SHARED Infrastructure
Community Corridor Landscapes
Shared Infrastructure;
Community Corridor Landscapes

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Declaration

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

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Preface

This document forms the Appropriate Durable Record [ADR] of the work completed over a period of one and a half years to satisfy the requirements of a Master of Architecture by Research in the Urban Architecture Laboratory [UAL] at RMIT University in Melbourne. My candidature included the completion of three projects, Peripheral Living, The Dispersed Mobile Office Network and Shared Infrastructure; Community Corridor Landscapes. The first two projects explored set topics defined by the UAL whereas the final project evolved through the identification and development of ideas and techniques emerging from the first two projects centring around the existence and potential of a type of Shared Infrastructure. All three projects developed through a combination of traditional research, the close examination of existing urban environments within Melbourne and critical feedback received from my supervisor Nigel Bertram, co-supervisor Gretchen Wilkins and Simon Whibley. Feedback was also received from a number of other students in a studio environment, Rutger Pasman, Viet Tuan Pham, Prue Fea and Ian Nazareth as well as Bianca Venturi and Melina Cazzulino. The feedback and assistance of the above mentioned people is greatly appreciated as it has no doubt improved the outcome of my candidature as outlined within the following document.
Research Introduction

My candidature developed around the notion of a shared infrastructure. Different types of infrastructure, spaces, functions, services and knowledge can be shared in many different ways, by many different people. In the broadest sense, urban settlements are a collection of people sharing basic service infrastructure such as power, water and sewage. Mixed use developments merge living, working and recreation illustrate the economic, social and environmental benefits that can be gained by sharing spaces, services and facilities in close proximity. Within our increasingly dense urban environment our open space network is also a type of shared infrastructure providing opportunities for a range of recreational activities offering further potential for exploration.

The re-occurring theme of shared infrastructure emerged within my first two projects and was then developed in further detail within my final project. The Peripheral Living project explores shared use of infrastructure in both a spatial and knowledge sense. This project establishes a series of new communities by introducing housing to the redundant edges of existing operational cattle and sheep farms. These communities rely on the farmer’s ongoing local knowledge of the land and climate, as well as shared use of existing farm infrastructure in the form of its clearing, shed and dam which provide collection and co-ordination points in emergency situations such as bushfires. The Dispersed Mobile Office Network project explores shared use of infrastructure in a spatial and social sense. This project offers an alternative to the traditional offices lack of spatial flexibility exploring a move to a mobile [tele-working] work environment using advanced information technologies, whilst also maintaining an ability to build social relationships by grafting onto existing social functions. Shared Infrastructure; Community Corridor Landscapes develops these ideas by examining the nature of Melbourne’s green valleys as a type of shared infrastructure including the Maribyrnong, Yarra and Dandenong Valleys to identify and develop strategies encouraging shared local community use of these spaces through an understanding of the social, economic, political and geographical forces shaping these landscapes and their surrounding communities.

The 2002 state government planning policy relating to open space, Linking People and Spaces states “Open space belongs to the community. Individuals and community groups should therefore be encouraged to take an active role in decision making for the network’s future.” Our green valley’s make up the biggest component of our open space network. However, in many ways the green valley is a landscape discouraging interaction. Highly disconnected from its surrounding communities, in both a physical and cultural sense, the green valley offers a passive relationship within a landscape rather than an interactive experience with a landscape. Often viewed by sections of the community as negative or leftover spaces shaping the communities expectations regarding its use, these spaces are under constant threat of development. A high proportion of these landscapes are also currently inaccessible to the public due to them being poorly maintained, contaminated or dangerous.
The following provides a broad list of aspirations for these landscapes as a starting point for the project;

- Establish a reciprocal relationship between community and landscape
- Establish community ownership, management and maintenance of the landscape
- Establish a resistance to development through community participation
- Raise the communities sense of value relating to the land through education
- Embrace a flexible framework supporting a continually changing landscape
- Establish local community pathways to and through the landscape
- Provide spaces for a diverse range of programs for all ages
- Protect the landscapes natural wildlife and vegetation ecosystems
- Encourage environmental and renewable energy research and education
- Support existing community groups and research organizations

Community participation and ownership is a goal shared by almost all government departments and planning policies in relation to these types of spaces, as well as many others, but often implemented in limited and ineffectual ways through existing land management systems. This is an area in which little research has been undertaken to identify strategies encouraging these goals. Shared Infrastructure; Community Corridor Landscapes develops architectural strategies encouraging shared community ownership of these landscapes by establishing a network of pathways allowing the physical re-connection of these spaces and their surrounding communities. This network of pathways improves the legibility and permeability of the community, landscape interface.

Strategies developed include the permeability, property acquisition, subdivision and edge road reclamation strategies all of which form a series of pathways or community corridors through the landscape connecting adjacent communities to each other and the landscape as well as defining a series of landscapes for community use. Each community corridor consists of a collection of existing institutions, high schools, primary schools, kindergartens, research organisations, community groups and retirement villages as well as housing each possessing its own unique interests, knowledge, skills and aspirations which will inevitably influence the use of each community landscape. These strategies rely on small incentives inserted into existing development forces already acting on these landscapes such as subdivisions and property acquisition overlays.

These strategies establish connections in a physical [infrastructural] sense which further encourages connections in a cultural sense. Community corridors gain a level of input and control regarding use of the land as well as assuming the associated responsibility regarding its management and maintenance. Community ownership, management and maintenance of the landscape over a period of time builds the type of relationship that establishes a sense of value relating to the land as well as a deeper understanding of the landscape and its on-going management and maintenance requirements. This type of reciprocal relationship also maintains the relevance of these types of spaces to their local communities and in doing so ensures their future survival as a valuable shared infrastructure for community use.

Image 4 [Right] - Power line easement aerial photographs (showing different uses as public open space, shopping centre carpark, backyards & tennis courts)
Significant Background Projects

An existing body of precedents includes projects encompassing vast tracts of land for use as complex cultural spaces by the public. Toronto’s Downsview Park designed by Bruce Mau, Rem Koolhaas, Oleson Worrall and Petra Blaisse, Orange County’s Great Park, Fresh Kills Park by Field Operations, The High Line by Field Operations and the Var Plain project by Michel Desvigne and Rem Koolhaas all provide a diverse range of ways of thinking about these types of spaces as well as built manifestations of these ideas. These projects explore notions of legibility, access, resilience, management, ecology, agriculture, cultivation, geography and territory. As significant public infrastructures these projects often also explore the staging and transformation of landscapes over long periods of time.

Field Operations Fresh Kills Project

The Fresh Kills project by Field Operations is a significant precedent sharing a number of key characteristics and aspirations with my project. The Fresh Kills site was formerly a garbage disposal facility operating from 1948 to 2001 resulting in the world’s largest area of landfill covering 2315 acres on the western edge of New York’s Staten Island. In 2001 an international competition was launched by the New York Department of City Planning to design an open space for use by all residents of the city and its surrounding suburbs. The winning entry submitted by a multi-disciplinary team led by Field Operations was further developed into a Masterplan released in 2006 after extensive engagement and consultation with government and community groups.

The concept as described in their competition entry and masterplan is based on the notion of a Lifescape or life within a landscape, establishing a range of parklands offering over 40 miles of pathways and trails, as well as significant recreational, cultural, environmental and educational programs. Lifescape is described by Field Operations as a reconstituted matrix of diverse life forms and evolving ecologies, a ‘nature sprawl’ rather than an island of nature persisting in the midst of urban sprawl. The proposal includes an expansive network of greenways, recreational open spaces and restored habitat reserves forming a green matrix of infinite horizons and connected ecosystems including over 40% open space. In other words a new nature lifestyle island forming a rich reserve in an otherwise dense urban metropolis. An alternate paradigm of human creativity guided more by time and process than space and form. Field Operations believe nature is often conceived as separate from cultural endeavour but could be integrated into a man-made landscape, in which nature will no longer be the image we look at.

Also described as a landscape where nature below ground, on ground, in water, on water and in the air is continually manufacturing new environments as it reproduces and evolves, Lifescape is a design strategy that recognises humanity as a symbiotically evolving, globally interconnected and technological system. Proposing a series of lines (threads), surfaces (mats) and clusters (islands) to maximise opportunities for movement and access. Linear threads direct flows of water, energy and matter around the site. Surface mats create a patch like mosaic of mostly porous surfaces to provide self-sustainable coverage, erosion control and native habitat. Islands provide denser nests of protected habitat. Field Operations view time as an integral element of the proposed landscape, a matrix that will continue to evolve and adapt over time creating a self-sustaining envi-
environment where the continual exchange of matter and energy assures a healthy ecosystem. Maximising interconnectivity both within and outside the site are also key aspirations of the project.

Guided by these aspirations the Fresh Kills project establishes three coordinated systems organising the landscape, those being habitat, program and circulation. The project also divides the site into four sections, the North, East, South and West parks exploring the landscapes potential growth and change over the time periods of ten, twenty and thirty years and initiates environmental research to deal with the un-stability of the existing landfill and methane gas emissions. Currently a significant portion of the Fresh Kills project has been constructed with the remainder of construction to be completed over the next 5 years.

The Fresh Kills project possesses many similar characteristics and aspirations to my project acknowledging that it is establishing a valuable infrastructure for use by residents of the wider metropolitan area. It is also establishing a diverse mix of recreational, environmental and educational based land-uses and acknowledges the need for a self-sustainable landscape which will evolve over time however there are also a number of differences. The majority of the Fresh Kills site is bounded by a large river and industrial areas and as such the project establishes a series of external connections to the site, predominantly by car, then provides a series of internal looped circulation pathways when one arrives. This type of access and circulation dictates its use as an end destination space. The green valley spaces examined within my project typically have greater proximity to surrounding suburbs and communities making linear pathways through the site possible establishing connections to the surrounding suburbs and communities. Establishing a network of movement through the site connects each adjacent community as well as integrating the valley within these communities. This key characteristic differentiates my project from many other projects of this type.

Field Operations and Diller Scofidio + Renfro’s High Line Project

The High Line project is an aerial greenway park, built on a redundant elevated freight rail structure on Manhattan’s West Side in New York City. The park runs from Gansevoort Street in the Meatpacking District to 34th Street, between 10th and 11th Avenues on an original freight rail structure which was built in the 1930’s to remove dangerous freight trains delivering milk, meat, produce, raw and manufactured goods to upper floor factory and warehouse loading docks on Manhattan’s streets. The last train ran on the High Line in 1980 carrying a trainload of frozen turkeys, leaving the redundant structure deserted for over twenty years.

A non-profit local community group named Friends of The High Line formed in 1999 with a view to preserving and restoring the dilapidated structure. This project gained a level of council support in 2002 and an open ideas competition was launched in 2003. By 2004 the winning entry was announced as that designed by Field Operations in partnership with Diller Scofidio + Renfro described in their entry as being inspired by the wild self-seeded landscape that sprang up on the structure after the trains stopped running.

After a long process of public consultation, construction of the 2.3km long park commenced in 2006 with section one of the High Line running from Gansevoort Street to 20th Street opening to the public in June 2009. Since its opening, section one of the project has spurred significant new develop-
velopment along its path and speculative development is currently occurring along the path of the second section which is due for completion in 2011. Friends of the High Line now assume responsibility for the maintenance and management of the public park under a license agreement with the New York City Department of Parks & Recreation.

The High Line project has a number of differences to my project, the most obvious of which being its location in an inner city environment; however it still provides a significant precedent due to the linear nature of its parkland and infiltration pathways from surrounding communities. The importance of community involvement and support in its realisation is also a key for these types of projects. Friends of the High Line fought for the High Line’s preservation and transformation at a time when the historic structure was under threat of demolition and now assumes responsibility for both stewardship of the park and management of the many public, educational programs and events that take place on the High Line. This project has also generated many economic benefits for the local community the proceeds of which have been channelled back into the management and maintenance of its public open spaces. Harnessing the passion and energy of local community groups should be a key aspiration in the formation of any shared community infrastructure.

**Michel Desvigne + OMA’s Var Plain Project**

Michel Desvigne’s landscapes explore ideas of agriculture, cultivation, transformation, geography, territory and management with a strong emphasis on change over time. Within the book *Intermediate Natures; The Landscapes of Michel Desvigne* [2009], Michel’s introduction of his own work discusses a patience in combining, domesticating and directing living systems with a strong interest in agriculture, “…farming techniques and practices suddenly makes space legible”.

Within the same book James Corner’s forward describes Desvigne’s work as less concerned with formal composition with a strong agricultural emphasis allowing a capacity for growth, change and adaption over time. Loose, open, porous and flexible embodying an understanding of how smaller units of space are tied to large geographic contexts. Corner also describes Desvigne’s landscapes as material environments that effect and propel their own development. Environments growing more complex through modification, planting, cultivation and management over time. As such Corner believes Desvigne’s work should be viewed as an infrastructure, a catalyst for new forms of development and lifestyles, less passive, more transformative with an understanding that all landscapes are unfinished and will evolve over time.

One of Desvigne’s projects is particularly significant, that being the Var Plain project developed in conjunction with OMA Architects, in Nice France, completed 2007. The site for the project comprises of a flat 20km long highly dilapidated space running along the banks of a river, a large proportion of which is susceptible to flooding. Desvigne describes the challenge as being to give the huge fragmented space a sense of coherence, overall quality and legibility. The concept proposed a regrouping of land use including a type of farming more closely linked to the city nestled amongst new development sites providing the landscape with a noticeable quality, previously lost. The overall pattern resembles a series of quay like development sites floating amongst a series of farming dykes providing water to agricultural sites, therefore integrating both urban and agricultural functions into a consistent whole.
From my familiarity with Michel Desvigne’s work the element of time and specifically change over time was considered more strongly within my own project. A proposed landscape can only be viewed as a snapshot in time. Before and after this snapshot the landscape is affected by a multitude of forces suggesting a framework guiding inevitable change over time and providing a flexibility that embraces this change. Many of Desvigne’s projects also explore landscapes at the urban, agricultural space interface therefore providing a significant precedent for my project.

**Muf – Community Consultation and Engagement based Architecture**

Muf are a leading practice developing a type of architecture whose core aspirations include increased community consultation, participation and engagement within their process of designing. Based in London and established in 1996, Muf describe themselves on their website as a collaborative community consultation and participation based architecture and art practice, exploring the spatial, social and economic infrastructures of the public realm. Muf state one of their aims as seeking to include the voices of the wider constituency in the design process allowing a sense of ownership through occupation by exploring urban strategies negotiating public and private interests in order to develop economic and social potential for multiple occupations of space.

One project in particular, the Security, Mobility, Pleasure urban design framework undertaken for the NDC West Ham and Plaistow local councils in 2001 provides a significant precedent exploring a way of approaching complex interconnected urban issues. The framework identifies a series of physical improvements to existing spaces within the local jurisdiction which is also supported by a series of mechanisms for community management and involvement. Since its completion the framework has generated $31 million pounds of external funding clearly illustrating its ability to connect and engage with local community, government and business groups. Muf were further engaged after completing the framework to undertake the Mounding over the Greenway project establishing a step free urban mound over an existing sewer connecting two previously disconnected communities and providing a new public open space for community use.

Muf provide a significant precedent illustrating the use of a ground up rather than a top down process of working which includes a greater understanding of the aspirations of the diverse range of community user groups an urban environment.

**Previous Projects**

My candidature consists of two preliminary projects and a final project evolving from the ideas and techniques developed in these initial projects. The first project, Peripheral Living explores the urban periphery, an increasingly significant zone within our urban environment, proposing an alternative model of peripheral living based on the notion of shared infrastructure. This exists in a spatial and knowledge sense, through a series of communities established on reciprocal relationships.

The project establishes a mixed use rural community prototype located on the redundant edges of existing cattle and sheep farms in bushfire prone areas. The town of Marysville, located approximately 95km North East of Melbourne, is used as a site to test the project. A series of communities
are established by introducing housing onto the redundant edges of existing operational cattle and sheep farms, therefore sharing space with no current operational value. The positioning of the houses responds to the proximity of existing recreational facilities such as the local golf course and walking tracks as well as a number of redundant dis-connected dead end roads and tracks, connected to provide access to the housing communities.

The bonds linking these communities are formed through the shared use of existing rural knowledge and infrastructure, as well as space. Residents rely on the farmer’s ongoing local knowledge of the land and climate, as well as existing farm infrastructure in the form of its clearing, shed and dam establishing emergency collection and co-ordination points in emergency situations such as the recent bushfires which devastated Marysville. The farmer’s knowledge of the land and climate built up over generations of farming one area provides a valuable asset in emergency situations. A new shared road provides communities with access to multiple escape routes as well as the centrally located emergency collection and co-ordination points which can be incorporated into local community evacuation procedures.

The project includes a mixture of single and semi-detached housing types designed for use as short stay accommodation, supporting the town’s existing tourism industry, as well as permanent housing for those displaced by the recent bushfires. The semi-detached unit provides a low cost alternative, sharing built infrastructure and in doing so encourages the type of co-operative relationships required in emergency situations. Housing is carefully positioned in relation to farms and their clearings, maintaining a buffer zone from the edge of the clearing and is located on the low side of the shared access road which therefore acts as a fire break as well as eliminating the road from the dominant visual outlook of the house. In the same way many animals burrow into the earth when trapped by a bushfire, housing built into the slope of the valley makes use of the earth for protection.

The Dispersed Mobile Office Network project responds to the statistic that up to 65% of office workstations are presently un-occupied at any given time [Herman Miller, 2007] due predominantly to the changes in communication and information technologies as well as highly dynamic business market conditions and economic cycles. This project offers an alternative system of work and network of work spaces addressing the lack of spatial flexibility in the existing office by reducing our reliance on traditional property constraints such as fixed long term leases which provide little flexibility to expand and contract in response to dynamic market conditions. The network merges a number of existing precedents in the form of ‘pay per use’ office service providers, the emergence of work facilities in public spaces, the university working model [central data collection and dispersed individual work] and the increasing use of tele-working by large companies to provide a network of ‘pay per use’ shared office spaces for mobile workers. The project also acknowledges the loss of the traditional offices social aspect when moving to a mobile work [tele-working] system by identifying and locating itself in close proximity to existing social functions within the CBD.

The network provides a series of pay per use office spaces of varying sizes including a large dispersed office unit [D1], smaller dispersed office unit [D2] and retail office unit [R1]. D1 & D2 are located in existing high rise office building plazas providing individual, group work and formal meeting
spaces as well as an event space for shared use by both mobile workers and the public. The R1 unit occupies vacant retail spaces, relocating shop fronts back into the tenancy to create a series of public spaces for informal work at the front of the tenancy and also providing direct links to adjacent social functions such as cafes, restaurants, bars and complimentary work functions such as stationary and printing shops. The rear of the unit offers a flexible work space providing meeting, group and individual work spaces as required. This project forms a dispersed work infrastructure shared by multiple users to unlock common efficiencies whilst still encouraging and maintaining social relationships.

The ideas identified within the Peripheral Living and Dispersed Mobile Office Network projects informed my final project, Shared Infrastructure; Community Corridor Landscapes in different ways and each provided varying levels of individual success. The Peripheral Living project initiated the notion of a shared infrastructure and developed a number of important techniques used later within my final project, those being the close examination of an edge and its potential interface opportunities as well as the identification of existing infrastructure for potential shared use in other ways and by other user groups. The Dispersed Mobile Office Network was less successful as a project in itself due to its reliance on elements outside the control of an architect however played a crucial role within the development of the notion of a shared infrastructure, only fully recognised after the completion of a second project exploring a common theme.

The History of the Green Wedge

The green valley being the primary site for the Shared infrastructure; Community corridor Landscapes project was previously and is still viewed by many as being part of the green wedge. Recent planning changes such as the imposition of the Urban Growth Boundary [UGB] have made its differentiation from the green wedge necessary, due to differences in the forces acting on these spaces, however the history of the green wedge gives one an understanding of the development of these spaces and offers a number of lessons of relevance to the current and future use of the green valley. Buxton and Goodman’s 2002 report Maintaining Melbourne’s Green Wedges and Harris’s 2005 report Melbourne’s Green Belt and Wedges provide significant references discussing the recent erosion and historical development of the green wedge respectively and have been used extensively throughout this chapter.

The green wedge is a term and urban planning strategy originating primarily from Great Britain1. Patrick Abercrombie’s 1944 Greater London Plan was the first major implementation of the strategy which included a series of green wedges and a green belt in an attempt to control London’s growth. The term ‘green wedge’ refers to a continuous strip of land, usually radiating outwards from the city centre, devoted to recreational, cultural, environmental and rural use. Urban uses such as housing and retail are not permitted on green wedge land. The term ‘green belt’ closely related to the ‘green wedge’, refers to a continuous ring of land possessing many of the same characteristics, but usually located on the outer edge of a city’s metropolitan region. Both terms, used in conjunction or separately, form an urban planning strategy emerging in the 1930’s in response to many of the issues experienced in the increasingly urbanised and industrialised environments of many large European cities from the 1880’s onwards2.
Patrick Geddes, Ebenezer Howard and Lewis Mumford all played a significant role in the theoretical development of the green wedge. Planners advocating its use have consistently pointed to the following benefits, the provision of land for agricultural production in close proximity to the city, the provision of recreational open space in close proximity to the city, the preservation of land containing sensitive flora, fauna and heritage sites and the preservation of land containing valuable natural resources such as stone and sand for future use. The green belt and wedge strategy has also often been employed in an attempt to limit urban sprawl by establishing an outer urban boundary restricting a city’s growth.

In Britain plans incorporating a green belt strategy first emerged in 1927 and the government began purchasing land with this purpose in mind around 1935. Raymond Unwin’s 1930 Greater London Regional Planning Committee Report and the 1940 British Barlow Commission Report both proposed the use of a green belt separating the city from a series of rural satellite towns. Herbert Louis’s 1936 concept of the ‘urban fringe’ and the growing desire for a union between the city and countryside were also influential in the development of the concept as a response to widespread concerns regarding public health issues in large European cities.

Patrick Abercrombie’s 1944 Greater London Plan based on the notion of a continuous green belt restricting the city’s outer growth and a series of green wedges radiating from the city centre included seven new satellite towns outside the green belt. The realisation of this plan has remained in existence in London, with minimal alteration since 1996 and has largely survived to this day. Buxton and Goodman note that in 2002 Britain possessed 15 green belts covering approximately 14% of the country however since 1996 small areas have been developed especially in the South East of the nation due to population growth pressures and a lack of public support of the strategy. Harris [2005] believes a number of influential British planning groups are currently questioning the strategy’s relevance in relation to London’s current urban pattern and future growth projections.

In Australia, Sydney adopted a green belt strategy with its 1947 Greater Sydney Plan produced by the County of Cumberland, which originally consisted of a 332 square km of green belt, however Buxton and Goodman believe many consider this strategy to have been a failure. Amongst Sydney’s town planners it was widely agreed that the green belt strategy was the difference between many European cities controlled growth, especially that of London and the sprawling cities of the United States of America. By 1959 one third of Sydney’s belt had been eroded and today the majority of the original green belt provides additional housing. Sydney’s green belt policy shifted to a corridor wedge strategy, similar to that of Melbourne, however this only occurred after it was clear both public and government support was in decline. Harris considers this lack of public support as well as the lack of a clear growth policy, often implemented in conjunction with a green belt strategy, to be the major cause. Public support for the green belt strategy in Sydney was described as ambivalent and unfocused at best. Adelaide also adopted a green belt and wedge planning strategy with its 1962 Development Plan, the basis of which is still in existence today. Buxton and Goodman believe Adelaide’s green belt strategy enjoyed consistently strong public support which forms the major reason for its success along with the fact it has not encountered the same population growth pressures as Australia’s larger cities such as Sydney and Melbourne.

Both Harris and Buxton and Goodman agree that Melbourne’s radial cor-
Occurring naturally rather than through the implementation of a conscious green wedge strategy many planners began to recognise its benefits after the Second World War, influenced by Abercrombie’s 1944 Greater London Plan and the 1948 Copenhagen Finger Plan. Harris believes Melbourne’s town planners were also keenly following Sydney’s green belt strategy during this period. Single houses on large blocks fuelled a rapidly sprawling city during the 1940’s and 50’s which was widely recognised as a serious problem. Melbourne’s corridor formation evolved naturally into a corridor development strategy which gained recognition by the MTPC in 1947 and was supported in the Melbourne Metropolitan Board of Works (MMBW) 1959 report titled The Problem of Urban Expansion in the Melbourne Metropolitan Area.

Steadily gathering recognition as a planning strategy in itself, to be used in conjunction with corridor development, the term green wedge first appeared in the MMBW’s 1962 Amendment to the Planning Scheme and formed the basis of the 1968 Green Wedge Planning Policy as well as being included in the 1971 Planning Policies for the Melbourne Metropolitan Region. The green wedge was now officially recognised and employed as an integral strategy to assist in controlling and channelling growth as well as encouraging inner city consolidation and improving public health, all serious issues that were affecting Melbourne that had been observed in many large European and American cities. The 1971 Planning Policies for the Melbourne Metropolitan Region nominated seven growth corridors of 4-6 miles wide separated by green wedges which were to be protected.

Between 1971 and 1990 the green wedge was a prominent element in Melbourne’s planning policies, however between 1990 and 2009 there was a significant weakening in this stance. In 1990 the state government extended a number of urban zones into what had previously been green wedge land. The term green wedge, along with its unequivocal protection, was included in the 1995 Living Suburbs report but by 1996 was removed from state planning policies altogether. A number of reports were compiled around this time including a significant report by Buxton and Goodman Maintaining Melbourne’s Green Wedges which concluded support as a planning strategy at both state and local government as well as local community level was low and green wedge land was under serious threat from development. This report documents the increasing number of planning applications lodged and approved on green wedge land during this period.

One of the main reasons for this erosion of the green wedge was a change in planning administration during this period. Prior to 1998 the Melbourne Metropolitan Planning Scheme (MMPS) was administered by the MMBW which provided consistent interpretation and implementation of planning
policy and its overall objectives. Post 1998 however local councils were
given increased power to administer the scheme under the Victoria Planning Provisions [VPP’s] resulting in it being interpreted and administered inconsistently by individual councils and in the loss of a consistent overall understanding of the schemes objectives in relation to Melbourne’s entire metropolitan region.

Buxton and Goodman believe the lack of community ownership of green wedge land, in a cultural sense rather than a legal sense, and the resulting lack of maintenance and management over long periods led to degradation of large areas of green wedge land and the perception of a low land value by many. A lack of a sense of shared goals amongst landowners at a local level also contributed to this. This was increasingly used by developers and some local council’s as an argument for rezoning and development. Many local councils favoured development due to the economic benefits to do so, however a limited number of council’s responded by initiating innovative programs of environmental management and regeneration to restore the perceived value of this land in the eyes of local communities and the public. At this time a significant group named the Green Wedge Coalition emerged, consisting of a large number of locally based resident and community organisations in the South East of Melbourne. This group played a significant role in restoring public recognition and support for the green wedge strategy by raising public awareness.

Three major methods of protecting the green wedge have been employed with varying levels of success internationally. The first is the imposition of an Urban Growth Boundary [UGB] which forms a nominated line past which all councils agree not to extend essential services required for urban development, such as sewer and water services. All development past this line is rejected providing consistency and restricting the provision of essential infrastructure from green wedge areas. This strategy was employed in Portland in 1979 and is the major reason why the city has successfully controlled its growth in comparison to many other American cities. The second strategy involves governments purchasing the development rights of landowners on the periphery, allowing those landowners to continue using the land for non-urban use, usually farming, but restricting landowners from developing themselves or selling to developers. This strategy attempts to shield landowners from increasing financial development pressure through legislation regarding the sale of property and has been used on a limited scale, but is not considered feasible in controlling the growth of an entire city due to the cost of doing so. The third strategy attempted in the United States of America involves constructing major ring road freeways or ‘beltways’ acting as barriers to the edges of green wedges. This strategy has consistently failed due to the commercial potential created on both sides of the freeway. Councils have given way to commercial pressure and allowed development on the side intended as the barrier. All three of these strategies rely heavily on the existence of clear planning which results from government support at all levels and consistent interpretation and administration of these policies. This in turn relies on a high level of awareness and support from professionals such as urban planners and architects as well as a high level of community education and support.

The Melbourne 2030 report released in 2002 signalled a change in government policy and a significant strengthening of support for the green wedge strategy. The policy included the imposition of a fixed UGB which could only be altered by parliament, establishing an unprecedented level of protection for the green wedge in Australia. This policy also placed
the administration of development on green wedge land at a state government level meaning applications are considered in conjunction with an overall understanding of Melbourne’s planning policy and its objectives. At this time both Buxton and Goodman and Harris raised concerns over the exact position of the UGB and a perceived lack of government conviction in resisting making adjustments to the UGB29.

These concerns were realised in 2009 when the state government announced an adjustment of the UGB on the North West and South East fringes to accommodate 284,000 new homes despite many including Buxton and Goodman believing the existing UGB could easily accommodate future growth for up to 20 years30. The future of the green wedge as a valuable type of shared infrastructure within Melbourne’s metropolitan environment has been significantly strengthened by recent developments, however only continued education and public support will ensure its survival for future generations. This type of grass roots support and involvement forms a key element within the potential management framework developed in my project.

The Green Valley; A Redefined Space

The green valley is an existing series of spaces within our urban environment previously defined as being part of the green wedge now requiring re-consideration and re-definition. The green valley now exists as a space in itself and has been re-defined by the imposition of the UGB separating previously linked spaces, especially in a planning policy sense. The green valley can still be viewed as an extension of the green wedge as it maintains many of the same characteristics and is physically linked at the UGB line. The major difference between the two being the green valley is located inside the UGB whereas the green wedge is located outside the UGB, forming an important distinction differentiating them. The green valley is also smaller in scale and width but has greater proximity to surrounding communities as it is usually located close to the city centre, amongst inner metropolitan suburbs. The green valley is typically located along rivers, creeks and low lying flood prone areas maintaining a strong visual link to its surrounding suburbs and as an inner metropolitan extension of the wedge is typically located long distances from public transport networks which are concentrated centrally within developed urban corridors.

For the same reasons the green wedge has been fiercely protected since the 1960’s the green valley provides increasingly valuable spaces, especially when viewed within the context of our overall urban environment. The green valley provides spaces for recreational and social activities as well as many types of environmental research that would otherwise not be available in our increasingly dense urban environment due to the commercial pressure to develop open space. Melbourne’s inclusion in the world’s most liveable cities lists have consistently noted the provision of large open spaces in close proximity to the city and suburbs as a positive factor.

In comparison to the wedge the green valley has far less protection from development31 due to its lack of recognition in state planning policy as well as its location inside the UGB resulting in drastically different community expectations regarding its use. This is the characteristic requiring its re-definition as a space in itself and its separation from the green wedge. Green valley land within the Public Parks and Recreation Zone [PPRZ] that does not possess significant environmental or heritage qualities, as
defined by current zoning evaluation criteria, is predominantly zoned special purpose land giving local councils control over its use and providing it with limited protection from development pressures. The green valley is therefore prone to the type of development erosion experienced by the wedge and must be protected with resistance strategies that will allow it to continue its role in relation to its vast surrounding urban environment. Harris believes the "....acquisition of key remaining inner sections, such as the Dandenong Creek,.....may be the only way of ensuring their retention"32. My project attempts to develop bottom up grass roots strategies to protect these spaces as an alternative to this view and potential course of action.

A number of important lessons should be learnt from the history of the green wedge as outlined in the preceding chapter. Firstly the value of the green valley must be viewed within the context of the overall urban environment. This is evident when one examines the historical impact of placing planning policy administration at a local council level therefore removing the overall perspective relating to planning objectives previously provided at a state government level. This had a significantly detrimental impact on the green wedge. The second is the importance of building and maintaining local community participation and support for the green wedge which is closely linked to a greater understanding of these spaces and a greater sense of value relating to them. Local community groups such as The Green Wedge Coalition played an integral role in protecting the green wedge when it was under serious threat and this support should be pro-actively established rather than generated only in times of critical importance.

The third lesson relates to the role land maintenance and management plays in maintaining the quality of these landscapes which not only improves opportunities for the use of these spaces but also generates a sense of local pride relating to these spaces within the community. Buxton and Goodman suggest there are many issues relating to land use and management which need to be addressed, "Programs of assistance in land rehabilitation and maintenance, strategic land purchase, incentives and possible redirection into alternative and more sustainable uses, may now be considered."33. Programs with these aspirations were employed by a limited number of local councils to restore support for the green wedge, once again only in times of critical importance, however these have far greater potential in relation to the current use and understanding of the green valley landscape.

Melbourne’s Green Valleys

Melbourne’s green valleys are generally managed by Parks Victoria in conjunction with local councils and other government authorities such as Melbourne Water and Vic Roads under local management plans prepared for each individual valley. These green valley’s form part of Melbourne’s overall open space network outlined within its Melbourne 2030 planning policy as an integral component of the overall urban environment and specifically covered in the 2002 Linking People and Spaces planning policy covering open space.
**The Maribyrnong Valley [Established Pockets]**

The Maribyrnong Valley and its river extend from the slopes of the Macedon Ranges in the North to Port Phillip Bay in the South. Many of Melbourne’s multi-cultural inner Western suburbs including Footscray, Kensington, Flemington, Maribyrnong, Ascot-Valle, Essendon West, Avondale Heights, Moonee Ponds, Braybrook, Maidstone and Sunshine North surround the valley which runs through the local council jurisdictions of Maribyrnong, Brimbank and Moonee Valley. The Maribyrnong River is the second largest within the Melbourne metropolitan area and its valley provides a significant series of linked recreational and cultural spaces used primarily by surrounding residents and communities.

The valley has a number of large areas of low lying flood plain land acting to control local flooding as well as providing important wetland ecosystems for birdlife and native fauna including a number of sensitive and endangered species. Burndap Park is a particularly significant home for many species of water birds however portions of the valley endure periodic flooding and a number of management programs are in place to deal with these events. A number of significant local community groups such as the Friends of the Maribyrnong Valley are actively involved in the area to raise public awareness relating to its value and have established many vegetation and wildlife regeneration programs.

The Western suburbs of Melbourne are a lower socio-economic area in comparison to the Eastern suburbs which possess an abundance of open space, affluent leafy suburbs and iconic schools and institutions. The Maribyrnong Valley is therefore a particularly valuable type of recreational and social shared infrastructure in the area. The Maribyrnong Valley’s form can be classified as established in comparison to the Dandenong Valley which is currently undergoing significant change. The Maribyrnong Valley has also been heavily eroded by development within the last 30 years to the point where many portions of the valley have been developed to the line of the river leaving few potential development sites and resulting in its form as a series of pockets, connected predominantly by pedestrian pathways rather than a continuous strip of land. The significant differences in heights throughout the valley contribute to the experience of moving through a series of pockets, connected predominantly by pedestrian pathways rather than a continuous strip of land. The Maribyrnong Valley is an example of a highly eroded valley illustrating that developing valleys such as the Dandenong valley require resistance strategies to limit and control development.

**The Yarra Valley [An Established Spine]**

The Yarra Valley and its river form a significant open space within Melbourne’s metropolitan environment providing opportunities for a wide range of recreational activities especially to the North East metropolitan area of Melbourne. The Yarra Valley lies between the ridgelines of Doncaster and Eltham forming part of the valley network extending from the Yarra Ranges to Port Phillip Bay. The Yarra Valley was identified as a significant open space in the 1929 MTPC’s *Melbourne Development Plan* and instated as a regional metropolitan park in the 1970’s after a number of developments threatened the survival of large sections of its open spaces. The area’s management over the next 15 years, as envisioned by the state government, is outlined in the 2008 *Yarra Valley Parklands*
The Yarra Valley is surrounded by a mix of light industrial, commercial, horticultural, agricultural land, golf courses, schools, housing and includes a large number of parks extending 16km along the Yarra River from Ivanhoe to Warlandyte. The Main Yarra Trail is a major pedestrian and bicycle path weaving its way through the entire length of the valley. The Melbourne 2030 planning policy identifies a number of activity centres such as Doncaster, which are close to the valley, for urban consolidation in the future potentially increasing the importance of the valley’s recreational spaces. Research including user surveys undertaken by Parks Victoria in its 2008 Yarra Valley Parklands Management Plan indicates 60% of visitors to the park live within 15km of the valley, an area which houses approximately 1 million people. The average stay was 2.9 hours, 94% of people were from the Melbourne metropolitan region, 81% were from the North East metropolitan region and the average number of visits per year is around 30. These statistics all indicate the area is predominantly used by the local community.

The Yarra Valley also forms one of the main drainage basins for Eastern Melbourne and is a major source of Melbourne’s urban water supply however suffers from re-occurring localised flooding which forms a major consideration in relation to its maintenance. The valley also accommodates a number of above ground high voltage power lines with their associated maintenance easements and there are also a number bush fire management plans in place relating particularly to the North Eastern section of the valley. The Riverland’s Conservation Society, Doncaster and Templestowe Conservation Society and Friends of the Yarra Valley all form local community groups actively contributing to local education and awareness. These groups have also initiated a number of native regeneration and re-vegetation programs on cleared and degraded land over the past 20 years.

The sense of connection to surrounding suburbs, entrances into the valley and its public transport network connections are poor and disconnected as discussed in Parks Victoria’s 2008 Yarra Valley Parklands Management Plan. Bus stop locations and the Heidelberg train station are not co-ordinated with park entrances and pedestrian routes from transport networks lack legibility. In comparison to the Maribyrnong, the Yarra Valley forms a continuous connected spine having controlled its development to a greater extent by preserving larger continuous sections of its area. The Yarra Valley however possesses few potential development sites and as such may be classified as established in comparison to the Dandenong Valley. The Yarra Valley however possesses one characteristic potentially informing the development of the Dandenong Valley. When viewed from a pedestrian perspective the valley offers a connected continuous experience which is distinctly different to that of the Maribyrnong and Dandenong Valleys which are highly disconnected by over development as well as a lack of access and legibility.

The Dandenong Valley [A Developing Spine]

The Dandenong Valley comprises of a semi connected series of open spaces extending 10km along the Dandenong Creek from Vermont South to Wheelers Hill and is located close to the demographic centre of Melbourne’s metropolitan area, 22km from the city. The valley was identi-
fied as a significant open space and instated as regional metropolitan parkland in 1973. The valley is located within the local government jurisdictions of Knox, Monash and Whitehorse which are amongst the most heavily populated in Melbourne. The area’s management direction over the next 15 years, as envisioned by the government, is outlined within the 2006 *Dandenong Valley Parklands Future Directions Plan* produced by Parks Victoria. A number of its adjacent areas are included on the Public Acquisition Overlay meaning this land may be purchased by the government on a voluntary basis in the future.

The Dandenong Valley consists of bush, open park and semi-rural land as well as developed sporting facilities and includes Jells, Norton’s, Koomba Parks and Chesterfield Farm. The Dandenong Creek and Eastlink Trails are shared pedestrian bicycle pathways extending the full length of the valley forming part of the Metropolitan Trail Network. The Eastlink Tollway completed in 2008 runs along the entire Eastern side of the Dandenong Valley and has resulted in significant change to the valley during and since its construction. The Dandenong Valley is also an important part of the Dandenong Creek catchment area which extends from the Dandenong Ranges to Port Phillip Bay and includes a series of billabongs and wetlands forming a natural filtration system improving the Dandenong Creek’s water quality. The Southern portion of the valley is flat, in comparison to the Northern section which includes large areas of wetlands and flood plains serving to mitigate the danger of local flooding as well as providing a valuable source of food for local wildlife. Research including user surveys undertaken by Parks Victoria included in its 2006 *Dandenong Valley Parklands Future Directions Plan* indicates that the average user stay is around 5 hours and the average number of visits to the valley by each user per year is 8.2. A number of programs have been implemented in conjunction with local community groups to develop water and energy sensitive technologies for use in parklands and monitor sensitive flora and fauna as well as initiating vegetation re-generation programs.

Major arterial roads dissecting the Dandenong Valley include Wellington Road, Ferntree Gully Road, High Street Road, Boronia Road and Burwood Highway. The connections between existing surrounding urban centres, park entrances and public transport networks are highly disconnected. Bus stop locations are not co-ordinated with park entrances and the closest train station, Glen Waverley is a 30 minute walk from the valley. One of the major goals nominated in the 2006 *Dandenong Valley Parklands Future Directions Plan* is to encourage community groups to share and maximise the use of facilities by visitors, diversify the range of events occurring in the area and encourage local resident access. These are all key goals forming the basis of my project. The Dandenong Valley is a landscape currently undergoing a significant process of change partly due to the later development of many of its surrounding suburbs, in comparison to the Maribyrnong and Yarra Valleys, as well as the recent introduction of the Eastlink Tollway which has resulted in significant changes to its structure during and since its construction in 2008. The pedestrian experience of the Dandenong Valley is highly disconnected comprising of a series of vast open spaces dissected by a number of major arterial roads. Access into its open spaces especially from the Eastern side is difficult due to the presence of the Eastlink Tollway.

All three landscapes examined above have a number of common characteristics defining these spaces as a type. Typically located within river


Image 41 [Right] - Dandenong Valley surrounding communities drawing (Showing primary, high, special schools, research organisations & retirement villages)
valleys, water is a significant contributing factor to both the development and management of these spaces which are often subject to periodic flooding. These spaces also have large areas of highly degraded land inaccessible to the public due to them being un-maintained, dangerous or contaminated. Spaces that are open to the public are primarily used by surrounding local residents and communities however the sense of connection, entrances and public transportation links between the two are highly disconnected making access difficult. These spaces are currently used as end destination passive recreational spaces illustrated by the fact that the average stay per visit is around 5 hours. These are not spaces integrated into the lives of surrounding communities used repetitively as part of people’s everyday lives which would activate these spaces over a broader time scale. The landscape edge interface is largely impermeable, however these spaces do maintain a close proximity to their surrounding suburbs and a visual link due to the height differences between the two which provide significant potential to re-connect these spaces with their local communities and maintain their relevance to these communities.

The Dandenong Valley Community

The Dandenong Valley community as discussed in this project refers to the suburbs of Vermont, Vermont South, Glen Waverley, Wheelers Hill, Rowville, Scoresby, Knoxfield, Wantirna South and Wantirna located within the local council jurisdictions of Whitehorse, Monash and Knox. These suburbs surround the valley’s open spaces which are bordered by the Eastlink Freeway down its entire Eastern side and dissected by Boronia Road, Burwood Highway, High Street Road, Ferntree Gully Road and the Monash Highway.

The Melbourne, A Social Atlas [1996, 2001 and 2006 versions] produced by the Australian Bureau of Statistics reveal a number of characteristics which in a broad sense define the local area. The Dandenong Valley is home to a high concentration of both young [5 to 24 year olds] and elderly residents [over 55’s] as well as also possessing a significant concentration of high income households predominantly earning a living from technician or trade qualifications. The area also possesses a high proportion of people who attended government schools and forms a location where many recent overseas immigrants settle upon first arriving in Melbourne. Recent immigrants from overseas settling in Melbourne often choose to settle in the area due to the performance of the local government schools. Schools such as Glen Waverley Secondary College have consistently outperformed many of the state’s private schools and appear in Victoria’s top schools lists on a regular basis. Button and Guerrera’s article Waverley; A Whole New Culture in The Age, 2002, identified the quality of local schools as the major attractor of overseas immigrants, which also lifts local house prices as well as fuelling a diverse and particularly strong multicultural local community.

The Dandenong Valley is also a landscape undergoing significant change in the past few years in response to the construction of the Eastlink Tollway completed in July 2008 at a cost of $2.5 billion forming part of the Metropolitan Ring Road connecting a large portion of Melbourne’s South East metropolitan area. In 2003 the Southern and Eastern Integrated Transport Authority [SEITA] was established by the Victorian Government to oversee construction of the project amidst vocal public concerns regarding its...
Image 43 - Dandenong Valley contour flooding drawings (showing 41, 44, 47, 50, 53, 56, 59, 62 and 65m above sea level intervals)

Image 44 [Right] - Dandenong Valley contour flooding drawing (77m ASL)
potential environmental impact on the areas local wildlife, vegetation and wetland ecosystems. Public debate and opposition also resulted from the decision to charge tolls however construction commenced in 2005. The tollway established a significant barrier between the Dandenong Valley’s open spaces and its adjacent communities on the Eastern side. A number of pedestrian bridges and underpasses were constructed however these are few and far between.

Dandenong Valley planning policy is controlled and administered by the local councils of Whitehorse, Monash and Knox, however these policies have changed significantly since the construction of the Eastlink Tollway. The commercial potential and increased level of access along the Western edge of the tollway has resulted in local councils changing the classification of large parcels of valley land to ‘special purpose’. This newly zoned land almost forms a continuous strip of potential development land along the Western edge of the tollway. The use of ‘special purpose’ land is assessed by local planning departments on a case by case basis and in recent years since the Eastlink’s construction councils have approved a number of sporting facility developments such as the Eastern Recreational Precinct in the City of Knox providing an indoor basketball and netball complex as well as a number of outdoor soccer fields. As discussed in previous chapters local councils have consistently given way to the commercial pressure established by the introduction of a major road and these changes in classification may be viewed as the first sign of this occurring in the Dandenong Valley. As such the possible future of the Dandenong valley may be evident within the current over developed form of the valley’s examined previously, especially that of the Maribyrnong Valley.

Case Studies; Doncaster East and Wantirna

Within the suburbs surrounding the Dandenong Valley there are a number of built arrangements combining community facilities based on the notion of a type of shared infrastructure. Although the placement of these examples clearly expresses these aspirations their use by local institutions and residents displays varying levels of success.

The Milgate Park cluster housing development located in Doncaster East provides 400 local residential properties with direct pedestrian access to 35 acres of shared open space and a number of significant community facilities such as the local primary and high school. This development was established in 1973 and includes a series of large open spaces, children’s playgrounds, tennis courts, basketball courts and sports playing fields arranged in a linear central form around which houses are positioned. Front entrances to these properties are orientated towards surrounding streets while rear entrances are orientated towards the internal open space. The local primary and high schools are positioned at one end of the linear open space accessible by both pedestrian movement through the central space and there are a number of thin pedestrian entrances to the central open space in the form of 4m wide fingers extending from surrounding streets. These pedestrian entrances have signs warning ‘Milgate Park Estate residents only’ however are fully accessible by the public and surrounding residents. A condition of buying one of the properties within this development includes a requirement to pay an annual contribution, similar to a strata fee, towards the on-going maintenance and management of the shared space by full time maintenance staff located onsite. As such the shared space in managed and maintained well.
The significant aspect of this development is the behaviour of local residents in response to the developments physical arrangement. The boundaries demarcating the rear of the properties from the shared space is hard and in some cases impossible to distinguish. Many properties have no rear fences and those that do are significantly less substantial than the typically high and visually impermeable fences bordering many public open spaces. The majority of properties that do have rear fences have gates providing direct access into the shared space. A number of properties also have swimming pools located in close proximity to the shared space with glass balustrades allowing a clear visual link between both spaces. All surrounding houses have significant areas of overlooking glass and those properties which are two stories have large first floor balconies overlooking the open space. This is a critical component within the success of these types of spaces providing passive surveillance and a sense of security when one is within the shared space. The edge interface is also distinctly different to the majority of interfaces between residential and shared open spaces which typically maintain a closed defensive nature.

The Milgate Park cluster housing development is a permeable social space and a successful example illustrating that human behaviour and local culture can be altered to achieve shared goals if the spatial provisions are carefully arranged and established. This model provides local residents with direct pedestrian access to significant shared recreational community facilities including the schools. The development provides a permeable and legible pedestrian orientated arrangement and also establishes provisions to manage and maintain these spaces which are all critical components of its on-going use.

The Wantirna South high school, retirement village and open space arrangement also embodies significant potential for use as a type of shared infrastructure however it has not been fully maximised in its use by surrounding community institutions and residents. Wantirna College, Salford Park Retirement Village and a number of residential properties are care-
fully positioned around a shared open space. The college maintains a close proximity to the open space which is used by the school for sports and community events such as the school fair, however its layout and visual outlook do not maximise its full potential. The retirement village similarly does not make the most of its proximity in relation to the open space through the positioning of its units and visual links. The interface between the surrounding residential properties and the open space takes the form of very high visually impermeable fences. Pedestrian links to surrounding communities is also limited in the form of two very narrow pedestrian pathways. The public carpark located between the high school and retirement village has a number of signs warning ‘for use by school and retirement village users only’ discouraging public access to the open space, as this space forms the most legible and accessible link to the open space.

The Wantirna South arrangement exhibits significant potential as a type of shared infrastructure, however it has not been fully embraced and maximised by surrounding community institutions and residents. As opposed to the Milgate Park development surrounding buildings do not maintain visual links or direct pedestrian access which are the two basic elements encouraging local use as a shared infrastructure. Examination of the Milgate Park cluster housing development and Wantirna South provides a positive and negative example of the use of spaces as a type of shared infrastructure and is an important component within the development of my final project. These examples are smaller in scale whereas achieving these aspirations on a larger urban scale provides a significant challenge, however local use and cultural ownership can be encouraged if the spatial infrastructure is established as illustrated by the Milgate Park case study.

**Dandenong Valley Community Corridor Landscape**

**Shared Infrastructure**

The green valley currently provides a significant type of shared infrastructure in the form of a series of recreational open spaces within our increasingly dense urban environment. Green valley spaces make up the biggest component of our open space network covered within the 2002 planning policy relating to open space, *Linking People and Spaces* which states "Open space belongs to the community. Individuals and community groups should therefore be encouraged to take an active role in decision making for the networks future." The green valley however is currently used for a range of predominantly passive recreational activities and is in many ways a landscape discouraging you from interacting with it. Resultantly these spaces are often viewed by sections of the community as leftover spaces suitable for development because these spaces have little relevance to their surrounding communities. The green valley, as an inner extension of the green wedge, is under serious threat from development and is highly disconnected from its surrounding communities, in both a physical and cultural sense.

A walk through the Dandenong Valley landscape presents a series of messages leaving one with the feeling that the landscape is discouraging you from interacting with it. Gaining access to its open spaces is your first challenge. Public transportation connections are not co-ordinated and entrances are few and far between. Once gaining access to this landscape a myriad of signage warns, ‘trespassers will be prosecuted’, ‘authorised personnel only beyond this point’, ‘dangerous landscape ahead’, ‘flooding occurs periodically in this area’ as well as ‘do not eat the blackberries,
they have been sprayed with poison’. A lack of maintenance allowing vegetation to cover almost every bench restricts you from identifying potential seating opportunities, let alone stopping to observe and interact with ones surroundings. The buzz of high voltage power lines and their associated warning signage leaves one with an uneasy feeling and the recent construction of the Eastlink Tollway has had a detrimental effect on both noise levels and access to and from surrounding suburbs on the Eastern side. These messages all confirm that you are permitted to engage in a passive relationship with the landscape at best rather than an engaged interactive relationship with a landscape.

Surrounding this landscape the Dandenong Valley’s adjacent suburbs maintain a series of diverse multi-cultural local communities which include numerous kindergartens, primary schools, high schools, special needs schools, research organisations, community groups, hospitals and retirement villages. These institutions are the backbone of these communities which contain a high proportion of both young and elderly residents, each possessing their own unique experiences, knowledge, skills and aspirations. The Dandenong Valley is a significant open space located centrally within these communities that can play its part in building strong local communities and a unique local identity differentiating it from other areas if a consistent overall framework is developed and established allowing it to do so. To do this the Dandenong Valley’s open spaces and surrounding communities must be viewed as a single system. This overall view and understanding is the first step in unlocking its potential to provide far more than it currently is. From a detailed examination and understanding of the social, economic, political and geographical forces shaping these spaces and surrounding communities the following list of broad aspirations for these types of landscapes was identified:

- Establish a reciprocal relationship between community and landscape
- Establish community ownership, management and maintenance of the landscape
- Establish a resistance to development through community participation
- Raise the community’s sense of value relating to the landscape through education
- Embrace a flexible framework supporting a continually changing landscape
- Establish local community access pathways to and through the landscape
- Provide spaces for a diverse range of programs for all ages
- Protect the landscapes natural wildlife and vegetation ecosystems
- Encourage environmental and renewable energy research and education
- Support existing local community groups and research organizations

These aspirations centre around the notion of ‘community ownership’. Allowing people to interact with rather than maintain a passive relationship with the landscape. To achieve this one must provide local communities a level of input and control regarding use of the land as well as assuming the associated responsibility regarding its management and maintenance. This is the basic notion of community ownership, a goal shared by almost all government departments in relation to these types of spaces, as well as many others, but currently implemented in limited and ineffectual ways.
through existing land management systems. This is a responsibility best assumed by the local community but one that can only be achieved if a framework establishing a network of legible pathways is inserted into the landscape connecting these communities to the landscape. These pathways provide connections in a physical [infrastructural] sense which further encourages connections in a cultural sense. Communities cannot assume ownership of these types of landscapes if their ability to access these spaces lacks legibility physical connections. This is also an area in which little research has been undertaken identifying how community ownership and participation can be encouraged, in both a physical and cultural sense. Shared Infrastructure; Community Corridor Landscapes seeks to identify and develop architectural strategies to achieve a goal nominated in almost all planning policies and one that is applicable to many types of landscapes.

The notion of 'community ownership' is also one closely linked to the notion of 'community education'. Community ownership, management and maintenance of the landscape builds the type of reciprocal relationships that establish and maintain a sense of value relating to the land through education. This is also a basic type of resistance strategy. When local communities are emotionally invested in a particular space they will also be naturally resistant to the typical development currently threatening the green valley. Many strong local communities such as St Kilda in Victoria or Fremantle in Western Australia are closely associated with a sense of local identity differentiating these areas from others. Local community values are also influential within the formation of government policy playing a significant role in the future of these landscapes.

**Strategies for Achieving a Shared Infrastructure**

The green valley typically possesses one characteristic providing great potential in establishing a sense of community ownership. Its location in close proximity to its surrounding suburbs and communities provides it with an ability to regenerate its relevance to the local community over time. This is a characteristic that has not currently been acknowledged and is further explored in this project to identify and develop strategies encouraging the formation of an interactive relationship with the landscape. A number of strategies including the Permeability, Property Acquisition, Subdivision and Road Reclamation strategies emerged through detailed examination and exploration of the valley edge as the interface between its open spaces and surrounding communities. These strategies rely on small insertions and adjustments to existing development forces already acting upon this landscape such as subdivisions and property acquisition overlays.

This project establishes a series of local community pathways to and through the landscape as the primary strategy encouraging local community interaction, participation and ownership of the landscape. Local communities cannot develop a relationship with the landscape if they are only provided with limited opportunities to access and interact with the landscape. Pedestrian pathways established through a landscape, rather than to a landscape, allow the landscape to become a space in which people live their daily lives rather than an end destination currently limiting these types of spaces to passive recreational spaces. People continuously travelling through a landscape on their way to school or work activate
these spaces over a broad time scale. Many similar landscapes provide pathways to these spaces with a looped internal circulation network when one arrives, encouraging activity restricted to certain times, predominantly evenings and weekends. Establishing a series of linear pathways from one community to the adjacent community through the landscape, for the full length of the valley not only links each adjacent community but integrates the valley’s open spaces within these communities. A permeable valley edge encourages the continuous movement of energy through the landscape activating these spaces.

The green valley, as an extension of the green wedge, is typically located long distances from public transport networks which are concentrated centrally along developed urban corridors. This suggests pedestrian movement from surrounding suburbs is the most appropriate form of activation of these spaces. The green valley’s open spaces are also typically located at the lowest point of the valley, meaning its surrounding communities maintain a strong visual link to these spaces, further encouraging legible pedestrian movement towards these spaces. Providing a network of pedestrian pathways from surrounding communities, as opposed to vehicle based access also encourages participation by a broad cross section of the community, from the very young to the elderly. This allows access by individuals from local kindergartens, primary schools, high schools, community groups, research organisation, retirement villages, hospitals, businesses and residential properties, many of which only have access to pedestrian movement.

The Edge; Interface Opportunities

The ideas and techniques developed in the Peripheral Living project, in particular the close examination of an edge and its potential interface opportunities were an important element within the development of this project. To achieve a fully integrated network of pathways from local communities one must carefully examine the nature of the edge as well as all existing and potential permeability opportunities.

Typically edges to these types of spaces, including the Dandenong Valley, possess characteristics that can be classified as open, closed or mixed. An open edge consists of a boundary road running parallel to the edge of the valley, with housing or development only on the side furthest from the valley. This type of edge allows interaction from the front of these houses, the road and other perpendicular roads which join into the parallel road forming a type of open end against the edge of the valley. An open edge provides significant opportunities to establish pathways through the valley with little or no alteration to the condition of the existing edge. A closed edge however usually results from a road running parallel to the edge of the valley with housing on both sides, meaning the valley is directly bordered by the back side of a row of houses. Any roads running perpendicular to the valley are therefore blocked from connecting into the valley by the row of houses located directly against the edge of the valley. Closed edges make the creation of additional connections into the valley more difficult, but are not un-achievable. Typically valley’s will also have a number of edges possessing a mixture of both open and closed edges which can therefore be classified as mixed.
Image 64 [Left] - Dandenong Valley subdivision strategy study drawing (Showing existing subdivisions in grey and potential subdivisions in orange)

Image 65 - Typical existing subdivision arrangement drawing

Image 66 - Potential subdivision strategy drawing (showing new public connection into valley)

Image 67 - Potential side by side subdivision strategy drawing (showing new double width public connection into valley)
Permeability Strategy [Open Edge Strategy]

When one closely examines the existing pathways, connections and roads into the Dandenong Valley the following categories of permeability are identified. Firstly there are a number of existing arterial roads including Boronia Road, Burwood Highway, High Street Road, Ferntree Gully Road and the Monash Highway dissecting the valley which can be classified as a network of existing continuous permeability. This network however is largely counter-productive to the aspirations of the valley as it segregates many of the valley’s open spaces when experienced at a pedestrian level, but is integral to the functioning of the overall environment and its impact must therefore be minimised. More beneficial to the valley are the presence of existing direct connections which occur along the valley’s open edges. Perpendicular roads forming a terminated open end against the valley’s edges are significant opportunities to establish new pedestrian pathways through the valley requiring little alteration to the existing edge condition. Direct connections when viewed as a combined network along the length of the valley can provide a significant increase in permeability through the valley connecting adjacent communities as well as the valley to these communities.

Property Acquisition Strategy [Closed Edge Strategy]

The presence of potential connections can also provide a significant increase in permeability, however this involves a longer term process of acquiring properties along the valley’s closed edges. Potential connections are perpendicular streets extending long distances towards the valley surrounded by significant community institutions as well as residential properties whose path into the valley is disrupted by a single residential property. The acquisition of a small number of strategically located properties over time will provide a significant increase in permeability through the valley’s closed edges. A strategic number of back to back properties are also identified for acquisition which are located further from the edge of the valley, potentially providing significant community corridors through the valley and its adjacent communities. The need for closed edge strategies increasing permeability requires a greater level of intervention but results in more pronounced benefits along these edges.

Subdivision Strategy [Closed Edge Strategy]

There are also a significant number of residential property subdivisions occurring in the suburbs surrounding the Dandenong Valley, as there are in many other similar landscapes. As a naturally occurring development process their existence provides an opportunity to integrate and co-ordinate this process with the aspirations of the overall landscape. Typically these subdivisions occur in a ‘battle axe’ configuration with the rear house terminating the battle axe driveway. Development incentives could be provided to landowners on the edge of the valley, such as decreasing setbacks or increasing allowable heights, in exchange for extending the driveway portion of the subdivision through the entire length of the property allowing additional public access pathways into the valley. Extending on this strategy, adjacent subdivisions on the edge of the valley could also be given incentives to adopt side by side driveway configurations provid-
ing 6m wide public access pathways into the valley as opposed to the 3m wide pathways for single subdivisions. This is a long term strategy increasing the valleys closed edge permeability through incentives inserted into existing development forces currently acting on these landscapes.

**Edge Road Reclamation Strategy**

This strategy is as much a gesture providing a visual representation of the aspirations of the green valley as it is a functional component of the proposed landscape, clearly visible to local communities. Many existing roads running perpendicular to and extending into the valley have primary roads for use by the majority of traffic as well as secondary roads running directly adjacent for use by local traffic. These secondary roads offer potential as micro community landscapes in the same way larger community landscapes will be used by their community corridors. These spaces are highly integrated into the community and highly accessible by less mobile groups within the community, such as the elderly and very young, establishing a functioning green interface between the suburbs and the valley. These reclaimed landscapes located on the valleys edge reflect the valleys aspirations and provide a highly accessible and educational interface between the valley and its surrounding communities.

**Community Corridors**

Both direct and potential connections as well as the property acquisition, subdivision and edge road reclamation strategies all establish a network of linear pathways or community corridors re-connecting the valleys surrounding adjacent communities to each other as well as with the landscape. This integrated access network provides a fully permeable edge far exceeding the level of access and legibility currently available to the Dandenong Valley's surrounding communities. Existing land uses forming significant barriers or blockages are also identified many of which, golf courses being one example, could easily accommodate pedestrian pathways while still maintaining their current use.

These community corridors inherently possess a collection of existing interests, knowledge, skills and aspirations formed by the collection of individuals, institutions and groups within that particular corridor. Local kindergartens, primary schools, high schools, community groups, research organisations, retirement villages, hospitals, businesses and residents create a unique collective community that will assume a level of input and control over the use of their particular community landscape. Establishing a network of community corridors through the landscape potentially harnesses the energy of these diverse communities in relation to the valley’s open spaces. These pathways initially connect adjacent communities having the greatest proximity or adjacency to each other, but also acknowledges the potential and inevitable change that will occur in these communities over time. As local communities re-connect with others and identify new relationships based on shared interests the direction of these pathways as well as the landscape they define will also change over time. The framework embraces and encourages this process which in many ways determines its long term success.

**Community Landscapes**

The insertion of a network of pathways through the landscape not only provides an influx of energy activating these spaces but also defines a series of parcels of land or management and maintenance territories named
community landscapes of varying sizes. These landscapes are open to a level of input and control regarding the use of these spaces by the community based on the collective interests, knowledge, skills and aspirations of that particular community. Community corridors including an agricultural research organisation may choose to use the land for this purpose while others including a number of kindergartens and primary schools may choose to use that particular landscape as a space for flying kites. Other corridors including a number of high schools may elect to use their community landscape for sustainability or environmental education purposes or as a school performance space.

The availability of these community landscapes provides spaces encouraging the formation of new community groups and events such as music festivals or craft markets as well as supporting existing groups within the community. The valley itself, as well as its surrounding suburbs currently includes an agricultural research organisation, the Victorian Police Training Academy, a BMX track recently closed to make way for residential development, the Parks Victoria regional head office and a model plane flying club which as significant institutions within their communities will assume a level of input regarding the use of their particular landscape. As well as social and environmental benefits, communities will also benefit from potential events such as music festivals, craft markets, BMX races and kite flying festivals in an economic sense, the proceeds of which can be channelled back into the maintenance and management of the landscape, in a similar way to that of the Highline project in New York City discussed in previous chapters.

The formation of landscapes of varying sizes and characteristics also provides opportunities for a diverse range of uses. Some large parcels of land may be suitable for music festivals whereas flat, low lying, flood prone land may be more suitable for uses such as kite flying as they may be inaccessible for short periods of time when flooding occurs. Local community corridors will take the unique characteristics of their land into consideration when designating a use for that particular parcel of land. This process of evaluation as communities become intimately familiar with the land generates an on-going collection of knowledge relating to each individual landscape passed from generation to generation, building a greater sense of value relating to the land through participation, interaction and education.

Suitable uses of the landscapes will also change over time as the landscape itself changes. Local soil, water, micro-climates, vegetation and wildlife ecosystems all evolve and respond to other elements within the ecosystem over time. Being close to, observing and interacting with the land and its changes over a long period of time produces a greater understanding of the landscape as well as its sustainable maintenance and management requirements. These responsibilities provide local communities with a deeper understanding of the complexity of issues facing these types of landscapes. This is a reciprocal relationship with the landscape that far exceeds the passive relationship currently permitted. Each community not only maintains a relationship with their own particular landscape but a wider relationship with the other landscapes in the valley. The water and soil are elements shared and influenced by the other community corridors within the valley therefore all community corridors share a common responsibility to work together to maintain these elements as well as the valley landscape as a whole, providing an understanding of how individual parcels of land fit together to form larger landscapes and ecosystems.
Dandenong Valley Community Corridor Landscape

One particular community corridor landscape located centrally within the valley was identified and examined closely. This corridor possesses a diverse collection of surrounding communities including a number of prominent local institutions such as the Victorian Police Training Academy to the West, a horse training and riding school within its open space and a cluster of primary and high schools to the East. Its open space also includes a diverse range of existing functions in the form of a golf course, dairy cow grazing pastures, the Waverley Women’s Sports Centre, a series of abandoned water tanks, a large open space and cluster of trees forming an intimate protected space. On its Western side an existing road, Waverley Road, forms a continuous corridor extending a significant length into the valley and on the Eastern side an existing Eastlink signage structure offers an opportunity for re-interpretation and potential modification into a pedestrian footbridge providing improved access into the valley from the Eastern side. The presence of a number of existing disconnected pathways and tracks also offers potential for use as part of the new pathway through the landscape requiring minimal intervention. This portion of land is located between two creeks, therefore particularly susceptible to flooding and is also located on the boundary between both surrounding local councils.

As discussed previously, many similar landscapes provide isolated entrances into open spaces of this type with a series of looped internal circulation pathways when one arrives, relegating these spaces to use as passive, end destination, recreational spaces. This is the type of access, circulation and use currently provided within and by this landscape. Linear pathways will encourage the continual movement of community energy in the form of the interests, knowledge and skills of new people through the landscape. People traversing this pathway as part of their everyday lives, children walking to school, people walking to work and those simply walking through the landscape for exercise can activate these spaces over broad time scales.

A continuous linear pathway connecting one community to its adjacent community is established initially relying on the presence of the Victorian Police Training Academy to the West, the schools to the East and the existing horse training facility located centrally along the pathway. The unique characteristics of the landscape offer potential for use as an integral part of the Victorian Police Training Academy. Mounted horseback police, police dogs and police divers could all greatly benefit from the use of these spaces encouraging the police to take ownership of this portion of the valley, as opposed to only owning and contributing to their property on the valley slope overlooking these spaces. Other elements of the community such as school children using these spaces benefit from increased surveillance and security provided by a police presence, in the same way the police benefit from gaining access to a diverse range of spaces for training and exercise purposes. The police may partially or wholly fund future infrastructure constructed within this landscape which would not only benefit the police but also be available for use by the public and other community groups. As pieces of shared infrastructure these insertions will provide a diverse range of uses by other user groups, in a diverse range...
of conditions such as flooding. These pieces of shared infrastructure are a catalyst for change and future community development.

A simple piece of infrastructure in the form of a series of open covered spaces arranged along a pathway provides an example of a type of ‘infrastructure seeding’ may act as a catalyst for further community development and interaction. This piece of infrastructure straddling the boundary between two local councils interacts with the large open space to its South providing opportunities for large sporting and music events as well as the existing clump of trees to the North creating an intimate sheltered space for use as smaller school assembly or community performance spaces. The covered spaces surround the pathway not only allowing people walking along the pathway to view the use of these surrounding spaces but also establishing a central meeting point along this pathway with potential for use as a market to sell fresh produce grown in this landscape or arts and crafts products created by local community groups. The covered spaces are designed at a variety of heights from a gravel hardstand at ground level to a platform elevated 750mm above the ground providing options and potential uses in events such as flooding.

Existing uses within the landscape such as the horse training and riding facility will be strengthened and maintained by the presence and input of new people and user groups while existing abandoned and poorly maintained spaces and forms will be viewed in different ways by different people, allowing the re-interpretation and re-use of these spaces in ways previously not considered. A series of existing abandoned water tanks can provide new functions such as use as a series of orientating objects locating changes in the direction of pathways which provides a legibility currently lacking in the landscape. The modification of an existing tollway signage structure into a new pedestrian bridge as well as use of existing tracks and pathways illustrate the potential re-interpretation of existing elements by new users. This encourages a cultural change in people’s attitudes towards the use of these spaces as well as the value of the landscape itself. Repetitive access and use of these spaces as part of people’s everyday lives encourages ownership of these spaces. Ownership, maintenance and management of these landscapes generate a diverse matrix of social, environmental and economic opportunities which far exceeds those currently available.

**Conclusion; Shared Infrastructure**

Almost all landscapes can be viewed as a shared infrastructure however their potential when viewed as such often far exceeds their current use. The green valley currently provides opportunities for recreation in close proximity to surrounding communities, however links between the two are highly disconnected in a physical sense. The insertion of a network of pathways [community corridors] linking communities, as well as the landscape within these communities, encourages further interaction between the two. The strategic arrangement of this network evolves through detailed examination and understanding of existing communities as well as the open spaces and their interface.

The architectural strategies developed to establish a network in this project rely on small incentives inserted into existing development forces already acting on these landscapes, such as subdivisions and property acquisition overlays. Permeability, property acquisition, subdivision and edge road reclamation strategies provide a series of linear community
corridors through the landscape which are significantly different to the access provided in many contemporary projects of this type. Open ended linear pathways through a landscape activate these spaces as a part of the re-occurring patterns of everyday life, on a broad time scale, while isolated entrances with looped internal circulation when one arrives relocates many of these landscapes to passive ‘end destination’ recreational spaces.

Architectural strategies establish connections in a physical [infrastructural] sense which further encourage connections in a cultural sense. Community ownership, management and maintenance of the landscape over a period of time builds and maintains a sense of value relating to the land as well as a deeper understanding of the landscape and its on-going management and maintenance requirements. This is a goal shared by almost all government departments in relation to these types of spaces, but implemented in limited and ineffectual ways through existing land management systems. This cannot be achieved without first establishing a framework improving the access and legibility of these spaces. This framework must also allow a flexibility to change and adapt over time, in the same way local communities change over time. The formation of new relationships will inevitably result in changes to the framework, its community corridors as well as the landscapes or management and maintenance territories they define.

This network of community corridors encouraging the growth of a management framework allowing a broader range of living, working and recreation related activities. This strengthens the ongoing significance of these spaces to local communities by generating social, educational, economic and environmental opportunities for surrounding communities, in a similar way to that of the High Line Project. The movement of new people through these spaces allows the re-interpretation and re-use of existing spaces and built forms in ways previously not considered, through the presence of their knowledge, skills, interests and aspirations. In this way these spaces change and adapt with the local community over time.

Viewing a landscape as being integrally linked to its surrounding community [a single system] produces drastically different architectural strategies and outcomes to that of a landscape viewed in isolation. These landscapes are a valuable shared infrastructure which when viewed in unison with surrounding communities urgently require a re-connection of community and landscape, firstly in a physical sense, which further encourages connections in a cultural sense. This way of viewing these landscapes as well as the resultant strategies are relevant to many, if not all landscapes shared by local communities.
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