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SMART GROWTH: A BUFFER ZONE BETWEEN DECENTRIST AND CENTRIST THEORY?

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ABSTRACT

The context for planning at the turn of the 19th century, in a newly industrialized world, was based on the need to find solutions to overcrowding and dire urban conditions. Planning decisions made in the post-World War II period were primarily motivated by the desire to reconstruct war torn cities. The forces of influence for planning and development in modern advanced capitalist societies are arguably set within the context of sustainable development. Many developed countries have witnessed a dramatic change in their territorial structures. Urban centres are extending into rural areas and surrounding hinterland, where large tracts of land are being developed in a 'leapfrog' low-density pattern. Urban sprawl is the outcome of both statistical realities such as population growth and the psychological catalyst that 'quality of life' is superior in the suburbs. This change has brought with it challenges commonly associated with unpredicted growth: traffic congestion, restricted access to education and a perceived lack of affordable housing. Smart growth, as an alternative philosophical and methodological approach towards urban planning may provide the antidote for the negative effects of urban sprawl. This paper examines the underlying theory of decentrist and centrist development and the emergence of the smart growth movement as the antonym of urban sprawl.

Keywords: centrist approach, compact city, decentrist approach, network city, smart growth, urban planning, urban sprawl.

1 INTRODUCTION

Planning decisions reflect the unique socioeconomic and environmental context of individual periods in time. Grant [1] suggests that congestion, pollution and generally poor urban conditions led to modern town planning in the early 20th century, and by the 1920s solutions were needed to address these specific challenges. Zoning became firmly entrenched as a strategy or land use tool for separating uses seen as incompatible in proximity [2]. Neal [3] presents the view that 'urban planning at the end of the twentieth century has been marked by an urgent need to find solutions to the key problems facing our towns and cities—the control of sprawl, sustainable growth, more integrated transport and a better quality urban environment'. The forces of influence for planning and development in modern advanced capitalist societies are arguably set within the context of sustainable development. There is a fascinating debate underway about the role of planning in promoting sustainable development, a concept intuitively understood by many but difficult to express in operational terms [4]. The debate revolves around which urban forms will most effectively deliver environmental protection, whilst maintaining economic viability and enhancing quality of life. The scope of the debate can be usefully summarized by classifying stances initially into two groups: 'decentrists', who favour urban decentralization largely as a reaction to the problems of the industrial cities, and 'centrists', who believe in the virtue of high-density cities and decry urban sprawl [4]. Many developed countries have witnessed a dramatic change in their territorial structures. Urban centres are extending into rural areas and the surrounding hinterland, where large tracts of land are being developed in a 'leapfrog' low-density pattern. Urban sprawl is the outcome of both statistical realities such as population growth and the psychological catalyst that 'quality of life' is superior in the suburbs [5]. This change has brought with it challenges commonly associated with unpredicted growth: traffic congestion, restricted access to education and a perceived lack of affordable housing. Smart growth, as an alternative philosophical and methodological approach towards urban planning, may provide the antidote for the negative

effects of urban sprawl. It is argued that smart growth may provide a buffer zone between decentrist and centrist constituencies.

2 DECENTRIST AND CENTRIST THEORY

As in all debates, different protagonists in the decentrist versus centrist debate, over the years, have had different motives. The central concern has been with the quality of urban and rural life and, to a lesser extent, the aesthetics of the urban environment. Table 1 outlines the chronology of decentrist and centrist theory.

The garden city idea and the movement it spawned has been identified as the forerunner to the town planning movement in Britain, as the source of many important planning ideas and the means by which existing reformist notions were applied to the solution of urban (and rural) problems [6]. Howard [7] outlined a utopian socialist alternative to the evils of existing urban society, specifically the huge urban concentration of London. Howards' vision was to take the form of a social city, a decentralized network of individual garden cities, each with a population of 30,000, surrounding a larger central city of 58,000. The garden cities were to be slumless and smokeless, with good-quality housing, planned development, large amounts of open space and green belts separating one settlement from another [7]. Communal ownership of land purchased cheaply at agricultural values was fundamental to the concept. This ensured that the citizens of the garden cities would collectively benefit by the increment in land values consequent on urban development. Whilst Howard advocated collective ownership of many aspects of the garden city, he did not envisage a complete replacement

Table 1: A selection of historical decentrist and centrist proposals [4].

Period	Centrists		Decentrists	
	Solution	Protagonist	Solution	Protagonist
1800	n.a.	n.a.	New Lanark	Robert Owen
1850	n.a.	n.a.	Saltaire	Titus Salt
			Bournville	G. Cadbury
			Port Sunlight	W. Lever
1900	n.a.	n.a.	Garden cities movement	Ebenezer Howard
1935	The Radiant City	Le Corbusier	Broadacres City: a new community plan	F.L. Wright
1955	Counter-attack against 'Subtopia'	Nairn	New towns movement	Mumford, Osborn, TCPA
1960	Urban diversity	Jacobs, Sennett	n.a.	n.a.
1970	Civilia	De Wolfe	n.a.	n.a.
1975	Compact City	Dantzig & Saaty	n.a.	n.a.
1990	Compact City	National governments Newman & Kenworthy ECOTEC, CPRE, FOE	Market solutions	Gordon & Richardson Evans Cheshire Simmie Robertson, Green & Holiday

n.a., not applicable.

of private capital. The garden city model incorporated three elements: physical design, an economic plan and a social programme.

Although it was not Howard's intention to contribute to unsustainable development, the application of the garden city concept to planning fuelled suburbanization. The idea of natural areas and living areas removed from large cities has translated into larger lawns, larger homes and longer commutes, all associated with higher levels of consumption. This, however, is not to discount unforeseen social changes such as population growth and automobile ownership that far exceeded predictions from the 1960s onwards [4]. These unaccounted for trends may have deflected policy impacts from policy intentions with an outcome of a greater degree of low-density peripheral growth. Had Howard's social city ideas been implemented verbatim via the planning policies of that time, it could be argued that the outcome may have resulted in a more sustainable form of development. One need only consider Letchworth Garden City, England, that celebrated its centenary in 2003 as the poster child of Howard's original vision.

The low-density network city represents a modern decentrist trend in development and is characterized by a system of economic and social networks independent of urban physical and administrative boundaries. According to Fishman [8], by the 1920s an interrelated technology of decentralization (of which the automobile was only one element) had begun to operate, inexorably loosening the ties that once bound the urban functions of society to tightly defined cores. Consumers capitalized on this increase in mobility and chose to settle further away from the urban core than was hitherto the case. Ward [6] and Castells [9] proposed the shift from Fordist mass production to post-Fordist lean specialization and flexible modes of production as one explanation for decentralization and a restructuring of capitalism. Cities are developing into extensive webs of interaction, supported by fast transport and real-time communication networks. This evolution involves considering flows rather than zones, accessibility rather than proximity and stresses the increasingly borderless nature of contemporary cities. The Network City exists in an intraurban equilibrium that can be reached through interurban system relationships. The urban policy aims of the Network City are underpinned by cost-effectiveness achieved through specialization policies and/or network integration. Castells [10] states that it is increasingly impossible for organizations, be they large corporations or small businesses, to survive if they are not part of a network. The Network City results from the convergence of three independent processes: the information technology (IT) revolution, the restructuring of capitalism and statism in the 1980s aimed at superseding the contradictions of those regimes, and the cultural, social movements such as feminism and ecologism of the 1960s and 1970s [9]. One outcome of the Network City paradigm has been a reduction in the amount of face to face contact between individuals, 'not only is a society healthier when its diverse members are in daily contact with one another, it is also more convenient' [11].

The imperative of sustainable development was being actively incorporated in planning about the urban future from the 1980s, most notably in the European Commission's Green Paper on the Urban Environment (1990) [4]. This included the highly controversial prescription of a 'compact city', running counter to the traditional garden-city-inspired thrust of British urban planning policies [6]. Breheny [12], Blowers [13] and Burton [14] suggest that the 'compact city' concept, in general, is taken to mean a relatively high-density, mixed-use city based on an efficient public transport system and dimensions that encourage walking and cycling. The concept emerged primarily in response to the widely acknowledged need to find more sustainable models for towns and cities of the developed world [13]. Jenks *et al.* [4] state that the compact city is being promoted in the UK and throughout Europe as a component of the strategy formed to tackle the problems of unsustainability. The rationale for its implementation relies heavily on a set of strategic benefits, which are said to be the outcome of more compact urban forms. There are a variety of socioeconomic and environmental

benefits of the compact city, such as conservation of the countryside, less need to travel by car, more efficient utility and infrastructure provision, and a revitalization of inner urban areas. The benefits listed contribute to sustainable development, enabling social and economic sustainability as well as embracing environmental concerns.

Sceptics have put forward a range of counterarguments to the compact city model, in particular that the reuse of urban land might lead to a lack of urban green space, increased air pollution, loss of biodiversity and an overcrowded environment. There is a growing tendency to focus on the lead role of planning in developing a blueprint of the compact city, and rather less attention is paid to the social, economic and technical processes involved in shaping the feasibility of the concept [15]. It is important to note that one of the main problems in advancing the debate is a lack of empirical evidence to support either claims or counterclaims [14]. Thomas and Cousins (in Jenks *et al.* [4]) question the compact city in light of current economic trends, environmental objectives, aspirations to quality of life and political reality, and conclude that the compact city is 'unsuccessful, undesirable and unworkable'. It has been suggested that the compact city, in order to be successful, must meet three criteria: be economically viable, be friendly to the environment and enhance quality of life [4]. Recent research has identified the compact city as a sustainable form of development when compared to low-density decentralized development. The key cautionary matter in the analysis is that the compact city must be underpinned by social elements for the concept to be successful [4]. In other words, the concerns that relate to more compact design need to be addressed in a collaborative manner to reflect the interests of all those influenced by the outcome of this pattern of development.

3 URBAN SPRAWL

Research conducted on settlement patterns in Ireland concluded that there are two main factors to be considered. Urban sprawl, the research implies, is a consequence of both the statistical realities and the human condition. A demand for low-density housing has resulted in an expansion out from the urban core into surrounding counties. Allied to this have been issues associated with affordability: there is a belief that better value and enhanced quality of life is to be had in the suburbs [15]. The process of urban sprawl drains the economic and cultural life out of cities and consumes more greenfield land, which in turn necessitates infrastructure such as roads, schools, water and sewer. Concurrently, world population pressures are relentlessly increasing. In towns and cities across the globe, older inner city areas are wasted, while virgin land is irrevocably developed, and the demand grows unabated for fuel to drive to and from increasingly dispersed destinations. Low-density peripheral growth includes new subdivisions that leapfrog far beyond existing settled areas onto vacant or agricultural land. The paradigm of urban sprawl may be traced to the US post-World War II period from 1945 when changing transportation and economic patterns had transformed North America. 'We live in cities and suburbs whose form and character we did not chose, that is, they were imposed on us, by federal policy, local zoning laws and the demands of the automobile' [11]. Ewing *et al.* [16] define urban sprawl as any environment characterized by:

1. a population widely dispersed in low-density residential development;
2. rigid separation of homes, shops and workplaces;
3. a lack of a distinct, thriving activity centre, such as strong city centres or suburban town centres;
4. a network of roads marked by large block size and poor access from one place to another.

It is acknowledged that sprawl provides a variety of private benefits to new residents and developers, as well as potential social benefits such as more affordable housing costs from building farther out [17]. Nonetheless, sprawl is increasingly viewed as a significant and growing problem that has a wide range of social, fiscal and environmental costs. Recognition of the costs of sprawl has prompted policy makers throughout the world to create various regulations and incentives to reduce it [18].

The first real challenge to the form of development that resulted in urban sprawl may be traced back to Jane Jacobs' classic 1961 book entitled *The Death and Life of Great American Cities*. Jacobs argued, as do many advocates of smart growth, that fine-grain mixing of diverse uses creates vibrant and successful neighbourhoods [19]. It has been proposed that it is useful to distinguish different strands of thought and motivation that people bring to the question of sprawl and the relationship between the central city and its suburbs [20]. These motivations are related to concerns with the:

1. Environment: Environmental concerns are probably the most frequently cited reasons for dissatisfaction with current metropolitan patterns of growth and development. The loss of farmland and natural areas, air pollution due to traffic congestion, the depletion of water resources, and the abandonment of brownfields in the central city are all serious issues that, for many people, are negative consequences of rapid urban growth.
2. Quality of life: Closely related to the environmental motivation, the concern with a deteriorating quality of life due to metropolitan deconcentration focuses on issues such as the time lost to traffic congestion, the loss of community in sprawling new developments, the destruction of small towns, and the general blandness and ugliness of suburban neighbourhoods and commercial design.
3. Equity: For some, the main problem with the movement of people and jobs out of the central city is the resulting inequity. Residents left behind have less access to jobs, and the disappearance of the middle class contributes to the loss of civic and social capital and positive role models for poor neighbourhoods.
4. Economic competitiveness: A fourth argument raised against the current pattern of metropolitan deconcentration is that it impedes the ability of a region to compete in the global economy. The basic argument for this is the idea that 'if we don't hang together, we will hang separately', specifically in areas such as education, economic development and infrastructure planning [20].

The above factors represent the drivers of the current move towards the need for a more holistic and integrated approach to planning and development.

The incidence of the pattern of development that has resulted in urban sprawl is not unique to the US; it is also evident in Western Europe, Canada, Australasia and Japan. More recently countries such as Spain are displaying patterns of urban sprawl. Mediterranean cities have been historically characterized by the archetypal image of high density and complex urban structures shaped and influenced by social diversity and mixed-use design. However, the increasing incidence of urban sprawl shows a very different urban scenario, which was, until recently, exclusively associated with the cities of the Anglo-Saxon urban tradition [21]. Urban sprawl has been a source of concern in the interwar years in the UK, as low-density development spread out from all of Britain's cities [22]. This pattern of development was founded upon conservative ideals and a desire to preserve the countryside coupled with anti-urban sentiments on the grounds that urban areas were unsafe [22]. The implications of policy choices that supported a dispersal approach are reflected in the current challenges associated with urban sprawl and the need to develop initiatives and tools to halt further sprawl development.

Sprawl is the product of suburban pulls and urban pushes. The pull factor in this scenario may be the personal preference or dream of living in a low-density rural idyll, and the push factor is founded on anti-urban and anti-compact design sentiments [23]. The push and pull factors are influenced by a variety of other variables such as market dynamics of supply and demand, demographic and fiscal factors. It is important to note that personal preference is totally subjective and founded upon self-interest in the here and now. Raising awareness among consumers about the need for a long-term approach to urban planning is essential to achieving more sustainable growth patterns. There is no doubt that urban sprawl is a controversial issue in many countries, since the size and characteristics of cities and the distribution of land uses may have consequences for the environment [24, 25].

The findings from research conducted on development patterns in the UK states that there are too many housing estates dumped into spaces with no amenities and no thought for their future governance [26].

There is evidence to suggest that economic and technological progress may have resulted in a higher standard of living but not necessarily enhanced quality of life. It could be argued that there is a direct causal relationship between the character of the physical environment and the social health of families and the community at large. 'Life spent enjoying the richness of community has increasingly become life spent alone behind the wheel' [15]. This view is corroborated by research undertaken in the US on how the physical environment can impact on peoples' health and quality of life. The research sought to test whether there is a relationship between urban sprawl and obesity, heart disease and morbidity. The research concludes that heavy use of motor vehicles contributes to air pollution, which increases respiratory and cardiovascular disease as well as overall mortality. Furthermore, residents of sprawling counties were likely to walk less during leisure time, weigh more and have greater prevalence of hypertension when compared to residents of compact communities [16]. This view is corroborated by further research that identifies a link between declining physical activity and a reduction in walking, that in turn contributes to obesity, diabetes and associated ailments [27, 28].

In both the UK and the US, there are parallel debates about proposals for alternative but not necessarily new patterns of smarter and more efficient growth. Quaid [29] found that several urban issues such as traffic congestion, lack of affordable housing and urban sprawl stem from multiple causes. However, 'as society's understanding of the connectedness of urban issues grows, there is an ever-increasing need for developing integrated strategies within local government'. She examined the utility of a tool, the Sustainability Inventory, developed by the International Council for Local Environmental Initiatives (ICLEI), in advancing the ability of US municipalities to move towards sustainability. The Sustainability Inventory is a tool that municipalities may use to build capacity among staff for infusing sustainability principles into strategic policies, programmes and practices.

4 SMART GROWTH: EVOLUTION, THEORY AND PRACTICE

'Growth' has two fundamentally different interpretations: expansion and development. Expansion means getting bigger while development refers generally to the historical changes in society over time; more particularly, it refers to ideas of progress or modernization. Development refers to quality in the nature of society as distinct from economic growth that is quantitative [30]. The concept of smart growth emerged in the US during the 1990s from research undertaken by the Urban Land Institute (ULI). At this time the ULI was looking at ways to deal with the problems arising from urban sprawl, traffic congestion, school overcrowding and air pollution, and the concept evolved as a reaction to the apparent failure of traditional planning techniques to improve conditions. By 1999 the ULI was of the opinion that smart growth had become a hot political debate in communities and states throughout the US [31].

Although there are many definitions of smart growth, the ULI describes the underlying objective as follows: 'Smart Growth seeks to identify a common ground where developers, environmentalists, public officials, citizens and others can all find acceptable ways to accommodate growth' [31]. Smart growth, as an alternative philosophical and methodological approach towards urban planning, calls for greater integration between the economic, environmental and social aspects of planning and development. Smart growth is not anti-growth, but instead contains all the seeds needed to address the broader concept of sustainable development by adopting a variety of tools to accommodate inevitable growth in a manner that is economically viable, friendly to the environment and socially responsible. In 1996, a broad coalition in the US formed the Smart Growth Network (SGN), with members spanning real estate, the US Environmental Protection Agency, advocacy and policy-making circles [32]. The main objective was to build consensus around land-use issues and ascertain how to provide local officials, planners, developers, preservationists and environmentalists with the necessary

Table 2: Principles of smart growth.

Smart growth principles	Decentrist approach	Centrist approach
1. Mix land uses	✓	✓
2. Take advantage of compact design	n.a.	✓
3. Create a range of housing opportunities	✓	✓
4. Create walkable communities	✓	✓
5. Foster distinctive, attractive communities with a strong sense of place	✓	✓
6. Preserve open space, farmland, natural beauty and critical environmental areas	✓	✓
7. Strengthen and direct development towards existing communities	✓	✓
8. Provide a variety of transport choices	n.a.	✓
9. Make development decisions predictable, fair and cost-effective	✓	✓
10. Encourage community and stakeholder collaboration in development decisions	✓	✓
11. Efficient management and expansion of infrastructure	✓	✓
12. Infill and brownfield development and adaptive use in built up areas	✓	✓

n.a., not applicable.

tools and information to battle the problems associated with urban sprawl. The SGN identified the principles listed in Table 2 as necessary to further the concept of smart growth. The ticks in the table represent the applicability of individual smart growth principles to decentrist and centrist theory and are discussed in greater detail in Section 6.

Although no universally agreed definition of smart growth exists, the underpinning ideology is that a community should fashion its own version of smart growth through a shared decision-making process and adapt the concept to its unique socioeconomic, environmental and political circumstances. This collaborative approach mirrors the approach adopted by ICLEI in the creation of a sustainability inventory as discussed in Section 3. Smart growth purports to embrace a holistic approach that accords with community interests and reasonably balances the various principles that make up smart growth in theory. Fundamental to achieving smart growth are:

1. a broader regional perspective;
2. more efficient land use;
3. greater public investment;
4. fiscal reform;
5. adherence to equity considerations [33].

These prerequisites embody the integrated and holistic characteristics deemed necessary to accommodate growth in an economically viable, environmentally friendly and socially responsible manner.

Advocates of smart growth may argue that performance-based zoning enables mixing of complementary land uses, thus achieving greater diversity and functionality [34]. Mixing of land uses, it is suggested, is more achievable now with the advent of cleaner, greener technologies.

The association between environmental ‘protection’ and economic growth apparent in smart growth policies can be considered a cornerstone of ecological modernization theory, defined by Young (in Bunce [35]) as a ‘means by which capitalism can accommodate the environmental challenge’. The concept purports to offer solutions to growth management issues such as public policy tools. Smart growth recognizes the benefits of adopting a regional perspective as local economies and ecosystems do not conform to fixed geographical boundaries. Whether the priority is traffic, education, environment, mass transit, housing, sprawl, economic development or urban revitalization, smart growth has something to offer.

4.1 A critique of smart growth

Definitions of smart growth consist of desired types of planning and regulatory processes, as well as normative urban form outcomes [36]. The concept is evolutionary and is continuously influenced by economic, environmental and social factors. It has been suggested that smart growth is a new term for an old idea of growth management, a strategy that has been in place for 40 years in the US [37]. As smart growth is first and foremost an American concept, considerable critical evaluation of the paradigm and research is conducted in the US. For example, Burchell and Mukherji [38] created two scenarios for New Jersey in the US in 2025. The first scenario examines New Jersey under the current development pattern and the second where smart growth principles are adopted. The research concluded that managed growth allows all development that would have taken place under conventional development to occur but directs that development to locations where public services can be provided more efficiently. In North America, the smart growth movement has emerged as the most promising attempt yet to make connections between consumers’ demands for more efficient land use running parallel to the desire for low-density lifestyles. Smart growth advocates aim to engage a broad and diverse audience. The concept of smart growth is devoid of jargon and adopts a language and methods that are more pragmatic and inclusive. Instead of appealing almost entirely to environmental sensibilities, as most North American sustainability discourse does, they focus the discussion around basic quality of life issues [32].

The term ‘smart growth’ may have North American roots, but the ideas behind the concept have long been translated into action at the European Union (EU) level. The EU (and especially densely populated countries such as the UK and the Netherlands) has had a long history of thinking about new ways to manage growth, especially in cities. From the 1990 ‘Green Paper on the Urban Environment’ to the adoption of the ‘Strategy for Sustainable Development’ in June 2001, the EU reaffirmed that sustainability lies among the Communities’ policy priorities [32]. At an international level, *Planning for Smart Growth 2002: State of the States*, the American Planning Association encourages adopting smart growth principles to challenge urban sprawl. One of the major issues driving interest in planning reform has been urban sprawl or ‘the pattern that takes over when, with little co-ordinated planning, people and businesses desert established communities to develop open countryside’ [39].

Smart growth expands on the principles of New Urbanism, which was founded on concerns about the design of neighbourhoods and cities in America. The principle aim is to re-establish ‘the relationship between the art of building and the making of community through citizen-based participatory planning and design’ [40]. New Urbanism focuses mainly on urban design and building uses and, similar to smart growth, derives inspiration from the ideas outlined by Jacobs [19]. Nonetheless, the concept of smart growth is different and has a broader remit than New Urbanism, predominantly being concerned with design and other factors such as regional transportation systems and regional open-space systems and collaboration.

Recent urban design and planning theory attaches considerable importance to the concept of mixed use in achieving sustainability, lower reliance on private vehicular use and achieving more vibrant

urban areas for the long term. There is, however, scepticism that whilst mixed-use developments are desirable, they are, nevertheless, difficult to achieve. Local development plans commonly work from a paradigm based upon two-dimensional uniform land use allocations [41]. This approach has difficulty in coping with mixed uses, urban design principles, urban history and the more general pursuit of more compact and sustainable settlements. This also suggests that mixed-use design promises economic vitality, social equity and environmental quality, but it cannot readily deliver such benefits in a context where cultural and economic forces promote separation of land uses [1]. Smart growth, however, promotes collaboration in an attempt to achieve more diverse and integrated development and participation.

4.2 An opposing view of smart growth

Smart growth has stimulated much critical debate. Libertarians argue that today's growth patterns in the US reflect market demands, ignoring decades of government intervention in planning and government subsidization of roads and automobiles [42]. The libertarian's view is that smart growth advocates tend to overstate the effectiveness of planning remedies and ignore the very real and persistent appeal of the detached single-family home in a suburb with good schools, not to mention the difficulty of changing entrenched lifestyles and habits. It could be argued that opponents of the concept of smart growth are aligned to the right wing, free market and conservative perspective of the left/right theoretical continuum. This view embodies a rejection of state intervention and regulatory control of the development process. Preuss and Vemuri [43] and Yang [44] state that the concept of smart growth has not been in place long enough for the public and policy makers to understand the long-term effect of new initiatives on development patterns and quality of life. Critics of smart growth concentrate on specific principles of smart growth, e.g. more compact design, and from this they conclude that smart growth plans solely for dense cities where everyone walks or rides light rail. Advocates of smart growth suggest this is a selective way of treating the concept.

Smart growth is indeed in favour of more compact design, but not however in a 'carte blanche' fashion. Smart growth, as an alternative methodological and philosophical approach is flexible, dynamic and adaptable. More compact design as a principle is adopted only where considered appropriate and feasible. Smart growth is further criticized on the grounds that more compact design results in a loss of biodiversity, a greater degree of air pollution and thus reduces quality of life. Proponents of smart growth refute this with the view that mixing of uses is more feasible with the availability of new, cleaner, greener manufacturing technologies. Critics of smart growth suggest that the use of urban growth boundaries interferes with the supply of development land and results in an increase in property prices. The Achilles' heel of the smart growth movement is the impact that many of the proposals put forth by its advocates would have on affordable housing [45]. Smart growth proponents counter this by saying that development left entirely to the 'laissez faire' market conditions has not been entirely effective in the provision of housing for all in society.

5 SMART GROWTH: A PLANNING ALTERNATIVE?

It could be argued that a number of smart growth principles, specifically mixed use and more compact design as listed in Table 2, implies a bias towards a centrist approach with limited scope for application in a decentrist fashion. It follows that the concept of smart growth is solely the preserve of the compact city model. The 'garden city' concept is underpinned by decentralization away from the urban core, which implies further dispersal and urban sprawl. Nonetheless, the concept, as Howard originally envisaged it, is comparable to smart growth, where there is mixed-use development, a town

centre and open-space conservation alongside an integrated and holistic approach to the planning and development process. From this it could be argued that low-density development need not necessarily be synonymous with unsustainable development. The value derived from creating attractive communities with a strong sense of place is as important in both decentrist and centrist communities. It is suggested that providing a range of housing opportunities adds diversity and may be achieved in either decentrist or centrist style developments. Older, neglected and poorly planned suburbs may benefit from a retrofit of specific agreed-upon smart growth measures, such as opening up cul-de-sacs to facilitate connectivity and walkability. Adopting traffic calming measures may also result in a more pedestrian friendly environment within suburbs. The 'provision of a variety of transport choices' is not included in the decentrist approach (see Table 2). However, more than one transport mode nowadays serves decentralized areas. There is no doubt that the provision of a variety of transport choices in order to be economically viable is dependent on critical mass. It follows that this principle is more applicable to a centrist approach. However, it is suggested that the low-density network city model being dependent on communication links rather than transit links is ideally suited to a sustainable integration of economy, environment and society facilitated by smart growth principles.

Smart growth recognizes the benefits of integrating green infrastructure into older suburbs, traditionally identified by rows and rows of houses. Community tree planting exercises in conjunction with community spring-cleaning days facilitates greater collaboration within older communities enhancing quality of life, adding value and improving the attractiveness of older suburbs. Furthermore, the rehabilitation of older suburbs reduces the need for further greenfield conversion for housing needs. Allied to this are cost savings that relate to a reduction in the need to provide road, water and sewerage infrastructure. This in turn helps to advance open-space conservation such as farmland, natural beauty and critical environmental areas. Where greenfield conversion is necessary, it is possible for this to be done in a sensitive manner when good planning practices are in place and when an integrated and holistic approach is adopted. Smart growth encourages community involvement from the earliest stage of the planning and development process, enabling local knowledge to be incorporated into the planning process and is important in both decentrist and centrist development. Furthermore, principles 9 and 10 are equally applicable to both models.

The smart growth principle that promotes infill and brownfield development has applications in both older decentralized neighbourhoods and inner city areas that have been abandoned. This principle helps to realize the full potential from existing underused infrastructure, such as rail tracks or old abandoned industrial sites, and the preservation of built heritage in a more efficient manner. Vibrant, functioning and diverse environments may be the outcome of redeveloped sites traditionally associated with anti-social behaviour or deemed as 'no go areas'. Smart growth advocates public-private partnerships as a potential mechanism to finance larger capital-intensive infrastructure projects that can be either decentrist or centrist. Smart growth looks for ways to bring people and jobs closer to each other. In older suburbs, potential employment opportunities exist that could help to reduce commuter lifestyles and the socioeconomic challenges associated with dormitory developments. The mixing of residential areas, retail outlets and offices in older inner city redevelopment projects and older suburbs where feasible may result in more vibrant, diverse and sustainable environments. Smart growth proposes the use of a variety of fiscal and regulatory tools to facilitate the implementation of policy that supports more efficient land use.

6 CONCLUSION

The modern world is comprised of a web of complex interactions and interrelationships, shaped and influenced by a wide variety of political, socioeconomic, environmental and cultural externalities. This is in contrast to the less complicated and less political world when the ideas of Howard, Wright

and Le Corbusier were in vogue. Such complexity necessitates a wide variety of solutions to meet current economic, environmental and social challenges in a sustainable manner. Decentralization policies took on a somewhat different character as greater influence and mobility allowed far more spontaneously dispersed patterns of living and working than those envisaged in the early post-1945 plans. The outcome of this trend was urban sprawl, a pattern of low-density peripheral development that continues to date in a number of countries throughout the developed world. Consumer demand and policy that has traditionally favoured decentralization, with the resultant greenfield conversion before considering brownfield potential, emerged as factors that influenced this pattern of development. This runs contrary to current research and policy that suggests centrist patterns of development as representing a more sustainable pattern of development, despite opposition to more compact design on the grounds of a reduction in quality of life and other negative outcomes. The implications of present and future urban sprawl are the unsustainable nature of the associated challenges, now recognized and integrated into policy and strategy at a global level. Evidence was presented to suggest ways in which smart growth principles can mitigate the negative outcomes of urban sprawl in a way that does not totally reject decentralized patterns of development, specifically when low-density living continues to be the preferred choice of some consumers. Smart growth does not represent a panacea, nonetheless, the concept's duality and flexibility enables a majority of the principles to be applicable to either decentrist or centrist development. If the assertion made in this paper holds true, there is a role to be played by smart growth in the pursuit of achieving the broader concept of sustainable development. Total sustainability may not be achieved; however, a more proactive approach with the adoption of smart growth principles, where appropriate, could result in incremental improvements. At an international level, policy and strategy now exists, the fundamental aim of which is to accommodate inevitable growth in a manner that is economically viable, environmentally friendly and socially responsible. The pursuit of this win, win, win scenario is not the sole preserve of an either decentrist or centrist approach. A creative and imaginative vision reinforced by strong leadership, political will and collaboration could facilitate in meeting the needs of future generations throughout the world without having to compromise entirely the wants of the present.

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