol. 21, No. 3, pp. 311–335.
19. Bailey, I. and Wilson, G.A. (2009), 'Theorising transitional pathways in response to climate change: technocentrism, ecocentrism, and the carbon economy'. *Environment and Planning A*, Vol. 41, No. 10, pp. 2324–2341.
20. Wrigley, N. and Lambiri, D. (2014), 'High street performance and evolution: a brief guide to the evidence', Future High Street Forum, available at: <http://thegreatbritishhighstreet.co.uk/pdf/GBHS-HighStreetReport.pdf>, last accessed on 9th May, 2015.
21. Folke, C. (2006), 'Resilience: the emergence of a perspective for social–ecological systems analyses', *Global Environmental Change*, Vol. 16, No. 3, pp. 253–267.

22. Beilin, R. and Wilkinson, C. (2015), 'Introduction: governing for urban resilience', *Urban Studies*, Vol. 52, No. 7, pp. 1205–1217.
23. Grin, J., Rotmans, J. and Schot, J. (2010), 'Transitions to sustainable development: new directions in the study of long term transformative change', Routledge, Abingdon.
24. Graham, S. and Marvin, S. (2001), 'Splintering urbanism: networked infrastructures, technological mobilities and the urban condition', Routledge, Abingdon.
25. Rip, A., and Kemp, R. (1998), 'Technological change', in Rayner, S. & Malone, E. (eds) 'Human choice and climate change', Vol. 2, Battelle Press, Columbus, OH, pp. 327–399.
26. Geels, F.W. (2002), 'Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study', *Research Policy*, Vol. 31, No. 8, pp. 1257–1274.
27. Geels, F.W. (2004), 'From sectoral systems of innovation to socio-technical systems: insights about dynamics and change from sociology and institutional theory', *Research Policy*, Vol. 33, No. 6–7, pp. 897–920.
28. Berkhout, F., Smith, A. and Stirling, A. (2003), 'Socio-technological regimes and transition contexts', available at <http://www.sussex.ac.uk/Units/spru/publications/imprint/sewps/sewp106/sewp106.pdf>, last accessed on 9th May, 2015.
29. Loorbach, D. (2010), 'Transition management for sustainable development: a prescriptive, complexity-based governance framework', *Governance*, Vol. 23, No. 1, pp. 161–183.
30. Walker, G. and Shove, E. (2007), 'CAUTION! Transitions ahead: politics, practice, and sustainable transition management', *Environment and Planning A*, Vol. 39, No. 4, pp. 763–770.
31. Urry, J. (2011), 'Climate change and society', Polity, Cambridge.