

Design for Decline

Landscape architecture strategies for the Western Australian Wheatbelt

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Introduction: empty island

Decline has increasingly entered the field of view for designers and planners, with romanticized imagery from the front lines of urban decay in the US and Europe becoming increasingly pervasive in design discourse (see: Jordano and Rothman 2012; Daskalakis et al 2001). When viewed within a larger context, this population redistribution is a part of a dynamic process of internal and international flows, whereby contraction in one area feeds growth elsewhere (Oswalt 2006, 12). In Australia over the last three decades, population flows from the inland agricultural regions to the burgeoning coastal urban centers, creating what Bernard Salt (2001) terms the “empty-island syndrome” (Figures 1 and 2). While the extremely harsh environmental conditions of Australia’s interior have always enforced sparse inhabitation inland, in the latter part of the twentieth century the population differential between coastal-urban and inland-rural population change widened significantly; between 1986 and 2001 farm-based households declined by 22 percent Australia-wide (KPMG 2005). As in many other countries, shrinking rural communities represent the seemingly intractable byproduct of the concentration of economic opportunities in metropolitan regions and concomitant loss of the region’s 1000-acre family farms.

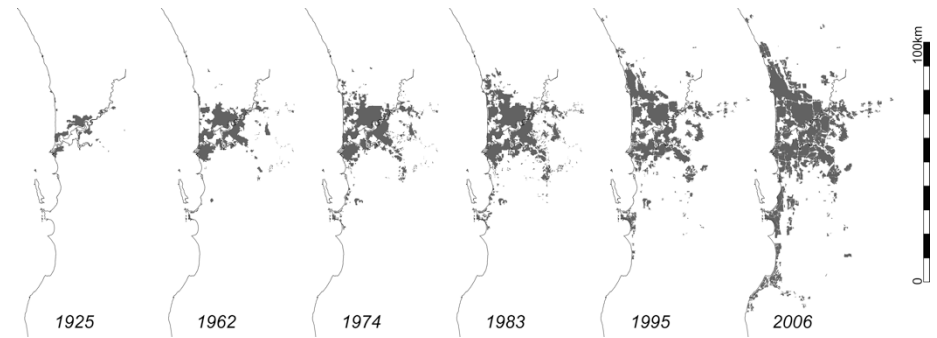


Figure 1. Coast change: population growth of the Perth metropolitan area visible as suburban expansion.

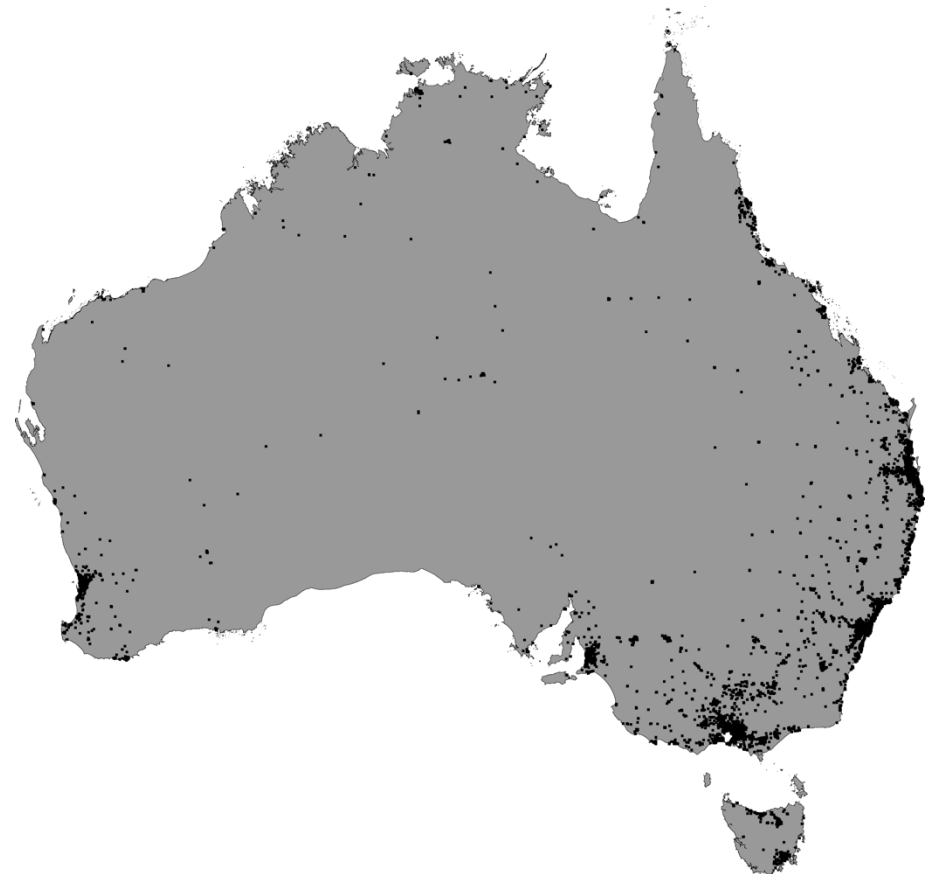


Figure 2. Empty island: population distribution in Australia. Each dot represents 500 people (image based on data sourced from Edwards 2001).

Research aims and scope

While a modest body of literature addresses the phenomenon of structural population decline in rural Australia, most studies remain focused on illuminating and mapping the demographics, economics, and the politics of change (see: Jones and Tonts 1995; Smailes 1995). Of those investigations that do propose mechanisms for engaging, and potentially transforming, the process of decline, many remain in the realm of abstract ideas and methods (see: Newman 2005; Tonts 2004; Ripepi 2009). These studies illuminate a disjunction between theoretical economic strategies and on-the-ground tactics that often involve landscape architects working on isolated revitalization projects. This research redresses this imbalance by identifying, categorizing, illustrating, and contextualizing the range of projects that landscape architects are likely to undertake in the rural-town context. Given that the core disciplinary scope of landscape architecture is often stretched when working in this context, this research also evaluates the potential role and limitations of the discipline in addressing rural decline, and the framework for assessing success.

With its expansive size and high rates of economic, demographic, and environmental decline, the Wheatbelt in Western Australia makes for a particularly instructive case study. Of the 57 shires¹ Australia-wide that have recorded population decline between 1976 and 2001, 25 are located in the Wheatbelt, and of those, 12 make the top 20 list of most rapid shrinkage (KPMG 2005).

Background: the expansion and decline of the wheatbelt

The Wheatbelt encompasses predominantly wheat and sheep agriculture lands located in the southwestern portion of the vast and sparsely populated state of Western Australia. The area roughly semi-circumnavigates the state capital of Perth in a contiguous band between the Indian and Southern Ocean coastlines (Figure 3). The original ecology of the Wheatbelt was highly varied, with york and salmon gum woodlands in the north and west, and mallee-lands in the south-east (Beard, 1990). Exhibiting extremely high diversity and endemism, the southernmost portion of the Wheatbelt is one of 25 endangered global biodiversity hotspots, with significant substitution

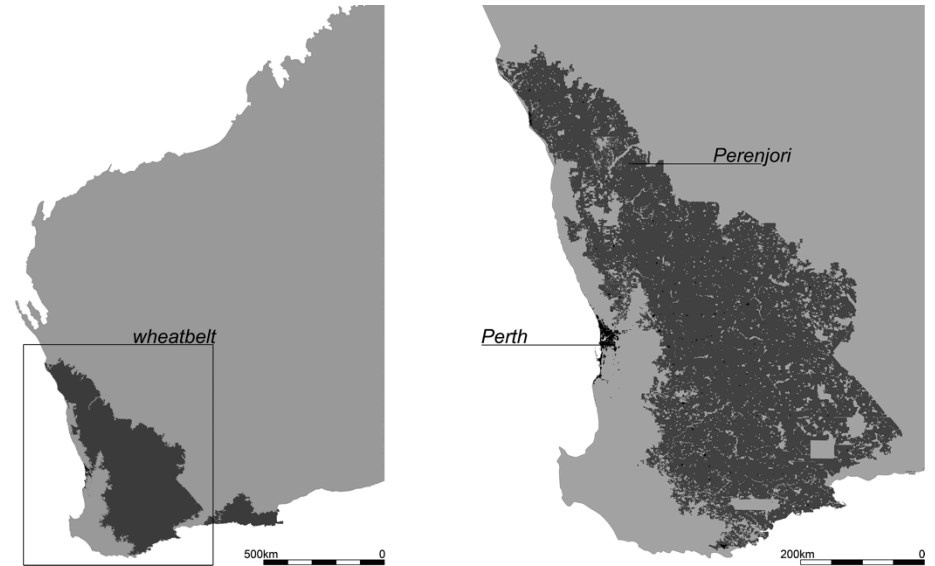


Figure 3. Extent of the Wheatbelt (map compiled by the author from spatial data supplied by the Department of Agriculture and Food, Western Australia, 2010).

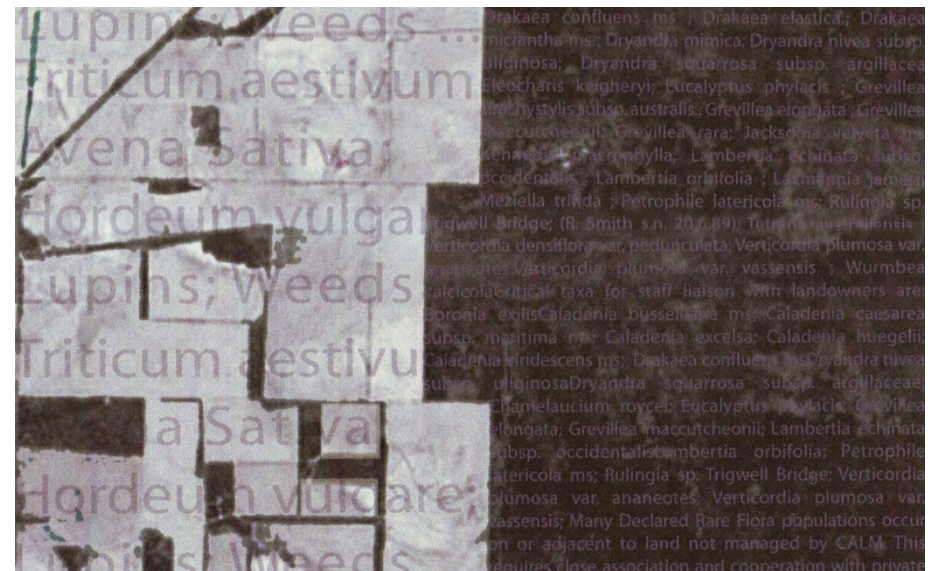


Figure 4. Biodiversity lost: graphic illustrating the division between the biodiversity of the natural landscape and the near monoculture associated with extensive agriculture in the Wheatbelt (artwork by Eszter Nagy).

of native ecosystems for wheat and sheep monocultures and invasive flora and fauna (Steffen et al 2009) (Figure 4).

The Yilgarn Craton that underlays the region is one of the oldest and most stable landmasses on the planet and generates some of the world's lowest fertility soils. In addition, scarcity of water made the establishment of agriculture difficult (Sankaran 2000; Henzell 2007). Despite these environmental restrictions, settlers developed the Wheatbelt in a continuous series of waves throughout the 20th century; peaking after World War II, veteran settlement schemes targeted the development of one million acres of new farmland per year (Dahlke 1975; Bolton 1972). Remarkably for a developed nation, the Western Australian government was still releasing virgin bushland at the easternmost limits of the agricultural zone to pioneer farmers for clearing and cropping as recently as 1981 (Beresford 2001). Such rapid removal of over 90 percent of the native vegetation cover caused ground water tables to rise (Conacher 1986; Lines 1999). Consequently, at least 20 percent of the arable Wheatbelt has been severely affected by salinity, with an additional 6,400 acres being poisoned annually (Short and McConnell 2001). Despite the resultant loss of swaths of productive land, the sequential development of superphosphate fertilizers, application of trace elements to the soil, and introduction aerial herbicides and insecticides, maintained grain yields (Henzell 2007).

To support these artificially bolstered harvests, state-funded deployment of railways at 30-mile intervals enabled efficient transport of grain to coastal ports (Dahlke 1975). Based on the both the distance a farmer could haul grain and a misplaced projection of the scale of the European landscape as a model, rail depots were typically spaced 9 miles apart. As Enid Cannon (1983, 74) observed, "in almost no time [these depots] were expected to become large thriving country towns, all well populated." While appropriate for the verdant English countryside with its frequent hamlets and very small farms, such over-prescription of settlements in the Wheatbelt ignored the realities of sparse population, low rainfall, poor soils, and large farms. As a consequence, many surveyed town-sites were never settled and

remain as 1 x 1-mile square footprints of un-cleared bushland, incised by a railway aligned to the contour, and often a grain silo, but little else in the way of town amenities (Figure 5).

Structural transformations and the seeds of population decline

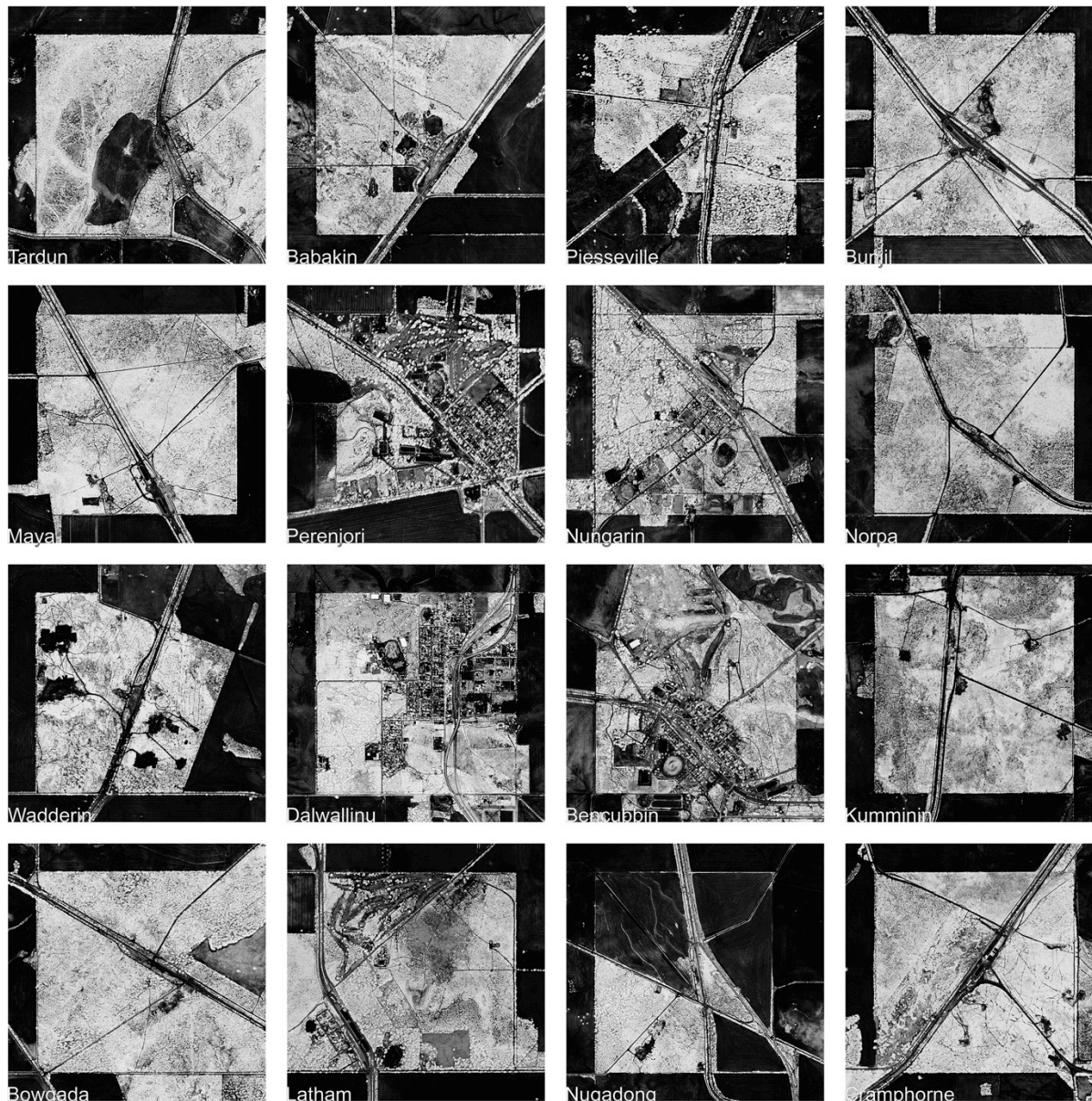
Of those towns that did manage to coalesce into functioning communities, three waves of structural and technological transformations eroded their social and economic sustainability. The first impact came in the form of transport innovation, with the postwar introduction of motorized transport tripling the catchment radius of country towns (Bolton 1963). Second, consistent innovations in communications technologies reduced the need for administrative journeys to rural towns, whose post-offices and banks had traditionally served as hubs of communication (Smailes 1995). And finally, from the 1970s onward, the deregulation of agriculture that followed policies to integrate Australia into the globalized economy resulted in large-scale rural restructuring (Lawrence 1995). Removal of trade tariffs and sales-quotas enforced economies of scale, which in turn resulted in the mass-amalgamation of the original 1,000-acre family farms. Increasing efficiencies through mechanization and use of chemicals facilitated the consolidation of properties, extending the reach of individual farmers into ever-larger farm holdings, while concomitantly reducing the need for additional labor (Cattle and White 2007). In an inverse relationship, larger farms meant fewer farmers, who in turn supported an economic matrix of fewer, smaller rural towns. In a feedback loop, loss of population caused local economies to contract and lose facilities and services that in turn compounded additional population decline (Jones and Tonts 1995).

In addition to these structural transformations, depopulation has been exacerbated by the physical and psychological difficulty of living in such a hostile environment as the Wheatbelt. Isolation was not only a problem for early settlers (Lines 1999) but also affects current generations; as Susan Bright (2011, 12) observed of the Wheatbelt, "the heat, the loneliness and the pressures of small rural communities are palpable." In this regard, the antipodean landscape that has troubled European cultures since the Dutch encounters of the 17th

century, the British colonialists of the 19th century, and the farming pioneers of the 20th century still bears residual influence on many non-indigenous people living in the Wheatbelt today.

Government role in addressing rural decline

During the postwar period, the state government heavily subsidized towns in an attempt to stabilize and mitigate the negative political effects of depopulation. By the 1980s, the shift to an economically rationalist governmental model following the deregulation of agriculture resulted in responsibility for the supply of many key services moving from the state government to local communities (Ripepi 2009). The predicament generated by this devolved model is that the smallest, most vulnerable towns often lack sufficient human and economic capital to begin the very self-assistance enterprises that may in turn reverse their fortunes (Tonts 2004). Consequently, larger regional towns have increasingly usurped smaller communities, resulting in the centralization services and the absorption of population into regional “sponge” centers (Smailes 1995; Salt 2001). In 2011, the sponge effect was accelerated by government policy that assigned SuperTown status to nine Wheatbelt towns that will receive funding for town-based improvements to assist economic and population growth. However, as the flipside of this policy, the fate of the hundreds of other towns that were not assigned SuperTown status remains uncertain (Bembridge 2011).



sites sampled from across the Wheatbelt showing 1 x 1 mile perimeter oriented to grid north and incised by contouring railway alignment. Populated town-sites (shown in centre columns) include combinations of a wheat silo, town street grid, and popular amenities such as golf course and cricket/football oval.

Figure 5. Overly ambitious town surveying: collage of mostly uninhabited town-

While the SuperTown policy fits within the long-term trend of rationalizing declining funding and provision of services in the Wheatbelt, the state government has instituted sporadic political initiatives to arrest this slide in response to electoral political shifts. Most recently, the Royalties for Regions funding model redistributes to regional areas 25 percent of the historically high mining royalties that underpin Western Australia's present economic boom. Since its establishment, Royalties for Regions funding has been earmarked for a variety of civic and infrastructural projects (McLure 2009). Given the unique parliamentary circumstances that generated the funding scheme, it is unlikely to survive the return to lower mining profits or election of government with a clear parliamentary majority. Nevertheless, while temporary and unreliable, Royalties for Regions represents a rare opportunity for rural towns to capture funding.

Government initiatives to decentralize population away from the coastal urban centers to service the mining industry in the remote northwestern regions of the state are potentially relevant to the Wheatbelt. For example, the 2010 Pilbara Cities Plan proposes to grow several small but strategically important towns into medium sized, self-sustaining cities that reduce the mining industry's reliance on the fly-in/fly-out workforces that social studies identify as so disruptive to community and family health (Storey 2010). To be sure, the Pilbara example differs substantially on account of the strong economic rationale for supporting mining that is missing from the agricultural sector. The effectiveness of planning at the state and national scale has generally been limited in Australia, as illustrated by the unfulfilled century-old policy to increase population in the remote far north of Australia (Pearson and Gorman 2010).

Precedents: placing rural decline within an international context

In the context of the limited effectiveness of regional planning, variable and generally declining government funding, and population consolidation into fewer larger towns, many smaller Wheatbelt towns face an ongoing struggle for viability. Within this reality, numerous towns have enacted bold strategies in an attempt to attract the liquid flows of tourist and investment capital that are essential to their

survival. Approaches have included street re-design works, event organization, tourism campaigns, and creative projects. While these various initiatives undertaken on a town-by-town basis in locations across the Wheatbelt are disparate and specific to their locales, they can be positioned within the international spectrum of approaches that engage the issue of decline. This section reviews a range of strategies and examples to provide context and rationale for the design strategies presented in the following section. Where relevant, the review evaluates the actual or potential role of landscape architecture in engaging with each approach.

1. Main Street Approach

Since its inception in the 1970s in the US, the tenets of historic preservation as the essence of small-community revitalization have underpinned the Main Street Approach. The holistic strategy that many US communities have credited with sparking their renewal founded on the four key points of *organization, promotion, design, and economic restructuring*. It is further classified into eight guiding principles: *comprehensive, incremental, self-help, partnerships, identifying and capitalizing on existing assets, quality, change, and implementation* (NTHP 2013). Given the skill-base that landscape architecture brings to the creation and realization of quality public spaces, *design* and *implementation* represent the obvious points of engagement for the discipline with the Main Street Approach. Additionally, the range of trans-disciplinary skills that landscape architects typically possess also mesh with the guiding principles of the Main Street Approach. Examples include visual communication (*promotion*), bringing community stakeholders together (*partnerships*), steering grass-roots initiatives (*self-help*), reading and evaluating the cultural landscape for opportunities (*identifying ... assets*), and understanding time and change as both positive and negative agents in the landscape (*incremental* and *change*).

Although the formulaic nature of the Main Street Approach is unlikely to transfer seamlessly from the US to the rural Australian cultural context, several rural towns in eastern Australia have successfully enacted locally adapted versions of the approach. A topical example is

the rural town of Coolah (pop. 880) in the state of New South Wales that suffered decline following rural recession and the closure of the local mill in the 1980s. The core component of the town's revitalization strategy involved the heritage-focused redesign of the Main Street and town entrances by consultant landscape architects. Additionally, the designers helped the community to shape a holistic agenda that included community cleanup days, regular garden shows, tourism promotion, youth engagement, signage, and establishing cell-phone coverage. The town has not grown since the inception of the renewal initiatives in the 1990s, although heightened community pride and civic engagement have been identified as tangible positive outcomes by local residents (Kenyon and Black 2001, 142). This perspective demonstrates that the success of strategies to address decline can be evaluated using criteria other than population statistics.

2. Event-branding

In rural Australia, festivals that encompass a range of cultural practices have long been an effective medium for reproducing rural identities and a sense of belonging (Gibson et al 2011). Building on this historical foundation, events are increasingly favored by many rural communities as a key strategy for reversing the psychological and demographic cost of decline by actively advertising themselves to metropolitan populations (Connell and McManus 2011). In studies of eastern Australia, agricultural, community, sporting, and music festivals provide the economic mainstay of many towns (Gibson et al 2011).

With ample free space and idle infrastructure, numerous declining towns in the Wheatbelt have also identified the value of events as cost-effective mechanisms for generating visibility and distinguishing their identity. In some cases, an existing event that traditionally served the regional rural community has been successfully marketed to an urban audience. For example, Dowerin (pop. 350) expanded the annual Dowerin Field Day into a mass-marketed event to draw visitors from the coast. In instances where no event pre-existed, some towns have invented an aura of authenticity. In the 1990s Kulin (pop. 350) created the Kulin Bush Races and an associated mythology as the

major component of a multi-faceted effort to arrest the rapid depopulation of the town. Brookton (pop. 1220) embraced off-road racing events, while York (pop. 2000) positioned itself as the hub for aerial sports events. In all four examples, the use of events has demonstrably raised the profile of each town and increased economic vitality, although it is more difficult to ascertain the impact on actual population loss.

Given that events are now widely understood to be as integral to the vibrancy and meaningfulness of the public realm as well-designed and maintained spaces, event-scaping falls well within the scope of landscape architecture (Waldheim 2006). While designers may not necessarily be involved the direct scheduling and organization of events, they increasingly play a guiding role in the synthesis of the overall event-based identity of a place and the spaces that facilitate it. For example, the Schouwburgplein urban square in Rotterdam and the linear Mauerpark in Berlin are two distinguished examples of landscape architects guiding both the spatial and programmatic agenda of successful public spaces.

3. Creative capital

Since the identification of a burgeoning urban "creative class" in the 1990s, attracting global flows of creative capital have become an essential strategy for cities attempting to raise the profile of their brand (Florida 2002). This phenomenon also extends into rural areas, where towns and regions endeavor to attract creative capital from nearby cities and directly from the global flows. Moreover, in the rural context, creativity in its various forms has been proven to aid broad community engagement, participation, empowerment, and mobilization. Art has also been demonstrated to strengthen identity and sense of place and has been identified as a useful mechanism for information transfer between residents and visitors and between generations (Anwar McHenry 2009; Smiles 2006). The numerous social benefits of art are also supported by the economic rationale that has been estimated to deliver a return of three times the original investment (Dunphy 2009).

Given the economic, social, and branding benefits, many rural communities facing decline have invested in art literally to re-create their future. In the eastern Australian state of Victoria, Natimuk (pop. 500) is an example of a rural settlement evolving a creative-based strategy to reverse the decline that followed chronic drought and the construction of a highway bypass. With cheap accommodation and studio space on offer, and proximity to an adjacent rock-climbing mecca providing a complementary demographic, the town emerged as a creative community in the early 2000s. Art initiatives that have flourished in the town include several theatre groups, a digital animation startup, a gallery featuring local artists, a publishing press, and a dance improvisation workshop. While the temporary population has burgeoned and brought economic stability, residents consider the creation of art itself to be more important than revenue raising (Dunphy 2009). In the Wheatbelt, the town of Kellerberrin (pop. 860) took a more strategic approach in utilizing art as part of its survival and rejuvenation strategy. Located in unused warehouses and supported by artist-in-residence scholarships, the International Art Space Kellerberrin Australia (IASKA) leverages the stark landscape and isolation as creative drawcards. The Art Space has become synonymous with the identity of the town and has enabled it to generate an international profile founded on the link between art and environmental sustainability (IASKA 2012).

Landscape architecture has a legacy of both facilitating and being part of the arts. In a professional sense, landscape architects can contribute to art-based renewal strategies by spatializing artistic projects and events. Moreover, landscape architects not only facilitate art, but also produce work that is often interpreted as art. For example, in Landschaftspark Duisburg-Nord in the Ruhr region of Germany, a grid of 49 rusting steel plates laid out over Piazza Metallica facilitates a vibrant event space within an industrial ruin, while also forming a minimalist artwork in its own right.

4. Strategic tourism approach

For regions blessed with unique landscapes or heritage, tourism often forms an automatic economic mainstay, while in locations without

obvious features of scenic beauty or historic value, attracting the benefits of tourism is more challenging. The Wheatbelt tends to fall into the latter category, with the harsh landscapes and small remote settlements offering few readymade opportunities for tourism on a significant scale. Nevertheless, with concerted marketing efforts, even modest features have been successfully injected into the tourism circuit. For example, the community of Hyden (population 280) identified the economic potential of a uniquely shaped local granite feature, and successfully marketed it as an international tourist destination, despite the rock itself being remote and relatively unspectacular. Hyden is now synonymous with Wave Rock and draws significant economic sustenance from it, allowing it to sustain population against the general declining trend of the region (Kenyon and Black 2001). Further afield, towns with fewer obvious attractions have attempted to leverage landscape experiences such as access to wildflowers and silence as an antidote to city-life, albeit with more limited success. Moreover, the efforts of rural towns with to attract tourism often overlap with the creation of events and the use of art. For example, in addition to the annual bush horse race event, Kulin adorned a road into town with metal sculptures fashioned by local farmers and named it the Tin Horse Highway (Kenyon and Black 2001).

In both examples, motivated local residents were able to identify and actualize potential tourism assets. Given that the convergence of these skills are likely to be lacking from many communities, landscape architects—as trained readers and evaluators of the cultural and natural landscape—are positioned to lead the identification, accessing, theming, and marketing of potential tourism attractions. Landscape architects undertook this role at the southern Wheatbelt town of Kojonup (population 1,120), through the design of the Kodja Place Visitor and Interpretive Centre, restoration of a themed rose garden, and creation of a guide map of “hidden treasures” in the region. The visitor center and guide map provide historical narratives and recommended itineraries for tourists exploring the region for the Great Southern Bloom Festival.

5. City-bush partnership approach

Rural regions and towns exist in a symbiotic economic and social relationship with their adjacent cities. In Australia, this relationship historically involved the bilateral exchange of goods, capital, and people moving in both directions between the cities and their hinterlands. In the post-productivist era that is marked by the decline of agriculture, the mutual benefits of city-rural interaction have significantly deteriorated. In its place, the antagonistic misconception that the city unilaterally supports the bush dominates popular discourse. The concept of the Wheatbelt is virtually absent from contemporary city culture, and when it is thought of, it tends to be in terms of environmental destruction, social decay, and economic decline (Bell 2005).

The sustainable urbanism expert Peter Newman (2005) has argued that the key to re-establishing more balance in the real and perceived city/bush relationship involves concerted efforts to rebuild partnerships between the two. Newman advocates for mutually beneficial partnerships in the fields of biodiversity, bio-industry, and water. This partnership concept may be expanded to include other partnerships between city-based institutions and rural towns. For example, a recent ongoing collaboration between the Perth based Western Australian Museum and rural based ISAKA seeks to link international artists whose work connects social activism, design, and architecture with residencies in more than a dozen rural communities (IASKA 2012). In an international context, Auburn University's Rural Studio is an example of a partnership approach between education and underserved rural communities. Since its establishment in 1993, the undergraduate design studio has provided students with practical experience in conceptualizing, fundraising, and building sustainable community-oriented projects for people in need (Dean 2002).

6. Controlled consolidation approach

In settlements experiencing shrinking populations, decline typically occurs in a piecemeal and dispersed manner that results in a porous and fractured cultural landscape. Vacant lots, abandoned or underutilized structures, and under-capacity infrastructure result in the rarefication of the townscape and an increase in vacant space and

distances between facilities. While many strategies seek to mitigate this situation by stabilizing or reversing decline, precedents also exist to rationalize and consolidate declining communities. For example, following the collapse of former East Germany, many rural towns, villages, and hamlets faced rapid and uncontrolled population and economic decline, as state-supported industries closed, and many people emigrated to the West. To reestablish a civic scale for remaining residents, strategic plans for numerous settlements involved demolition of underused structures and relocation of key services into more compact morphologies (Richter 2006). With the design of public space a key component of these strategies, landscape architecture played a central role in relinking town facilities and proposing new uses for interstitial spaces. Examples of landscape projects integral to consolidation strategies include a green corridor in Leinefelde, and an urban park in the satellite neighborhood of Rabet on the periphery of Leipzig. While the degree of government intervention in the eastern German regions differs from the devolved governmental model that predominates in the Wheatbelt, there nevertheless exist potential for the transfer of these methods to the small rural town context.

Design scenarios: strategies for perenjori

In recent decades, several Wheatbelt towns have drawn on the range of approaches outlined above to slow or stabilize declining populations, while other towns have ceased to function as communities (Salt 2001). Sitting precariously between these two futures, the town of Perenjori on the northeastern fringe of the Wheatbelt presents a topical case study with regards to its potential demographic, economic and environmental sustainability.

The rise and decline of Perenjori

Located just inside the Rabbit Proof Fence² that marks the outer limit of the Wheatbelt, Perenjori (pop. 530) is derived from the aboriginal name *Peranj-jiddee* for a nearby waterhole that lay at the convergence of the indigenous *Amangu*, *Kalaamaya* and *Badimaya* people (Horton 1996). Although gold prospectors and pastoralists



had been in the area for several decades prior, the town formally came into existence in 1913 as a railway siding and depot along the railway line that facilitated the rapid release of land to pioneering farmers (Cannon 1983). Through the first half of the 20th century, the town progressively acquired a main street with a bank, a grain storage silo, a golf course, a cricket/football oval, and tennis courts. A caravan (trailer) park and drive-in theatre were added after WWII (Figure 6a).



Figure 6. Decline and consolidation: neighboring town-sites along the Mullewa-Goomalling rail line exhibiting varying degrees of endurance: (a) Perenjori, with common rural town features such as (1) main street, (2) silo, (3) sports oval, (4) 18-hole golf course and (5) water supply dam generally intact; (b) Caron, with one remaining residence and locations of (1) former buildings, (2) silo, (3) sports oval, (4) 9-hole golf course (overgrown), and (5) water supply dam clearly visible in the aerial image.

The presence of water, and later Perenjori's position as the administrative center of the surrounding shire, underpinned the town's resilience where other nearby settlements failed. Despite this status, in the last quarter of the 20th century the municipal area lost nearly 50 percent of its population, making Perenjori Australia's most rapidly declining shire (KPMG 2005). In addition to the decline-

inducing structural changes afflicting the Wheatbelt at large, the effects of environmental degradation have been particularly acute, with the Perenjori area marked by high rates of salinity and topsoil erosion due to over-clearing in a marginal agricultural zone (Read et al 2002). Compounding these factors, ongoing local government reform to reduce the number of Wheatbelt shires by 30 percent may force Perenjori Shire to amalgamate with its neighboring shires, thus eroding the last mainstay of the town's economy (Buckley 2011).

In its struggle for viability, Perenjori faces the perfect storm of extreme population decline, isolation from major centers and highways, absence of natural features with significant tourism potential, and ongoing questions over the environmental sustainability of agriculture in the area. Furthermore, Perenjori has already lost a critical mass of residents to the coast and northern mining industry. While some absentees still maintain residences in the town, prolonged absences effectively remove their potential contribution to any 'ground-up' community-based revitalization initiatives.

Design strategy methods

The following section classifies five potential approaches to the issue of decline in Perenjori. Each strategy emerged from a series of four workshops held between 2008-2010 at local sports club facilities and jointly organized by the Shire of Perenjori and the University of Western Australia. The *workshop* process was adapted from the future visioning design-charrette method as defined by Sanoff (2000, 43-54). Participants included local government representatives, members of local community, and landscape architecture and architecture faculty from the University of Western Australia, students, and professionals. Sustainability and quality of life guided the strategic objectives for addressing the decline of Perenjori rather than economic and population growth. Moreover, the workshops focused on the townscape rather than regional structural scale, based on the concept developed by Newman (2005) that the health of the Wheatbelt as a whole is significantly contingent on the vitality of the small rural towns. The study and evaluation of relevant precedents

undertaken prior to the workshops (as summarized in the previous section) framed discussion and influenced the design strategies.

Strategy 1: main street facelift. The deterioration of civic and commercial space in Wheatbelt towns represents the most vivid face of rural decline. With the main commercial strip exhibiting vacant lots and boarded-up shop fronts, towns such as Perenjori appear to fray at the edges. In the context of this loss of critical mass, capital investment in the repair and beautification of the commercial strip is often the most visible and readily justifiable action for a town to take. Entry statements, public park improvements, street redesign, and lighting and signage overhauls frequently feature prominently in such plans. However, the prevalence of single-sided main streets that are highly exposed on one side to the hinterland differentiates face-lifting in smaller Wheatbelt towns from similar projects in larger settlements. In this context, small, delimited public space improvements that may be successful in larger settlements are often problematic, whereby the physical extents of the project risk being diluted by the expansive and ever-present landscape of the Wheatbelt. Moreover, design strategies that seek to impose artificial frames in the form of walls or other visual barriers in order ameliorate this problem risk creating a contrived 'stage-set' scenario, in which the extended landscape is veiled from view as an inconvenient truth.

Perenjori exhibits all these conditions, including a fractured urban frontage, single sided main street, and small, piecemeal town-scaping projects in the vacant central strip with old shunting yards across the rail tracks in the distance. In the illustrated design strategy, the main street corridor is re-configured using tightly planted arboreta that provide vegetal massing on the non-built side of the street to balance the line of shop fronts (Figure 7). The use of indigenous species in a grid forms a semi-permeable membrane that delineates the main street precinct and filters but does not completely obscure the expansive wheat-scape beyond. At street intersections and mid-block locations, durable open plazas provide clear view-windows to the wheat storage silos. A single, simple formal design language of

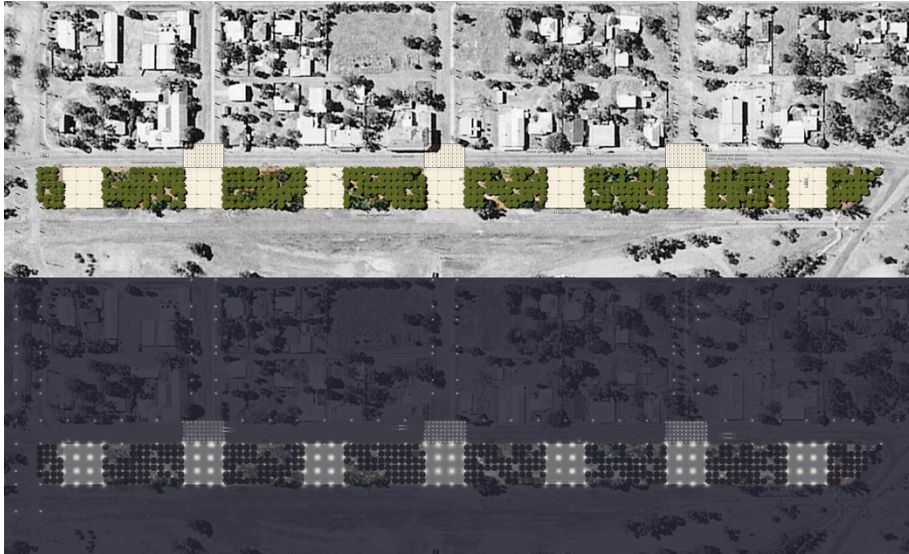


Figure 7. Main street facelift: day/night plan of planting and hard scaping along vacant side of commercial strip (project by Duyen Nguyen).

modular repetition and contrast that is sustained throughout the design scheme allows the project to be implemented incrementally as resources become available. The design strategy provides a spatially expansive, but relatively inexpensive, solution to the problem of an unframed main street that can be installed by the local government and community volunteers. As has been successful elsewhere, improving the amenity of the main street increases civic pride, and potentially, investment in the commercial strip.

Strategy 2: cultural festival. For Wheatbelt towns with limited cash flow for construction projects, but ample free space and idle infrastructure, event programming represents an attractive mechanism for generating social vibrancy and economic activity for minimal investment. The central issue is authenticity, and as discussed in the precedent section, Wheatbelt towns have taken one of two paths in this regard; either (a) evolving an existing event that traditionally served the regional rural community so that it can be marketed to a wider audience; or (b) in the absence of a preexisting event, inventing one and constructing an aura of integrity around it.

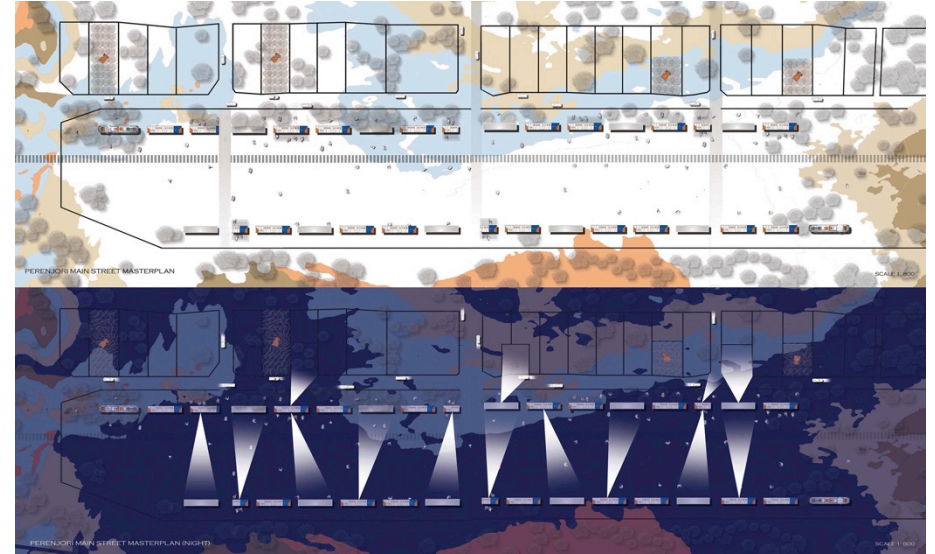


Figure 8. Event programming: day/night plan of mobile festival utilizing idle rail stock (project by Josh Casey).

The types of events include fairs, art exhibitions, sculpture installations, concerts, and sporting fixtures.

Without an existing local event to build on, the design strategy for Perenjori involves utilizing the existing infrastructure of the rail sidings and old rail cars to create an event-scape that operates as a festival-ground by day but transforms into a multimedia projection spectacle by night (Figure 8). The rail cars have the added benefit of forming a temporary urban edge that frames the town in a way that has been absent since the pre-war peak era of rail transport. If successful, an event of this type has the potential to build the profile of a town and attract a temporary influx of visitors who stimulate the local economy by direct patronage of both the event and the local service economy. To be sure, for remote and small towns such as Perenjori, the perils of distance and limited organizational capacity mean that most of these events necessarily occur on an annual basis, rather than at regular intervals throughout the year. These in turn may have limited long-term structural impact on the demographics of a settlement. The strategic design circumvents this shortcoming by exploiting the

mobility of the rail rolling stock to enable the festival to be quickly set up and reconfigured, thus allowing it to operate on a year-round timetable. If branded and marketed innovatively, a festival of this nature is potentially attractive to city residents seeking unique experiences that combine creativity with remoteness.

Strategy 3: town consolidation. In the process of declining population, local governments inevitably decommission town facilities and services and demolished surplus structures and dwellings. Typically, this happens in a spatially piecemeal manner across the entire urban fabric, since small rural towns are not large enough to contain a core. Consequently, towns such as Perenjori become increasingly pock-marked across every land-use, from the commercial strip to the residential grid, infrastructural areas, and public recreation lands. Dilution and isolation of facilities reduces walkability and opportunities for community interaction and generates a feedback loop of further decline.

A strategy for combating urban dilution involves consolidating the town into a more compact form. While relocating the dwellings of local residents closer together would be a fraught and counterproductive undertaking, opportunities for consolidation do lie with other land-uses. For example, sporting facilities act as the focus of rural community life, and consequently are typically amongst the facilities most critically affected by population decline. However, shrinking participation rates are not uniform across all sports; team sports such as Australian rules football and cricket have fared worst on account of the critical mass of players required to form a team, the greater physical demands, and the implicit age restrictions on participation. Conversely, non-team-based sports such as tennis often remain popular with remaining townfolk for a longer duration (Tonts and Atherley 2005).

Figure 9. Urban consolidation: relocating sports facilities and trailer park to town centre (project by Ben Liddelow).



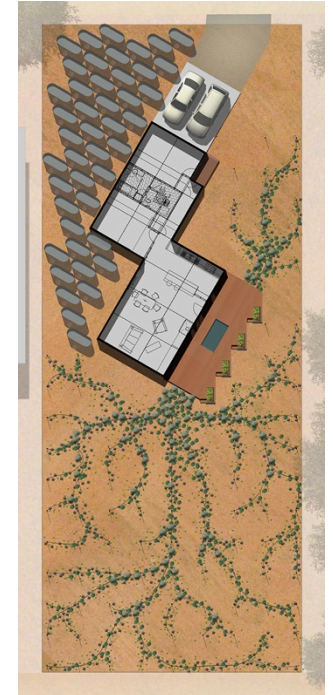
The design strategy relocates viable non-team sports from the periphery to the vacant land opposite the commercial strip in the core of the town and decommissions facilities for team-based sports that require large water and maintenance intensive fields (Figure 9). Consolidation in this manner allows a single, multi-use sports club that serves all remaining sports to be located in the heart of the town. The central location increases the accessibility of the facilities to the community and effectively reconfirms their importance to community life. A second component of the consolidation strategy focuses on the caravan park at the edge of town that is popular with tourists who use it as a staging point for journeys further inland during wild-flower season. Patrons of the caravan park intermittently make up a significant percentage of the overnight population of Perenjori but from the current peripheral location have little reason to interact with the commerce and culture of the town. By redistributing the caravan park from its single contiguous, and peripheral location into vacant lots that lie within the main residential grid of the town, visitors will be more likely to make a significant contribution to the sense of activity and vitality in Perenjori.

Strategy 4: adaptable development. The orthodoxy of small-town main street rejuvenation assumes that permanence and solidity are key criteria for reversing decline. This idea ignores both the traditions of the nomadic indigenous peoples and itinerant early settlers. For both groups, adaptable infrastructure that could readily be established, modified, and deconstructed enabled timely response to shifting climatic or cultural conditions. In the prosperous mid 20th century, towns such as Perenjori built permanent buildings and landscapes in styles and techniques imported from Europe. As a result, the vernacular buildings, and landscapes of the Wheatbelt were lost, diminishing identity, adaptability, and performance of the built environment (Newman 2005). In addition, given the lack specialist skills and materials in remote and demographically depleted Wheatbelt towns, perpetuating the solid urbanism model, in which structures are built brick-by-brick, remains difficult. An alternative is to adapt techniques used by the mining industry; whereby lightweight modular structures can be erected as required (Saunders 2010). To be

sure, in the modern era, there is an unenviable legacy of prefabricated housing being literally dumped in remote locations. Typically, the structures themselves provide poor levels of amenity and low quality of inhabitation, with little or no consideration given for how buildings and their inhabitants engage with the unforgiving environments into which they are cast.

The design scenario prototypes address these issues by providing high quality dwellings that, while mass-produced and fabricated off site, specifically address the unique climatic imperatives of the region. Focusing on the key challenge of how the landscape and the architecture might meet in a less adversarial and more inhabitable and sustainable way, the two design concepts develop gardens that ameliorate the harsh landscape conditions. Like the architectural prototypes, the garden designs retain uniqueness and site specificity while allowing for off-site manufacture and transportation to Perenjori using ordinary transportation methods. The first example uses prefabricated modular canopies to maximize rainwater catchment over the extent of the lot, while also providing extensive shading from the harsh sun (Figure 10).

Figure 10. Adaptable development: flat-pack rain catching garden (project by Ben Liddelw).



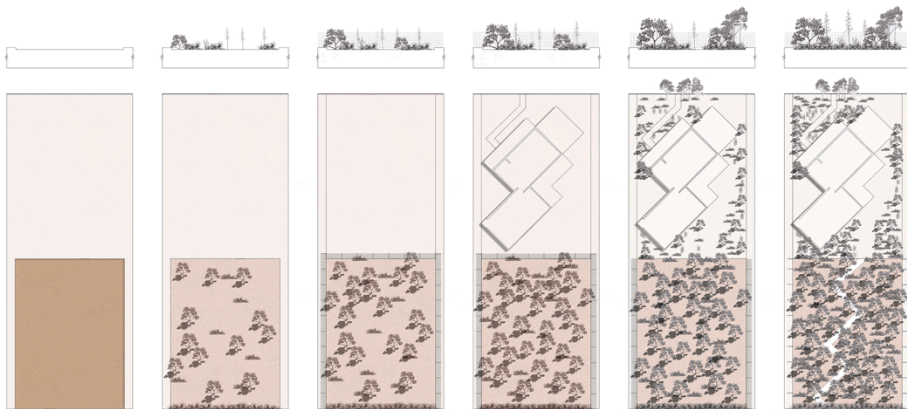


Figure 11. Adaptable development: emergent garden (project by Adelle Main).

The second concept uses a simple kit of parts comprised of local flora and farming materials and techniques to grow a garden that is both resilient and acts a seed bank to re-vegetate the footprint of the dwelling, should the structure be removed or relocated at a future date (Figure 11).

The realization of these projects is supported by a university-local government partnership with additional funding from private manufacturing/supply companies interested in experimenting with prototypes that may have wider applicability in other remote locations. The expectation is that the production of these modular units, combined with other employment and tourism initiatives, will meet the higher expectations of travellers and workers for modernized accommodation.

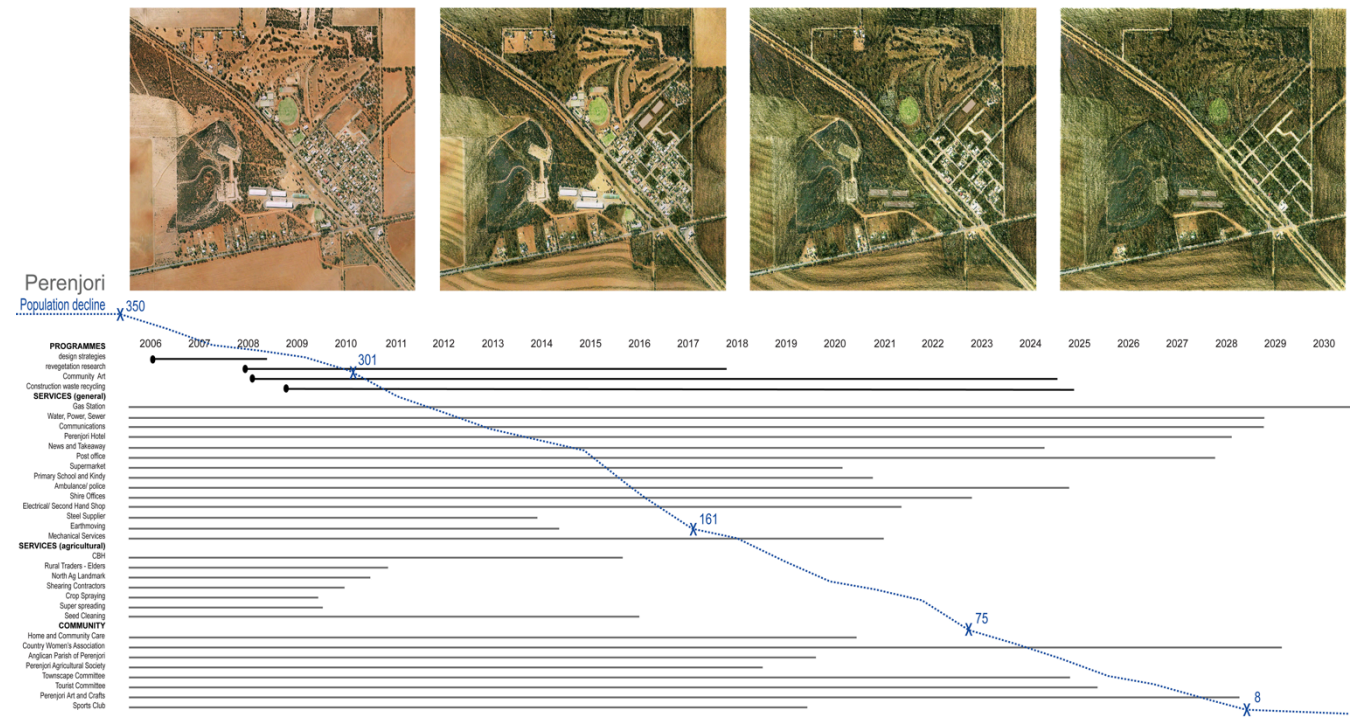
Strategy 5: declining with dignity. Given the ongoing crisis of environmental degradation, the environmentalist Tim Flannery (2003) has argued that the eastern margins of the Wheatbelt should never have been cleared for agriculture. Moreover, as Salt (2001) has demonstrated, the state government inflated Wheatbelt population densities because of the need to settle veterans rather than any understanding of the environmental carrying capacity of the land. As a

result, parts of the Wheatbelt have proven unsustainable after as little as two generations of inhabitation. Salt argues for allowing the population of the Wheatbelt to fall back to an environmentally sustainable equilibrium, which—given the poor fertility and lack of water in the northeastern Wheatbelt—is still lower than the present diminished population.

While environmentally sound, this scenario would present profound social consequences for many Wheatbelt towns and be viewed as a negative outcome in the context of the general cultural and professional bias towards growing populations. As Kevin Lynch (1981b, 171) observed, “graceful decline is seen as no more than a concession of failure.” In this regard, there are precedents for the abandonment of town-sites in the region. The town of Maya located 40 miles to the south was founded as a major railway stockyard that took advantage of the downhill starting grades in each direction but was abandoned due to lack of a reliable water source (Cannon 1983). With the superseding of steam power, the town-site of Caron that lay 9 miles to the south of Perenjori was also abandoned, leaving residual marks of its former use in the form of an overgrown golf course, main-street, and water dam (Figure 6b). In these examples, decline was uncontrolled and absolute, with the process resulting in complete abandonment and eventual succession from cultivated land back to bushland.

Based on the assumption that the socioeconomic trends afflicting Perenjori will continue on their present trajectory, the design strategy orchestrates the controlled decline of the town so that it eventually ceases to function as a socio-economic hub but retains a residual sense of place (Figure 12). The steps in the timeline for decline include a combination of inevitable occurrences and deliberate actions that will result in the decommissioning of the town as a functioning rural community. Set over a projected timeframe of twenty years, this scenario includes the phased withdrawal of services, the removal of agencies of governance, the progressive demolition of uninhabited dwellings, the decommissioning of sporting facilities and finally, the removal of the wheat storage silo. The endgame for Perenjori involves

Figure 12. Declining with dignity: strategy for phased withdrawal of services and eventual revegetation of the Perenjori townsite (project by Eszter Nagy).



the population stabilizing at a very low number, while the wildflowers that are a feature of the region are seeded along the town street grid in memory of the former settlement.

Discussion: evaluating success and the role of design

The five design scenarios developed in consultation with the Perenjori administration and community presented a range of possible strategic directions for the town to pursue. Each scenario is based on a *spatial* understanding of renewal rather than an abstract or economic approach and in this regard the outcomes are heavily influenced by the involvement of landscape architects. What is the potential success or failure of these endeavors within a global growth-oriented cultural context, and the legitimate and potential role of landscape architecture in engaging with depopulation in rural towns?

Realistic criteria for evaluating strategies for addressing decline

Lynch (1981a, 448) observed “most solutions to problems of decline are attempts to turn it into growth,” leaving “no compelling models for managing decline in an optimum way.” This tendency towards confronting and attempting to reverse population retreat is influenced by the negative connotations that the progress-oriented cultures of design, planning, economics, and politics place on decline. However, in the context of the chronic structural decline and aging population of the Wheatbelt, growth-based strategies would need to reverse coastal emigration and entice a significant number of coastal residents to relocate inland (Newman 2005). Given the extreme climate, isolation, and projected ongoing coastal urbanization of Australia, achieving reverse flows back to the Wheatbelt in numbers sufficient enough to offset rural outflows is unlikely.

Nevertheless, the objectives and success of strategies addressing rural decline can be measured using criteria other than economic and population growth. In this regard numerous fields have contributed to an expanded understanding of community vitality. For example, deep ecologists argued for social and environmental sustainability as essential for establishing a balanced existence (see: Marshall 1992). The traditionally growth-oriented field of economics has absorbed these concepts and developed broader frameworks for evaluating community performance. These encompass a deeper understanding of the value of a society that reflects the aspirations of its constituents, and establishes a sense of place, livability, identity, and creativity (Hawkes 2001).

When read in this broader context, strategic objectives, and outcomes that (a) stabilize rural town population, (b) slow down population loss, or (c) accept and guide the process of decline, are as valid as strategies to return to outright economic and population growth. Moreover, once a conscious or sub-conscious growth-bias is removed from the objectives, socially and environmentally based criteria for sustaining meaningful communities can emerge as measure of success. In many of the rural decline precedents overviewed in the third section of the paper, communities rarely evaluated the initiatives negatively if growth was not an outcome of their investment and efforts. Rather, as illustrated by the cases of Coolah (that enacted a townscape-based strategy) and Natimuk (that evolved a creativity-based strategy), communities identify heightened civic pride and engagement, and a creative environment as tangible positive outcomes.

In the case of Perenjori, the community and local government framed the project within the objectives of “addressing decline” and “revitalizing” the town; both terms that are open for interpretation and do not necessarily imply growth-based outcomes as a measure for success. Therefore, even though the design scenarios are unlikely to significantly and permanently reverse population decline, realistic metrics for evaluating the outcomes include environmental sustainability, strengthened sense of place, and a sense of community cohesion and belonging. Population and economic *stability* (as

opposed to growth) remains a fair aspiration for the first four strategies, although as the fifth strategy articulates, when managed in a strategic manner, ongoing decline can potentially be calibrated to retain a sense of place and community cohesion for remaining residents.

The role and limits of landscape architecture in engaging decline

Many of the economic, social, political, and environmental conditions afflicting declining Wheatbelt towns lie beyond the traditional core role of landscape architects as facilitators of outdoor spatial and aesthetic improvements. As is typically the case of projects and initiatives addressing the built environment in regions experiencing growth, landscape architecture forms one part of a larger network that includes other design professions, financiers, entrepreneurs, government agencies, and community leaders. Within this established growth model, landscape architects have often reported feeling subservient to other professions, developers and entrenched decision-making processes (Miller 1997). While there is some sense that the influence of the discipline has improved with the turn toward “green” solutions in discourse and popular media, landscape architects remain shut out of many key decision-making processes that affect the cultural environment (see: Waldheim 2006).

In the absence of any dedicated field or structure that specializes in addressing decline, typical professional and decision-making hierarchies may be reconfigured, presenting an opportunity for landscape architecture. For example, in the case of Perenjori, no other professions, financiers, entrepreneurs or government agencies were interested in leading the challenge, as the opportunities were seen as too marginal and the problems too difficult. In this context, landscape architecture was viewed as an empathetic and flexible discipline and took on a role that stretched traditional disciplinary scope. The inherently trans-disciplinary nature of the discipline and the experience that landscape architects have at engaging dynamic cultural and natural environments underpins this adaptability. In this context, familiarity with ecological cycles makes landscape architects more adept at articulating and steering processes of emergence and

decay than other professions that may be more focused on growth, control, and management.

Nevertheless, many problems and solutions remain beyond the scope of even the broadest definitions of landscape architecture. Environmental degradation, social fragmentation, and capital flight require multi-faceted and multi-scaled approaches for which landscape architecture cannot act unilaterally. With landscape architecture positioned in a more decisive role within networks and initiatives to engage decline—and less marginalized as per growth-based development projects—a range of social and environmental criteria can potentially be elevated in importance. Of these criteria, the most binding and fundamental is establishment and maintenance of a communal and individual *sense of place*. Place making is a core tenet of dwelling meaningfully in the world (see: Heidegger 1956; Seddon 1972; Casey 1997), and accordingly, critical in addressing rural decline (Connell and Mcmanus 2011; Markey et al 2008). In this regard, the most fundamental role and potential value of landscape architects is to guide a declining community to craft, adapt and repair their sense of place.

Conclusion: design for decline

As is occurring in many urbanizing countries, the decline of rural communities in the Wheatbelt represents the seemingly intractable force of larger economic, demographic, and environmental trends. Confronted with generally diminishing state government support, many rural towns have adopted local initiatives aimed at prolonging their survival. Approaches have included street-scaping works, events, tourism campaigns, and creative projects. While designers have not played key roles in many of these homegrown projects, the successful role of landscape architecture in town revitalization strategies elsewhere demonstrate the potential transferability of process-driven landscape methodologies to Wheatbelt decline. The real-world case of Perenjori illustrates a range of landscape-based strategies available to rural towns aiming to address shrinking populations and superfluous and deteriorating infrastructure. Given the pervasiveness of rural decline, this expanded scope presents new opportunities for

landscape architects to contribute to key decision-making processes with regards to the cultural landscape.

Despite these opportunities, engaging with decline is rarely straightforward or entirely controllable. In certain cases, towns with specific structural, environmental or cultural advantages are likely to endure, although in many cases those advantages will be predetermined rather than able to be invented. In other instances, enterprising towns—often aided by landscape architects—will be able to slow, stabilize, or even reverse the trajectory of decline with strategies that enhance their sense of place. In other cases, towns are likely to continue to dissolve as the Wheatbelt settles back to a lower overall population from which the artificially inflated numbers of the 20th century pioneering phase may come to be viewed a historical anomaly.

In all three of these futures, design offers far more than an embellishment of the public realm to be indulged during prosperous periods of growth, and withdrawn in difficult social, environmental, and economic situations. Rather, landscape architecture potentially brings myriad lateral place-making approaches to problems seemingly hamstrung by structural forces. In addition to seeking to stabilize and revitalize communities, in certain circumstances these approaches include facilitating the process of decline in a controlled and meaningful manner. As Robert Birrell notes, the critical issue in this regard requires “shak[ing] the intellectual hegemony of the ideology of growth” (1990, 10). Removing the stigma associated with decline potentially reduces the tendency of designers in all fields to romanticize decline as an ‘other’ condition, rather than understanding it as part of the same global processes and flows that feed growth. In the Wheatbelt, and Perenjori in particular, those outflows are so corporeal—perhaps as much so as songlines³ are vivid to the indigenous custodians of the land—that they are difficult to romanticize.

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Notes

- ¹ Similar to a county in the US, “shire” describes the jurisdiction of local government in rural Australia.
- ² Over 2,000 miles of rabbit proof fencing were established at the turn of the century in an ultimately unsuccessful attempt to protect the Wheatbelt from the influx of exotic vermin from eastern Australia (Cannon 1983).
- ³ “Songlines” refer to the web of invisible flows throughout Australia that indigenous Australians use for cultural orientation and physical navigation (see Chatwin 1986).

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