

## PART 2: ASSESSMENT OF INVESTIGATION AREAS

### 3. METHODOLOGY

This section outlines the methodology undertaken to revise the Urban Growth Boundary. Sections 4 to 8 explain the results of assessing land in each of the Investigation Areas and show the proposed location of the new Urban Growth Boundary and areas potentially suitable for urban development.

The assessment process has been designed to satisfy Commonwealth Government requirements under the *Environment Protection and Biodiversity Conservation Act, 1999* and Victorian Government requirements under the *Planning and Environment Act, 1987* and *Environment Effects Act, 1978*.

The proposed changes to Melbourne's Urban Growth Boundary are the result of assessing all land within the Investigation Areas. The process has taken into account the following factors:

- > *Melbourne 2030* directions and principles;
- > Land development opportunities and constraints;
- > First round of public consultation feedback;
- > Future land requirements; and
- > The ability to create a clearly defined boundary to the metropolitan area.

The planning assessment and the preferred alignments for the Regional Rail Link (west of Werribee to Deer Park) and the Outer Metropolitan Ring / E6 Transport Corridor have been vital considerations in understanding the future development opportunities in each of the Investigation Areas.

*Information regarding these transport corridor assessments is set out in Part 3 and in separate reports.*

#### 3.1 PLANNING PRINCIPLES

The directions and principles that underpin *Melbourne 2030* and its update *Melbourne @ 5 million* have been taken into account. The following principles have also guided the Urban Growth Boundary Review:

- > The majority of new development is within approximately three kilometres of high capacity public transport (existing or planned);
- > There is potential to develop contiguous extensions of urban areas, to allow efficient use of infrastructure and build on or add value to existing communities;
- > Improved biodiversity values and environmental outcomes may be achieved;
- > Communities can be created that are of sufficient size to support the provision of necessary regional and local infrastructure and services;

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- > The pattern of development would allow for efficient public transport networks at a sub-regional level;
  - > New residential development can be planned with access to existing and/or future employment opportunities; and
  - > Land use conflict between industry and sensitive land uses can be avoided or minimised.

## 3.2 OPPORTUNITIES AND CONSTRAINTS

Understanding land development opportunities and constraints has been fundamental to the process of reviewing Melbourne's Urban Growth Boundary. Consideration has been given to a range of issues such as Government policy objectives seeking access to and/or use of the same land. This has included understanding the long term potential of resources such as quarries and identifying opportunities to deliver improved environmental outcomes.

The results have contributed to defining the proposed Urban Growth Boundary and to identifying areas that should not be developed. The preparation of more detailed Precinct Structure Plans will enable the precise location of these constraints and other constraints present within the new growth areas to be determined.

The assessment of land within the Investigation Areas was informed by an analysis of the following categories of constraints and opportunities:

- Agricultural activities;
- Biodiversity;
- Drainage corridors;
- Extractive industry;
- Heritage (including Aboriginal cultural heritage and post contact heritage);
- Landscape features;
- Land use;
- Salinity;
- Soil capability;
- Transport;
- Trunk services (including water services, sewerage, electricity, gas and telecommunications); and
- Wildfire.

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### 3.2.1 AGRICULTURE

A major policy consideration, particularly in the south-east Investigation Area, is the competing objectives of protecting agricultural areas close to Melbourne versus using the land for the outward expansion of Melbourne.

On balance, it is proposed that some high value agricultural land in the south-east be converted to urban uses, given the:

- > Proximity of that land to major community services;
- > Potential to provide high capacity public transport services to the area; and
- > Severe limits to creating sustainable new communities in the Casey-Cardinia growth area.

There are also pockets of intensive agriculture in the other Investigation Areas including vineyards and orchards in Melton and Sunbury. The long term use and/or interface of these activities with urban development will need to be considered when preparing Precinct Structure Plans.

*For further information refer to Background Technical Report 1: Land Capability.*

### 3.2.2 BIODIVERSITY

The Investigation Areas are predominantly within the Victorian Volcanic Plain and Gippsland Plain bioregions. However, some of the Investigation Area in the west around Werribee is located within the Otway Plain. Very small parts of the Investigation Area in the north near Kalkallo intersect with the Central Victorian Uplands and Highlands Southern Fall bioregions.

In the Port Phillip and Western Port region, 70 per cent of land has been cleared of its native vegetation. The remaining native vegetation is not evenly distributed across bioregions and is mainly located outside the areas directly affected by the potential development.

In the west the expansion of Melbourne extends to the Natural Temperate Grasslands of the Victorian Volcanic Plain. These grasslands are listed as critically endangered under the *Environment Protection and Biodiversity Conservation Act, 1999*. These native grasslands provide habitat for a range of endangered flora and fauna species.

Before European settlement these grasslands extended west from Melbourne to Port Fairy. Today only five per cent of the original habitat remains, with the major concentrations of habitat immediately west of the existing urban areas of Werribee and Laverton, and some smaller pockets in the north near Craigieburn.

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Both the Victorian Volcanic Plain and Gippsland Plain bioregions have been extensively cleared. Of the remaining native vegetation in the region, the Port Phillip and Westernport Catchment Management Authority estimates approximately 126,000 hectares (33 per cent) are on private land and approximately 256,000 hectares (66 per cent) are on public land (2006).

Five ecological communities listed or nominated for listing under the Commonwealth Government *Environment Protection and Biodiversity Conservation Act, 1999* have been identified as potentially being affected by the proposed future urban development and transport corridors, including:

- > Natural Temperate Grasslands of the Victorian Volcanic Plain;
- > Grassy Eucalypt Woodlands of the Victorian Volcanic Plain;
- > Temperate Lowland Plains Grassy Wetland;
- > White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and grassland;  
and
- > Gippsland Red Gum Grassy Woodland and associated grassland.

The most significant impacts are likely to occur from loss of biodiversity within these communities as a result of direct clearing for housing, roads and other infrastructure. Where land is not cleared but is within an urban area, the surrounding land use change is likely to exacerbate the impacts on biodiversity and ecological processes.

*A description of the likely and potential impacts of future development on significant biodiversity and ecological communities is provided in the Strategic Impact Assessment Report for Environment Protection and Biodiversity Conservation Act, 1999.*

*For further information refer to Background Technical Reports 2a-c: Biodiversity and report on Planning for the Conservation of Birds in relation to the Melbourne Strategic Plan prepared by Birds Australia.*

### 3.2.3 DRAINAGE

The Investigation Areas are within the Port Phillip and Western Port region which includes five main catchments – Werribee, Maribyrnong, Yarra, Dandenong and Western Port. With the exception of the Dandenong catchment, each catchment would be affected by urban development. The following waterways are considered to be nationally significant because of their link to Ramsar sites.

They include:

- > the Werribee River, Kororoit Creek and Skeleton Creek in the Werribee catchment;
- > Deep Creek and Jacksons Creek in the Maribyrnong catchment;
- > Merri Creek within the Yarra catchment; and
- > Cardinia Creek within the Western Port catchment.

The Cardinia Creek flows into the Western Port Ramsar Site while the rivers and creeks within the Werribee Catchment flow through coastal wetlands that are part of the Port Phillip Bay (Western Shoreline) Ramsar Site.

*For further information refer to Background Technical Report 3: Drainage.*

### 3.2.4 EXTRACTIVE INDUSTRY

Extractive industry plays a fundamental role in development. The resources provided by the industry underpin virtually all building and construction. Victoria is fortunate in having an abundance of stone, sand and soil resources. As the cost of extraction and transport translates into the cost of raw building materials, care needs to be taken to ensure that the industry can continue to operate efficiently.

The review has carefully examined current and proposed extractive industry areas, their buffer and access requirements. With some exceptions, the approach has been to ensure extractive industry can continue to operate into the long term.

Where quarries are adjacent to the proposed Urban Growth Boundary, either the whole quarry area has been left outside the boundary, or where a buffer to the quarry area overlaps land within the Urban Growth Boundary, it has been shown as non-developable. The latter approach will allow some flexibility. It protects the buffers to quarry tenements until it can be demonstrated that this protection is no longer required.

The effect of this approach can be seen, for example, at Plumpton, where the proposed Urban Growth Boundary is located along the Melton Highway but land within the buffer to the quarry located on the north side of the highway is shown as non-developable (with the exception of the Special Use Zone in that instance).

There are instances, however, where entire extractive industry tenements are inside the proposed Urban Growth Boundary. In some cases this is due to the operator indicating that the quarry work will end within the 20 year planning horizon. In other cases, the extractive industry operation is too far from the edge of the proposed Urban Growth Boundary to be excluded.

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In all such cases, provision has been made to allow for 500 metre buffers around these operations. Land within these buffer areas has not been included in the calculation of the potential urban area. Some quarries may be converted to landfill so it is appropriate that the buffer remains until a clear future is determined.

*For further information refer to Background Technical Report 1: Land Capability.*

### 3.2.5 HERITAGE

The Victorian Government recognises the importance of conserving places of Aboriginal and post contact cultural heritage and promotes early consultation with communities to ensure urban development protects and responds to heritage issues. This Review takes account of these issues and addresses places listed on the Victorian, Commonwealth and National Heritage lists.

Places included on Commonwealth and National Heritage lists are subject to the requirements of the *Environment Protection and Biodiversity Conservation Act, 1999* and have been taken into account as part of the strategic assessment of matters of national environmental significance.

Places included on the Victorian Heritage Register are subject to the requirements of *The Heritage Act, 1995*. *The Aboriginal Heritage Act, 2006* introduced the requirement for Cultural Heritage Management Plans. These plans set out the approach to managing Aboriginal cultural heritage values and those that may be discovered during works. They are normally prepared at the time of preparing Precinct Structure Plans.

A Cultural Heritage Management Plan must be prepared if the activity is a high impact activity and all or part of the 'activity area' is an area of cultural heritage sensitivity. Construction of the Outer Metropolitan Ring / E6 Transport Corridor and the Regional Rail Link are regarded as high impact activities and may also contain areas of sensitivity due to being close to some waterways and heritage places at various points.

*For further information refer to Background Technical Report 1: Land Capability.*

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### 3.2.6 LANDSCAPE VALUES

In considering the future location of new urban areas, landscape values were a critical consideration. This is because existing significant landscape features have the potential to define and enrich the communities that will potentially live in parts of these areas and give them a connection to the landscape and their immediate physical setting and the associated natural environment.

Establishing new communities has the potential of building upon the regions' existing landscape structure and enhancing the setting of new settlements within it. This can provide an improved sense of place and connection to the local area.

Apart from providing an immediate landscape character at little or no cost, landscape features:

- > Provide reference points for people navigating urban areas;
- > Signal the passage of time and provide a tangible sense of local history;
- > Provide opportunities for passive recreation and contemplation;
- > Assist in maintaining biodiversity; and
- > Assist with water management.

The assessment of land has addressed the opportunity to enhance key views and vistas including:

- > The Great Dividing Range
- > Melbourne Central Activity District
- > Northern Growth Area: to Mt Fraser, Bald Hill
- > South-Eastern Growth Area: to principal hills including the Botanic Ridge,
- > South Gippsland Ranges, Western Port, Port Phillip Bay
- > Western Growth Area: to You Yangs, Brisbane Ranges, Port Phillip Bay

*For further information refer to Background Technical Report 4: Landscape Values.*

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### 3.2.7 LAND USE

The review identified existing land uses in the Investigation Areas that would inhibit or prevent urban development from occurring. Proposed land uses were also able to be identified where information was available.

The land use analysis focussed on both the potential to use the site for urban development and whether that existing use could be relocated as well as constraints to developing the land around the site.

Uses with adverse amenity potential listed (or similar to those listed) in Clause 52.10 of local planning schemes, were identified as constraints. Other uses which could inhibit urban development were also highlighted as constraints. Examples are: uses such as transmission lines (based on visual amenity impacts and standard buffers), water treatment plants, land fills and prisons, extractive industry tenements and their buffers, and some rural activities.

*For further information refer to Background Technical Report 1: Land Capability.*

### 3.2.8 SALINITY

Geology, topography, drainage and groundwater salinity of each Investigation Area was investigated as part of the Urban Growth Boundary Review. The salinity risk assessment was based largely on the framework outlined in the *Port Phillip and Westernport, Catchment Management Authority, 2004, Groundwater Flow Systems*.

Areas identified as having significant salinity risks, were considered to include areas of shallow water tables, flat topography with a tendency for waterlogging, close proximity to waterways and /or composed of swamp deposits and other groundwater discharge areas.

These areas may already be precluded from intensive development for reasons such as flooding and environmental attributes. The development of infrastructure in salinity risk areas would need to be designed and engineered to withstand shallow brackish water tables, waterlogging and elevated soil salinity.

The cost of mitigation measures and long term maintenance costs was a major consideration in the review process. It is also important to recognise that in creating new communities, these areas may offer opportunities for recreation reserves, buffer zones or areas of environmental value.

*For further information refer to Background Technical Report 1: Land Capability.*

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### 3.2.9 SOIL CAPABILITY

The soils within the areas under investigation were classified in line with Australian Standards (AS 2870 – Residential Slabs and Footings).

The Investigation Areas have areas of highly to moderately reactive soils and localised swamp deposits that will impact on building type and foundation design. The south-east Investigation Area also has large areas of swamp deposits due to proximity to the Koo Wee Rup Swamp.

Generally, soil capability was not considered to be a major constraint to determining where future urban development should occur.

*For further information refer to Background Technical Report 1: Land Capability.*

### 3.2.10 TRANSPORT

The potential urban development of land within the Investigation Area poses challenges for the transport system. The increase in the number of people living, working and visiting the new communities will place additional or changed demands on the existing network.

*The Victorian Transport Plan* identifies a range of initiatives for improving public transport in Melbourne's growth areas. In addition to the Regional Rail Link, in recent budget announcements the Government has committed to delivering the following projects:

- > A rail extension from Epping to South Morang;
- > The electrification of the Sydenham line to Sunbury;
- > New train stations at Lynbrook and Cardinia Road in the south-east and at Williams Landing and Caroline Springs in the west; and
- > SmartBus services through northern metropolitan Melbourne.

Melbourne's land use and public transport will continue to be developed in tandem. This will ensure an adequate supply of land for new development is maintained and public transport services are planned to service new developments. Consideration has been given to the opportunities to build on and complement the initiatives identified in *The Victorian Transport Plan*.

It may also be necessary for additional infrastructure projects to be initiated that go beyond current commitments to achieve good transport outcomes for new communities in the longer term. The extent and scale of future infrastructure projects will be determined as part of preparing the Growth Area Framework Plans.

*For further information refer to Background Technical Report 6: Transport.*

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### 3.2.11 TRUNK SERVICES

The assessment of land potentially suitable for development has taken account of the capacity to provide trunk services to new communities in the growth areas. Trunk services comprise water, sewer, power, gas and telecommunications.

The analysis addressed regional issues including critical infrastructure projects that are already being planned for in the vicinity of the Investigation Area or would be needed for new communities to function. Critical projects may include major infrastructure items such as water tanks, sewerage treatment plants, recycling plants and electricity terminal stations.

The findings indicate that there are no insurmountable constraints for the provision of trunk services to each of the four Investigation Areas. However, there is a need to ensure the availability of land in appropriate locations for the construction of key infrastructure, such as for water and sewer, that will be required to service the new communities. The appropriate locations for infrastructure will be determined through preparing Growth Area Framework Plans and Precinct Structure Plans.

It will also be important to ensure future development is sequenced with the delivery of trunk services. Development out of sequence and remote from existing trunk services will be costly.

*For further information refer to Background Technical Report 5: Trunk Services.*

### 3.2.12 WILDFIRE

Melbourne is located in a natural environment which is highly susceptible to fire due to the hot, dry conditions that generally prevail in summer. Care has been taken to avoid urban development in areas that have, or are likely to experience, significant fire risk.

The Investigation Areas have been assessed against the categories of vegetation that are detailed in the Country Fire Authority's publication, *Building in a Wildfire Management Overlay Applicant's Kit, 2007*. Based on this, the Investigation Areas have been classified as primarily "Category One", lower risk areas, and accordingly are able to be developed for urban uses.

However, when preparing Precinct Structure Plans for new communities, it will be important that fire protection requirements are addressed, including any actions arising from the 2009 Victorian Bushfires Royal Commission.

*For further information refer to Background Technical Report 1: Land Capability.*

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### 3.3 PUBLIC CONSULTATION FEEDBACK

Feedback received from the first stage of public consultation has informed the Urban Growth Boundary Review and particular attention has been given to early engagement with people who may be affected by the proposed boundary changes.

Following the release of *Melbourne @ 5 million* and *The Victorian Transport Plan* in early December 2008, the Government commenced a first round of public consultation, which ended on 20 February 2009. This process was managed by the Growth Areas Authority and has informed the findings presented in this report.

The purpose of this initial consultation was to gain a more comprehensive understanding of issues in the Investigation Areas. It allowed land owners within the Investigation Areas the opportunity to outline the development potential of their land within the Investigation Area and to advise their knowledge of site opportunities and constraints. It also gave the wider public an opportunity to comment generally on the Government's intention to change the Urban Growth Boundary.

Feedback on broad policy issues about the expansion of Melbourne and site-specific land use issues have been considered in assessing the Investigation Areas.

*For further information refer to Urban Growth Boundary Review - Summary and Response to Submissions Report June 2009.*

### 3.4 FUTURE LAND REQUIREMENTS

*Melbourne @ 5 million* indicated the minimum land requirements needed to create sustainable urban communities and accommodate major infrastructure corridors and regional employment areas. In any complex urban environment there is generally a mix of land uses including housing, retail, local employment, open space, recreational facilities, schools and other community infrastructure.

Melbourne has enough land for large scale industrial development for the next 25 years. However, planning for additional industrial and employment areas must occur well before the land supply nears its end. This is best done when planning new communities to minimise land use conflicts and to enable proper planning of the transport network. Allowance has been made for at least ten years of additional broad hectare employment land plus land for a new interstate intermodal freight terminal near Beveridge.

The amount of land available for development within the new Urban Growth Boundary was determined by identifying the gross developable area. The gross developable area is defined as the total area of greenfield land within the proposed new Urban Growth Boundary excluding land that is constrained for a range of reasons including:

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- > Land that is flood prone, including major drainage lines;
  - > Land that is of high biodiversity and landscape value, such as volcanic cones;
  - > Easements or sites for major public infrastructure such as electricity, gas, sewerage treatment, and major transport corridors; and
  - > Buffers that are likely to be in place for the long term around industries (with adverse amenity potential) and quarries.

A large proportion of the gross developable area will be needed for regional commercial uses; regional industrial uses; open space; major roads and new high capacity public transport corridors; drainage; activity centres; and other major non-residential urban uses. The proportion of land allocated for regional commercial uses will depend on local circumstances.

The remaining gross developable area will be available for residential development including dwellings and local roads (i.e. the net residential developable area).

### **3.5 DEFINING THE NEW URBAN GROWTH BOUNDARY**

Consideration was given to the most feasible boundaries that could be applied to the future urban area that could be easily identified and understood by the community. Examples are aligning the Urban Growth Boundary with property boundaries, roads and existing natural features such as rivers, contour lines, and edges of biodiversity and habitat sites.