3 The Growth Corridor Planning Principles in Detail

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The following sections discuss the Principles outlined in Chapter 2 in more detail. They have been used as the basis for each of the four Growth Corridor Plans that are included in Chapters 4-7. These Principles will also be used to guide the preparation of future PSPs and future infrastructure








3.1 PRINCIPLE 1: CREATE DIVERSE AND VIBRANT NEW URBAN COMMUNITIES

3.1.1 The Growth Corridor Plans aim to create communities of a sufficient size and density to support the provision of regional and local infrastructure and services

New communities need to be planned to be of a sufficient population size to support the levels of infrastructure, services and jobs that residents need, with an aim to be as self sustaining as possible.

Typically, a neighbourhood of approximately 8,000 to 10,000 people is sufficient to support a good range of local service provision, including local shopping, primary health and education, community and recreation services.

Each neighbourhood is expected to have a Local Town Centre (LTC), accessible to as many residents as possible within easy walking distance. Supporting facilities are expected to include a local primary school and kindergarten, local health services, aged care accommodation, a community centre and sporting ovals and a good level of shops and services.

Community facilities that require larger catchments (such as secondary schools, regional health facilities and sporting fields) should be located to be easily accessed between neighbourhoods by public transport and cycling as well as by car.

Local neighbourhoods should provide a diversity of housing choices to meet a wide range of needs and lifestyles. The average residential density within local neighbourhoods is preferred to be at least 15 dwellings per hectare. Higher residential densities (i.e. 20 or more dwellings per hectare) should be prioritised in areas of higher accessibility and amenity such as Local Town Centres and close to public transport and parks.

Groups of local neighbourhoods combine to form districts, which are often framed by major infrastructure or physical features such as freeways, rivers, rail lines or other large non-developable areas. These districts need to be self-contained, and generally include a wide range of jobs and a higher order town centre, and good connections should be provided between them.

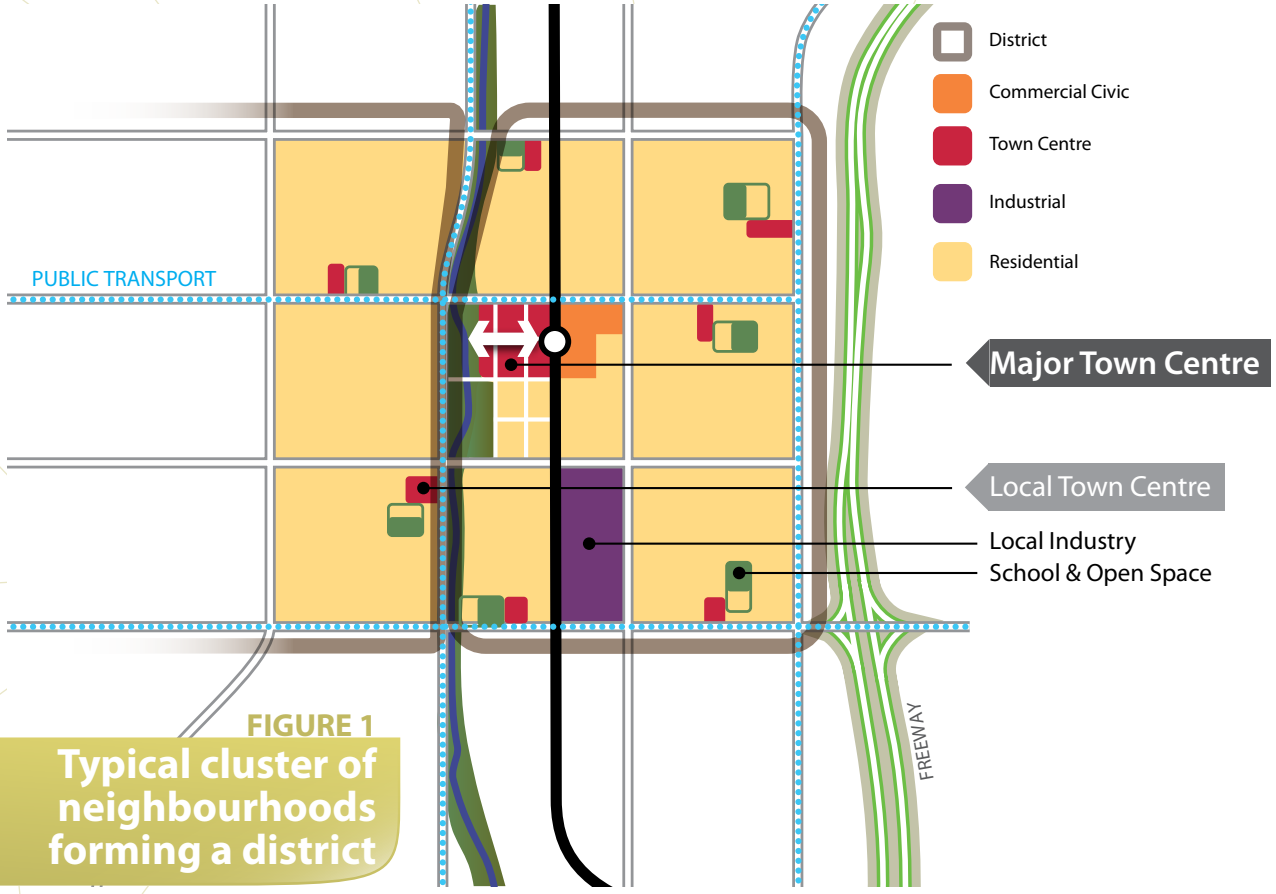


FIGURE 1
Typical cluster of neighbourhoods forming a district

3.1.2 Creating vibrant and attractive Town Centres

All Town Centres will be high quality, well designed locations that create a sense of place and become a highly desirable location to live, work and play as well as enhancing the overall liveability of the Growth Corridor. Centres are expected to combine a considered mix of land uses along with high quality urban design and architecture, public spaces (e.g. parks, public squares) and natural features to form places that are highly accessible, legible, pedestrian oriented and integrated with their surrounding catchments. Town Centres should retain a capacity to grow over time.

A hierarchy of Town Centres is proposed in the Growth Corridors, which are described below:

Local Town Centres (LTC)

Every neighbourhood should have ready access to a LTC, which is expected to be the focal point of neighbourhoods and the social heart. They should provide a good range of local jobs and services for residents. The location of the LTC will be identified in PSPs based on requirements set out in the Precinct Structure Planning Guidelines.

Role: Local needs

Characteristics:

> Serve a catchment of approximately 8,000-10,000 people;
> Be a community focal point;
> Contain a diversity of accommodation types (e.g. medium density housing, possibly aged care)
> Anchored by a supermarket and a range of specialty shops and supported by a range of non-retail activities such as child care, health services, community meeting spaces, recreational and entertainment facilities;
> Served by at least a local bus route and be accessible by means of walking and cycling; and
> Located on a connector street, with access to an arterial road.

Major Town Centres (MTC)

MTCs should accommodate a wide range of shopping, employment, community, health, education and housing options, be located on the PPTN and have good access to the arterial road network.

Role: Sub-regional (District catchment)

Characteristics:

> Located along the PPTN and highly accessible from the arterial road network;
> Potential location for regional services such as post-compulsory education and more specialised health and community services, as well as entertainment and shopping; and
> Will contain a diverse range of housing options, including medium to higher density housing in and around the centre location and a diverse range of businesses and jobs.

Principal Town Centres (PTC)

PTCs will generally comprise the broadest mix of higher-order activities, generating significant numbers of visits.

Role: Regional centre (Whole of Growth Corridor catchment)

Characteristics:

> Are located on those parts of the transport network that have the highest capacity and greatest accessibility to a regional catchment, well served by heavy rail, as well as multiple public transport routes, arterial roads and regional cycling and trail networks;
> Most appropriate location for regional services such as post-compulsory education and more specialised health and community services. They should be a focus for Government and community facilities, services and investment;
> PTCs are expected to accommodate the broadest range of retail activity because they will be the most accessible to a regional catchment and supported by integrated high capacity public transport. They will also be the location for regional scale facilities, and more intensive employment opportunities
> Enables high intensity uses comprising jobs, shopping, leisure and recreation to co-locate in these centres to encourage multi-purpose trips and are accessible to the largest number of people in the region; and
> Be the location for medium and high density housing within and close to these centres.

Central Activity Areas (CAA)

Are the largest centres within the metropolitan area beyond Melbourne's CBD. They are similar to Principal Town Centres, but are already well established, with a high level of existing services and facilities and a broad regional catchment within the existing metropolitan area.

A wide range of regional services such as post-compulsory education and more specialised health and community services are expected to locate in CAAs. Like PTCs, they will be a focus for Government and community facilities, services and investment.

Broadmeadows, in the North Corridor, Footscray in the West, and both Dandenong and Frankston in the South East, are designated CAA's that are likely to provide a significant regional

function to support the emerging growth in their respective Corridors

The CAAs should be supported by the complementary hierarchy of PTCs, MTCs and more locally by LTCs.

Specialised Town Centres

Specialised Town Centres may be appropriate in a number of 'Business' precincts. These Centres will have a relatively small retail function, but will provide locations for specialist business services, conferencing, accommodation, recreation (e.g. gym), entertainment etc. Co-location of these activities within a Specialised Town Centre will help to ensure the most efficient provision of infrastructure and allow for multi-purpose trips. They should be highly accessible by public transport.

Creating the retail framework for town centres

Within the Town Centre framework, the highest order Centres, (CAAs & PTCs), will accommodate the broadest range of retail activity because they will be the most accessible to a regional catchment and supported by integrated high capacity public transport. They will also be the location for regional scale facilities, and more intensive and large scale employment opportunities.

The network of Town Centres across the growth areas has been informed by an analysis of catchments, taking into account both existing and planned centres in urban areas. MTCs and LTCs will be expected to provide retail activity commensurate to a level that their catchment and accessibility can support.

The GCP does not seek to apply retail floor space caps for any centre. Each centre is expected to retain a capacity to grow over time.

However, the ultimate size and nature of retail and other uses within each Town Centre will be further informed by more detailed catchment analysis as each Precinct Structure Plan is prepared. This analysis will have regard to the potential impact on existing, developing and planned town centres across each Growth Corridor.

Bulky Goods

Bulky Goods (referred to as 'restricted retail' in Planning Schemes) should ideally be located in or adjacent to higher order town centres or in strategic locations within business precincts as part of a cluster of similar uses. Co-location of bulky goods in these locations is preferred and can allow for a more efficient use of infrastructure, greater accessibility by public transport, combined purpose trips and better employment opportunities.

3.1.3 Providing Regional Community, Health and Education facilities

The new Growth Corridor communities will require a range of community facilities and services to meet their needs over time. The benchmarks for the broader range of community services need to be developed further, but there is a need to consider these services as an integral part of planning new neighbourhoods and districts.

Existing higher-order health, post-compulsory education facilities and community facilities located in established areas will continue to play a significant role in meeting the future needs of residents living within Melbourne's Growth Corridors. However, over time consideration may need to be given to extending such higher order services into the Growth Corridors.

Central Activities Areas, Principal and Major Town Centres provide the most appropriate locations for regional services such as post-compulsory education and more specialised health and community services. Locating services in larger centres achieves a number of benefits:

> Maximising accessibility to such services, especially by public transport;
> Contributing to the activation of such centres;
> Optimising opportunities for joint-use/sharing/integration with other community facilities in the centre; and
> Enabling links between services and nearby business activities.

Health

The Government recognises a need for additional health services in Melbourne's outer west, north-west and south-east. The planning of new health services will take place in accordance with the *Victorian Health Priorities Framework 2012-22: Metropolitan Health Plan and the Health Capital Resources Plan* 2012-22, and will consider factors such as population growth, service quality and efficiency, the potential for non-hospital models of care, workforce availability and the location of complementary Commonwealth funded and private healthcare services.

As a guide, the following can generally be applied to community based health care services that service catchments larger than local neighbourhoods:

> Some specialist secondary health including rehabilitation services provided from integrated facilities, for a catchment of approximately 50,000 to 100,000 people, depending on the nature of that population;
> Integrated ambulatory health care facilities with a catchment of approximately 100,000 to 200,000 people; and
> Acute health, including emergency care facilities, with a catchment of approximately 500,000 people in a Growth Corridor.

Education

An integrated planning approach is required to planning for compulsory and post-compulsory education services in Growth Corridors. Government and non-government schools, Universities, TAFE Institutes, Registered Training Organisations, VET providers, and other adult education services will all play a critical role in providing for the ongoing lifelong learning needs of people within these new communities.

As a guide, the following typically apply to education facilities that service catchments larger than local neighbourhoods:

> Government secondary schools with a catchment of approximately 25,000 to 30,000 people;
> Catholic primary schools and secondary schools, with catchments determined through detailed strategic planning by the Catholic Education Office of Melbourne taking into account population growth rates and demographics in each region; and
> Independent schools, which will have variable student numbers and are likely to serve a wider regional catchment.

Provision of Higher Education services including TAFE and universities will be determined by review of the capacity of existing services and the anticipated demand for expanded services within each Growth Corridor.

3.2 PRINCIPLE 2: INTEGRATE TRANSPORT AND LAND USE PLANNING

It is important that as many people as possible have easy access to the widest range of jobs, education opportunities, health care, shops and services and leisure and recreation facilities. A range of transport options should be available to people. Integrated transport and land use planning is crucial to delivering economically, socially and environmentally sustainable new communities that promote more efficient patterns of living.

A need to travel long distances for everyday purposes such as going to work or school is costly in terms of time, environmental impact and to household budgets.

The Growth Corridor Plans seek to reduce the length of such trips within the Growth Corridors and to other destinations in Melbourne. The Plans:

- Encourage self-containment at the neighbourhood and district levels;
- Promote efficient and compact communities with higher residential densities, close to facilities and supported by integrated public transport;
- Promote concentrated and mixed use activities – from Local through to the Principal Town Centres;
- Encourage an increased number and range of employment opportunities within Growth Corridors; and
- Will encourage, over time, the provision of a full range of facilities and services to be located within Growth Corridors.

3.2.1 Creating an integrated multi-modal transport network

The Growth Corridor Plans propose the development of a multi-modal transport network (including a Principal Public Transport Network [PPTN], arterial road, freight and Principle Bicycle Network [PBN]) to support communities, town centres and employment areas and to provide reasonable travel choices.

The plans identify:

- High capacity transport links connecting each Growth Corridor to the rest of metropolitan Melbourne;
- Local transport networks that link people to jobs and services within each corridor; and
- Existing and future strategic transport corridors, particularly the Principal Freight Network.

Public Transport

Planning for the identified PPTN includes a higher capacity component (including rail) to link the Growth Corridors to the CBD, the rest of metropolitan Melbourne and regional Victoria, as well as linking higher order town centres within each Growth Corridor. The PPTN identified on the Growth Corridor Plans is indicative and is subject to modification during detailed planning at the PSP stage.

The aim is for all neighbourhoods and other significant trip generators to be located within 3 kilometres of such services.

The balance of the PPTN is likely to comprise of strategic bus links between Major Town Centres, major employment areas and rail stations.

Throughout the Growth Corridors, land uses along suitable parts of the PPTN will generally be managed to support development of higher density housing and other uses that are likely to benefit from public transport access.

The PPTN in the Growth Corridors will typically be complemented by planning for a comprehensive local bus network to be defined in PSPs. Arterial and collector roads will be designed to carry bus services so as to enable public transport services to be delivered as efficiently as possible.

The ultimate PPTN will be designed through PSPs to meet the anticipated patronage demand and objectives described in sections 4 to 7.

The arterial road network

Planning of the arterial road network has been based on the '*SmartRoads*' framework. This framework strongly links transport decisions with land use planning, by managing the many competing demands for limited road space. Assigning preferred routes for each transport mode across the Growth Corridors will enable the efficient operation and management of the transport network into the future.

SmartRoads will assist the implementation of the Growth Corridor Plans by enabling high-level strategic decisions to be made about how each transport mode, including pedestrians and cyclists will be managed in the broader growth area. Precinct Structure Plans will also be influenced by SmartRoads, with *'Road Use Hierarchy Plans' and '*Network Fit Assessments' guiding decisions for the provision of future transport infrastructure.

The identified primary and secondary arterial road networks for the Growth Corridors have been developed on the basis of providing a 1.6km (1 mile) arterial road grid pattern wherever possible, with this basic grid being modified where necessary to take account of the proposed form of urban development and of environmental and other constraints. Inclusion of any arterial roads in the plans does not indicate a commitment to funding or declaration as a state arterial road.

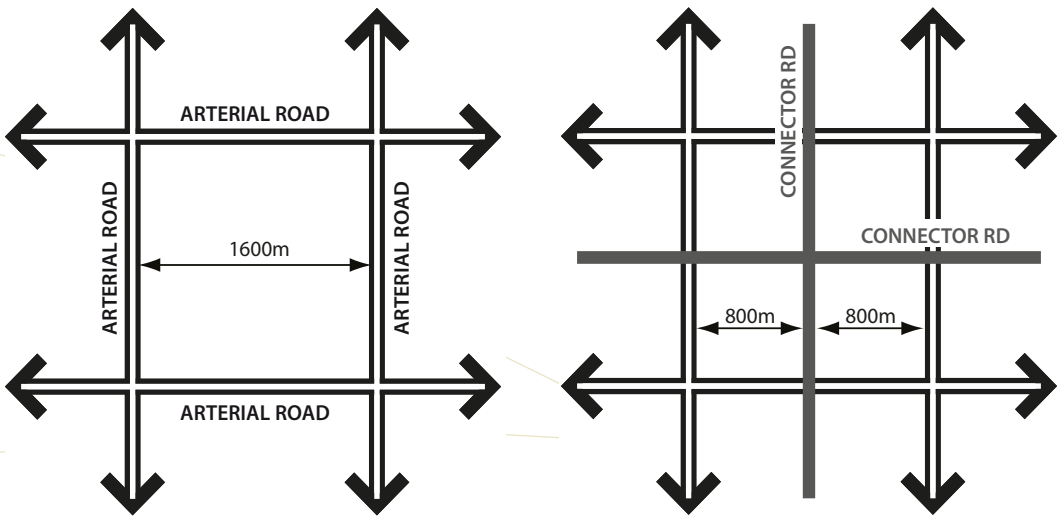
The arterial road network identified within Growth Corridors will usually consist of 6 lane divided primary arterials and 4-lane divided secondary arterials, depending on local demand.

Generally every second road in the grid will be a primary arterial which caters for long-distance through traffic. Some of these will be designed primarily to carry freight. These primary arterial roads will typically be spaced at 3.2 km intervals.

The alternating arterials will generally be designed as secondary arterial roads, where public transport functions will be prioritised. Catering for long-distance, through traffic will be a lower priority on these routes, and there will be greater opportunities for connectivity across them, with collectors and/or pedestrian crossings being spaced more regularly than is acceptable along primary arterial routes.

Precinct Structure Plans will:

- Be based on an analysis of future traffic generation and demand, which are in turn based on population projections, dwelling and employment densities and local circumstances e.g. physical conditions;
- Identify the type of roads needed and the precise alignment of roads and road reserves; and
- Deliver land for road reserves and the early road infrastructure to support new communities via developer contributions or works in kind.



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Other features of the new road network identified in the plan include:

> Locating town centres on intersections with secondary arterials, wherever possible. Such centres should not straddle arterial roads;

> Arterials should have the capacity to be divided by a median with potential boulevard treatment where appropriate;

> Public transport priority at intersections should be considered on all arterials, as appropriate;

> Opportunities for pedestrians to cross arterials will generally be provided at every major intersection and at PPTN stops in locations of high activity; and

Connector streets provide for short distance travel and access to Local Town Centres and community facilities. Connectors will normally be a two-lane road located midway between arterial roads. Direct property access is expected on these streets, including providing for 'main street' style town centres.

Freight Network and Freight Precincts

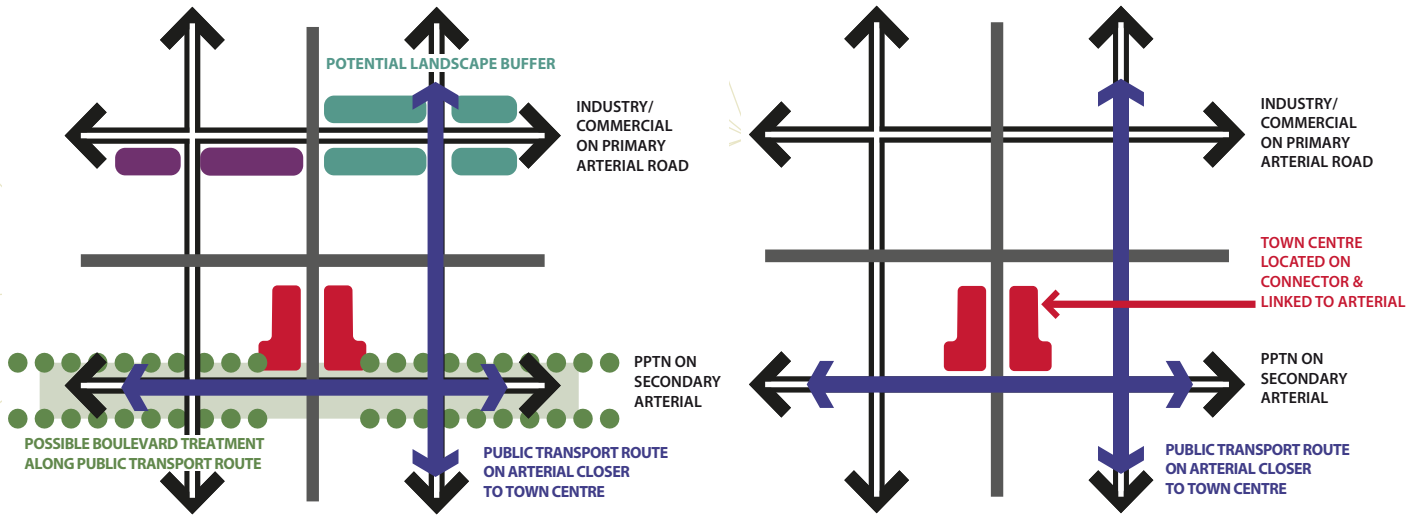
Planning for Melbourne's growing freight task is aimed at developing a freight network with sufficient capacity which is well connected to precincts of aggregated freight activities.

A Principal Freight Network (PFN), comprising road and rail, has been designated and aims to provide sufficient capacity for current and future demand. The PFN, which will be progressively expanded, is linked to a range of existing and proposed freight precincts including intermodal freight terminals, commercial trading ports and airports.

Improving capacity and connectivity for the PFN is an ongoing task and underpins productivity for the freight sector. Freight planning recognises a hierarchy of freight precincts, with additional 'gateway' precincts which are anticipated to be established at key locations in Growth Corridors, appropriately connected to the PFN.

Metropolitan freight planning is also expected to progressively decentralise freight activities from central Melbourne to selected outer industrial areas, reinforcing the role of the proposed gateway freight precincts in growth areas.

Designated freight precincts will be planned in more detail through precinct structure planning, project development investigations, and the use of statutory planning tools where appropriate.



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3.2.2 Opportunities for locating higher density land uses

The PPTN routes are expected to be supported by land uses that can generate demand for public transport trips. In the Growth Corridors, the following activities are expected to be located along the PPTN:

- Principal and Major Town Centres (including retail, high density residential development and regional health, education and community facilities); and
- Higher density employment precincts.

Prioritising investment in high capacity public transport (especially rail stations) requires that land uses capable of generating significant public transport patronage levels are co-located in order to facilitate combined purpose trips, ideally in PTCs or MTCs or employment precincts. This will ensure that infrastructure is provided and used in the best and most efficient manner. Possible new rail stations are therefore identified where there is a large residential catchment and/or at major destinations, such as a PTC and/or clusters of other high trip generating facilities.

The Growth Corridor Plans locate PTCs next to existing or identified rail stations. Major Town Centres are located either at rail stations, or other key PPTN nodes. Early planning for public transport infrastructure to significant employment generating precincts is also considered to be important in terms of being able to affect travel patterns and important decisions.

All major activity nodes (including town centres) are shown to be located where PPTN routes intersect or where local public transport services interconnect with the PPTN.

Town Centres, local commercial centres in employment areas and other higher density precincts should be designed to integrate well with public transport services. The highest density land uses and those facilities that are most likely to attract the most trips should be located closest to a public transport node.

The location and design of PTCs and MTCs should also provide good accessibility via the arterial road network, while not allowing arterial roads to divide functions within the centre from each other or from the major public transport node. Such town centres will, wherever possible, be located on secondary rather than primary arterial roads.

Wherever possible, Local Town Centres should also be located so that they have ready access to the PPTN.

3.2.3 Creating complementary walking and cycling networks

Provision for bicycle routes should generally be planned for the majority of arterial roads that form part of the Principal Bicycle Network (PBN) and local arterial and collector roads, normally in the form of bicycle lanes, exclusive bicycle paths or shared paths. These routes should be integrated with and supported by the Metropolitan Trail Network (MTN) and together link residential communities with key employment, education, shopping and recreation destinations.

Particular emphasis will be placed on ensuring that the designs of town centres, mixed use and business precincts provide convenient access from walking and cycling networks and have a high level of pedestrian amenity.

Cycling networks should have a high degree of connectivity, continuity and permeability. Bicycle routes should directly connect to major destinations, other bicycle routes and other transport corridors to provide a network of continuous and interconnected routes. The bicycle network should be permeable to enable easy and ready access by users. The network should generally be a combination of shared paths, exclusive bicycle paths and on road bicycle lanes to provide for all levels of riding skill.

3.3 PRINCIPLE 3: PLAN FOR LOCAL EMPLOYMENT CREATION

Communities in outer Melbourne have experienced high levels of population growth but low or delayed employment growth.

Often the number of jobs available is substantially below the number of workers living in the area. Even where the number of available jobs is higher there has often been limited diversity in local job opportunities. As a result many residents still have to travel long distances to access jobs that match their skills.

Diversifying the typical employment base in Melbourne's Growth Corridors will require a progressive shift to an employment mix closer to that which currently exists in Melbourne's established middle ring suburbs.

An underlying aspiration of these plans is to help facilitate at least one new job for each additional household across the Growth Corridors and also to increase the diversity of employment opportunities available to Corridor residents.

Around one third of job opportunities can be created within local neighbourhoods, with the remainder created across the sub-region, within a network of higher order town centres, business and industrial precincts.

3.3.1 Neighbourhood level employment

Employment opportunities within local neighbourhoods are expected to comprise a broad mix of local retailing, education, community services, home based businesses and other non retailing jobs in and around town centres.

Community services within local neighbourhoods should generate employment in primary and secondary schools, kindergarten and childcare centres, community centres, medical centres, and retirement/aged care facilities, etc.

Local Town Centres are also expected to also generate jobs in local supermarkets, specialty retailing and some non retailing activities.

Residential PSPs are expected to provide for smaller industrial/commercial precincts interspersed across local neighbourhoods to meet local requirements for businesses and service trades, such as new business start-up units. In each case the need for such areas will be confirmed as part of the PSP process.

3.3.2 Employment in Principal and Major Town Centres

Principal and Major Town Centres are expected to cater for a substantial component of employment choice across the Growth Corridors. These centres are likely to include a broad range of retail facilities, as well as a wide mix of commercial, community, education, health, cultural, recreation and leisure facilities.

The location of these types of activities in larger town centres will mean that they have access to an extensive workforce, as well as maximising opportunities to generate additional business and employment growth that, over time, should add to total job numbers and diversity in the Growth Corridors.

Strategic planning for larger town centres needs to provide for longer-term needs, and sufficient land should be set aside in these centres to enable a wide variety of such uses to establish over time.

On the basis that a full range of non-retail services are concentrated in the higher order town centres, then they have the potential to generate around one-quarter of all jobs required across the Growth Corridors.

Upon ultimate development, Principal Town Centres are expected to generate between 6,000 to 10,000 jobs while Major Town Centres are expected to generate 2,000 – 6,000 jobs.

3.3.3 Employment in business precincts

Not all commercial and office related employment is suitable for location within town centres. For example, offices linked to research and development activities may be better located in business precincts.

Business precincts identified on the Growth Corridor Plans are large flexible multi-use areas that provide for a wide range of employment opportunities. They are located so as to have excellent access to the arterial road and Principal Public Transport Network and a local resident workforce.

The Growth Corridor Plans generally locate such precincts adjacent to town centres or along PPTN routes, so as to facilitate the provision of public transport access as employment levels grow over time. The integration of public transport in these business precincts is considered to be an important component of any future PSP development and delivery.

Business precincts are expected to deliver more intensive forms of employment generating uses in comparison to industrial areas. They will accommodate a wide range of employment generating uses including service industry, office and commercial activity, and research and development and some bulky goods (restricted retail).

A range of supporting ancillary uses will be expected to co-locate in local scale '*Specialised Town Centres*'. These centres will have a relatively small retail function, but will provide locations for specialist business services, conferencing, accommodation, recreation, entertainment etc. Co-location of these types of activities within a Specialised Town Centre will help to ensure the most efficient provision of infrastructure and allow for multi-purpose trips. Specialised Town Centres should be highly accessible by public transport.

Business precincts are expected to deliver minimum job densities in the range of 30-40 jobs per gross hectare, and this employment range will be used as a minimum guide for the preparation of PSPs in these locations and should be exceeded where possible, particularly on sites of high strategic importance.

In some locations (as identified on the plan), these precincts may also include residential, cultural, recreational and civic uses as part of a broader mix of activities which support the overall employment activities. In such circumstances, these business precincts are expected to deliver minimum job densities in the range of 15-20 jobs per gross ha, and this employment range will be used as a minimum guide for the preparation of PSPs in these locations.

Business related activities are typically expected to be the predominant land use in these locations. Preserving the potential for these precincts to deliver employment outcomes is the most important planning and development outcome. This should be the principal measure guiding planning and development decisions in these locations.

Future detailed planning for these precincts will therefore need to demonstrate that employment provision is based on realistic demand over the medium to long term.

Whilst it might be expected that residential and non-core employment uses could be delivered within some of these precincts (as shown on the Growth Corridor Plans) in the shorter term (and in advance of the higher order employment activities), sufficient land must be protected to ensure an appropriate supply of strategically located land is preserved over the entire duration of the plan (e.g. 30-40 years).

Any proposals for land uses other than employment related uses will need to demonstrate that the overall objective for the land to deliver significant employment generating outcomes for the local area and the wider corridor would not be prejudiced.

Residential areas should be designed to complement and enhance the area for employment activities.

3.3.4 Industrial land supply

The availability of stocks of competitively priced land for manufacturing and logistics uses has been a significant source of competitive advantage for Melbourne in the past. Ensuring that this competitive advantage is protected in the future is an important planning outcome to achieve in Melbourne's Growth Corridors. The Growth Corridor Plans provide sufficient industrial land for up to the next 40 years.

Safeguarding strategically located industrial land over the entire lifetime of the Growth Corridor Plans is critical because the opportunity to 'retro-fit' industrial precincts into any Corridor is not possible once sensitive land uses (e.g. residential) are allowed to establish.

Melbourne currently has sufficient land to meet the needs of large-scale industrial development for the next 25 years. However, planning for additional industrial areas must occur well before the existing land supply nears its end. The Growth Corridor Plans currently allow for 10- 15 years of additional broad hectare industrial land in addition to the existing supply.

Setting aside a large supply of land to meet Melbourne's longer term industrial and logistics needs

will enable the city to cater for increasing demand as the sector grows. The Port of Melbourne is Australia's most important container port and container movements through Victoria are forecast to increase by 240% over the period from 2008 to 2030 (from 2 million to 6.8 million TEUs). The regional trading ports of Hastings and Geelong also have major import and export roles. The associated logistics and warehousing arising from this shipping growth is substantial. The reduction in availability of large vacant sites and the increasing value of industrial land in established suburbs, together with the continuing displacement of industrial uses in inner and middle suburbs by residential redevelopment, means that Growth Corridors are likely to increasingly be Melbourne's primary source of land for manufacturing and logistics uses.

Outer urban industrial precincts will also help to cater for currently unforeseen demand associated with changing economic structures and the possibility of higher metropolitan population growth.

The Growth Corridor Plans propose extensions to a number of existing industrial nodes, and the creation of new nodes in key locations on metropolitan transport networks.

The industrial areas identified in the Growth Corridor Plans are generally large (i.e. over 200ha). Such large precincts provide opportunities for co-location of companies serving similar sectors/markets, as well as providing opportunities for industries that have large land use buffer requirements to find suitable sites.

The criteria adopted for locating major industrial precincts are:

- good access to the Principal Freight Network (PFN) and via the network to ports, airports and intermodal freight terminals;
- the availability of sufficient unfragmented land holdings to enable the development, over time, of clusters of related businesses
- relatively flat land with good access to services and infrastructure so as to enable economic subdivision and building development; and
- the ability to provide adequate buffers from residential and other sensitive land uses to enable planning and EPA guidelines for residual air and noise emissions to be met.

Rob Blackburn

Rob Blackburn

The distribution of industrial precincts between the Growth Corridors has been based upon an assessment of market preferences and the level of existing industrial land stocks. Relatively more industrial land has been identified in the West and, to a lesser extent, the North Growth Corridors as these areas provide better access to the interstate freight network and to Melbourne's ports and airports.

Around half of the additional industrial land supply is located in Melbourne's west, either as an extension to the existing industrial node at Laverton or along the OMR and freeway network. Much of this will be linked to the proposed Western Interstate Freight Terminal at Truginina.

Additional industrial land supply is also identified in Melbourne's north, either along the Hume Fwy or as an adjunct to the proposed potential Beveridge Interstate Freight Terminal and OMR/E6 road reservation, providing for longer term road and rail freight distribution.

Comparatively less industrial land is identified to be added in the South-East Growth Corridor, due largely to the fact that this Corridor already has a significant longer term supply of industrial land in Dandenong, Officer and Pakenham South, as well as port-related industrial development opportunities at the Port of Hastings.

Smaller areas of industrial land have been identified in Sunbury, largely to meet the local population based industrial needs of the township, and to help increase the comparatively low job self-containment rates of the town. The improvement of transport options to metropolitan employment opportunities will also help to provide a diversity of jobs for Sunbury's residents.

In areas set aside for industrial purposes, PSPs are expected to deliver land predominantly for industrial uses with some allowance for a range of ancillary supporting services. Job density of 15-20 per gross hectare should be achieved.

3.4 PRINCIPLE 4: CREATE NEW SUBURBS WITH HIGH AMENITY AND CHARACTER

3.4.1 Protect and reinforce the physical features that distinguish each Growth Corridor

The protection and enhancement of existing landscapes within and adjoining Melbourne's Growth Corridors will provide the basis for creating new communities of high amenity and a strong local identity.

The ridgelines, hilltops, waterway corridors, and areas of special environmental and heritage significance in each Growth Corridor are the key to creating strong local character. The Growth Corridor Plans identify areas of special landscape significance that should be protected and enhanced, so as to make an ongoing contribution to the livability of the Growth Corridor.

Planning of each corridor should maximise the contribution that these landscape features make to the local character and amenity of the Growth Corridor.

In some instances it may be sufficient to protect such landscape features by excluding them from the areas identified for urban development. For more prominent areas it may be necessary to consider special planning and design controls that will prevent the gradual erosion of the character of such areas.

The final boundaries of landscape-related non-urban zones will be determined at the PSP stage, based on a more detailed local assessment of landscape character and values. The Growth Corridor Plans indicate where some instances where there may be some potential for review of the current zonings.

3.4.2 Design built form to enhance the local character

The urban environment of Melbourne's Growth Corridors should be designed and developed in a way that enhances amenity and local identity.

At the local level, aspects of neighbourhood design that warrant special attention include:

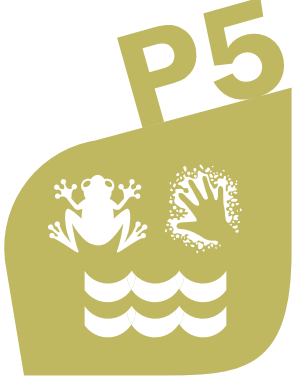
- The design and layout of Local Town Centres
- The design of local open space networks, parks, gardens and town squares
- The design and treatment of the arterial road network and adjoining land uses.

The PSP Guidelines provide further guidance on how each neighbourhood can be planned and developed to achieve this goal.

Other critical elements of built form in Growth Corridors that warrant special design attention include:

- Key arterial roads that provide a prominent spine through urban areas. A high standard 'boulevard' treatment may need to be considered in some locations; and
- Significant regional infrastructure projects that require special care so as to not adversely impact on the character and identity of new Growth Corridors. These include road and rail projects, quarries and industrial nodes.

Creative urban and landscape design solutions are required in these locations to mitigate any potential adverse amenity features, and wherever possible enhance the character of the area.



3.5 PRINCIPLE 5: PROTECT BIODIVERSITY, WATERWAYS AND CULTURAL HERITAGE VALUES

3.5.1 Implementing the Melbourne Strategic Impact Assessment agreement under the EPBC Act 1999

In 2010, the Victorian Government completed a strategic assessment of the impact of urban development and related infrastructure projects on Matters of National Environmental Significance (MNES) within Melbourne's expanded Urban Growth Boundary.

This assessment was undertaken as part of an agreement between the Victorian State and Commonwealth Governments under part 146 of the *Environment Protection and Biodiversity Conservation Act*, 1999 (EPBC). Its purpose is to both conserve nationally important biodiversity values and facilitate long term urban development outcomes within Melbourne's Growth Corridors. The agreement is intended to cut red tape and streamline environmental assessments for development projects within Melbourne's Growth Corridors.

The 'Program'[1] approved under this bilateral agreement identifies a series of processes and mitigation measures that the Victorian Government will use to meet the requirements of the EPBC Act 1999. In particular it:

- Establishes grassland reserves of approximately 15,000 hectares immediately west of Melbourne and proposes a new 1,200 hectare grassy woodland reserve north-east of Melbourne. These reserves will offset the impact of development within the expanded Growth Corridors, as well as provide enhanced environmental protection for nationally listed grassland and woodland communities and several listed threatened species;
- Sets aside a series of sites within the UGB for protection due to their biodiversity values. These are generally described on pages 9 and 10 of the approved '*Program report*'[2]. This includes, for example, a large network of protected environmental areas associated with Merri Creek and its environs within the North Growth Corridor. This will include important stands of grassy woodlands and remnant native grasslands, and habitats for the Growling Grass Frog;
- Creates a series of 'Prescriptions' for managing MNES which are likely to be impacted as a result of urban development. They identify how impacts are to be mitigated, including through the provision of appropriate offsets or strategic planning initiatives. The Prescriptions are intended to be used in the Precinct Structure Planning process and in approvals required for transport infrastructure, extractive industries and other development approvals within the Program;
- Requires the preparation of conservation strategies for the protection and management of the Golden Sun Moth (GSM), Growling Grass Frog (GGF) and Southern Brown Bandicoot (SBB). These strategies identify important populations, and areas to be retained for biodiversity conservation purposes; and

1 The Program is the Urban Growth Boundary (UGB) review that was announced be the Victorian Government on 2 December 2008 that resulted in the revised UGB alignment, approved under Amendment VC68 to the Victorian Planning Provisions and gazetted on 6 August 2010.

2 'Delivering Melbourne's Newest Sustainable Communities – Program Report', December 2009, Department of Planning and Community Development



- Requires the preparation of Biodiversity Conservation Strategies (BCS) that draw together all relevant strategies for managing MNES in each corridor as well as the intent and requirements of the prescriptions. These strategies have informed the Growth Corridor Plans and will have an ongoing role in the preparation of PSPs within Growth Corridors. The intent and requirements outlined in the Prescriptions are fulfilled by the Biodiversity Conservation Strategy and Sub-Regional Species strategies, and with Commonwealth Government agreement and implementation of the commitments made in the strategies, the prescriptions will cease to remain in force.

The relationship between the Growth Corridor Plans and other parts of the approved program under the EPBC Act 1999 are described in figure 4 of section 5.2 of the '*Program Report*'.

3.5.2 Setting aside areas for biodiversity protection that are of sufficient size and connectivity to sustain their biodiversity values in the longer term

The Growth Corridor Plans identify key waterways and areas of high biodiversity value that have the potential to provide sustainable habitat for threatened species as part of the integrated open space network for the each Corridor.

Consistent with the strategic approach taken by the bilateral agreement under the EPBC Act 1999, priorities for conservation of habitat have been determined at a regional level. It is important to ensure that areas identified for biodiversity conservation are of a sufficient size and characteristics to have good prospects of maintaining their biodiversity value over time. Connectivity between areas of habitat both within a Growth Corridor and in terms of linkages to natural areas outside the Growth Corridor is often critical to biodiversity outcomes.

3.5.3 Protecting and Enhancing Growth Corridor Waterways

The major waterways and riparian corridors that run through the Growth Corridors are important to biodiversity and cultural heritage conservation, the amenity of the Growth Corridors and the protection of water quality within and downstream of the Growth Corridors.

The management of stormwater associated with urban development is extremely important for the health of waterways. Mitigating the effects of new development in increasing the volume, duration and intensity of stormwater run-off events will be critical.

For waterways with particular environmental value, the aim should be to maintain pre-development flow volumes, quality and frequency of stormwater discharges and in all cases adjustments to natural streams and floodways should be minimised.

Reducing the direct connection of stormwater pipes to such waterways, through the use of water sensitive urban design and the construction of wetlands, for example (using different techniques in different catchments to reflect local conditions), is important in improving waterway health.

Precinct Structure Planning will respond in greater detail to local waterway values ensuring that Melbourne's waterways continue to provide a network of flora and fauna habitats, flood protection and natural open spaces that make a major contribution to the livability of the Growth Corridors.

3.5.4 Protecting areas of significant Aboriginal cultural heritage and post-contact heritage

Known and likely areas of Aboriginal cultural heritage and post-contact heritage value have been considered in the preparation of the Growth Corridor Plans.

In the case of Aboriginal cultural heritage there is likely to be a strong correlation between sites of heritage significance and waterways and other landscape and biodiversity features that are proposed to be included in open space networks. The Growth Corridor Plans provide for such cultural heritage values to be protected in the ongoing planning and management of the open space network for each Growth Corridor.

The meaningful integration of Aboriginal cultural and post contact heritage will also be considered at the PSP stage and in many instances a Cultural Heritage Management Plan will be required to satisfy the requirements of the *Aboriginal Cultural Heritage Act* 2006.

3.6 PRINCIPLE 6: CREATE INTEGRATED OPEN SPACE NETWORKS

3.6.1 Plan Open Space to Achieve Multiple Outcomes

Open space networks within Growth Corridors have been planned on an integrated basis. Integrated planning of active and passive open space networks can play a key role in protecting environmental, heritage and drainage values, providing for the recreation needs of the community and establishing the liveability and 'sense of place' of each Growth Corridor. By taking advantage of opportunities to use land for multiple purposes it can also ensure that land is used efficiently and so contribute to the overall sustainability of the Growth Corridors.

The identified open space networks are based on linear features such as creeks and ridgelines and incorporate other protected areas such as prominent hilltops, conservation reserves and regional parks, along with encumbered land such as utility easements and retarding basins.

Detailed planning, development and ongoing management of parts of the open space network should seek to contribute to biodiversity conservation, heritage protection, recreation, flood management, waterway and water quality protection and amenity enhancement.

3.6.2 Locating Regional parks in tranquil areas of high landscape value

Regional parks provide primarily for passive recreation rather than more intense active recreational needs. Often they will also preserve areas of significant conservation value.

The Growth Corridor Plans make provision for regional parks to provide for passive recreation opportunities in tranquil locations with a high quality landscape setting. Where possible they have been located to take advantage of natural features such as waterways. The Department of Sustainability and Environment (DSE) will determine the size, boundary location and acquisition process for these regional parks. Additionally, some Growth Corridor councils have well advanced plans for development of regional parks that have been identified in the Growth Corridor Plans.

In some cases, regional active open space is suggested adjacent to regional parks. Wherever possible the design of the PPTN and local bus routes should make it possible to access regional active open space and regional parks by public transport.

As a general guide, planning for regional parks in the Growth Corridors is based upon the standard of providing regional parks of at least 40 hectares for each 150,000 people.

3.6.3 Providing regional active open space/ sporting facilities to meet the needs of Growth Corridor communities

Local active and passive open space is provided within local neighbourhoods via Precinct Structure Plans and Development Contributions Plans (DCPs). *The Precinct Structure Plan Guidelines* provide guidance on the amount and location of such open space.

The provision of higher order active open space areas is an important component of the open space network within the Growth Areas, in addition to local active open space areas. These should typically be between 20-40 hectares in size (dependant on the needs/demands of the area) and are intended to cater for a range of sporting activities with particular emphasis on low participation sports such as rugby, baseball and hockey as well as higher order competition facilities.

Higher order active open space is generally provided at a rate of 0.5 hectares per 1000 people, dependant on the specific demand/ needs within in each growth area.

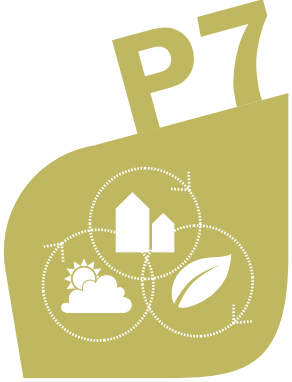
The Growth Corridor Plans suggest potential locations for higher order active open spaces. These will need to be further investigated, particularly with Councils who would normally deliver these areas. Alternative locations for the higher order open space may be determined through the Precinct Structure Planning and Council facilities planning processes. In some instances, there may be opportunities to co-locate higher order active open space with other existing or planned open space areas including regional parks, passive parks and land set aside for drainage, landscape or biodiversity reasons. There are benefits in this approach and the Corridor Plans identify several locations where active and passive open space areas can be co-located to deliver a high amenity outcomes for the community. Whilst there may be opportunity for some active open space to be located on land set aside for drainage purposes, supporting infrastructure such as pavilions, car parking, all weather surfaces and some of the grassed sporting fields generally are required to be provided on unencumbered land.

3.6.4 Planning extensions to metropolitan trails in Growth Corridor open space networks

The Growth Corridor Plans identify extensions to the Metropolitan Trail Network (MTN). They provide shared use paths for walkers and cyclists in open space settings for recreation and active transport. These trails link open space/recreation nodes, (including regional parks and regional sports precincts) to protected hilltops and waterways and areas protected for their biodiversity and/or heritage values. In some cases they also provide links to town centres, particularly where these are located adjacent to major waterways.

The MTN will be complemented by the Principle Bicycle Network (PBN), which will primarily provide for cycling within arterial and other road reservations and easements.

The MTN will be supplemented by local trails provided primarily for recreation purposes. These local trails will be identified in PSPs.



3.7 PRINCIPLE 7: PLAN FOR ENVIRONMENTAL SUSTAINABILITY

In planning Growth Corridors it is important to ensure that appropriate attention is paid to environmental sustainability and resilience and the possible impacts of changing climate conditions, including the adaptability of environments to deal with these impacts. This involves the protection of important biodiversity, cultural heritage and landscape features, which are dealt with in some detail in Principles 4 and 5, and the facilitation of the use of sustainable transport options covered primarily by Principles 1, 2 and 3. The following factors should also be considered:

3.7.1 Using land efficiently to minimise the need for future conversion of additional rural areas to urban use

Allocating land within the Growth Corridors efficiently will mean that the capacity of these areas to accommodate future housing and industrial land demand will be increased and the need to convert additional land from rural to urban use will be reduced.

This will be achieved by encouraging a mix of uses in town centres and other identified areas and average densities that ensure the best use is made of developable land.

Land required for community purposes such as community facilities, transport reservations, floodways and retarding basins, and utility easements should be planned to enable efficient use for multiple purposes wherever possible. Consideration should also be given to innovative use of public land for community or environmental purposes such as food production and heat sinks.

3.7.2 An integrated water management approach to planning water infrastructure for Growth Corridors

Water supply, stormwater management and sewage treatment in the Growth Corridors should be planned as an integrated system. Wherever efficient to do so, servicing should include provision of treated recycled water and harvested stormwater so as to reduce potable water use.

The location of sewage treatment facilities has been determined in the Growth Corridor Plans to take advantage of natural topography, so as to minimise construction costs and energy use associated with pumping of sewage and treated recycled water.

Planning for urban development should take account of the increased likelihood of storm events. Wherever possible provision should be made to reduce and delay stormwater runoff from developed areas and the design of urban areas and open space networks should take account of local flood events.

All urban development will be required to meet best practice quality standards for stormwater runoff. This will be achieved in PSPs by using a variety of techniques in different catchments that reflect local conditions.

3.7.3 Wildfire Mitigation

A number of areas within Melbourne's Growth Corridors form part of broader landscapes that are designated as being bushfire prone.

In some instances, parts of the Growth Corridors also fall within or adjoin areas that have a high fire risk and have been included within a Bushfire Management Overlay in local planning schemes.

The management of bushfire risk in growth areas will be achieved by:

> Ensuring that the ongoing transition of land from 'rural' to 'urban' provides for a managed fire break between the rural/urban interface during high fire danger periods.

> Ensuring that there is an appropriate risk treatment of the interface between urban areas and permanent bushfire hazards (such as on the edge of the UGB, adjacent to large grassland reserves, major river and creek reserves, etc.). This will typically comprise an area of defendable space between urban development and bushfire hazards, and an area within which all buildings will be constructed to a prescribed Bushfire Attack Level. Defendable space areas will typically comprise a road reserve, and managed vegetation on public (and sometimes private) land.

> Ensuring that subdivision layouts allow for emergency vehicle access, safe egress routes away from fire hazards, fire hydrants, and static water supplies where necessary.

All Precinct Structure Plans will include measures to ensure that bushfire hazards are appropriately considered and addressed.

3.7.4 Maintaining local quarrying potential

The Growth Corridors contain significant mineral resources and a number of operating quarries. To avoid the need to transport construction materials substantial distances it is important to enable the continued operation of these quarries and for appropriate buffers to be maintained from the working surfaces of all quarries.

3.7.5 Planning for landfills

The Growth Corridor Plan also ensures that approved and operational landfills referred to in *The Metropolitan Waste and Resource Recovery Strategic Plan* and potential organic waste treatment/recovery are protected from encroachment by sensitive uses. Any development within 500m of putrescible landfill sites will be subject to an environmental audit to ensure that any potential landfill gas migration is mitigated. Some existing quarries may also have the potential to be utilized for landfill purposes in the future upon completion of extraction of the resource at the site. In this case buffer requirements will also need to be taken into account when planning these PSPs to ensure appropriate land uses and separation distances are maintained.

3.8 PRINCIPLE 8: STAGE DEVELOPMENT TO ENSURE THE EFFICIENT AND ORDERLY PROVISION OF INFRASTRUCTURE AND SERVICES

3.8.1 The Growth Corridor Plans take a long-term view of development in Melbourne's Growth Corridors

This is necessary in order to plan properly for new town centres, to identify future infrastructure requirements, and to provide and maintain sufficient land to ensure competition in land markets for both housing and employment purposes and to help keep downward pressure on land prices to maintain housing affordability.

At the same time, it is necessary to plan for the sequencing of urban development to enable the orderly provision of infrastructure and services. Without agreement on sequencing there is a real risk that infrastructure provision will be either unnecessarily expensive or will not be available when required. It also needs to be recognised that priorities need to be set for infrastructure provision as Government and utilities agencies do not have access to unlimited funds for infrastructure investment.

Development of the Growth Corridor Plans involved consideration of the way in which development might best be sequenced both to allow for sensible infrastructure investment priorities and to maintain competition in the land market. In this context, the provision of water, sewage and transport infrastructure are especially important as they tend to require very large capital expenditure that is difficult to provide in an incremental way.

In line with the policy principles set out in Clause 11 of the State Planning Policy Framework, priority will be given to facilitating urban development and infrastructure provision for areas that:

- form logical and contiguous extensions of existing urban areas, especially where development in such areas will enable the early provision of infrastructure, facilities and services required to provide for the needs of the existing community;
- will enable the staged extension of infrastructure networks in a way that minimises the real cost of infrastructure provision;
- are not subject to major constraints or uncertainties that could delay development and are of a size and with a pattern of land ownership that is likely to result in a substantial and predictable yield of housing and/or industrial land; and
- support the effective and early development of the network of town centres and employment precincts identified in the Growth Corridor Plan.

Where appropriate, departure from these staging principles may be justified either on the basis that it is necessary to maintain competition in the land market in the relevant Growth Corridor or because land owners in an area that would not normally warrant a high priority for infrastructure provision are willing and able to fund the costs of bringing forward the provision of infrastructure required to enable development.