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Garden cities, Sterling Ranch and sustainable urban development in the American West

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Abstract Urbanisation is as advanced in the USA as in any other country. Americans, however, have long yearned to escape the city and stake their claim on the open frontier. Suburban and exurban expansion is now complicated by environmental constraints, primarily the availability of cheap oil and, in the American West, water. This condition has encouraged some population movement back to the city centre. Nonetheless, the promise of a better future out on the frontier — the 'Paradise Spell' — remains a powerful impulse in American life. In recent years, Ebenezer Howard's concept of the Garden City has gained traction in American urban planning circles. It is now informing — consciously or unconsciously — new proposals for environmentally sensitive development on the exurban fringe. This paper describes one proposal for Garden City-style development in the state of Colorado — Sterling Ranch — and highlights some of the key issues in environmental and social sustainability that it raises. If cultural inclusion, life quality and social equity are important elements of what makes a city 'sociable', designing built and open space for broad intercultural appeal should be a top priority going forward.

Keywords: *Garden City, Sterling Ranch, Paradise Spell, New West, sustainability, cultural inclusion*

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INTRODUCTION

Americans have long been captivated by what the prominent *New York Times* columnist David Brooks¹ calls the 'Paradise Spell': the lure of an open

frontier promising freedom, opportunity and fortune to anyone willing to go there. The Paradise Spell, as a controlling ideology of American life, helped to produce a distinctive kind of Western

urbanism, the 'Instant City'.² The Instant City is a city that grows up out of wilderness in less than a generation. The Instant City's history is nicely exemplified by the city of Denver, Colorado.³ Denver was formed rather suddenly in the context of a gold mining rush in 1858. Since that time, the Paradise Spell has produced sprawling suburbs around Denver's urban core. Such outward movement in Denver and other American cities was propelled in the last half of the 20th century by Federal Housing and Highway Acts,⁴ which made it both appealing and economically rational for citizens to leave the central city to claim their bit of the American Dream on the open frontier.

Today, the USA is experiencing something of a historical reversal. The so-called 'Millennial' generation — citizens born between 1979 and 1996 who are well educated, tech savvy and culturally creative — are returning to the city centre in search of mixed-use live-work environments, upscale amenities and walkability. So, too, is an aging 'Baby Boomer' population born between 1946 and 1964. According to many recent surveys conducted by groups such as the United States' National Association of Realtors, Boomers, like their Millennial progeny, are favouring pedestrian-friendly urban downtowns and suburban town centres.⁵ The evidence suggests to many observers that we are witnessing a major structural and demographic event: two of the largest generations in American history are converging in their preference for centrally located, mixed-use and walkable neighbourhoods.

For the advocates of 'Smart Growth'⁶ this reversal is happening none too soon. They suggest that efforts to preserve America's traditional way of occupying the landscape are doomed and that urban contraction and vertical growth (eg building more high-rise residential towers to increase the supply of housing units)

are the only rational planning choices to ensure housing affordability and long-term settlement sustainability. Observations about 'Peak Oil'⁷ loom large in these critiques: the country can no longer afford the commuting and food transport costs, and the huge carbon footprint, associated with suburban, exurban and inter-urban development. In contrast, a vocal minority argues — with some justification — that the reversal is exaggerated and that Millennials with young children are still moving to the suburbs and beyond just as their parents did. This generation continues to value detached housing, more square footage, private patios and garages, and bigger backyards.⁸

All things considered, the Paradise Spell remains a powerful impulse in American life. What the University of Colorado's Center of the American West reported in 2005 still appears to have traction ten years later:

'... there's reason to believe that a lot more development is coming ... The "New West" is increasingly attractive to migrants and to investors. Western land owners will certainly continue to respond to market forces, and to their own preferences, by transforming lower value land uses, like agriculture, into more financially-rewarding options like subdivisions and shopping malls. Finally, Westerners will continue to buy homes in suburbs distant from city centers and to build second homes in the forests and on ridge tops. They will demand highways, water systems, and other utilities. They will also continue to complain about the sprawl, traffic, interrupted views, and lost sense of community that growth brings.'⁹

What is shaping up, however, is not traditional 'urban sprawl'. A key resource constraint in urban development today, especially in the American West, is water.^{10,11} Because of projected population growth — anticipated to double to 10 million people by 2050 — Colorado is

predicted to have a municipal and industrial water gap by at least 2030.¹² Climate change and the significant probability of drought add uncertainties that further complicate the prospects for urban hydro-sustainability. It is not unreasonable to hold that the age of 'Peak Water' has arrived, at least in the American West. Moreover, aging infrastructure will need to be replaced if the water that is already available is to be delivered efficiently to its intended destinations.

Water experts in the West thus argue that it is necessary to improve the connection between planning for people and planning for water and other limited resources.¹³ Consequently, proposals for exurban satellite settlement development are appearing that are much more environmentally and socially aware. Some of these plans draw — albeit not always consciously — on Ebenezer Howard's concept of the Garden City.¹⁴ The rest of this paper discusses one such proposed development — Sterling Ranch in Colorado — and some of the key issues in environmental and social sustainability that it raises.

STERLING RANCH

Sterling Ranch¹⁵ is a proposed mixed-use, 'live-work-play' development located about 50 kilometres south-west of Denver, Colorado. Sterling Ranch is notable in that it exemplifies a more environmentally conscious approach to exurban satellite development. The plan for Sterling Ranch broadly conforms to Howard's Garden City model. Although planned for just over half the acreage (3,400 acres compared with Howard's 6,000 acres), Sterling Ranch is nearly identical to the Garden City in terms of the resident population that it is intended to serve: 31,000 people. A dense, amenity-rich town centre and civic gathering place will transect outwards — in concentric

patterns as per Howard's model — into clustered, tightly knit villages ending in rural, hillside ranchettes. Sterling Ranch will offer 48 kilometres of hiking, biking and horseback riding trails, community sports facilities, small 'pocket parks' in residential areas and access to two state parks and three regional parks. These amenities will offer the 'Areas of Tranquility' that Peter Hall and Colin Ward count as one of 12 key strategic policy elements for building their Howard-inspired model of the Sociable City.¹⁶

The developer of Sterling Ranch is currently in contract negotiations with seven builders, who will produce, using distinctive and 'authentic' styles, a range of different housing types, including single-family homes, townhouses and loft apartments. Channelling Howard's belief that the working class deserves affordable housing, a range of housing prices will also be available. Thirty-five per cent of the house product will be priced below US\$200,000, although whether this is really affordable for working people in current economic conditions is open to debate. Currently, Sterling Ranch is nearing completion of the entitlement process for its first neighbourhood, Providence Village.

Environmental sustainability is an explicit planning and design principle at Sterling Ranch. As Hall and Ward¹⁶ note, Ebenezer Howard's contribution to sustainable planning is found in the Garden City's eminent walkability. Walkability will certainly characterise Sterling Ranch's clustered, mixed-use residential villages. It will also govern wider transport planning. Eighty per cent of the anticipated 12,000 housing units in Sterling Ranch will have bus stops within easy walking distance. Shuttles will move commuters to Regional Transportation District Light Rail stations, cutting down — at least in theory — the use of

personal automobiles for travel to work. Telecommuting will be supported by the provision of auxiliary workspace units above garages and a state-of-the-art fibre-optic network connecting the entire community.¹⁷ Bus routes, light rail and high-speed internet thus combine to serve as the 'Inter-Municipal Railway' that linked Howard's Garden Cities to each other. They also exemplify the 'Top-Quality Linkages' that Hall and Ward count as another key strategic policy element for building the Sociable City.

The signature sustainability feature at Sterling Ranch, however, will be its water conservation measures, some of which are pioneering. These include: water-efficient toilets, taps, showers, washers and driers; a dual inside and outside water metering system with tiered pricing; artificial turf on sports fields; underground water storage beneath the sports facilities; water-saving native plants in landscaped areas; and, most significantly, technologies for harvesting and recycling rainwater. An engineering report prepared for the Colorado Water Conservation Board found that 97 per cent of the annual rainwater in the local jurisdiction of Douglas County never reaches a stream and is either absorbed by vegetation or evaporates.¹⁸ Sterling Ranch has received approval to harvest this rainwater for irrigation purposes, the first master-planned community in Colorado to receive such permission. This approval was the result of an extensive permitting process in which the developer demonstrated the feasibility of Sterling Ranch's water planning and conservation methods and successfully argued — before the Colorado Supreme Court — that rainwater harvesting did not violate the long-standing 'prior appropriation' principle of Colorado water law in which all rainwater is spoken for, even before it hits the ground.¹⁹

With these measures in place, the water use per household at Sterling Ranch is

estimated to be less than one-third of that traditionally required by Douglas County: 0.22 acre feet per household per year compared with 0.75 acre feet per household per year. This amounts to 71,500 gallons (270,657 litres) of water per household per year. Assuming a typical household of four persons, that equates to just under 50 gallons (190 litres) per person per day, or roughly equivalent to the typical European's daily consumption of water as estimated by the United States Environmental Protection Agency.²⁰ This is a considerable saving, given that the average American currently uses about 100 gallons (380 litres) of water per day. Sterling Ranch will reinforce its strong conservation ethos by dedicating a water-conservation staff to develop water-use guidelines and sponsoring programmes to educate schoolchildren and community residents about the importance of conserving water.

While Sterling Ranch will not have a formal agricultural greenbelt, as proposed by Howard in his classic conception of the Garden City, its developer is partnering with Denver Botanic Gardens in a 'Community Supporting Agriculture' pilot project. This project will determine whether the development's fresh produce needs can be met by community gardens instead of trucking in fruits and vegetables from afar. Sterling Ranch residents will be able to choose how they want to spend their allocated water budgets, selecting from various water-wise plantings or an edible garden.

Overall, promotional material for Sterling Ranch plays off the Centre of the American West's 'New West' theme. A posting to the original Sterling Ranch website in 2011 stated that:

'The New West retains the rugged personality, and natural beauty of the Old West, but has evolved to suit the lifestyles of today's Westerners. Sterling Ranch provides

plenty of opportunities to ride, run and play in natural settings, along with the sense of community that was once necessary when neighbors survived by working together. At the same time, it offers conveniences of modern life and a community that reflects today's society and real-world conditions. From a comprehensive water plan that ensures enough water for all; housing options that meet the needs of today's buyers; public spaces that bring communities together; schools that teach skills the next generation needs to succeed; and Community Supporting Agriculture that grows food for our tables — Sterling Ranch creates a vision for the New West.⁷

EVALUATION

Sterling Ranch represents a unique vision rooted in a noble conservationist ethic. It is an experiment in exurban development worth monitoring. Other developers in the American West will certainly be watching. Even if it is successful, however, the question will arise of how many Sterling Ranch-style Garden Cities can Western metropolitan areas accommodate? And, will this land use pattern promise any greater long-term environmental sustainability than high-rise densification projects in the urban core? At the moment, it is not clear that clustered Garden Cities would offer, over the long term, any significant water savings compared with a single dense, vertical urban centre.

Exurban development is also complicated by the fact that oil and water are not the only relevant constraining variables. There is also the matter of changing demographics. Online promotional materials for Sterling Ranch clearly target a demographic that is largely white, middle-class and nuclear family based. The greater USA, however, is approaching a tipping point as concerns the ethnic composition of its population. According to the United States Census

Bureau,²¹ the country will become a 'majority minority' nation by 2050. Like the rest of the USA, Colorado is becoming increasingly diverse in terms of ethnic makeup. Over the last decade, Colorado's Hispanic population, the state's largest minority, increased by 41 per cent. The Asian population grew by 45 per cent. The African American population grew by 19 per cent. By contrast, the white non-Hispanic population in Colorado increased by less than 10 per cent. These minority population increases occurred throughout the state, and not just in metropolitan areas.²²

This raises the question: Will domestic minorities be drawn to communities such as Sterling Ranch, or any other Garden City-style exurban development, if cultural diversity is not a central planning and design concern? Sterling Ranch promises residential and public architecture that is 'remarkable' and 'authentic'. It is a well-established fact, however, that the built form and aesthetics of both civic and residential architecture carry particular cultural connotations and meanings, and thus have differential appeal across ethnic groups.²³ For example, American homebuilder Fernando Pagés Ruiz²⁴ and Canadian urban planning scholar Mohammad Qadeer²⁵ describe some of the housing design features favoured by minority groups that are generally incongruent with what is valued by mainstream planners, builders and consumers. These include preferences for enclosed rather than open floorplans, segregated living rooms that allow men and women to socialise separately, more bedrooms rather than large master suites (to serve multigenerational households better), cooking facilities in multiple locations such as garages and back porches, and overall orientation and arrangements of space that reflect religious and spiritual commitments. The relationships between people and the

spaces they inhabit — or what the Australian anthropologist Maree Pardy terms ‘dwelling’ — are complexly mediated by culture and often obscured by contemporary discourses about urban regeneration and renewal.²⁶

Ethnic groups also differentially value and assign meaning to water.²⁷ Water, for many cultures, is a spiritual as well as an economic good. A collection of case studies from the Environmental Evaluation Unit at the University of Cape Town describes various rituals and ceremonies in traditional African religions as well as religions such as Islam and Hinduism, in which water plays a central role.²⁸ Some of these rituals require facilities for water pooling. In other ceremonies, water has to be running. In still others, the water must be pure, and neither tap nor recycled waste or ‘grey’ water will suffice. Interestingly, these rituals and ceremonies are as popular in African cities as they are in rural areas. The widely observed worldwide migration of people from country to city does not appear to be significantly changing cultural practices involving the use of water.

Similarly, studies of water flows in District Metred Areas (DMAs) in a number of British cities have noted ‘startling differences’ in water-use patterns between Christian, Jewish, Muslim and Hindu populations, related to religious and cultural practices.²⁹ The ‘overwhelming evidence’ suggests that religion and culture have:

‘... a fundamental bearing not only on how people use water but also on how they think about water. The overall conclusion is that it would be extremely unwise to exclude religion or ethnicity as parameters in any further research into understanding domestic water demand ... Understanding such fundamental differences caused by religious practice may be critical to the planning and design of network water systems.’²⁹

Thus, the different cultural uses and meanings of water need to be recognised by urban planners and basic service providers, because water management is not simply a technical matter.³⁰ Non-Western concepts of water as sacred can easily dovetail with a Western ethos of environmental sustainability. But water-regulating strategies such as metering, recycling and budgeting can conflict with particular cultural values identifying water as sacred and even as a basic human right. Certainly, management strategies such as differential pricing of water based on intensity of use can easily discriminate against some cultural groups and contradict broader Sociable City commitments to life quality and social equity.¹⁶

The phased build-out of Sterling Ranch over a 20-year period will certainly allow for adjustments in planning, design and marketing of the community as urban demographics and cultural preferences change. At the moment, however, how ethnic diversity affects urbanism and vice versa (ie how urban life is experienced by people of diverse cultural backgrounds) is an afterthought even in more progressive, sustainability-conscious urban planning circles.³¹

The same can be said for how culturally diverse groups relate to the natural environment. There is a significant literature suggesting that members of minority groups experience parks and other open spaces in different ways as a function of different cultural values and needs.³² This work identifies different preferences among ethnic groups with respect to park attributes (eg water, trees, scenic vistas), the ratio of developed to undeveloped (‘wild’) space and patterns of use (as individuals vs. in larger groups, for recreation vs. relaxation, with vs. without food). Thus, even abundant green space that is presumed to be universally valued can still be unwelcoming to minority

groups, depending on how it is specifically designed.

This point is especially germane where planning for community gardens is concerned. These features may require an especially strong dose of intercultural sensitivity and literacy. Proponents of Garden City-style development are keen to address the challenge of urban sustainability by incorporating various forms of food production into their master plans. Andres Duany, one of the founders of American New Urbanism,³³ has proposed a variant of 'Agrarian Urbanism'³⁴ that is clearly predicated on Garden City ideals and finds a concrete expression in the plan that is proposed for Sterling Ranch. Duany's model development incorporates community gardens as a substitute for front yards, and medium-sized farms as a substitute for traditional suburban amenities such as golf courses. Duany is explicit in distinguishing Agrarian Urbanism by highlighting its emphasis on food production as a societal commitment.

Critiques of Agrarian Urbanism offer a cautionary tale for Garden City planning, including Sterling Ranch. They start with the observation that society is not equivalent to culture. Like water, decisions about food — what is grown, how it is harvested and prepared, how and where it is consumed and its symbolic meaning — are central to how a culture defines itself. For Jason King,³⁵ cultural diversity in current formulations of Agrarian Urbanism appears only in the form of Hispanic labourers, who will continue to be called upon to do the 'dirty work' associated with the more labour-intensive forms of urban farming (albeit in the context of 'a closer relationship with their employers'). Mike Soron³⁶ has noted that Agrarian Urbanism risks 'repurposing an economic underclass from ornamental landscaping and golf course maintenance to productive cultivation'. Finally, Greg

Lindsay³⁷ suggests that, if Agrarian Urbanism sticks with New Urbanism's 'traditional' town planning and architectural principles, this repurposing is likely to take place in a built setting strongly redolent of pre-1850s small-town, white America. In short, Agrarian Urbanism — and, by extension, Garden City-styled urbanism — risks producing a 'New Feudalism' driven by a particularly narrow and potentially highly exclusive set of cultural expectations and prescriptions.

In short, if cultural inclusion, life quality and social equity are important elements of what makes a city 'sociable', designing built and open space for broad intercultural appeal should be a top priority going forward.³⁸ Twenty-first century Garden City and other urban models that seek better integration of 'town and country' could benefit from a greater understanding of how ethnic groups cognise their cultural and natural surroundings differently as a function of history and socialisation.

CONCLUSION

There are several environmental and social sustainability issues associated with Garden City-style planning proposals in the American West. Sterling Ranch, Colorado, has been used here as a case study to highlight some of these issues, especially where they concern the cultural inclusivity of the development.

Sterling Ranch has considerable promise as a new form of Garden City for the 21st-century American West. Its development model is underpinned, like Ebenezer Howard's original Garden Cities model, by a strong vision. Therein lies its wider implications and relevance for the rest of the world. Sterling Ranch's proposed suite of water-conservation measures is a model for urban development in any part of the world where water is a key constraining variable.

As noted, however, it would be wise to temper water planning with a clear understanding of how water is differentially valued and used by diverse ethnic groups. Sterling Ranch's Community Supporting Agriculture project provides another useful model of how developers can collaborate with the local scientific establishment to create community gardens that make both economic and ecological sense. Such collaboration was part of the central animating spirit of the original Garden City movement.³⁹ But once again, local cultural differences must be taken into account when deciding what kinds of fruits, vegetables and other plantings these community gardens should contain. Finally, Sterling Ranch's planned integration of green space and provision of multi-modal transport options for residents are clearly features to be emulated elsewhere. Of these, multi-modal transport is likely to be a much easier sell in parts of the world less enamoured than the USA with automobile travel.

Whatever the exportable virtues of Sterling Ranch's vision of Garden City-style development, the looming convergence of Peak Oil, Peak Water and 'Peak Population' — in the sense of a rough compositional equivalence between white and non-white populations — could also recommend a future for Colorado that is traditionally urban and Old European rather than exurban and New Western: that is, a future that is compact, dense, and vertical. In either case, greater awareness of cultural variation in ways of dwelling, ways of using food and water, ways of using public space, and ways of interacting with the natural environment will be important as Western cities are planned and developed.

The scientific rationale for defining a new geological epoch marked by significant human impact on the natural environment — the Anthropocene — has

some merit.⁴⁰ If 'Peak Planet'⁴¹ has arrived, the margin for error in American urban planning going forward is likely to be very small, especially given the continuing ideological hold of the Paradise Spell and the compelling intuitive appeal for many urban planners and urban sustainability advocates of the Garden City concept. American planners and architects are likely to be seriously challenged by the task of making a traditional and still desirable form of satellite settlement more environmentally and interculturally attractive and sustainable.

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