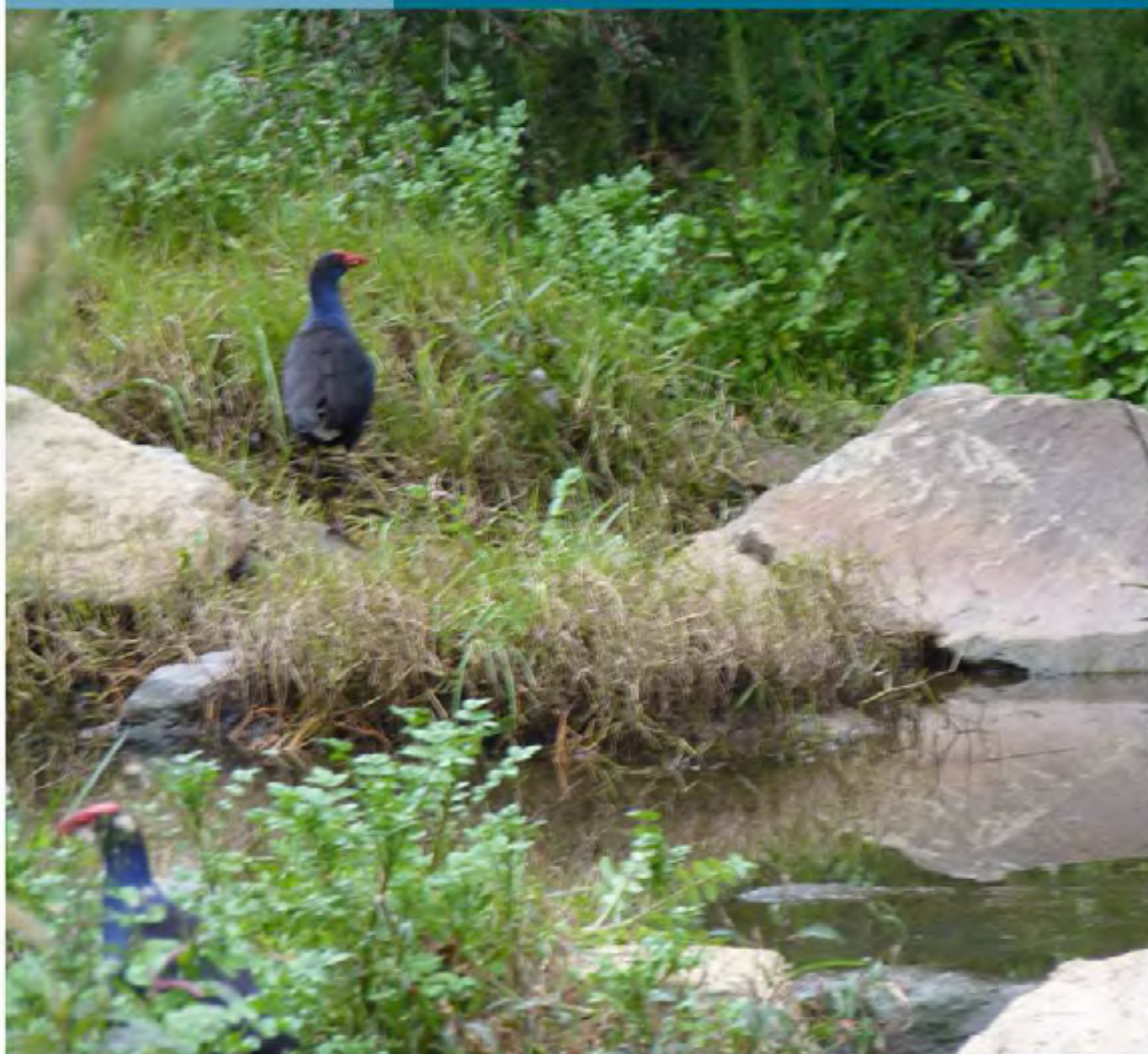




Koonung Creek *Linear Park* Management Plan



August 2011
Manningham City Council

Message from the Mayor



Our vision is for a vibrant, safe and culturally diverse community that fosters participation, connectedness, harmony, social inclusion, health and wellbeing.

Our parks and reserves are the 'green lungs' for the City and are areas for our enjoyment. When we visit our parks and reserves we feel a sense of wellbeing. We need to plan for them so they can be enjoyed today and be there tomorrow for our children. A well-designed, planned and managed urban green space provides significant aesthetic, social, psychological and environmental benefits for their users.

The Koonung Creek Linear Park is enjoyed by many of those who live in Bulleen, Doncaster, Doncaster East and Donvale and our neighbouring municipalities as well. When we improve the access to our natural setting we are improving the quality of life in our neighbourhoods.

We are fortunate to have this wonderful “green” environment accessible by so many of our residents to enjoy a walk, cycle and time in a natural setting. There are many benefits for people who visit green, open spaces including: an opportunity to increase physical activity; lower stress levels; experience changes of scenery; and, a place to wind down.

I would like to thank the community for their contribution to the consultation process as it has greatly assisted us to identify the issues and opportunities which have shaped the development of the recommendations.

A handwritten signature in black ink, appearing to read 'Geoff Gough'.

GEOFF GOUGH
Mayor



Executive Summary

The Koonung Creek Linear Park Management Plan has been prepared to continue to protect and enhance the environmental values of the Park balanced with the provision of recreational opportunities and experiences in a mix of urban and natural setting, including, walking, cycling, dog walking, commuting and nature appreciation.

The Koonung Creek Linear Park is approximately 10 kilometres in length and forms a large section of Manningham's southern boundary, from Springvale Road, Donvale to Thompsons Road, Bulleen.

The Creek is almost entirely urban and in places has been heavily modified by realignment works due to the development of the Eastern Freeway. The Freeway follows the path of the Creek and Park over its entire length. The Park offers a variety of experiences and has a strong appeal to the community. It can be used for commuting to a destination or to walk with friends and enjoy the natural bushland settings along side the Creek.

The Management Plan outlines recommendations for the future use, development, management and maintenance for the Park based on a detailed analysis of the Study Area and feedback from user groups and the local community. The Management Plan provides the basis for new capital works funding to improve the Park over the next five to ten years.

The following vision, objectives and strategies have been developed as an outcome of the consultation process to guide the recommendations for the Park and are as follows:

Vision

To improve the provision of open space and recreation opportunities enabling greater community participation, increasing health and wellbeing while maintaining and sustaining the natural environment.

Safe and Accessible

Objective 1: To provide a safe Park, considering all users needs and providing a balanced approach in the best interest of the whole community.

Strategies:

- To provide signage to encourage an appropriate standard of behaviour, both regulatory and etiquette;
- To provide appropriate dog controls;
- To provide accessible, well maintained paths and surroundings;
- To provide facilities which support commuting as a key use of the Park; and,
- To ensure access and linkages to the Park and Ride facility to encourage sustainable transport.

Recreation Opportunities

Objective 2: To offer opportunities for participation in recreation, physical activity and to connect people with others and the natural surroundings.

Strategies:

- To upgrade or install supporting infrastructure; ie. toilets, way finding signage, drinking fountains, exercise equipment, secondary paths, connections, car parking, seating and a dedicated area for dog owners to exercise their dogs;
- To offer a variety of landscapes and accessible paths; and,

- Investigate linkages with Bulleen Park, Mullum Mullum Creek Linear Park, Doncaster and surrounding open space and activity centres.

Promotion

Objective 3: To increase the Park usage through promotion and marketing.

Strategies:

- To promote the benefits of the Park through various marketing mediums (internet and brochures) eg. Physical Activities Guidelines and Healthy Parks Healthy People priorities;
- To promote the Park to interest groups eg. walking groups; and
- To promote harmonious and safe usage of the Park for all.

Coordinated Management

Objective 4: To develop a coordinated approach to the management of the Park.

Strategies:

- Develop a uniform approach from all land owners and managers to provide a level of safety, signage, local laws (dog controls) and maintenance;
- To protect and conserve the natural environment including rehabilitating and restoring degraded areas; and
- To align the municipal boundary with the freeway.

Contents

1.	INTRODUCTION	1
1.1.	Manningham's Open Space	1
1.2.	Purpose	2
1.3.	Methodology	2
1.4.	Study Area.....	3
2.	BACKGROUND	4
2.1.	Regional context.....	4
2.2.	Cultural Heritage Study.....	5
2.3.	Community Consultation.....	5
2.4.	Linkages	6
3.	LAND TENURE AND MANAGEMENT RESPONSIBILITIES	6
3.1.	Eastern Freeway	7
3.2.	Agreement - VicRoads and Council 2005.....	7
3.3.	Council's Land	8
3.4.	VicRoads	8
3.5.	Melbourne Water	8
3.6.	Crown Land	8
3.7.	City of Whitehorse	9
3.8.	City of Boroondara.....	11
3.9.	Municipal Boundary	11
4.	PLANNING CONTEXT	12
4.1.	Planning Scheme	12
4.2.	Relevant Strategies and Documents	14
5.	ENVIRONMENTAL CONTEXT.....	14
5.1.	Native Vegetation Management Framework.....	14
5.2.	Bushland and Landscape Management	15
5.3.	Fire and Emergency Management	15
5.4.	Drainage & Waterways	16
5.5.	Melbourne Water	17
6.	PARK USE OPPORTUNITIES - recreation and active transport.....	19
6.1.	Walking.....	19
6.2.	Cycling.....	20
6.3.	Dog Walking	23
6.4.	Conflict of path users	24
6.5.	Play.....	25
6.6.	Exercise equipment	26
6.7.	Nature appreciation	26
6.8.	Community garden	27
6.9.	Adjacent reserves.....	27
7.	INFRASTRUCTURE AND FACILITIES	27
7.1.	Path Network	27
7.2.	Lighting	30
7.3.	Signage	31
7.4.	Pedestrian Bridges	31
7.5.	Picnic Facilities	31
7.6.	Seats	31
7.7.	Public Toilets	32
7.8.	Parking	32
7.9.	Park Fences	32
7.10.	BBQ.....	32

7.11.	Class A recycled water treatment plant	32
8.	RECOMMENDATIONS	33
8.1.	Recommendations.....	33
8.2.	Monitoring and review of the Management plan	42
9.	FUTURE WORK PROGRAM MAPS	43
10.	OWNERSHIP MAPS	43
11.	SUPPORTING INFORMATION AND RESEARCH	44
11.1.	Historical Context	44
11.2.	Planning and Policy Context.....	46
11.3.	Manningham Council Plan 2009-2013.....	48
11.4.	Demographic analysis	49
11.5.	Relevant Strategies and Guidelines	55
11.6.	Vegetation Types.....	63
11.7.	Biosites.....	64
11.8.	Consultation.....	66
11.9.	Play assessment	78
11.10.	Budget for the items included on the maps.....	80
12.	APPENDIX	82
12.1.	Attachments.....	82

Part One

1. INTRODUCTION

1.1. Manningham's Open Space



The City of Manningham is located twelve kilometres north-east of Melbourne and covers 113 square kilometres. The municipality has an estimated resident population of 119,544 (30 June 2010, ABS Census) and includes the suburbs of Bulleen, Doncaster, Doncaster East, Donvale, Lower Templestowe, Templestowe, Park Orchards, Warrandyte, Wonga Park and North Ringwood. The Yarra River provides the northern boundary to Manningham.

The Manningham open space network covers 19.8km² and represents 17% of the area of the municipality. It comprises over 300 parks and reserves. The City has one of the largest networks of parks and open space in Metropolitan Melbourne.

Manningham City Council's vision for public open space is:

“an open space network which provides a range of active and passive recreation opportunities in accordance with community needs, which is readily accessible, conserves and enhances the natural and cultural resources of the municipality, contributes to the local economy, and offers an amenable environment in which to live, work and visit for current and future generations”.

Manningham City Council is involved in the provision of well managed open space recreation opportunities because it believes that there are a number of benefits that derive from participation in, or provision of, a diverse range of quality recreation opportunities. Benefits can be in the fields of social, health, environment, urban liveability, culture and economic. Specific benefits in these fields may include:

Social/health

Environment is a major influence on health. By providing high quality open space networks, Council can create an environment that is supportive of health and encourages activity that reduces the likelihood and extremity of disease. Activities within open space areas such as walking have health benefits such as improved cardiovascular fitness, lower blood pressure, stronger muscles and bones (built up by walking regularly), and decreased stress. Open space areas are also socialising spaces that provide links with the broader community and encourage social connections.

Environment

Open space provides for important ecological aspects such as waterways, flora and fauna. Vegetation in open space provides habitat for wildlife, including corridor links to and along waterways.

Urban liveability

Open space brings an aesthetic value to a neighbourhood by providing a “green break” between houses and roads.

Culture

Open space can be a venue for cultural displays, festivals, programs and activities. Open space can also have pre settlement or post settlement cultural significance associated with specific sites or features.

Economic

The economic benefit of open space can be measured in the spin-off effects of tourism and the role of high quality open space in attracting residents to Manningham and enhancing property values.

1.2. Purpose

This Management Plan has been prepared to express a preferred future vision for the use, development and management of the Park based on feedback from user groups and the local community. It proposes actions and budgets for developing, managing and maintaining the Park.

A Management Plan is a document which has a written explanation of the history, uses, objectives and proposals for the reserve, as well as one or more diagrammatic plans showing the proposed development for the reserve which has been prepared in consultation with park users and local residents.

Manningham's Public Open Space Strategy (2004) recommends providing a Management Plan for reserves which have a range of uses and for which the planning is complex, including Sporting Reserves, Conservation Reserves, Reserves of Municipal Significance, Community Recreation Reserves and Linear Parks.

The endorsed Koonung Creek Linear Park Management Plan will be used as a resource document for Council Officers involved in the planning, development and management of the Park. It will also be available for the community to access so that they are able to understand Council's vision and future works. It sets out capital works funding to improve the Park over the next five to ten years.

1.3. Methodology

The study methodology includes:

- Key stakeholder consultation - ongoing;
- Determine land ownership and management;
- Consideration of all relevant policies, strategies and guidelines;
- Community Voice questionnaire;
- Review and analysis of existing use and facilities;
- Site meetings covering full length of Park with key stakeholders;
- Development of the Draft Management Plan;
- Public exhibition and community consultation on draft Plan;
- Consideration of submissions and adoption of final Management Plan by Council; and
- Implementation of recommendations.

1.4. Study Area

The study area for the Koonung Creek Linear Park can be generally described as all public land north of the freeway soundwall to the adjoining road or private property boundary. The study area does not include any land retained by VicRoads (referenced where necessary).

It is approximately 64 hectares (similar to Ruffey Lake Park) in area and 10 kilometres in length and forms a large section of Manningham's southern boundary with the City of Whitehorse and Boroondara, from Springvale Road, Donvale to Thompson Road, Bulleen.

The Creek is almost entirely urban and has been heavily modified by realignment works due to the development of the Eastern Freeway. Council's Public Open Space Strategy (2004) classifies the Koonung Creek Linear Park as a Linear Park of Regional Significance.

Major ownership components of the 64 hectares include:

- 46 hectares Manningham (including 14 hectares transferred from VicRoads);
- 10.5 hectares Melbourne Water; and
- 7.7 hectares Whitehorse Council (Eram Park)

The Koonung Creek forms the boundary of Manningham with Whitehorse and some of Boroondara. The parcels of land along the Linear Park form a 'patch work' of different owners and managers including Manningham, VicRoads, Melbourne Water, Whitehorse, Boroondara, and Crown land. The development of the Eastern Freeway over the Creek has divided the Park and created issues with land ownership and maintenance. It has also created a barrier between the municipalities with some of Manningham's land displaced on the Whitehorse side of the Freeway and vice versa as is the situation with Eram Park. Eram Park is owned by the City of Whitehorse and sits on Manningham's side of the Freeway creating issues with Whitehorse resident's access and land management.

Study area details:

- Where the Linear Park is integral to a larger sporting reserve (Koonung, Wilsons Road, Boronia Grove) then only the immediate vicinity of the creek/and or main paths are included;
- Melbourne Water and Whitehorse owned land is only included for reference to management issues;
- Sections of road reserve maintained as parkland are included for management purposes';
- A section of the former VicRoads open space (approximately 5.5 hectares in area) being transferred to Manningham is included in the study area but is located between the soundwall and the Koonung Creek (within the City of Whitehorse).
- VicRoads owned and maintained open space land on the southern side of the freeway (even those located within Manningham) are not considered by this Plan. This includes open space adjacent to Frank Sedgman Reserve, between the Creek and freeway although located in Manningham really services Whitehorse residents. This 3.46 hectare VicRoads parcel of open space was not part of the agreement with VicRoads as the long term planning for this land should be with Whitehorse. A 160 metre section of the Koonung Trail is located within this land;

- The area from Springvale Road to Mullum Mullum Park (Park Road) will be the subject of another management plan at a later stage to address ownership and management issues; and
- As the Freeway Public Golf Course acts as barrier to developing a link between the Koonung Trail and the recreational path on the eastern side of the Yarra River through Bulleen Park. The area from Thompsons Road to Bulleen Park requires further investigation to develop a link with the Koonung Trail.

2. BACKGROUND

The Koonung Creek Linear Park provides valuable opportunities for informal physical activity, recreation participation and community connectedness. The Parks dominant feature is the commuter trail running through approximately five kilometres of the Park from Springvale Road to 500 metres west of Wetherby Road. From this point (Eram Park) the path leaves Manningham via a footbridge to the City of Whitehorse. The Linear Park narrows significantly between Tram Road, Doncaster and Thompson Road, Bulleen and has linked secondary pathways with a number of options for crossing the Eastern Freeway to access the main trail on the Whitehorse/Boroondara side.

The commuter path is classified as part of the Principal Bicycle Network and part of the Metropolitan Trail Network as a shared pedestrian/bicycle path and links to the Main Yarra Trail.

2.1. Regional context

Manningham is part of Melbourne’s Eastern Region. It is bounded by the City of Banyule and the Shire of Nillumbik to the north, the Cities of Whitehorse, Maroondah and Boroondara to the south and the Shire of Yarra Ranges to the east.

Manningham has one of the largest networks of parks and public open space in metropolitan Melbourne and forms part of a major network of open space. Waterways in the municipality (including the Yarra River, Mullum Mullum Creek and Koonung Creek) form part of a larger regional network of open space, which provide recreation opportunities and include areas of significant environmental value. The open space network comprises a range of parks, gardens and reserves that provide opportunities for active and passive recreation pursuits and for environmental conservation.

The use of the Koonung Creek Linear Park is almost certain to continue to increase as our population is being continually encouraged to become more active by all levels of government in the promotion of health to tackle the obesity crisis. The most popular activity undertaken by our



population is walking and this is the Koonung's main attribute through the provision of shared pathways in the natural setting of the Creek and bushland.

The Park forms a significant recreation corridor offering pathways for walking, cycling and dog walking. The 'Active for Life' Recreation Strategy 2010-2025 recommends to continue to support linear trail developments as identified through existing and proposed reserve management plans.

Koonung Creek Linear Park services residents of Manningham, Whitehorse, Boroondara and Maroondah as the commuter trail link between Ringwood and the City.

The pathways along the Koonung Creek are identified in VicRoads Principal Bicycle Network (PBN - which is a network of cycle routes that provide access to key destinations within the Melbourne metropolitan area), identifying the main commuter trail that runs from Springvale Road to Eram Park (between Wetherby and Tram Road) before it crosses the municipal boundary to Whitehorse Council as a 'shared footway/bicycle path'. The northern pathway between Eram Park and Bulleen Road is defined as a 'local route'.

The Koonung Trail is the only commuter trail in Manningham and links to the Main Yarra Trail and City. Manningham Bicycle Strategy 2001 and Supplementary Action Plan 2006 recommended in 2006/07, 'the installation of advisory behavioural signage to address conflict between cyclists and pedestrians'. It also recommended in 2010/11 'on-road advisory signage on Church Road and Leeds Street'. In the event external funding is available it has recommended: 'on road advisory signage and bike lanes for Bulleen Road, Doncaster Road and Blackburn Road links to the Koonung Trail; and, linking the Koonung paths to Bulleen Park and Mullum Mullum Trail'.

2.2. Cultural Heritage Study

The Aboriginal Heritage Regulations of 2007 require that a Cultural Heritage Management Plan be prepared for any development proposed in an area of cultural sensitivity. Areas of sensitivity relevant to Manningham and these guidelines include:

- Areas registered as a cultural heritage place and any land within 50m of that place;
- Waterways and land with 200m of waterways, except where land has been significantly altered or disturbed; and
- Prior waterways and land within 200m of prior waterways except where land has been significantly altered or disturbed.

The area of Cultural Heritage Sensitivity covers land within 200 metres of Koonung Creek extending from Doncaster Road upstream to within 230 metres of Springvale Road. There are two listed archaeological sites within the Linear Park.

2.3. Community Consultation

Key stakeholders in Council, State Government Authorities, community groups, surrounding residents and Park users were involved in preparation of the Management Plan. The key stakeholders consulted include:

- Internal Council Units;
- Surrounding residents;
- Park users;

- VicRoads;
- Melbourne Water;
- Bicycle Victoria;
- Boroondara Council;
- Whitehorse Council;
- Friends of Manningham Dogs and Cats; and
- Scouts Associations

Community consultation for the development of the Koonung Creek Linear Park Management Plan commenced March 2010. Refer to section 11.8 for a detailed account of the consultation.

2.4. Linkages

There are many linkages from the Koonung Creek Linear Park and these include from west to east (refer to Future Works Maps Section 9):

Regional:

- Koonung Trail joins the Main Yarra Trail at Burke Road linking to CBD;
- From Springvale Road the trail follows EastLink to Frankston;
- As a part of the above links the Koonung forms part of a 38 kilometre circuit of the western part of Manningham; and,
- As well, by making use of these links, it also connects the Koonung with Diamond Creek Trail, Brushy Creek Trail, Outer Circle Trail and Plenty River Trail.

Crossings (12):

- Bulleen Road; Estelle Street footbridge; Doncaster Road (creek tunnel); Stanton Street footbridge; Elgar Road; Tram Road /Station Street; Eram Park footbridge; Wetherby Road (tunnel) /Middleborough Road; Boronia Grove footbridge; Blackburn Road (tunnel); Darvall Street footbridges; and, Springvale Road (tunnel).

3. LAND TENURE AND MANAGEMENT RESPONSIBILITIES

Land with the Koonung Creek is owned by a number of agencies. This Plan refers to land managed by the City of Manningham, Whitehorse, Boroondara, VicRoads, Melbourne Water and two small parcels of Crown Land. The Eastern Freeway development required numerous land exchanges that were largely confirmed in a 2005 Agreement between VicRoads and Council.

When the land exchanges are complete Manningham will have an approximate open space of 46 hectares; VicRoads 4.7 hectares and Melbourne Water 10.5 hectares. Refer to Section 10 Ownership Maps 1-5.

A primary aim of this Management Plan is to clarify future management direction from all land owners to ensure a coordinated approach to user management, maintenance, path planning and implementation and signage.

3.1. Eastern Freeway

The Eastern Freeway is an important freeway in terms of its commuting to the City, connecting to Alexandra Parade and Hoddle Street in the inner suburbs and with EastLink tollway further east.

It was constructed in stages from 1977 to 2008:

- Stage 1: From Hoddle Street to Bulleen Road; opened in December 1977;
- Stage 2: From Bulleen Road to Doncaster Road; opened on 3 June 1982;
- Stage 3: From Doncaster Road to Springvale Road; opened in December 1997; and
- Stage 4: From Springvale Road to the Frankston Freeway; opened in July 2008.

Development of the freeway covered parts of a large number of previous titles. The Koonung Creek Linear Park is located adjacent to Stages 2 and 3.

3.2. Agreement - VicRoads and Council 2005

In 2005 Council entered into an agreement with Roads Corporation (VicRoads) to transfer land along the Koonung Creek Linear Park and resolve its future management. The Cities of Whitehorse and Boroondara have not as yet entered into similar agreements. Council agreed for the transfer of surplus land from the Eastern Freeway to Council and the transfer of Council land required for the Eastern Freeway to VicRoads. It also included accepting VicRoads \$400,000, one off payment for ongoing maintenance costs of the VicRoads surplus land acquired.

The preparation of plans of subdivision and transfer of title is still underway (refer to Maps illustrating ownership status).

There were a number of discrepancies with the 2005 agreement that required resolving with VicRoads and these included:

- A parcel of land (PS418193G) has been subdivided into three lots. The lot located at 52 Estelle Street between Millicent Avenue and Alfreda Avenue, is located on the south side of the freeway, and is now proposed to be transferred to VicRoads.
- The land near the Scout Hall at 15 Paul Street (Parcel 45 on SP 19550A) owned by VicRoads forms part of the Linear Park and provides access to the Scout property. A right of way entitlement has been provided to ensure access by the Scouts and the additional land is proposed to be transferred to Council.
- The land (Lot 1 PS444166M) being transferred to Council adjacent to the Park and Ride Facility and in Doncaster Road is to be re-subdivided to exclude the buildings associated with the Park and Ride facility on the land to be transferred to Council.
- The position of the sound wall that runs between the freeway and Applewood Retirement Village required realignment of the boundary of the parcel (lot 11 on SP 19707) to be transferred to Council.
- Parcel 44 on Survey Plan 19733A abuts Council's land in Certificate of Title Volume 9940 Folio 744 and is a continuation of the land shown as Parcel 23 on Survey Plan 19734A which is being transferred to Council in accordance with the 2005 Agreement.

- A section of land west of Tunstall Road (parcels 24, 34, 36 & 38 on SP 19734A), which was omitted from the 2005 VicRoads Agreement, is to be transferred to Council (refer to Ownership map 5).

3.3. Council's Land

Manningham schedule of land, being 46 hectares, along the Koonung includes (see maps):

- Freehold (original titles now with freeway land removed).
- Additional land from/via VicRoads as per 2005 Agreement (14 hectares); including approximately 5.5 hectares of land located in Whitehorse (located between creek and sound wall).
- Thompsons Road car park, near the freeway on ramp, is subject to ongoing negotiation with VicRoads with regards to the long term ownership and management of this land.

A parcel of VicRoads land that was not included in the 2005 Agreement, but is seen as an important part of the Linear Park is 3 Esta Court. Council has agreed to purchase this land from VicRoads. The land was subject to Amendment C55 and was gazetted 14 October 2010. The land has been rezoned from Road Zone (RDZ1) to a Public Park and Recreation Zone (PPRZ).

3.4. VicRoads

VicRoads has retained a parcel of land that is currently used as open space, being Blackburn Road to Sherbrooke Court, including between sound wall and property fences. This section was not included in the 2005 Agreement given the trail is located in the cutting and is more appropriately maintained by VicRoads.

VicRoad will still manage open space land located within Whitehorse, on the north side of the freeway including the wetlands west of Wetherby Road (2.21ha) which is referred to in this plan but does not form part of the Linear Park.

3.5. Melbourne Water

There are a number of parcels of Melbourne Water land located within KCLP these include:

- Land on either side of Wetherby Road
 - Land west of Wetherby Rd has a waterway from the Creek to Colston Street;
 - Land east of Wetherby Rd has an unmade path the residents of Brindy Crescent have petitioned for this to be formalised for access to main/commuter path; and,
- Parcels of land on both sides of Tunstall Road

The paths that run through Melbourne Water land have been developed by VicRoads at the time of the Freeway construction and include both the main/commuter path and shared sealed paths. Subject to further negotiation with Melbourne Water.

3.6. Crown Land

There are two sites that are currently Crown land along the Koonung, a parcel of land originally owned by Melbourne Water near Windella Crescent and another near the intersection of High Street and the Freeway (adjacent to Scout hall). These parcels

are being maintained currently by Council and an agreement to formalise this arrangement will be required. This is to be achieved by Council gaining DSE approval to become the Committee of Management.

Other land along the Koonung for the purposes associated with creek alignment will be surrendered to the Crown once VicRoads have obtained the title, including:

- Wetlands located adjacent to Park and Ride;
- Wetlands east side of Tram Road; and
- Wetlands east side of Wetherby Road.

3.7. City of Whitehorse

The City of Whitehorse has a similar demographic to Manningham, although it has a larger population living within a smaller area. It is located 15 kilometres east of Melbourne and covers an area of 64 square kilometres. The municipality is bounded by Manningham to the north, Maroondah and Knox to the east, Monash to the south and Boroondara to the west. Whitehorse has a population of approximately 151,000 residents with almost one-third born overseas. Their vision is to aspire to be an inclusive, supportive community with vibrant, outstanding and sustainable natural, built, social and economic environments.

Manningham and Whitehorse share the Koonung Creek Linear Park as it follows the Creek that is the boundary between municipalities. The main Park and Trail begin on Manningham's side in the east at Springvale Road and extends to Tram Road, Doncaster. The main Park area then sits on the Whitehorse side as it travels west to Boroondara and finishes at Bulleen Road. The Freeway displaces public land on both sides and thereby creating a few anomalies.

One of these anomalies is Eram Reserve, located on Manningham's side of the Freeway and south side of the Creek. It is approximately seven hectares in area and is enclosed by either the Freeway fence or Creek with an access point at either end; one being a footbridge and the other the Melbourne Water retarding basin. The enclosed nature of the area has created a barrier and limited access. Whitehorse residents have one access point to Eram Park across the footbridge situated near Eram Road. There are no formal paths and the land is currently maintained by Whitehorse. The maintenance vehicles access the Park via Windella Crescent, Doncaster along the path and over the retarding basin. There currently is no management agreement between Whitehorse and Manningham.

VicRoads is transferring the following land to Manningham that is located within Whitehorse, but positioned on north side of freeway comprising:

- | | |
|--|---------|
| • Boronia Grove Reserve (south of creek) | 3.14ha |
| • Tunstall Road (south of creek) | 2.36 ha |
| • Massey Street | 0.12ha |
| Total | 5.62 ha |

There are six main roads and four footbridges crossing the Freeway giving both Manningham and Whitehorse residents' opportunities to link, enter or exit the Park. From west to east these include: Doncaster Road; Stanton Street footbridge; Elgar Road; Tram Road /Station Street; Eram Park footbridge; Wetherby Road/Middleborough Road; Boronia Grove footbridge; Blackburn Road; Darvall Street footbridges; and, Springvale Road.

All land between the northern freeway fence/soundwall and the municipal boundary is owned by VicRoads. This land is generally zoned RDZ1 with the exception of some parcels of VicRoads owned PPRZ zoned open space, comprising:

- Open space near Bushy Creek confluence;
- Open space near Frank Sedgman Reserve; and
- Other minor parcels of land on south side of southern freeway fence/soundwall

The Whitehorse Open Space Strategy (WOSS) identifies Bushy Creek as a major tributary to the Koonung Creek and extensive works have been undertaken to revegetate the creek corridor and reserve system where the Creek has been contained in a low flow pipe. The Strategy supports ongoing maintenance of existing revegetation works and progressive increase of indigenous vegetation over time. Melbourne Water is the responsible waterway manager for the Creek and due to extensive modification of the Creek by works associated with the Eastern Freeway Melbourne Water will focus on continuing to improve the streamside zone rather than in-stream values.

According to the WOSS the Eastern Freeway Trail Reserve is the most frequently visited open space in the Blackburn North area.

The following recommendations from the Whitehorse Open Space Strategy are relevant to the Koonung:

- Whitehorse Council continues to liaise with VicRoads regarding the maintenance of the Eastern Freeway Reserve which is located adjacent to the Koonung Creek corridor. There is potential for additional revegetation works to be undertaken in the linear reserves;
- Whitehorse liaise with the Manningham and VicRoads to improve habitat corridor values between Koonung Creek and Mullum Mullum Creek;
- Whitehorse to liaise with Manningham to develop suitable long term management arrangements for the creek corridor;
- Whitehorse Council is to liaise with VicRoads, Parks Victoria and adjoining municipalities to achieve a shared trail link from Koonung Creek to Mullum Mullum Creek as part of the proposed Mullum Mullum Park. The trail link is to be integrated with the Eastlink construction and include liaison with Manningham and Maroondah City Councils;
- Upgrade Bushy Creek north to Eastern Freeway Shared Trail and footbridge over Freeway north Eram Park and Koonung Creek system;
- Eram Park: VicRoads to continue to maintain the existing revegetation works in this reserve; continue to liaise with VicRoads and City of Manningham to review appropriate longer-term management and maintenance agreements for this reserve given its location on the northern side of the Freeway; and
- Whitehorse to liaise with Manningham to investigate a suitable open space link between Hillcrest Reserve and Collina Glen.

Manningham supports the recommendations that are relevant and an outcome of this Management Plan is to develop a working group with the Councils, including VicRoads and Melbourne Water.

3.8. City of Boroondara

The City of Boroondara is a metropolitan council located in the inner eastern suburbs between 5 and 10 kilometres east of the Melbourne CBD. It is bounded by the Cities of Banyule and Manningham in the north, the Cities of Whitehorse and Monash in the east, the City of Stonnington in the south, and the City of Yarra in the west. The City of Boroondara is a predominantly residential area, with some commercial and educational land use. The City encompasses a total land area of approximately 60 square kilometres and has a population of 168,090. Its vision is for a vibrant, liveable city which fosters the cultural, environmental, economic and personal wellbeing of our community.

There is a small section of the Koonung that shares the Manningham boundary with Boroondara. Both the Estelle Street footbridge and Bulleen Road link the municipalities.

Council own a parcel of land that is in Boroondara at the end of Thompsons Road, next to the Freeway. It was being used as an informal car park prior to the freeway construction and upgraded by VicRoads during the Freeway construction.

The Freeway Public Golf Course acts as barrier to developing a link between the Koonung Trail and the recreational path on the eastern side of the Yarra River through Bulleen Park.

3.9. Municipal Boundary

The Municipal boundary has historically been the Koonung Creek between Thompsons Road and Springvale Road. The boundary has been realigned from Thompsons Road to Doncaster Road using the soundwall on the northern side of the freeway. The former alignment at the Koonung Creek still remains the municipal boundary for a small area at the western end, being with Boroondara, but the majority is shared with Whitehorse.

Construction of the freeway through the Koonung Creek Valley involved both realignment of the Creek and placing the Creek and barrel drains under the freeway. This has left parts of Manningham isolated on the southern side of the freeway and vice versa with Boroondara and Whitehorse. In negotiation with VicRoads leading up to the 2005 Agreement Manningham took the view that the municipal boundary will eventually be realigned to the northern soundwall.

Consequently, as part of the agreement, Manningham accepted title for approximately 5.5 hectares of former VicRoads land, between the soundwall and Koonung Creek that is currently located in the City of Whitehorse. Similarly, this Management Plan does not consider the VicRoads owned open space on the southern side of the freeway but still located in Manningham (northern side) of Koonung Creek as Manningham believes these should ultimately be considered as part of the Boroondara and Whitehorse open space networks.

In order to address the issue with the municipal boundary, being consistent with the boundary realignment east side of Doncaster Road along the Freeway using the freeway wall as the boundary, it will be necessary to follow legislative requirements for municipal boundary changes pursuant to the Local Government Act 1989. Manningham, Boroondara and Whitehorse Councils need to individually resolve to approve a boundary change before the matter can proceed.

Whitehorse Council were approached with regards to Manningham's use of Eram Park and this was not supported by Whitehorse at this time. Further discussions will need to be held to gain their support for boundary realignment.

Manningham will continue to plan and maintain open space on the basis that the boundary will eventually be realigned.

4. PLANNING CONTEXT

4.1. Planning Scheme

Manningham Planning Scheme

The Manningham Planning scheme provides a policy framework for the implementation of state and local policies affecting land use and development within the City of Manningham. The Koonung Creek Linear Park study area is contained within the following zones and overlays within the Manningham Planning Scheme.

Public Park and Recreation Zone (PPRZ): This zone recognises areas for public recreation and open space, protects and conserves areas of significance where appropriate and provides for commercial uses where appropriate. This zone applies to the majority of the Council owned Linear Park.

Road Zone (RDZ1): This zone identifies significant existing roads and identifies land which has been acquired for a significant proposed road. In addition to the eastern freeway as defined by the soundwalls this zone also currently applies to the land being transferred from VicRoads to Council as open space as part of the 2005 agreement. The land in the process of being transferred to Council from VicRoads should ultimately be rezoned from RDZ1 to PPRZ. These land parcels comprise:

- Southern part of Kampan Street Reserve;
- New Council reserve at 398 Doncaster Road (beside Park & Ride);
- 23-25 Massey Street;
- Part of 43 Massey Street;
- 53A & B Stanton Street;
- 33 Stanton Street;
- 20 Katrina Street;
- 3 – 5 Esta Court;
- 11 Tram Road;
- Part of 110 Leeds Street;
- Part of 34 – 68A Bowen Road;
- Part of 144 -148 Tunstall Road; and
- 90 Darvall Street.

Residential 3 Zone (R3Z): This zones provides for residential development at a range of densities with a variety of dwellings to meet the housing needs of all households. This zone currently applies to parts of the Council owned linear park. In order to provide some consistency in planning these parcels should ultimately be rezoned from R3Z to PPRZ. These land parcels comprise:

- Part of 12 Marjorie Street;
- 67 Estelle Street;
- 15 Paul Street;
- 44 Windella Quadrant; and
- 24 Darvall Street.

Public Use Zone Schedule 1 (PUZ1): This zone recognises public land use for public utility and community services and facilities. Schedule 1 applies to public land that has a service or utility purpose. The Melbourne Water owned land either side of Wetherby Road is located within this zone. PUZ1 also currently applies to the land recently transferred to Council located west of the Melbourne Water property. This parcel should ultimately be rezoned from PUZ1 to PPRZ.

Amendment C54 proposed Environmental Significance Overlays Schedules 2 & 3 (ESO2 & ESO3): These overlays identify areas where the development of land may be affected by environmental constraints and ensures that development is compatible with identified environmental values. The amendment proposes to implement the findings and recommendations of a number of strategies that have been approved by Council being the Manningham Biosites: Sites of (Biological) Significance Review 2004; Wildlife Movement and Habitat Needs 2009; Locally Threatened Plants in Manningham 2010 and the Manningham Monterey Pine and Cypress Tree Assessment 2003. Of particular relevance to the linear park the amendment:

- Replaces Schedule 2 (Areas of Botanical or Zoological Significance) to the Environmental Significance Overlay with a new Schedule 2 (Sites of Biological Significance) to the Environmental Significance Overlay; and
- Introduces a new Schedule 3 (Buffer Conservation Areas Supporting Sites of Biological Significance) to the Environmental Significance Overlay.

These overlays apply to the most of the linear park between Wetherby Road and Springvale Road and 1-11 Church Road (east of Whittens Lane).

Land Subject to Inundation Overlay (LSIO): This overlay identifies land in a flood storage or flood fringe area affected by the 1 in 100 year flood and ensures that any development maintains a free passage and temporary storage of floodwaters, minimises flood damage and is compatible with the flood hazard. The overlay applies to the generally narrow strip of land along Koonung Creek between Doncaster Road and Springvale Road. The LSIO also applies to part of the linear park near Kampman Street.

Special Building Overlay (SBO): The purpose of the overlay is to identify land in urban areas liable to inundation by overland flows from the urban drainage system as determined by, or in consultation with, the floodplain management authority. The SBO applies to three small pockets of the linear park along drainage lines in the vicinity of the High Street Scout Hall, Boronia Grove Reserve and Blackburn Road.

Significant Landscape Overlay Schedule 5 (SLO5):

The rivers and creeks of Manningham are of visual, landscape, environmental, heritage and recreational significance. All watercourses contribute to visual significance. Water courses are important natural assets, creating a sense of remoteness and a wildlife habitat all combining to provide a visually diverse landscape.

Heritage Overlay (HO): The purpose of the overlay is to conserve and enhance heritage places of natural or cultural significance and ensure that development does not adversely affect the significance of heritage places. There is one registered archaeological site along the Koonung Creek near Wetherby Road (HO 181 - VAS 7922/202).

Cultural Heritage Sensitivity: The area of Cultural Heritage Sensitivity covers land within 200 metres of Koonung Creek extending from Doncaster Road upstream to within 230 metres of Springvale Road.

Boroondara and Whitehorse Planning Schemes

The Manningham City Council owned land comprising the linear park includes some parcels of land that are currently located in both the Cities of Boroondara and Whitehorse. Most of this land is former VicRoads land on the northern side of the freeway that is being transferred to Manningham as part of the 2005 agreement. In order to maintain consistency all the land in the process of being transferred to Council from VicRoads should ultimately be rezoned from RDZ1 to PPRZ. This will require some minor corrective amendments to the Boroondara & Whitehorse Schemes. This comprises of the land being transferred from VicRoads to Manningham Council that is currently located within the City of Whitehorse should ultimately all be rezoned from RDZ1 to PPRZ.

4.2. Relevant Strategies and Documents

Please refer to Section 11.5 Relevant Strategies and Documents, these include: Melbourne 2030 (2002); Metropolitan Open Space Strategy (2002); Manningham Public Open Space Strategy 2004; Mullum Mullum Creek Linear Park Stage 3 Management Plan; Action and Inclusion Policy and Action Plan (2008-2012); Melbourne's Principal Bicycle Network (currently under review); Manningham Bicycle Strategy (2001); Doncaster Hill Pedestrian and Cycling (2010); 'Active for Life' Manningham Recreation Strategy 2010-2025; Making Manningham Mobile (2010); Manningham Domestic Animals Strategy (2004); Guidelines (Signage, Lighting, Park and Path Design). These documents have been summarised to provide strategies for the planning and management of the Koonung Creek Linear Park.

5. ENVIRONMENTAL CONTEXT

5.1. Native Vegetation Management Framework



In 2002, the State Government released the *Native Vegetation Management – A Framework for Action Strategy* for the protection of native vegetation and biodiversity. The primary goal of the strategy is to achieve a *reversal, across the entire landscape, of the long-term decline in the extent and quality of native vegetation leading to a net gain*. Net gain is the outcome for native vegetation and habitat where overall gains are greater than

overall losses and individual losses are avoided, where possible.

The framework introduces the concept of 'net gain' to redress the loss of indigenous vegetation as is approved through Victoria's Planning Schemes. The framework seeks to achieve a net gain by a three-step approach. The removal of any indigenous trees, shrubs and ground storey for any proposed works such as the construction of the shared path will need to contribute to a net gain by the three step approach. The steps include:

- Avoiding the removal of vegetation, where possible;
- Minimising the removal of vegetation; or

- Providing a net gain offset if the above steps cannot be achieved and vegetation removal is required. The offset should be in the form of active protection management or replanting of indigenous vegetation to redress the loss of any vegetation through development.

Local government is required to implement Victoria's Native Vegetation Management Policy. The framework applies to wherever a planning permit is required for the removal of native vegetation and has significant implications i.e. for the shared path alignment within the Koonung Creek Linear Park.

5.2. Bushland and Landscape Management

Sections 11.6 and 11.7 provide a description of the vegetation types and classifications. The vegetation can be divided into a number of areas to assess the level of maintenance required, these include: mown; landscape mulch; bushland planted; and, bushland remnant.

'Mown' areas are those that are grass and mostly open and may contain scattered trees. These areas are mown on a three to four week rotation.

'Landscape' areas are those that are planted and mulched beds. These areas require an initial clean up through the removal of weeds and excess plants that have encroached on the path. Maintenance of these areas is to control weeds and maintain a mulch surface. There are a number of sites where the landscape beds will be extended to link other beds or enhance the setting for the path.

'Bushland planted' areas have a non indigenous grassy ground story and are planted with indigenous plants of equal to or greater than one metre in height. The non indigenous vine/scrambling species, bulky rhizomatous grasses and woody weeds are controlled.

'Bushland remnant' areas are those with remnant indigenous ground storey with or without remnant shrubs and trees. Some patches will be mown once or twice a year. Weed control ranges from control of all weeds to only the most aggressive weeds depending on the value of the particular remnant patch.

Refer to the maintenance maps A –O for the bushland and landscape management. The maps have the maintenance areas identified and recommended works beyond the daily maintenance is itemised.

The schedule of land currently being maintained by VicRoads includes: three sites at Stanton Street, west of Heyington Avenue, Stanton Street east of Heyington Avenue to Council Reserve and Blackburn Road to Sherbrooke Court, including between the sound wall and property fences.

The schedule of land currently being maintained by Melbourne Water includes the land on both sides of Wetherby Road and a small section east of Tunstall Road.

5.3. Fire and Emergency Management

Vegetation management that contributes either directly or indirectly to fire management is undertaken by several sections within the Council including the bushland crew, tree felling crew and mowing crew. Any hazard management needs to be sensitive to the ecological values of the Park.

These areas at risk are maintained by mechanical slashing, hand mowing and hand weeding. The maintenance occurs as part of the routine maintenance of the Park, with slashing and hand mowing occurring at least twice each year, usually once before and once during the fire season.

The Koonung Park is set within an urban landscape. There is limited potential for an established fire to burn into the Park and little potential for an ignition within the Park to spread well beyond the Park boundary.

There is good access to the Park via many points, either by the road network or by small reserve/neighbourhood park entrances.

Fire management objectives for the Koonung are:

- No unplanned fires within the Park;
- No person should suffer injury or lose their life from wildfire in the Park;
- Potential for damage to houses and infrastructure should be minimised;
- Fire management should protect and enhance environmental values within the Park;
- Fire management should recognise and protect social and heritage values within the Park; and
- The built and natural environment beyond the Park should not suffer significant damage from a fire in the Park.

It is recommended to remove vegetation from the back fences of the properties abutting the Park where identified (refer to maintenance maps A-O).

5.4. Drainage & Waterways



There are seven main waterways in the municipality including the Yarra River, Mullum Mullum Creek, Koonung Creek, Andersons Creek, Brushy Creek, Jumping Creek and Ruffey Creek.

Koonung Creek is a small tributary to the Yarra River in Melbourne's east. The Creek originates in Nunawading, just near Springvale Road, and flows to join the Yarra at the border between Ivanhoe East, Bulleen and Balwyn North. The place the

two waterways meet forms the borders between these suburbs. Bushy Creek (now carried by an underground pipe) is a tributary to the Creek, joining near Elgar Park in Mont Albert North.

The Creek's headwaters meet near the border of Donvale. From here, the Creek flows in a roughly westerly direction for around 11km, before reaching the Yarra River below the Yarra Flats in southern Bulleen. The Creek is joined by various gullies and creeks, the most prominent of the tributaries include; St. Clems Gully, Bushy Creek and Gawler/Lungren Gully.

Melbourne Water rates the condition of the Creek as 'Very Poor'. Melbourne Water's monitoring station for the Creek at Bulleen Road in Bulleen, detected an average E. coli count nine times the safe swimming level in 2007. This was the highest level of E. coli measured in all of metropolitan Melbourne's waterways. While the Creek rates 'very poor' for water quality and aquatic life (along with many other urban streams),

its habitat and stability rated 'good' in the Regional River Health Strategy. Melbourne Water believe the riparian vegetation condition is improving markedly along the Koonung due to increased weed control and revegetation by Melbourne Water as well as also good adjacent land management by Councils.

The Koonung Creek has five species of frog, these are the Growling Grass Frog; Common Eastern Froglet, the Spotted Marsh Frog , the Striped Marsh Frog , the Eastern or Pobblebonk Frog and the Southern Brown or Ewing's Tree Frog.

5.5. Melbourne Water

Melbourne Water is a waterway and floodplain manager and has jurisdiction over the main waterways, including the Koonung Creek. As a Referral Authority under the Planning and Environment Act (1987), Melbourne Water has the responsibility to review and approve new path proposals along waterway corridors and also has a responsibility to advise Councils about matters of flood risk and limitations in the design and construction of waterway paths. They have the responsibility to review and decide on the appropriateness of any pathway on their land.

Melbourne Water vision is to ensure a 'sustainable water future' where:

- water supply is secure and high quality
- waterways and bays are healthy
- biodiversity is improved
- stormwater and treated wastewater is recycled or beneficially used

An aim of Melbourne Water's River Health Strategy is to identify and manage:


- waterway values (catchment based)
- threats to waterway values
- actions to address these threats.

One of Melbourne Water's main objectives is to maximise opportunities for recreation while minimising the impact on the health of rivers & creeks (P16 & P23 Port Phillip & Westernport RRHS).

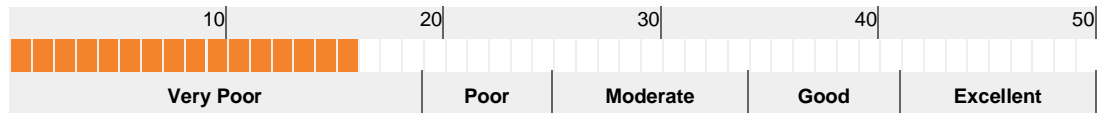
Melbourne Water maintains one automated rainfall and river level monitoring station in the Koonung Creek area. The IRC is designed to provide an overall integrated measure of the environmental condition of rivers. It is based on the Index of Stream Condition (ISC) developed by the Department of Sustainability and Environment for rural rivers and creeks. The ISC has been modified to account for the urban rivers and creeks in Melbourne Water's operating area.

The Koonung Creek area is in the Yarra Basin and within the Yarra Catchment. The current condition significance is rated low.

	Water quality	Aquatic life	Habitat and stability	Vegetation	Flow
Excellent					
Good			■		
Moderate					
Poor				■	
Very Poor	■	■			■
Hydrology :			2	■ ■	

Physical Form :	8	
Streamside Zone :	3	
Water Quality :	2	
Aquatic Life :	2	

IRC Score : 16	IRC Rating : Very Poor
-------------------------------------	---



As per the Port Phillip and Westernport Regional River Health Strategy, the future direction for the management of the Koonung Creek is to focus on improving the streamside zone through revegetation and improving water quality through management of urban stormwater. In highly urbanised catchments the impacts of stormwater are generated throughout the catchment and include quality, quantity and frequency elements that are most effectively dealt with close to source where it is impractical to implement other treatment measures. Melbourne Water maintenance has also undertaken weed control on a number of potentially threatening weed species located in the adjacent Vic Roads managed land to prevent further infestation of the Creek.

The Creek is considered a low priority from a river health perspective due to its current status in relation to the index of stream condition.

Maintenance by Melbourne Water of the Creek is programmed across eight - ten days on a monthly basis, concentrating on weed control and some revegetation, with the Creek (Springvale Rd to Bulleen Rd section) being addressed at least once a year.

Melbourne Water own land on the east side and west side of Wetherby Road. Maintenance of this land includes: control of the high threat weed species; maintain existing streamside vegetation along the Creek corridor; and, protection and enhancement of the remnant vegetation. The land is managed essentially for the purpose of maintaining and improving riparian values in the creek corridor, and there are currently no other specific future plans for the land.

6. PARK USE OPPORTUNITIES - recreation and active transport



The Koonung Creek Linear Park provides valuable opportunities for informal physical activity, recreation participation and community connectedness. Its dominant feature is the main shared pathway/commuter trail running the length of the Park from Springvale Road to Eram Park (where it enters Whitehorse to link eventually with the main Yarra Trail) as well as many linked secondary paths.

The matter of safety and conflict between users along shared linear

paths is not unique to the Koonung and is a State wide issue that requires a consistent and coordinated approach. Improvements to the consistency, performance and safety of the shared path networks will benefit the region and its communities.

To encourage greater usage and improve the experience of current users the following opportunities will be undertaken: improvement of paths to a shared path standard; maintaining the paths; installing exercise equipment; improving and maintaining the vegetation; improving signage; improving the safety of users; improving links; and, additional park furniture (including seats, drinking fountains) and public toilets.

6.1. Walking

Walking is often the easiest physical activity for people to undertake as it does not cost any money or require any special equipment. Walking appeals to a wide range of people as it can be done while exercising a dog, pushing a pram or even by people with impaired mobility. Walking is also an activity that can be undertaken individually or within groups. Providing good pedestrian paths in the urban setting is also important in providing a healthy and convenient alternative to accessing everyday services.

There is a need to recognise the importance of offering opportunities for accessible and safe areas for people to walk and exercise in light of the current health crisis brought about by inactivity (obesity), including the addition of exercise gym equipment along the path. *The results of the 2007-08 National Health Survey by the Australian Bureau of Statistics (ABS) found that: 62 per cent of adults are overweight and obese, with people aged 65-74 years of age having the highest rates of 79 per cent, with more males being affected than females; and, one out of four children aged between five and 17 is now overweight or obese.*

Walking is the most common recreation activity in Manningham. Surveys undertaken as a part of the development of the 'Active for Life' Recreation Strategy found that 54% of residents rated walking as the most popular recreation activity, compared to state response of 33% and national 34%. The Strategy identified that residents indicated that they use exercise as a form of transport (45 per cent of respondents) with nearly all (90 per cent) selecting walking as their preferred means of travel. The most popular destinations for walking were to the shopping centre (45 per cent) or the park (15 per cent).

The Active for Life Recreation Strategy has recommended:

4.3.18 Develop a walking strategy to address major barriers to walking for recreation and transport purposes

4.6.2 A suite of walking brochures including walking for fun and fitness, tourist trails, arts trails, circuit walks, etc

With almost 90% of respondents to the Koonung Creek Linear Park Community questionnaire using the path for walking there are opportunities for improvements to signage, links and path standard and access for walkers.

6.2. Cycling



Cycling is the 4th main recreation activity in Manningham and it occurs on shared paths and is increasingly a choice for everyday transport. Manningham's Linear Parks play an important role in providing off road cycling networks. The on road network being developed in Manningham provides links to the off road path network. Sharing of these pathways by pedestrians and cyclists becomes increasingly important as these pursuits grow.

The main path along the Koonung is classified in the Principal Bicycle Network as being part of the Metropolitan Trail Network as a shared footway/bicycle path. It travels west from Springvale Road to Eram Park where it crosses the border to Whitehorse, connecting to Boroondara, and eventually links to the Main Yarra

Trail. This path is considered the only path that is to commuter standard being 3metres in width.

Bicycle Victoria undertook a survey for Manningham of its membership with regards to bicycle behaviour and infrastructure – *BikeScope* (for results refer to section 11.8 Consultation). There were 627 respondents, with a third being non-residents and whose greatest areas for improvements were signage, lighting and changing dog controls. The main reason for riding is health, fitness and commuting. The Bikescope survey also identified the Koonung Creek Trail as the second most popular off-road route in Manningham, with the Main Yarra Trail being first.

Manningham encourages the use of sustainable transport such as riding/commuting to work. Manningham's Transport Strategy - Making Manningham Mobile aims to improve transport system performance by reducing the reliance on travel to work using a private car. The benefits include reducing the pressure during peak periods, congestion, associated environmental and road safety concerns. The eastern section of the Koonung is the only identified commuter path in Manningham and it is recommended that Manningham continue to recognise the importance of the path as a commuter path and continue to encourage its use.

Trail counters

On 20 August 2010 a trail counter was installed on the Koonung path. The purpose of the eco-counter is to gather data on shared trail usage to assist in reducing pedestrian and cyclist conflicts and other trail risks by identifying high use trails, peak usage times and the proportion of cyclists to walkers on different trails. The

information gathered offers base line data to monitor the increased use of Manningham's trails by both pedestrians and cyclists.

The monitoring system:

1. Is guided by a monitoring report that sets out the most useful trail monitoring points and responsibilities for system maintenance and data collection/analysis;
2. Is able to separate pedestrians from cyclists in the counts;
3. Is discrete, and/or vandal proof, to ensure reliable data collection over long periods;
4. Has proven hardware and good software support; and
5. Is cost effective.

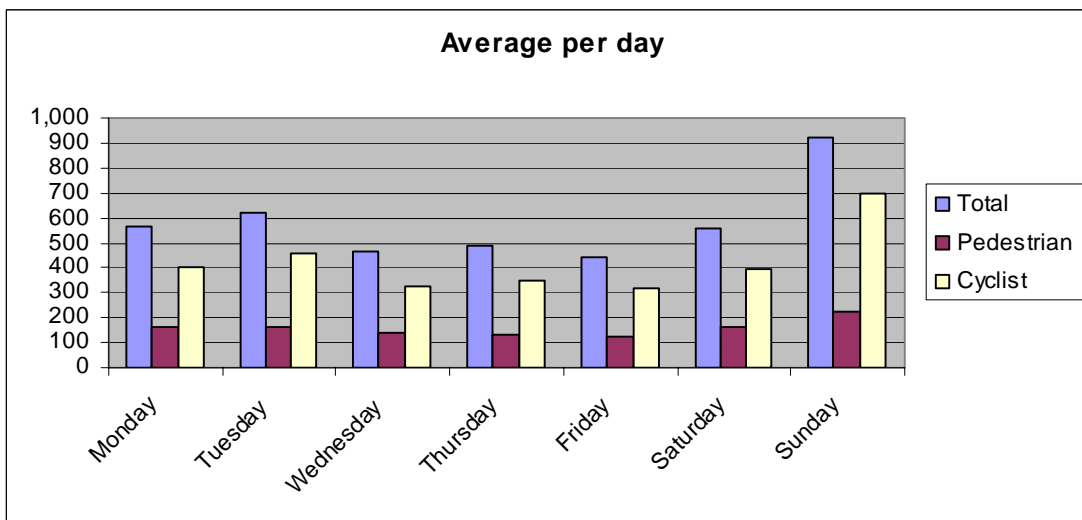
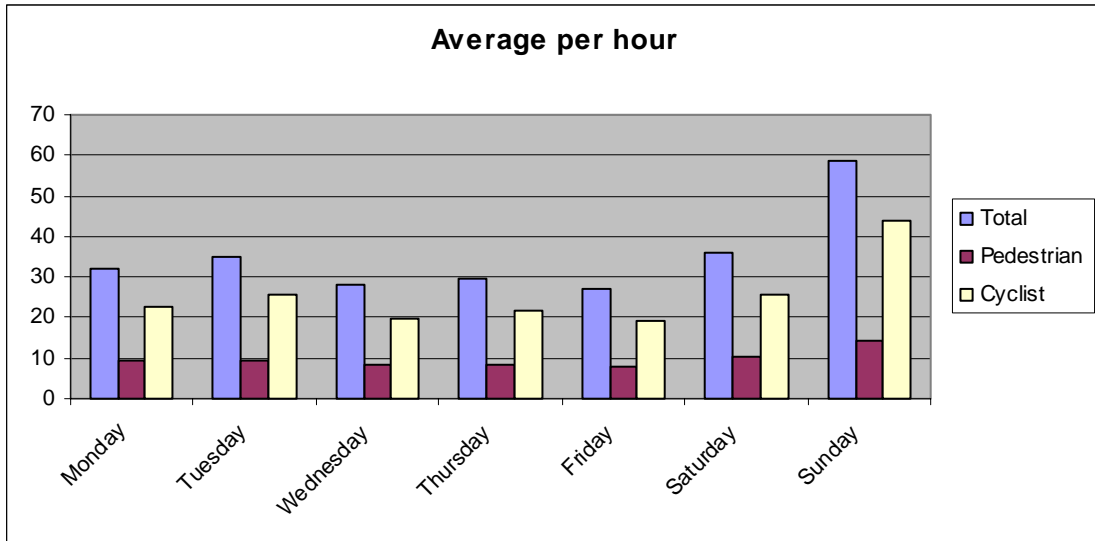
The table and bar graphs below are evidence of the trails high level of usage and show that for every walker there are three cyclists using the path in this location.

This high level of usage by cyclist demonstrates a need to address the dog controls on the commuter section of the Koonung, as suggested by the 'Review of the Use of Shared Footways by Dog Walkers'.

Trail count recorded from 20 October 2010 – 15 December 2010
 Each days data has been collated and averaged to gain a picture of the paths usage.

Average per hour							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Total	32	35	28	30	27	36	58
Pedestrian	9	9	8	8	8	10	14
Cyclist	23	26	20	21	19	26	44

Average per hour (Percentage)							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Pedestrian	29%	27%	30%	28%	28%	29%	25%
Cyclist	71%	73%	70%	72%	72%	71%	75%
Average per day							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Total	563	622	465	486	445	559	922
Pedestrian	161	166	138	135	127	161	227
Cyclist	401	455	327	351	318	398	695
Average per day (Percentage)							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Pedestrian	29%	27%	30%	28%	28%	29%	25%
Cyclist	71%	73%	70%	72%	72%	71%	75%



6.3. Dog Walking



Dog walking is a very popular activity along the Koonung Creek which is a designated dog off lead area in Manningham. Manningham currently has approximately 100 off lead reserves and parks.

Regular exercise including free running in off lead reserves is important for the mental health of a dog and assists in the socialisation of the dog with other animals and people. This in turn reduces the likelihood of a dog being involved in an aggressive incident.

The Manningham Domestic Animal Management Plan has been developed to achieve a balance between meeting the needs of pet owners and the needs of others in the community.

It has been identified that there is a need to further educate dog owners of their legal responsibilities and to promote 'off lead etiquette' in off lead reserves. Off lead etiquette should include controlling the behaviour of the dog when off lead, actively supervising the dog and restraining the dog should it become unruly or should other park users or other dogs show signs of being intimidated by the dog.

The owners of dogs find sharing the paths that run through off lead reserves and parks with cyclists a challenge as they fear their dogs being hit by the bike. This in turn is the same concern of cyclists who fear hitting a dog who is not under effective control.

An issue with of the Koonung Trail running along the boundary of a couple of municipalities is the inconsistency of Local Laws in relation to dog controls. Presently Manningham is off lead and both Boroondara and Whitehorse are on lead. This inconsistency can be explored when the regional working group that will have representation of the neighbouring councils is formed.

The results of the Eco-counter (trail counter) have demonstrated high use of the main/commuter path with average weekday usage being approximately 500 and Sunday usage being approximately 1000. The number of walkers to cyclist is three cyclists to one walker. It is recommended that the main/commuter path be dog on lead within 5 metres of the path as suggested by the 'Shared Paths review of the Use of shared Footways by Dog Walkers' April 2011.

6.4. Conflict of path users

Addressing the conflict between Park users including dog walkers, cyclists and walkers in areas identified as high risk; such as the main/commuter path is an objective of the Plan. It is important to prioritise these strategies as the issue will only escalate as the level of usage continues to increase.

Offering secondary paths for walkers has been accommodated along the Koonung where space allows. There are sections of the main/commuter path, for example Springvale Road west to Cabena Street entry, approximately 400 metres where the Park is narrow and the topography only allows for the one path. It is in those areas where regulatory and etiquette signage is relied on for controlling user behaviour. Other similar sections include Bowen Road and Grevillea Road entry west to Blackburn Road approximately 500metres, most of which is VicRoads land; and Blackburn Road west to Boronia Grove Reserve approximately 500metres.

On 31 March 2009 a petition with 117 signatories from residents and walkers who use the shared path adjacent to the Eastern Freeway was tabled at the Council meeting, requesting Council(s) to provide safe and secure environment for pedestrians on the path adjacent to the Eastern Freeway. The petition followed an incident that occurred early that year between a pedestrian and a cyclist on the Koonung Creek shared path between Blackburn Road and the bridge crossing near Boronia Grove. Refer to attached Council report Koonung Creek Linear Trail – Safety Improvements, 30 June 2009.

In response to the petition a safety assessment was undertaken of the Koonung Creek Trail between Springvale and Elgar Roads in order to identify opportunities for improvement. The Council report recommended: Manningham to advocate to State Government for a coordinated approach to shared trails; the remedial works identified in the safety assessment be completed; the installation of signage in accordance with the Outdoor Signage Strategy January 2011; and, a review of paths that go through off lead dog areas. To date a letter has been sent to the Department of Transport with no response; remedial works completed; installation of signage is in progress with the regulatory signage complete and the review of shared paths in off-

leash areas suggests a change to the requirements may be warranted. The changes include the five metre rule be considered ie that dogs be leashed on and within five metres of the shared path. This recommendation will be considered for the commuter section of the path only and secondary path usage to be reviewed every two years through the use of the mobile Eco-counter. When the use of the secondary path increases to the level of the main/commuter section similar dog controls should be brought in line.

6.5. Play

There are five reserves directly on the linear trail between Springvale Road, Donvale and Thompsons Road, Bulleen whose play opportunities have been assessed.

These are: Darvall Reserve; Boronia Reserve; Koonung Creek Linear Park (Windella); Katrina Reserve and Koonung Park. Other reserves with play and shared path opportunities near the trail that should be included as part of the trail include: St Clems; Baratta; Thea; Kingsnorth; Harold and Yarralean Reserves. *See Playground report for assessment of each play area in section two.*

The play opportunities for the Koonung Creek Linear Park include:

Play space	Description	Recommendation
Darvall Reserve, Donvale		To consider removal of the swing set once past its usable life and make the reserve an attractive entrance to the linear trail through landscaping and a park bench.
Koonung Creek Linear Park (Windella Quadrant)	The playground is located directly on the linear trail but is not at all visible from Windella Quadrant due to vegetation. The playground is only visible from the trail. Style of equipment is very similar to Katrina Reserve which is only 1.6km along the trail.	To investigate a shared path link to Marshall Reserve (through Windella Quadrant). When upgrading, ensure play opportunities differ in style to Katrina Reserve.
Katrina Reserve, Doncaster	This is a comprehensive play space with opportunities for a wide range of ages. Pathways currently connect playground to linear trail. The playground is only visible from the trail. Style of equipment is very similar to Windella Quadrant which is only 1.6km along the trail.	Investigate extending the existing path to connect Blossom Court to Trail. When upgrading, ensure play opportunities differ in style to Windella Quadrant Reserve.
Koonung Reserve, Bulleen	Playground, public toilets, pathway and signage all in place 60m from linear trail.	To install a BBQ, picnic table and shelter as part of the playground. Install signage from trail to show public toilets 50m away.

There are also a number of sites along the Koonung that are conducive to informal play and dogs off lead. These sites are where the topography is generally flat and open without trees and include areas: between Thompson Road and Kampman Street; east of Tram Road; and, Windella Quadrant link.

6.6. Exercise equipment

It is becoming increasingly popular to install exercise equipment into reserves and linear parks. In the past these have taken the form of fitness based routines on static pieces such as bars, poles, and steps. These are generally very effective for fitness, but are not used by a broad range of park users. They are valuable additions to any park, however there are pieces (stand alone or in a set) that aim to be more inclusive or fun. Some mimic gym equipment and others look similar to play equipment.

Exercise equipment provides a complete fitness and recreational facility, building upper body, leg and back strength, enhancing agility, flexibility, endurance and cardiovascular health. It can be installed as a cluster of outdoor exercise stations in reserves or along the linear parks. It is effective for all ages and is aimed at those walkers and joggers using the trail to enhance their fitness program.

The equipment has been successfully installed along the Koonung in Boroondara and has been requested through the feedback gained from the community questionnaire for Manningham. There are two sites that have been recommended along the Park, being: east of Willow bend entrance/link (refer to Maintenance Map C1); and, east of Tram road (refer to Maintenance Map J7). The use of this type of exercise equipment in Manningham is currently under investigation.

6.7. Nature appreciation

Parks and nature have an enormous untapped health potential. City living involves a disengagement from the natural environment that is likely to be detrimental to health and wellbeing. Parks may be one of the only means of accessing nature for the majority of people in urban areas.

Parks and other natural environments are a fundamental health resource, particularly in terms of disease prevention. The initial evidence documenting the positive effects of nature on blood pressure, cholesterol, outlook on life and stress-reduction is sufficient to warrant its incorporation into strategies for the Australian National Health Priority Areas of 'mental health' and 'cardiovascular disease'.

A growing body of evidence shows that access to and interaction with, nature is essential to human health and wellbeing:

- Through providing access to nature, parks improve and maintain human health and wellbeing (both at an individual and community level);
- By improving and maintaining human health and wellbeing, parks have the potential to reduce the burden on the health care system;
- By facilitating an holistic/ecological approach to health and wellbeing that is beneficial (and essential) to individuals, society, and the environment; and
- Through providing a holistic/ecological approach to health, parks reinstate people with a sense of empowerment and control over their own health and wellbeing.

The Koonung Creek Linear Park offers a variety of nature experiences with the eastern end having a greater level of bushland opportunities. This Management Plan aims to ensure that there is a balance between protecting and enhancing the environmental values of the Park with the provision of recreational opportunities and experiences in a mix of urban and natural setting. When the park is promoted it is recommended that the health benefits are included.

6.8. Community garden

Community gardens address community's needs for food security, social opportunities, health promotion, environmental improvement or learning for sustainability. Many successful community gardens have developed strong supportive partnerships with other community groups, businesses and organisations in their local area. There are many possibilities to explore when planning for a community garden to enhance community benefits including: community art (e.g. sculpture, mosaics and murals); social spaces, seating and outdoor eating areas; shady and covered areas; spaces for performance and areas for workshop delivery; tool sheds and work areas; signage, displays and noticeboards; children's play areas and special plots for children or local schools; bike parking space; a bush tucker trail, sensory or butterfly gardens; animals e.g. chickens, bees or ducks; composting and waste management areas; storage areas for materials such as manure or straw; fruit trees; plots and shared garden areas; rainwater tanks and an irrigation system; predatory insect attracting plants to help manage pests; and propagation area and a stall for sale of plants. The Koonung Creek Linear Park could be a possible site for a community garden.

6.9. Adjacent reserves

There are a number of active recreation reserves adjacent to the Koonung, with cricket at Boronia/Koonung and Soccer at Wilson and Park Avenue. These reserves are not addressed as a part of this Plan and have their own Plans. The user groups of these reserves were given the opportunity to comment during the consultation stage via the community questionnaire. The public facilities located on these reserves were considered where they added value to the Park, such as investigating opportunities for public toilet to be attached to existing pavilions and use of car parks and linking pathways.

7. INFRASTRUCTURE AND FACILITIES

7.1. Path Network

The Koonung offers a variety of pathways including unmade paths or goat tracks, unsealed paths, sealed shared and a sealed main (commuter) path.

Sealed main (commuter) path

The main/commuter path runs from Springvale Road, Donvale to Eram Park, Doncaster where it enters Whitehorse. The path is used by three times more cyclists than walkers. Almost 50% of the Koonung is narrow where the main commuter path travels and is unable to accommodate secondary paths.

An audit of the main/commuter path has been undertaken to ensure where possible:

- fences or pedestrian barriers are 1.0m from the path;



- line marking and regulatory/etiquette/shared path signage is or will be installed to manage high level of bicycle use, speed and potential conflict between users (pedestrians, dog walkers and cyclist);
- directional and identification signage needs to accommodate common wayfinding techniques and expectations; and
- Overhanging vegetation to be 2.5m above ground.

Sealed shared

These include the section of path between:

- A small section at Boronia Grove Reserve west to Leed Street;
- Stanton Street west to Massey Street, Doncaster; and
- High Street/Doncaster Road west to Thompsons Road.

It is recommended that these paths are brought inline with the guidelines that state:

- To ensure that the paths are at least 2.5 metres wide with no obstacles within 500mm of the path, but preferably 1000mm and when not compliant upgrade.
- May need line marking (usage to be monitored as it increases there will be a greater need to line mark), directional and etiquette signage. Shared path signage is essential; and
- Need for intersection and road crossing treatments including tactile pavers at road crossings.

Unsealed shared

These include the section of path between:

- Exiting north side of Darvall Street pedestrian bridge east to main/commuter path;
- Church Road west to Sargent Street;
- A small section at Katrina Street Reserve; and
- Massey Street west to Doncaster Road.

These sections are:

- To be sealed asphalt surface at least 2.5 meters wide with no obstacles within 500mm of the path, but preferably 1000mm; and
- Need for intersection and road crossing treatments including tactile pavers at road crossings.

Unmade

These include the section of path between:

- Darvall Street footbridge west Bowen Road/Grevillea Road; and
- Leed Street south/west to main/commuter path.

These have a predominantly natural appearance. The objective of these paths is to provide an experience that is as 'natural' as possible, while protecting fragile soils and significant flora from the effect of concentrated foot traffic.

It is recommended that the Darvall Street section maintain its natural appearance and the Leed Street section be formalised to unsealed shared west side and sealed shared east side (where the path meets the main/commuter path from the pedestrian footbridge from Whitehorse).

The following maintenance programs are carried out for the Koonung Creek Linear Park paths:

- The shared pathway is swept by a mechanical footpath sweeper on an eight-week cycle;
- Condition and defects inspections are on a once/2 year cycle. Defects are scheduled for implementation as soon as possible subject to available funds. Defects inspections include pavement surfaces, signs, fences, bollards, trees, furniture etc; and
- Line marking works would be scheduled to be completed within weeks of the inspection data being available.

These works are a part of Council's annual maintenance and capital works budget allocation and is carried out as required.

Proposed paths on Melbourne Water land

Melbourne Water's Pathways Agreement for shared pathways and other recreational facilities situated within their land acknowledges that while Melbourne Water will provide all possible assistance with planning for the pathway, it does not have ongoing responsibility for the ownership and maintenance of paths and crossings.

There are two sites where a path is recommended for Melbourne Water Land being:

- A path linking Brindy Crescent to Koonung; and,
- A path linking Colston Court to Koonung trail.

Whilst the agreement releases Melbourne Water of any responsibility to provide pathways through their land it contradicts one of its main objectives, that is, to maximise opportunities for recreation while minimising the impact on the health of rivers and creeks (P16 & P23 Port Phillip & Westernport RRHS).

It is recommended Council

- write to the Municipal Association of Victoria questioning:
 - The shifting of maintenance responsibility to local government of existing paths that have been built by a State authority on land that is owned by another authority; and
 - Why is Melbourne Water continuing to own prime open space that it is not interested in managing for public use?
- Investigate the feasibility of the pathways with Melbourne Water to see whether the pathway is:

- Compatible with Melbourne Water’s current and future management of the land
- Can be built without compromising biodiversity and cultural heritage values
- Can be built to a standard in accordance with best practice and in a manner which minimises risks to user safety and Melbourne Water”
- Once it is realised that the path is feasible request Melbourne Water to install the path.

7.2. Lighting

Council parks and reserves are not lit at night unless there is a specific need for lighting; refer to previous section 11.5.12.

The results from BikeScope indicate that cyclists are keen to have the main/commuter path lit. This could be considered on a regional basis with Whitehorse and Boroondara as it would be of little benefit to light only a section of a main/commuter trail.

There have been a number of requests to light the path that travels east from Thompsons Road to Kampman Street, Bulleen. Those catching the bus from the stop opposite the Boroondara tennis courts to Koonong Park (Mel: 32 E10) walk to and from the bus stop along the trail to Kampman Street. It is proposed to install two lights along the path with a mounting height of 5.5m (refer to map below).

The same need is for the path that links the Doncaster Park and Ride facility, where the path travelling east to Wilsons Road could also be lit to allow people to walk from this area.



7.3. Signage

The signage for the Koonung Creek Linear Park plays a very important role and impacts on user's enjoyment and ease of access to the Park. All community consultation that has taken place over the development of the Management Plan has indicated signage is a high priority.

An audit of the existing signage shows many gaps with wayfinding and interpretive signage. A safety audit undertaken in 2009 highlighted the gaps with regulatory signage and these signs have been installed.

There are different types of signage that will be installed along the KCLP and these include:

- Park regulatory signage (already installed);
- Park and facility directional signs;
- Behavioural signs; and
- Risk warning signs.

The High Street frontage of the Park is a site for community event signage, as per Council's Outdoor Advertising on Council land. The Scouts reside on the land behind that joins the frontage and have requested that the area be contained to the south side of the path so as to not block the view to the hall. This request is to be referred to Statutory Planning for consideration. The Outdoor Advertising on Council land will be reviewed in 2011/12.



7.4. Pedestrian Bridges

All the pedestrian footbridges that cross the Eastern Freeway are the property of and maintained by VicRoads. VicRoads undertakes six monthly inspections and maintenance of the pedestrian bridges and one major culvert (known as SN 1154, 1073, 0963, 0971 and 9127). VicRoads will continue to maintain these bridges.

There is a small pedestrian bridge at the western end of Katrina Street Reserve that is owned and maintained by Council.

7.5. Picnic Facilities

The Urban and Park Guidelines identify linear parks as major visitor nodes and suggests that they consider areas for minor picnic facilities, including:

- Simple shelters;
- BBQ;
- Tables/ table seats;
- Consideration of water taps and drinking fountains; and
- Consideration of bins.

There are a couple of suggested sites along the Park for such facilities including Koonung Reserve (near playground) and Boronia Grove Reserve (near Thea Grove entry).

7.6. Seats

There is currently very little seating along the Koonung. Seating gives users the opportunity to rest and take time to enjoy the surroundings in areas offering greater features or viewing points. To accommodate the ageing demographic, infrastructure

such as seating will continue to increase in demand and ensure these areas are accessible.

7.7. Public Toilets

The Urban and Park Guidelines states that public toilets should only be provided within: major Council buildings; neighbourhood shopping centres, sporting reserves, major picnic areas subject to a demonstrated need; and, at strategic locations along linear parks (usually associated with other activities).

It is recommended that:

- the toilets located at Koonung Reserve be identified through directional signage located along path; ie 50metres ahead; and
- when upgrading both Park Avenue Reserve and Boronia Grove pavilion public toilets be attached and identified through directional signage located along the path.

7.8. Parking

The nature of the position of the Koonung Creek Linear Park in an urban setting lends itself to having many car parking options for users. There are numerous links to streets/roads and a number of reserves abutting the Park.

There has been an opportunity identified at the end of Tunstall Road to develop additional car parking spaces and enhance the entrance with landscaping.

7.9. Park Fences

There is a site along the Koonung Creek Linear Park where fencing is required to act as a barrier to a level change where there is an escarpment, refer to Map B5. In this circumstance it is considered a balustrade needs to be designed to comply with relevant regulations and standards.

To prevent cars from entering the Park there are also a number of sites where fencing is required to be installed such as the Kingsnorth Street entrance or to be upgraded as indicated on Maps A-O.

7.10. BBQ

As outlined in the Manningham Urban and Park Design Guidelines (MUPDG) facilities such as picnic shelters, barbeques and playspaces, as much as possible should have good access from carparks, shared paths, footpaths or bus stops. The Guidelines suggest aiming to keep these access pathways to grades of 1:20. There is one site that has been determined as appropriate when considering the MUPDG and given the feedback from the Community questionnaire; being Koonung Reserve (refer to map A7).

7.11. Class A recycled water treatment plant

The provision of Class A recycled water to Doncaster Hill and surrounding area will require a local treatment plant to supply water. The Class A scheme has been developed after extensive joint investigations by Council, Yarra Valley Water and Melbourne Water which identified the need to ensure that water supply infrastructure is sufficient to cater for future demand in Doncaster Hill and surrounding areas. In addition, the use of Class A water for appropriate uses will provide many environmental benefits, including improved health of Port Phillip Bay and utilise a less energy intensive treatment process (eg than desalination). Modern treatment plants of the type proposed for the Doncaster Hill Class A scheme are compact,

quiet, clean, operate without odour and can be designed to blend in with the local aesthetics.

The feasibility of a number of sites along the Koonung Creek corridor is being considered, and extensive community consultation would be required before any works could commence.

The Doncaster Hill Smart Water Plan was developed to facilitate the realisation of the Doncaster Hill strategy, and will involve the construction of a recycled water treatment facility to cater for future demands. The plan was developed after extensive investigation by Yarra Valley Water, Melbourne Water and Council.

Any proposal to locate a recycled water facility within the Koonung Creek corridor would need to balance impact on the effective use of land for recreation purposes and any opportunities to improve the recreational outcomes along the corridor, and achieve the intent of the Doncaster Hill strategy.

Consideration of any facility would require demonstration that impacts were within acceptable limits and adequate safeguards in place to protect amenity. Extensive consultation with residents would be required before any works could proceed.

8. RECOMMENDATIONS

8.1. Recommendations

The following recommendations have come out of the consultation and have been grouped under the objectives. Refer to the Future Work Program Maps for the location of maintenance actions.

Vision

To improve the provision of recreation and community opportunities enabling greater participation, increasing health and wellbeing while maintaining and sustaining the natural environment.

Objective 1: Safe and Accessible

To provide a safe Park, considering all users needs and providing a balanced approach in the best interest of the whole community.

Strategies:

- To provide signage to encourage an appropriate standard of behaviour, both regulatory and etiquette;
- To provide appropriate dog controls;
- To provide accessible, well maintained paths and surroundings;
- To provide facilities which support commuting as a key use of the Park; and
- To ensure access and linkages to the Park and Ride facility to encourage sustainable transport.

Recommendations		Stage 1	Stage 2	Stage 3	Ongoing
1.1	Implement safety improvements to existing trails including path widening, drainage, road crossings and fencing.	\$153,500			
1.2	Upgrade gravel to sealed shared paths, approximately 2,100 metres.			\$481,500	
1.3	New or upgrade minor paths		\$46,400		
1.4	Improvements to end of no-through roads abutting Park.		\$32,200		
1.5	The main/commuter section to be dogs on lead on and within five metres of the path.	operational			
1.6	Install signage in the Park in line with Council's Signage Strategy. Including: main entry points/metal signs –Thompson Rd, Windella Av, Church Rd, Tunstall Rd)	\$61,100			
1.7	Maintain and undertake work on the bushland and landscaped areas of the Park as identified on the Future Program Work Maps A-P (refer to 5.2)	\$158,620			102,620
1.8	Continue to work with Whitehorse to consider making the Manningham owned land within Whitehorse dogs off lead.	operational			
1.9	Investigate the feasibility of a path linking Brindy Crescent	operational			

Recommendations		Stage 1	Stage 2	Stage 3	Ongoing
	<p>to Koonung; and, a path linking Colston Court to Koonung trail the pathways with Melbourne Water to see whether the pathway is:</p> <ul style="list-style-type: none"> ○ Compatible with Melbourne Water’s current and future management of the land ○ Can be built without compromising biodiversity and cultural heritage values ○ Can be built to a standard in accordance with best practice and in a manner which minimises risks to user safety and Melbourne Water” <p>•Once it is realised that the path is feasible request Melbourne Water to install the path.</p>				
1.10	Regrade walking path between Bowen and Grevillea Road to pedestrian footbridge Donvale.	\$36,000			
1.11	Close the unformed ends of Balwyn Rd (950m2) and Church Rd (1140m2) and incorporating these areas into the Linear Park.	operational			
	Sub Total	\$409,220	\$78,600	\$481,500	\$102,620

Objective 2: Recreation Opportunities

To offer opportunities for participation in recreation, physical activity and to connect people with others and the natural surroundings.

Strategies:

- To upgrade or install supporting infrastructure, ie. toilets, way finding signage, drinking fountains, exercise equipment, secondary paths, connections, car parking, seating and a dedicated area for dog owners to exercise their dogs;
- To offer a variety of landscapes and accessible paths; and
- Investigate linkages with Bulleen Park, Mullum Mullum Creek Linear Park, Doncaster and surrounding open space and activity centres.

Recommendations		Stage 1	Stage 2	Stage 3	Ongoing
2.1	Darvall Reserve, Donvale. To consider removal of the swing set once past its usable life and make the reserve an attractive entrance to the linear trail through landscaping and a park bench			\$10,000	
2.2	Further investigate with Boroondara Council the link to Bulleen Road with the Boroondara Golf Course.	operational			
2.3	When the Bulleen Park Management Plan is reviewed to investigate development of a path between Bulleen Road and Bulleen Park along Boroondara and Manningham owned land.	operational			
2.4	Support the actions relevant to the Koonung Creek Linear Park as outlined in the Doncaster Hill Pedestrian and Cycling DHP & C (refer to section 11.5.8).	Refer to DHP & C			
2.5	Install picnic facility at Koonung Reserve			12,500	

Recommendations		Stage 1	Stage 2	Stage 3	Ongoing
	(adjacent to playground)				
2.6	Install exercise equipment at two sites, being: east of Willow bend entrance/link (refer to Maintenance Map C1); and, east of Tram road (refer to Maintenance Map J7).			\$25,000	
2.7	Approach Melbourne Water to install the paths at Brindy Crescent and connections to Colston Close, Doncaster.	operational			
2.8	Install seats as per the Urban and Park Design Guidelines, refer to 11.5.12.			\$25,000	
2.9	When upgrading both Park Avenue Reserve and Boronia Grove pavilion investigate attaching public toilets and identify directional signage located along path.	operational			
2.10	Investigate possible sites for the development of a community garden	operational			
	Sub Total	\$0	\$	\$72,500	

Objective 3: Promotion

To increase the Park usage through promotion and marketing.

Strategies:

1. To promote the benefits of the Park through various marketing mediums (internet and brochures) eg. Physical Activities Guidelines and Healthy Parks Healthy People priorities;
2. To promote the Park to interest groups eg. walking groups; and
3. To promote harmonious and safe usage of the Park for all.

Recommendations		Stage 1	Stage 2	Stage 3	ongoing
3.1	Support the relevant 'Active for Life' Recreation Strategy recommendations (refer to 11.5.9)	operational			
3.2	Statutory Planning to consider the community event signage area be contained to the south side of the path of the High Street frontage of the Park.	operational			
3.3	Manningham continue to recognise the importance of the path as a commuter path and continue to encourage its use.	operational			
3.4	When the Park is promoted it is recommended that the health benefits are included, refer to 6.6 'Nature appreciation'.	operational			
	Sub Total	Existing budget	Existing budget	Existing budget	Existing budget

Objective 4: Management

To develop a coordinated approach to the management of the Park.

Strategies:

- Develop a uniform approach from all land owners and managers to provide a level of safety, signage, local laws (dog controls) and maintenance;
- To protect and conserve the natural environment including rehabilitating and restoring degraded areas; and
- To align the municipal boundary with the freeway.

Recommendations		Stage 1	Stage 2	Stage 3	ongoing
4.1	Develop a working group with Boroondara and Whitehorse Councils, Vic Roads and Melbourne Water to coordinate the management of the Koonung as a regional asset.	operational			
4.2	Support the Whitehorse Open Space Strategy November 2007 relevant recommendations (refer to section 3.7)	operational			
4.3	Open discussion with Boroondara and continue discussion with Whitehorse to gain their support for boundary realignment with the Eastern Freeway northern sound wall.	operational			
4.4	Support VicRoads with variation to the 2005 Agreement including: <ul style="list-style-type: none"> ○ A small parcel of land (PS418193G) has been subdivided into three lots. The lot located at 52 Estelle Street between Millicent Avenue and 	operational			

Recommendations	Stage 1	Stage 2	Stage 3	ongoing
<p>Alfreda Avenue, is located on the south side of the freeway, and is to be transferred to VicRoads.</p> <ul style="list-style-type: none"> ○ The land near the Scout Hall at 15 Paul Street (Parcel 45 on SP 19550A) owned by VicRoads forms part of the Linear Park and provides access to the Scout property. A right of way entitlement has been provided to ensure access by the Scouts and the land to be transferred to Council. ○ The land (Lot 1 PS444166M) being transferred to Council adjacent to the Park and Ride Facility and in Doncaster Road is to be re-subdivided again to exclude the buildings associated with the Park and Ride facility on the land to be transferred to Council. ○ The position of the sound wall that runs between the freeway and Applewood Retirement Village required realignment of the boundary of the parcel (parcel 11 on SP 19707) and is to be transferred to Council. ○ Parcel 44 on Survey Plan 19733A abuts Council's land in 				

Recommendations		Stage 1	Stage 2	Stage 3	ongoing
	<p>Certificate of Title Volume 9940 Folio 744 and is a continuation of the land shown as Parcel 23 on Survey Plan 19734A which is being transferred to Council in accordance with the 2005 Agreement.</p> <ul style="list-style-type: none"> ○ A section of land west of Tunstall Road (parcels 24, 34, 36 & 38 on SP 19734A) which was omitted from the 2005 VicRoads Agreement is to be transferred to Council, refer to Ownership map 5. 				
4.5	Council to seek DSE approval to become the Committee of Management for the Crown Land located near High Street and at the end of Tunstall Road along the Koonung	operational			
4.6	Formalise the agreement with the City of Whitehorse to access Manningham land for management of Eram Park.	operational			
4.7	Undertake the minor corrective amendments to the Boroondara and Whitehorse Schemes (refer to 4.1 Planning Scheme).	operational			
4.8	Council write to the Municipal Association of Victoria questioning:				

Recommendations		Stage 1	Stage 2	Stage 3	ongoing
	<ul style="list-style-type: none"> ○ The shifting of maintenance responsibility to local government of existing paths that have been built by a State authority on land that is owned by another authority; and, ○ Why is Melbourne Water continuing to own prime open space that it is not interested in managing for public use? 				
4.9	Support the consideration of investigating sites for the Class A recycled water treatment plant along the Park.	operational			
	Sub Total	0	0	0	
	TOTAL	\$409,220	\$78,600	\$554,000	\$102,620
Stage 1-3, 10 year program TOTAL					\$1,041,820

Staging/timing

The 'stages' indicated in this table reflect the priority of works and are subject to budget availability for the financial years indicated.

8.2. Monitoring and review of the Management plan

Ongoing monitoring of this Plan will be undertaken via communication with users to ensure that objectives and recommendations remain relevant and meet the needs of the community. A full review of the Management Plan will be carried out by Council five years after the completion of the capital works recommended in this Management Plan.

9. FUTURE WORK PROGRAM MAPS

10. OWNERSHIP MAPS



Koonung Creek Linear Trail - Map Reference



Map Grid of Australia - Zone 55
Scale 1:25,000

Produced by MANNINGHAM GIS/GPS
on 19 August, 2009





Koonung Creek Linear Trail - Future works program

Map A



Map Notes

<p>Area A1</p> <p>Spray weeds and replant. remove plants too close to path</p> <p>Area A2</p> <p>Proposed light pole position, aimed at illuminating path</p> <p>Area A3</p> <p>Plant on hillside, extend tree area and eliminate mowing</p> <p>Area A4</p> <p>Proposed light pole position, aimed at illuminating both sides of bend</p>	<p>Area A5</p> <p>Fencing to be upgraded Formalise path & relocate from corner Provide pram crossing on both sides of Kampman St. Removal of star pickets Drain: clean, reshape & install post</p> <p>Area A6</p> <p>Drain: clean & build up soil</p> <p>Area A7</p> <p>Recommendation: BBQ & Drinking Fountain</p>	<p>Area A8</p> <p>Extend drain 1m from path & install post Install bike rail at toilet</p> <p>Area A9</p> <p>Footpath west side of Balwyn Rd to link to trail</p> <p>Area A10</p> <p>Remove bollards/fencing</p> <p>Area A11</p> <p>Drain: Retaining edge required & install rail</p>
---	--	---

Legend

<ul style="list-style-type: none"> ■ Drinking Fountain ■ Park Bench ■ Toilet — Main / Commuter — Sealed shared — Unsealed shared — Footpaths — Unmade - - - Link path — Main Rivers/Creeks — Roads □ KCLP Boundary □ Manningham Boundary 	<p>Maintenance Areas</p> <ul style="list-style-type: none"> ■ Mown ■ Landscape Mulch ■ Bushland Planted ■ Bushland & Remnant □ Non Council Land
---	---

Scale & Orientation

Map Grid of Australia - Zone 55
Scale 1:2,000

Produced by MANNINGHAM GIS/GPS on 7 March, 2011





Koonung Creek Linear Trail - Future works program

Map B



Map Notes

<p>Area B1</p> <p>Drain: Install rail</p>	<p>Area B4</p> <p>Upgrade end of Estelle St including driveway access, extending footpath to trail & fence steep embankment.</p>	<p>Area B7</p> <p>Remove bollards to Willow Bend boundary. Path needs to be formalised to prevent stones from spilling onto main path.</p>
<p>Area B2</p> <p>Improve link to footbridge. Relocate light, upgrade fencing & path alignment with pipetrack. Directional signage required to main trail. Footbridge 1.8m wide</p>	<p>Area B5</p> <p>Extend footpaths at Marjorie Close & upgrade turn around point Drain: Removal of debris/tidy</p>	<p>Area B8</p> <p>Circular concrete poles cut to ground level. Cover with top-soil.</p>
<p>Area B3</p> <p>Drain: Install hand rail, too close to path Pram crossing linking Millicent Ave & Alfreda Ave laneway</p>	<p>Area B6</p> <p>Drainage problem Install a natural/grass spoon drain & connect to Council drain.</p>	

Legend

<ul style="list-style-type: none"> ■ Drinking Fountain ■ Park Bench ■ Toilet — Main / Commuter — Sealed shared — Unsealed shared — Footpath — Unmade — Link — Main Rivers/Creeks — Roads □ KCLP Boundary □ Manningham Boundary 	<p>Maintenance Areas</p> <ul style="list-style-type: none"> ■ Mown ■ Landscape Mulch ■ Bushland Planted ■ Bushland & Remnant □ Non Council Land
---	---

Scale & Orientation

Scale 1:2,000

Map Grid of Australia - Zone 55

Metres

10 0 10 20 30 40





Koonung Creek Linear Trail - Future works program

Map C



Map Notes

Area C1

Recommendation: proposed site for exercise equipment

Area C2

Drain: Grate to be bolted to concrete & replace fencing

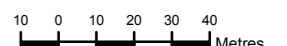
Area C3

Move fencing & widen footpath to accommodate shared path

Legend

- Drinking Fountain
 - Park Bench
 - Toilet
 - Main / Commuter
 - Sealed shared
 - Unsealed shared
 - Footpath
 - Unmade
 - - Link
 - Main Rivers/Creeks
 - Roads
 - KCLP Boundary
 - Manningham Boundary
- Maintenance Areas**
 - Mown
 - Landscape Mulch
 - Bushland Planted
 - Bushland & Remnant
 - Non Council Land

Scale & Orientation



Map Grid of Australia - Zone 55
Scale 1:2,000

Produced by MANNINGHAM GIS/GPS on 3rd March, 2011





Koonung Creek Linear Trail - Future works program

Map D



Map Notes


<p>Area D1 Add public toilet when pavillion is upgraded</p> <p>Area D2 Replace fence further away from path edge (install retaining wall)</p> <p>Area D3 Complete kerb and channel work. Upgrade fencing. Develop path to trail.</p>	<p>Area D4 Drain: upgrade</p>
---	--

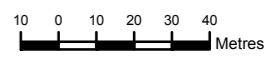
Legend

<ul style="list-style-type: none"> ■ Drinking Fountain ■ Park Bench ■ Toilet — Main / Commuter — Sealed shared — Unsealed shared — Footpath — Unmade - - - Link path — Main Rivers/Creeks — Roads KCLP Boundary Manningham Boundary 	<p>Maintenance Areas</p> <ul style="list-style-type: none"> ■ Mown ■ Landscape Mulch ■ Bushland Planted ■ Bushland & Remnant Non Council Land
---	--

Scale & Orientation


Scale & Orientation





Map Grid of Australia - Zone 55
Scale 1:2,000

Produced by MANNINGHAM GIS/GPS on 3 March, 2011





Koonung Creek Linear Trail - Future works program

Map E



Map Notes

<p>Area E1 Drain: Two pits require lids & stone kerb requires flaring. install rail</p> <p>Area E2 Landscape: plant out north side of trail Widen path to 2.5m where necessary</p>	<p>Area E3 Access through park to Scout Hall, relocated gate from entrance to Scout property to entrance off Kingsnorth St. In consultation with United Energy construct fence along boundary of Park Av/Kingsnorth St.</p> <p>Area E4 Crown Land - organise with DSE to become Committee of Management</p>	<p>Area E5 Drain: MW responsibility Fencing to be upgraded</p> <p>Area E6 Remove pine trees & improve frontage</p>
--	---	--

Legend

■ Drinking Fountain	■ Park Bench	■ Toilet	■ Main / Commuter	■ Sealed shared	■ Unsealed shared	■ Footpath	■ Unmade	■ Link path	■ Main Rivers/Creeks	■ Roads	■ KCLP Boundary	■ Manningham Boundary
Maintenance Areas			■ Mown	■ Landscape Mulch	■ Bushland Planted	■ Bushland & Remnant	□ Non Council Land					

Scale & Orientation

Map Grid of Australia - Zone 55
Scale 1:2,000

Produced by MANNINGHAM GIS/GPS on 3 March, 2011



Koonung Creek Linear Trail - Future works program

Map F



Map Notes

Area F1 Widen footpath to 2.5m & upgrade the crushed rock path to shared path standard.	Area F4 Plant out to link beds
Area F2 Centre median strip to remain with VicRoads when parcel is re-subdivided as per 2005 agreement	
Area F3 Drain: Extend & remove stones	

Legend

■ Drinking Fountain	■ Park Bench	■ Toilet	■ Main / Commuter	■ Sealed shared	■ Unsealed path	■ Footpath	■ Unmade	■ Link path	■ Main Rivers/Creeks	■ Roads	■ KCLP Boundary	■ Manningham Boundary
Maintenance Areas												
■ Mown	■ Landscape Mulch	■ Bushland Planted	■ Bushland & Remnant	■ Non Council Land								

Scale & Orientation

Scale 1:2,000

Map Grid of Australia - Zone 55

Produced by MANNINGHAM GIS/GPS on 7 February, 2011





Koonung Creek Linear Trail - Future works program

Map G



Map Notes

<p>Area G1</p> <p>Re-align curbing at the intersection of Hender & McLeod Streets to extend park across road reserve. Road reserve; - footpath to link with trail - plant out - remove bollards - shave embankment</p>	<p>Area G3</p> <p>When property is developed formalise end of Massey St.</p>	<p>Area G6</p> <p>Steep incline & narrow path - signage required</p>
<p>Area G2</p> <p>Gravel path to be sealed & widened to shared path between Park & Ride and Massey St. Total: 535m</p>	<p>Area G4</p> <p>Drain: maintenance required x 2 Path to be widened to shared path standard</p>	
	<p>Area G5</p> <p>Gate carpark Review the usage of the carpark in 2014, if no longer required remove asphalt and install path from main path to Wilson Rd.</p>	

Legend

<ul style="list-style-type: none"> Drinking Fountain Park Bench Toilet Main / Commuter Sealed shared Unsealed shared Footpath Unmade Link path PrincipalBikePaths Roads Main Rivers/Creeks KCLP Boundary Manningham Boundary 	<p>Maintenance Areas</p> <ul style="list-style-type: none"> Mown Landscape Mulch Bushland Planted Bushland & Remnant Non-Council Land
--	---

Scale & Orientation

Scale 1:2,000

Map Grid of Australia - Zone 55

Produced by MANNINGHAM GIS/GPS on 3 March, 2011





Koonung Creek Linear Trail - Future works program

Map H



Map Notes	Area H1	Area H2	Area H3	Area H4	Area H5	Area H6	Area H7
	Install pram crossing on both sides of Stanton St Drain: Trip hazard, MW responsibility	Review trees on nature strip.	Upgrade end of road fence, link shared path to Stanton St, sign & bollard. Bridge: address slippery surface Widen approach to bridge & include warning signage	Extend planting throughout Katrina St reserve & provide path to Blossom Ct	Remove weed from wetland	Scattered trees proposed	Crushed rock path to be upgraded to shared path. Approx 290m

Legend

- Drinking Fountain
- Park Bench
- Toilet
- Main / Commuter
- Sealed shared
- Unsealed shared
- Footpaths
- Unmade
- Link path
- Main Rivers/Creeks
- Roads
- KCLP Boundary
- Manningham Boundary

Maintenance Areas

- Mown
- Landscape Mulch
- Bushland Planted
- Bushland & Remnant
- Non Council Land

Scale & Orientation

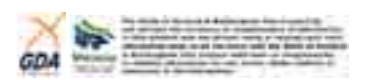
Scale 1:2,000

Map Grid of Australia - Zone 55

Metres

10 0 10 20 30 40

Produced by MANNINGHAM GIS/GPS on 7 February, 2011





Koonung Creek Linear Trail - Future works program

Map I



Map Notes

<p>Area 11 Widen footpath to shared path</p> <p>Area 12 Crushed rock trail - to be sealed</p> <p>Area 13 Upgrade footpath to shared path from trail to pedestrian crossing.</p> <p>Area 14 Bollard / fence to prevent access.</p>	<p>Area 15 Widen footpath to shared path</p> <p>Area 16 Unsealed path to be upgraded to shared path. Additional seating between the start of Sargeant St to Tram Rd.</p> <p>Area 17 Recently constructed sound wall boundary to be realigned.</p>
---	--

Legend

<ul style="list-style-type: none"> ■ Drinking Fountain ■ Park Bench ■ Toilet — Main / Commuter — Sealed shared — Unsealed shared — Footpath — Unmade - - Link path — Main Rivers/Creeks — Roads KCLP Boundary Manningham Boundary 	<p>Maintenance Areas</p> <ul style="list-style-type: none"> ■ Mown ■ Landscape Mulch ■ Bushland Planted ■ Bushland & Remnant Non Council Land
---	--

Scale & Orientation

Map Grid of Australia - Zone 55
Scale 1:2,000

Produced by MANNINGHAM GIS/GPS on 8 February, 2011



Koonung Creek Linear Trail - Future works program

Map J



Map Notes

- Area J1**
Improve access to Whittens Lane
- Area J2**
1.163km of crushed rock path between Tram Rd & main path, to be upgraded to shared path.
- Area J3**
Investigate future options for community recreation

- Area J4**
Existing mown passive area to be converted to bushland planted with extension of bed to within 3m of path
- Area J5**
Upgrade path to shared
Drain: Upgrade & identify with post
- Area J6**
Proposed site for exercise equipment, seating & drinking fountain
- Area J7**
To be maintained to the standards

- of 'landscape mulch' and mown passive along back fences.
- Area J8**
Add scattered trees into mown area
- Area J9**
To assist with the health of the area there will be removal of 5 pine trees. Proposed seating. Increase expenditure on Bushland & Remnant area
- Area J10**
Drain: Upgrade grate

Legend

■ Drinking Fountain	■ Park Bench	■ Toilet	■ Main / Commuter	■ Sealed shared	■ Unsealed shared	■ Footpath	■ Unmade	■ Link path	■ Main Rivers/Creeks	■ Roads	■ KCLP Boundary	■ Manningham Boundary
Maintenance Areas												
■ Mown	■ Landscape Mulch	■ Bushland Planted	■ Bushland & Remnant	■ Non-Council Land								

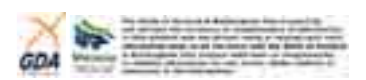
Scale & Orientation

Scale 1:2,000

Map Grid of Australia - Zone 55

10 0 10 20 30 40 Metres

Produced by MANNINGHAM GIS/GPS on 3 March, 2011





Koonung Creek Linear Trail - Future works program

Map K



Map Notes

Area K1
Drain: Build soil up
Pruning to occur along back fences.
Upgrade path to shared.

Area K2
Suggested planting around playground for shade

Area K3
Extra planting on hill with consideration for the pathway to be re-aligned.
Recommendation: landscape design for area, incorporating path and additional tree planting.

Area K4
Remove mowing between islands to allow indigenous grassland to generate.
Mow 1-2 times a year.
Drain: upgrade

Area K5
Proposed path link to Colston Cl & Hampshire Rd playspace in consultation with Melbourne Water

Area K6
Drain: Build soil up

Legend

- Drinking Fountain
- Park Bench
- Toilet
- Main / Commuter
- Sealed shared
- Unsealed shared
- Footpath
- Unmade
- Link path
- Main Rivers/Creeks
- Roads
- KCLP Boundary
- Manningham Boundary

Maintenance Areas

- Mown
- Landscape Mulch
- Bushland Planted
- Bushland & Remnant
- Non Council Land

Scale & Orientation

Scale 1:2,000

Map Grid of Australia - Zone 55

Metres

10 0 10 20 30 40

Orientation

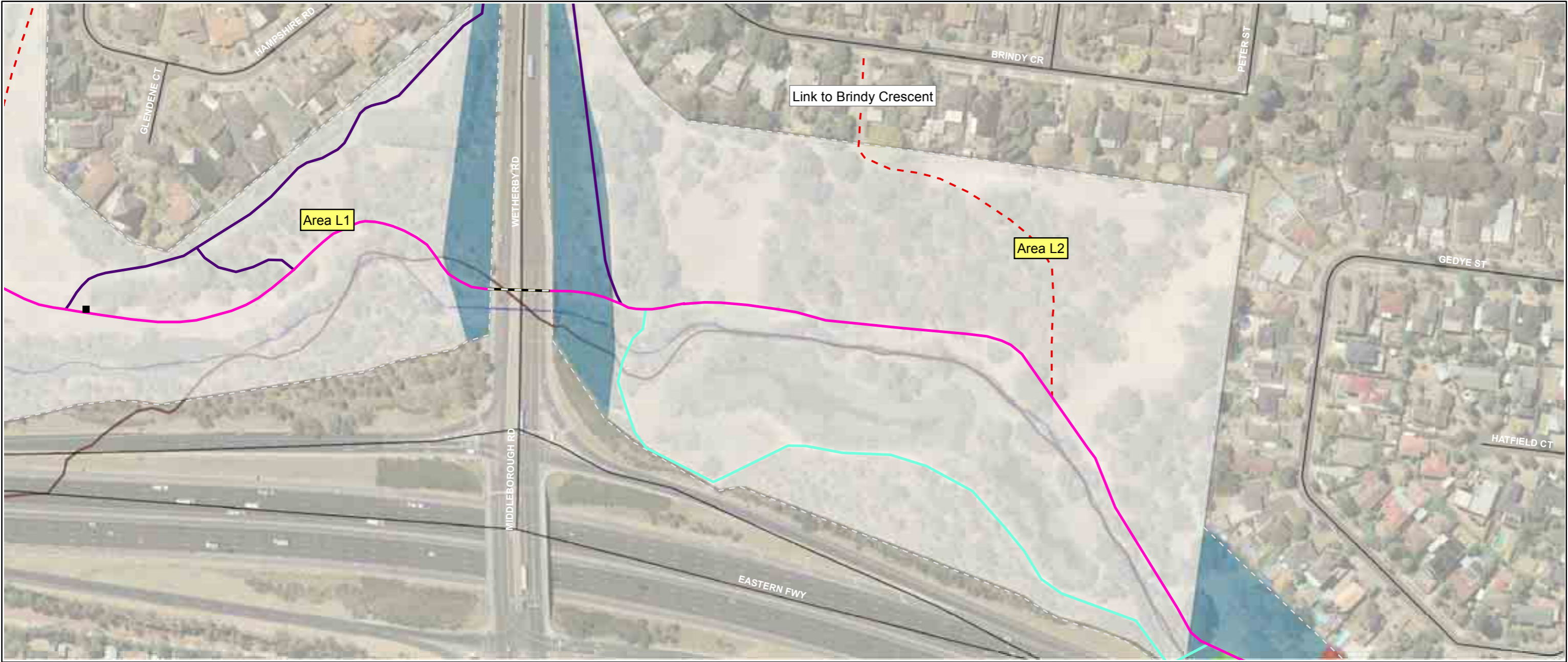
Produced by MANNINGHAM GIS/GPS on 8 February, 2011





Koonung Creek Linear Trail - Future works program

Map L



Map Notes

Area L1
Drain: Upgrade

Area L2
Proposed path (formalise current goat track)
Continue to work with Melbourne Water to upgrade paths on their land to industry standard.

Legend

Drinking Fountain	Maintenance Areas
Park Bench	Mown
Toilet	Landscape Mulch
Main / Commuter	Bushland Planted
Sealed shared	Bushland & Remnant
Unsealed shared	Non Council Land
Footpath	
Unmade	
Link path	
Tunnel	
Main Rivers/Creeks	
Roads	
KCLP Boundary	
Manningham Boundary	

Scale & Orientation

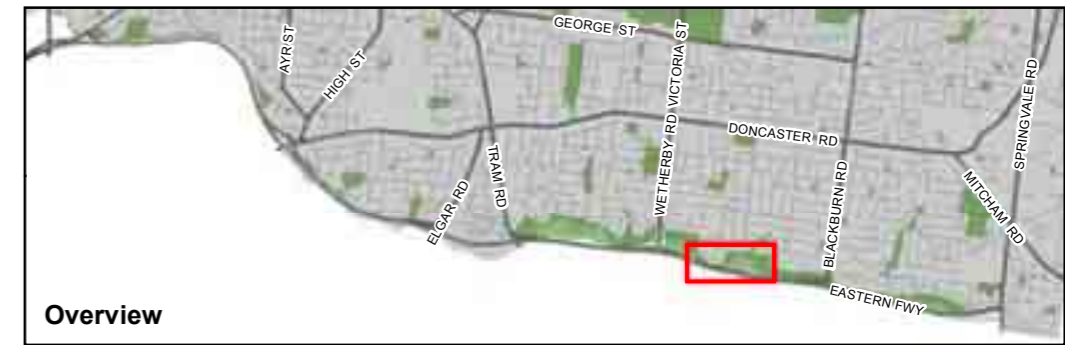
Map Grid of Australia - Zone 55
Scale 1:2,000

Produced by MANNINGHAM GIS/GPS on 8 February, 2011



Koonung Creek Linear Trail - Future works program

Map M



Map Notes	Area M1	Area M2	Area M3	Area M4	Area M5	Area M6	Area M7	Area M8	Area M9	Area M10	Area M11	Area M12
	Increase expenditure to Bushland & Remnant. Remove regular mowing and allow indigenous grassland to regenerate. Mow 1-2 times per year.	Maintenance: clear behind fences	Install path (formalise goat track) & address drainage link western side on Leeds St. (Approx 90m)	Add Bushland Planted in steep areas.	Extend footpath to trail	Increase expenditure to Bushland & Remnant.	Drain: Build soil up	New path link	Recommendation: Install public toilet when pavillion is upgraded	Upgrade to shared path	Proposed exercise equipment	Upgrade access to Boronia Grove

Legend

- Drinking Fountain
- Park Bench
- Toilet
- Main / Commuter
- Sealed shared
- Unsealed shared
- Footpath
- Unmade
- - - Link path
- Main Rivers/Creeks
- Roads
- KCLP Boundary
- Manningham Boundary

Maintenance Areas

- Mown
- Landscape Mulch
- Bushland Planted
- Bushland & Remnant
- Non Council Land

Scale & Orientation

Map Grid of Australia - Zone 55
Scale 1:2,000

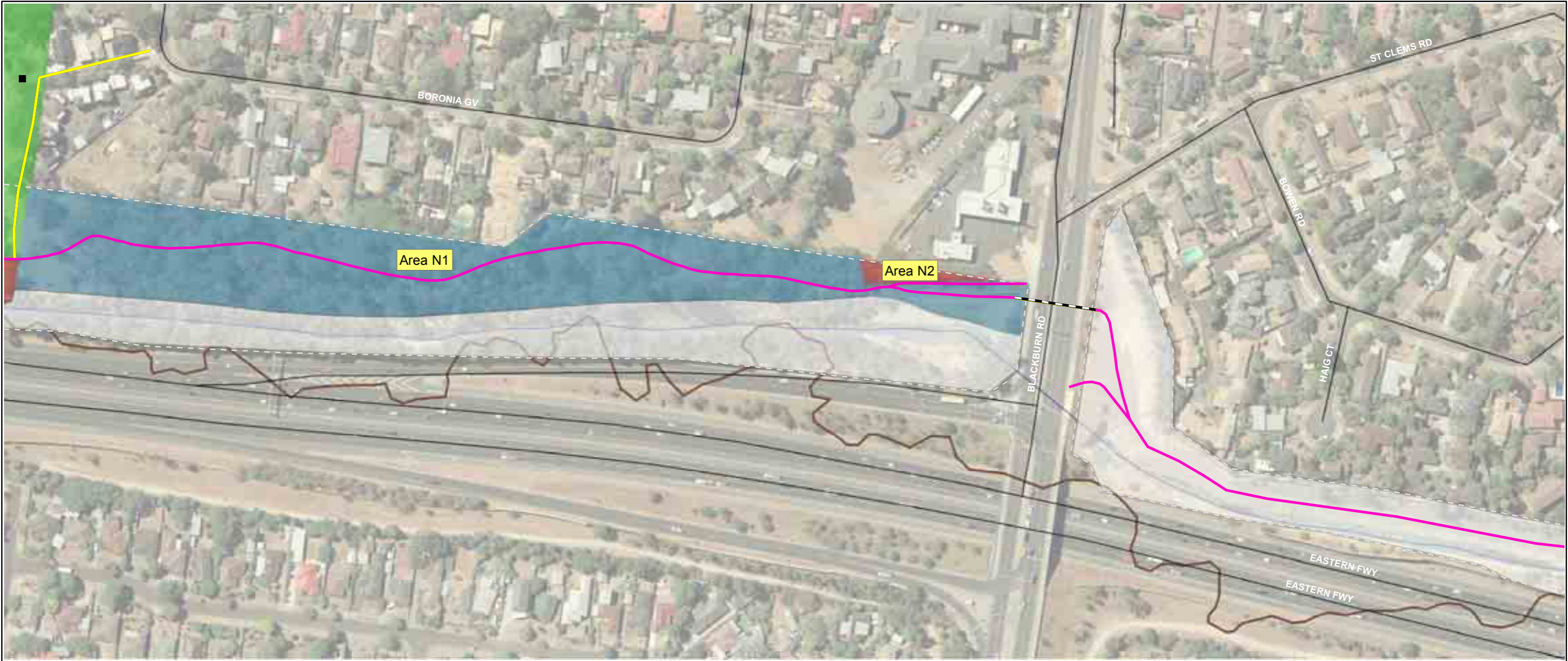
Produced by MANNINGHAM GIS/GPS on 3 March, 2011





Koonung Creek Linear Trail - Future works program

Map N



Map Notes

Area N1
Increase expenditure on Bushland & Remnant area

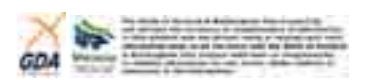
Area N2
Drain: hazard, replace pit lid

- Legend*
- Drinking Fountain
 - Park Bench
 - Toilet
 - Main / Commuter
 - Sealed shared
 - Unsealed shared
 - Footpath
 - Unmade
 - Link path
 - Tunnel
 - Main Rivers/Creeks
 - Roads
 - KCLP Boundary
 - Manningham Boundary
- Maintenance Areas**
- Mown
 - Landscape Mulch
 - Bushland Planted
 - Bushland & Remnant
 - Non Council Land

Scale & Orientation

Map Grid of Australia - Zone 55
Scale 1:2,000

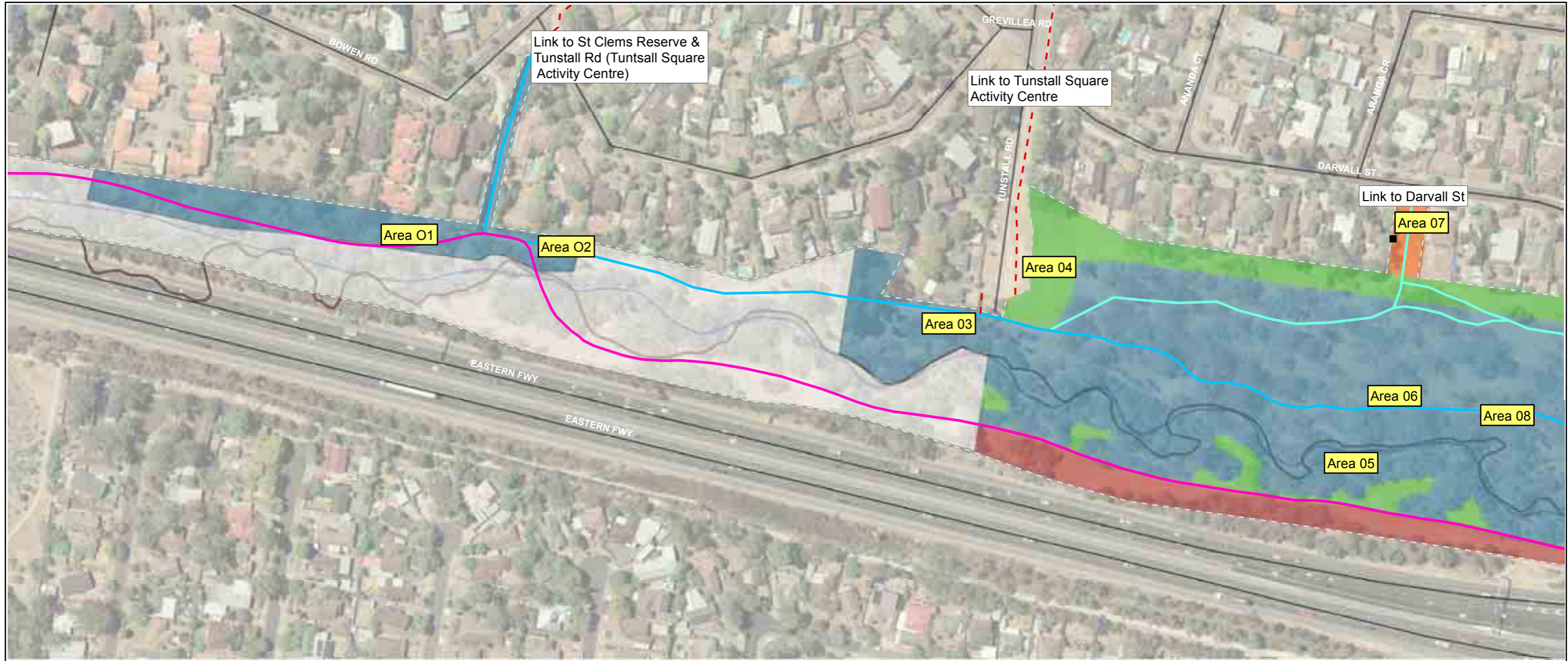
Produced by MANNINGHAM GIS/GPS on 3 March, 2011





Koonung Creek Linear Trail - Future works program

Map 0



Map Notes

Area 01 Recommendation: additional seating	Area 05 Existing mown passive area to be converted to bushland planted with extension of bed to within 3 meters of path	Area 08 Regrade path b/w Bowen & Grevillea Rds to pedestrian bridge at Darvall St
Area 02 Drain: Clean	Area 06 Increase expenditure on Bushland & Remnant area Recommendation: additional seating	
Area 03 Unightly slab of concrete - investigate purpose & respond accordingly. Extend footpath to trail.	Area 07 Remove bollards to Darvall St entrance	
Area 04 Add scattered trees into main area. Investigate opportunities for parking		

Legend

- Drinking Fountain
- Park Bench
- Toilet
- Main / Commuter
- Sealed shared
- Unsealed shared
- Footpath
- Unmade
- - - Link path
- Main Rivers/Creeks
- Roads
- KCLP Boundary
- Manningham Boundary

Maintenance Areas

- Mown
- Landscape Mulch
- Bushland Planted
- Bushland & Remnant
- Non Council Land

Scale & Orientation

Map Grid of Australia - Zone 55
Scale 1:2,000

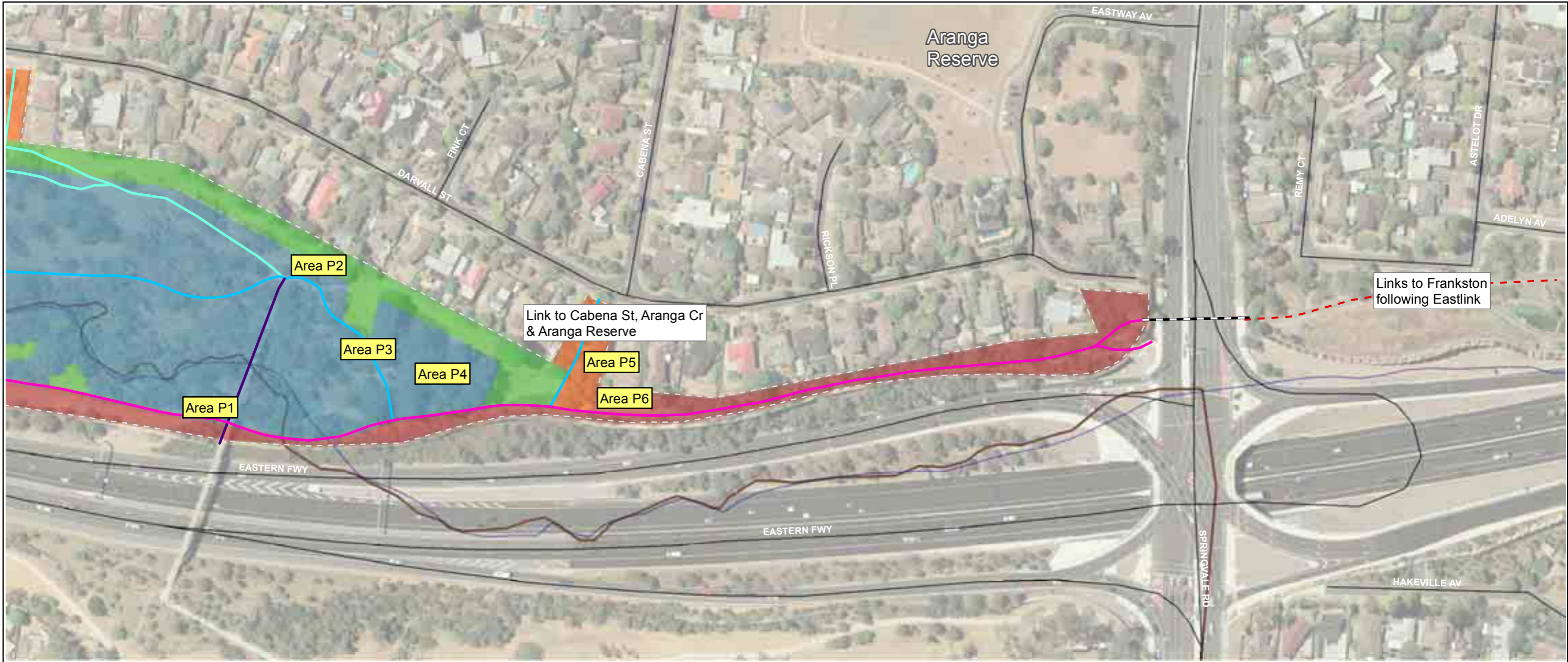
Produced by MANNINGHAM GIS/GPS on 6 September, 2011





Koonung Creek Linear Trail - Future works program

Map P



Legend

■ Drinking Fountain	■ Maintenance Areas
■ Park Bench	■ Mown
■ Toilet	■ Landscape Mulch
— Main / Commuter	■ Bushland Planted
— Sealed shared	■ Bushland & Remnant
— Unsealed shared	□ Non Council Land
— Footpath	
— Unmade	
— Link path	
— Tunnel	
— Main Rivers/Creeks	
— Roads	
— KCLP Boundary	
— Manningham Boundary	

Scale & Orientation

Scale 1:2,000

Map Grid of Australia - Zone 55

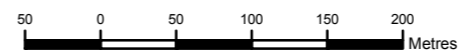
Produced by MANNINGHAM GIS/GPS on 8 February, 2011





Legend

Land Owner	 Crown	 Melbourne Water	 Koonung Creek
 Manningham City Council	 VicRoads transfer to Crown	 VicRoads	 Existing MCC Boundary
 VicRoads transfer to Manningham	 Scouts	 VicRoads to sell for residential	
 Whitehorse City Council	 VicRoads transfer to Scouts	 Property Layer	



Scale 1: 5,000
Map Grid of Australia - Zone 55



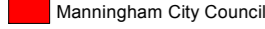
Legend

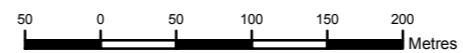
Land Owner	Crown	Melbourne Water	Koonung Creek
VicRoads transfer to Manningham	VicRoads transfer to Crown	VicRoads	Existing MCC Boundary
Whitehorse City Council	Scouts	VicRoads to sell for residential	Property Layer
	VicRoads transfer to Scouts		

Scale 1: 5,000
Map Grid of Australia - Zone 55



Legend

Land Owner	 Crown	 Melbourne Water	 Koonung Creek
 Manningham City Council	 VicRoads transfer to Crown	 VicRoads	 Existing MCC Boundary
 VicRoads transfer to Manningham	 Scouts	 VicRoads to sell for residential	
 Whitehorse City Council	 VicRoads transfer to Scouts	 Property Layer	

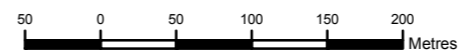


Scale 1: 5,000
Map Grid of Australia - Zone 55



Legend

Land Owner	Crown	Melbourne Water	Koonung Creek
Manningham City Council	VicRoads transfer to Crown	VicRoads	Existing MCC Boundary
VicRoads transfer to Manningham	Scouts	VicRoads to sell for residential	
Whitehorse City Council	VicRoads transfer to Scouts	Property Layer	



Scale 1: 5,000
Map Grid of Australia - Zone 55

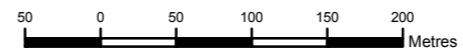
Koonung Creek Land Ownership

Blackburn Rd to Springvale Rd (Map 5)



Legend

Land Owner	 Crown	 Melbourne Water	 Koonung Creek
 Manningham City Council	 VicRoads transfer to Crown	 VicRoads	 Existing MCC Boundary
 VicRoads transfer to Manningham	 Scouts	 VicRoads to sell for residential	
 Whitehorse City Council	 VicRoads transfer to Scouts	 Property Layer	



Scale 1: 5,000

Map Grid of Australia - Zone 55

Part 2:

11. SUPPORTING INFORMATION AND RESEARCH

11.1. Historical Context

'Manningham from Country to City' Barbara Pertz and Fiona Walters, 2001

The following historical information has been complemented with interpretation of aerial photos and assistance from the Doncaster Templestowe Historical Society.

Koonung is from the Wurundjeri phrase *koonung koonung*; meaning 'muddy water'. Most of what remains of the Koonung Creek that once flowed through the southern ward is now the Eastern Freeway, but the creek still forms the southern boundary of the municipality.

Until the European incursion into the region, its first people, the Wurundjeri, routinely moved around Manningham's many sites in accordance with cultural patterns developed over many thousands of years, in pursuit of physical, intellectual and spiritual well-being. In summer, the river flats of the great course of water at the centre of their custodial lands (which came to be known as the Yarra River) were a very comfortable place for the Wurundjeri people to settle. The wildlife attracted to the billabongs formed by the river somewhat eased the pressure of hunting for food. Eels, for example, were usually in plentiful supply in the Bolin Swamp.

A part of the Wurundjeri-William lands was named the Parish of Bulleen in 1837 when government surveyor Robert Hoddle surveyed the region between the Yarra River and Koonung Creek. By May 1839 Nutt had completed his survey of the river 'nearly as far as Mr Gardiner's second station and found the banks in general to be exceedingly scrubby, mountainous and thickly timbered'. The map Nutt produced after this excursion seems to be the first official survey of the Upper Yarra district that included Manningham's regions.

For decades in the late nineteenth and early twentieth centuries the orchardists of Manningham largely define the district's character and purpose. 'People used to come out to Doncaster in the springtime just to see the blossoms'.

A study of a 1945 aerial photo concludes that:

- The land along the Creek formed a patchwork of orchards and paddocks;
- There were extensive orchards on both sides of the creek with much of the land cleared up to the edge of the creek;
- There were more orchards east of Doncaster Road;
- There were small blocks of bush remaining east of Wetherby Road (Melbourne Water land, Boronia Grove Reserve and east of Blackburn Road (to Tunstall Road);
- A number of small gullies entered the Koonung Creek from the north; and,
- With the exception of St Clems Reserve most of these features have disappeared from the landscape.

To work towards easing traffic congestion, the Board of Works was given powers in 1956 to design and construct roads defined as 'metropolitan highways'. They were to carry the greatest traffic capacity and seen as a viable solution to Melbourne's growing traffic problems. Then become known as 'freeways'. Reservations for most

freeway routes were marked on the Board of Works' 1954 Melbourne Metropolitan Planning Scheme and Ordinance. A schedule for implementing freeways to the east of Melbourne and elsewhere was ready by 1967, but was delayed due to problems with financing. Eventually, in 1965 the government announced that a ten-year freeway building plan would soon begin. The proposed route for the Eastern Freeway through the Yarra Valley was approved in December 1970 – a decision subject to considerable public protest. However, in November 1971, as passionate disputes raged as the Board of Works bulldozed 10 acres of the Yarra Bend National Park. This was the start of the 'thin' grey line of the Eastern Freeway snaking its way towards Manningham and the valley of the Mullum Mullum Creek.

In the early 1990s the Government and VicRoads announced that the proposed Eastern Freeway extension was finally to be built. Many people in Melbourne's outer eastern suburbs welcomed this news, including the City of Doncaster and Templestowe.

Geographically, Manningham lies in a main truck route. From statistics gathered by Council that supported the freeway development, out of 80,000 vehicles per day travelling on Doncaster Road, approximately 8,000 carry freight. These freight-carrying vehicles cross the City in the major part of the day. The stop/start congestion of freight traffic in Doncaster Road was totally unacceptable for the ratepayers and the economic viability of manufacturing industry. The proposed construction of the Eastern Freeway Extension was to alleviate the road congestion problem and thereby improve the overall distribution costs of goods and services across the State.

A report was prepared, prior to the development of the Eastern Freeway, in 1975 for the Koonung Valley Action Group and Mullum Valley Freeway Action Group under a grant from the Department of Environment. Its vision spoke of offering three types of trail—main hard-surface trail or bikeway running the whole length of the "Forest way"; minor trails forming loops with the main trail via bridges and stream crossings; and horse trails in areas close to horse paddocks. It recommended many different forms of recreation, especially passive forms to be provided for. As well as frequent bridges, stream crossings were needed with intervals of about 300 metres.

The scope of the Report was to determine the need for a linear park and/or cycling path in the valley. This was easily proven with almost the entire length existing as public open space, it was already being utilised by walkers and cyclists and it contained a high level of educational and recreational values to the surrounding community. The open space was partly being used for grazing and agistment of horses. The Report also referred to the planning decision made in 1954 to place the Freeway on the Creek by planners and politicians as being very misinformed.

The remaining Koonung Creek Linear Park is a small part of the former extensive valley of open space.

The commuter trail and some other shared paths were built by VicRoads on a combination of their own, Council, and Melbourne Water land. Since the 2005 agreement with VicRoads Council has taken over maintenance of most of the VicRoads land, this includes most of the trail/pathways on the Manningham side of the freeway.

11.2. Planning and Policy Context

This section provides the planning and policy context for this Management Plan within a State and Municipal framework.

State

There are a number of state laws, policies and plans that relate to the planning, development and management of open space areas. These are identified in the table below.

STATE LEGISLATION	PURPOSE
Aboriginal Heritage Act 2006	To provide for the protection of Aboriginal cultural heritage in Victoria. Any works undertaken within 200 metres of a waterway is an area of cultural sensitivity and high impact activities, such as the construction of a shared path, will require a Cultural Heritage Management Plan
Crown Land (Reserves) Act 1978	To provide for the Reservation of Crown Lands for certain purposes and for the management of such Reserved Lands and for other purposes.
Planning and Environments Act 1987	To establish framework for planning the use, development and protection of land in Victoria in the present long-term interests of all Victorians.

STATE/REGIONAL/LOCAL POLICIES AND STRATEGIES	PURPOSE
Melbourne 2030 (2002)	A strategic direction for future development within Metropolitan Melbourne for the next 30 years.
Melbourne Water Shared Pathway Guide	These shared path guidelines outline a standardised approach to design, construction, upgrade and maintenance of paths along waterways.
Healthy Living in Manningham – Municipal Public Health Plan (2005)	The Plan cites the importance of physical activity and its link to peoples health and lifestyle. The provision of shared paths for people to use for recreation to increase their health levels is a key component of the Plan.
Active for Life Manningham Recreation Strategy 2010-2025	To inform recreation provision in Manningham to 2025.
Linking People and Spaces	To ensure the equitable distribution of open space across Melbourne.
Victoria's Native Vegetation Management – A Framework for Action	To protect, enhance and revegetate Victoria's native vegetation.
Melbourne Water Guidelines for Development in Flood-prone Areas October 2008	To ensure the planning, development of properties, buildings and structures are safe from flooding.

Municipal

Public Use Zones

The purpose of the Public Use Zone (PUZ) is to: recognise public land use for public utility and community services and facilities; and provide for associated uses that are consistent with the intent of the public land reservation or purpose. For example the Public Use Zone for transportation purposes is referred to as PUZ4.

Road Zone

The Road Zone Category 1 refers to all declared main roads. The purpose of the Road Zone is to implement the State Planning Policy Framework, including the Municipal Strategic Statement and local planning policies: To identify existing significant roads; and To identify land which has been acquired for a significant proposed roads. The Road Zone Category 1 affects all declared main roads in the study area, whilst Road Zone Category 2 affects all local roads.

Residential Zones

The majority of the land in the southern part of the study area (all municipalities) is zoned Residential 1(RZ1). The purpose of the RZ1 is to provide housing to suit the needs of a diverse range of household types. The RZ1 also provides for educational, recreational, religious and community facilities, which serve the needs of the residential community. In addition, there is a number of Low Density Residential Zones (LDRZ) on the fringe of the Residential 1 Zone, predominantly in the Nillumbik, Manningham and Whittlesea municipalities. The purpose of the LDRZ is to provide for low-density residential development on lots, which, in the absence of reticulated sewerage, can treat and retain all wastewater.

R1Z = Residential Zone 1

In appropriate locations, to allow educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs. This Zone applies to Taroon Avenue, the surrounding residential land and the Crown Land east of Andersons Creek, including part of Warrandyte Reserve.

Further to the zoning, the following overlays apply to Koonung Creek Linear Park:

- Land Subject to Inundation Overlay (LSIO) applies to approximately 75% of the Reserve, including both ovals and the tennis club area
- Significant Landscape Overlay (SLO2) applies to the whole Reserve
- Significant Landscape Overlay (SLO3) applies only to the east side of Creek
- Cultural Heritage (CHS) applies to the whole Reserve
- Wildfire Management Overlay (WMO) applies to the whole Reserve
- Schedule 3 To The Design and Development Overlay (DDO3) (In Part) applies only to the east side of Creek
- Schedule 2 To the Environmental Significance Overlay (ESO2) (In Part) applies to approximately 40% of the Reserve along Andersons Creek.

PPRZ = Public Park and Recreation Zone

The purpose of this Zone is to recognise areas for public recreation and open space protect and conserve areas of significance, where appropriate, and provide for commercial use where appropriate. This Zone applies to the core part of this Reserve.

11.3. Manningham Council Plan 2009-2013

The Council Plan 2009 – 2013 outlines the following vision for the City of Manningham:

- A vibrant, safe and culturally diverse community that fosters participation, connectedness, harmony, social inclusion, health and wellbeing.
- A community with access to high quality, responsive, services, facilities and infrastructure, to meet changing needs.
- A Council underpinned by sound financial management, customer service, continuous improvement, strong governance and leadership, transparency, consultation, communication and advocacy.
- A municipality that supports sustainable development and achieves a balance between lively activity areas supporting a healthy local economy, and preserving our rural areas and abundance of open space.
- A community that protects and enhances our natural environment and wildlife, and is concerned about reducing our carbon footprint in all that we do.

To achieve this vision, the Council Plan 2009-2013 details the following nine objectives:

Objective 1 – Safe Community. To foster a safe place to live for people of all ages and abilities

Objective 2 – Social Inclusion, Wellbeing and Affordability. To build a socially inclusive and connected community that promotes health and wellbeing through accessible services and facilities, and strong community partnerships and participation.

Objective 3 – Good Governance and Financial Management. To maintain Manningham's position as a strong, financially sustainable Council, delivering high quality services, underpinned by principles of good governance, continuous improvement and transparency.

Objective 4 – Cultural Diversity and Harmony. To promote cultural harmony within our diverse community and support community engagement through multicultural events, activities that harness cultural learning and celebration, targeted services and multilingual communications.

Objective 5 – Planning and Economic Development. To ensure appropriate, sustainable development that protects our environment while also strengthening our local economy, supporting local business and providing accessible services.

Objective 6 – Service Delivery. To deliver a range of high quality services, programs, recreational opportunities and facilities that meet the needs of children, young people, families, seniors and community groups.

Objective 7 – Assets and Infrastructure. To maintain, upgrade and develop Manningham's physical assets to a high standard, to meet the growing needs of the community, and increased levels of usage.

Objective 8 – Advocacy, Communication and Engagement. To effectively advocate on behalf of the community to other levels of government, and ensure effective communication and engagement on Council services, activities and projects.

Objective 9 – Environment and Global Warming. To adopt sustainable practices that reduce our carbon footprint on the environment, reduce waste, energy and water use, and protect and enhance biodiversity.

11.4. Demographic analysis



Demographic analysis has been undertaken, with results providing a community profile for the Koonung catchment, being residents within 500m of the Park. The catchment captures both sides of the Park including City of Whitehorse and a small section of Boroondara.

See adjacent map of the residents captured for the Koonung Creek Linear Park profile

Population

Total population of Koonung Creek Linear Park is 22,291, including 10,641 males and 11,650 females.

Key statistics (summary statistics)	Koonung Creek Linear Park Catchment 2006		2001		Melbourne Statistical Division %		Change 2001 to 2006
	number	%	number	%	number	%	
Enumerated data							
Enumerated population, including overseas visitors							
Total population (a)	22,291	100.0	100.0	21,765	100.0	100.0	526
Males (a)	10,641	47.7	49.0	10,594	48.7	48.9	46
Females (a)	11,650	52.3	51.0	11,171	51.3	51.1	479
Overseas visitors	147	0.7	0.8	152	0.7	0.8	-5
Enumerated population, excluding overseas visitors							
Total population (b)	22,150	100.0	100.0	21,611	100.0	100.0	539
Males (b)	10,583	47.8	49.0	10,518	48.7	49.0	64
Females (b)	11,567	52.2	51.0	11,093	51.3	51.0	474
Population characteristics							
Indigenous population	36	0.2	0.4	30	0.1	0.4	7
Australian born	13,751	62.1	64.2	13,638	63.1	65.7	112
Overseas born	7,421	33.5	29.0	7,102	32.9	28.6	319
Australian citizens	19,503	88.1	84.5	19,196	88.8	86.7	307
Australian citizens aged 18+	15,324	69.2	64.2	15,213	70.4	65.4	111
Institutional population	134	0.6	2.4	127	0.6	2.3	6

Age

Analysis of the age structure of Koonung Creek Linear Park Catchment in 2006 compared to the Melbourne Statistical Division shows that there was a smaller proportion of people in the younger age groups (0 to 17) but a larger proportion of people in the older age groups (60+).

Overall, 20.8% of the population was aged between 0 and 17, and 24.6% were aged 60 years and over, compared with 22.9% and 17.0% respectively for the Melbourne Statistical Division.

The major differences between the age structure of Koonung Creek Linear Park Catchment and the Melbourne Statistical Division were:

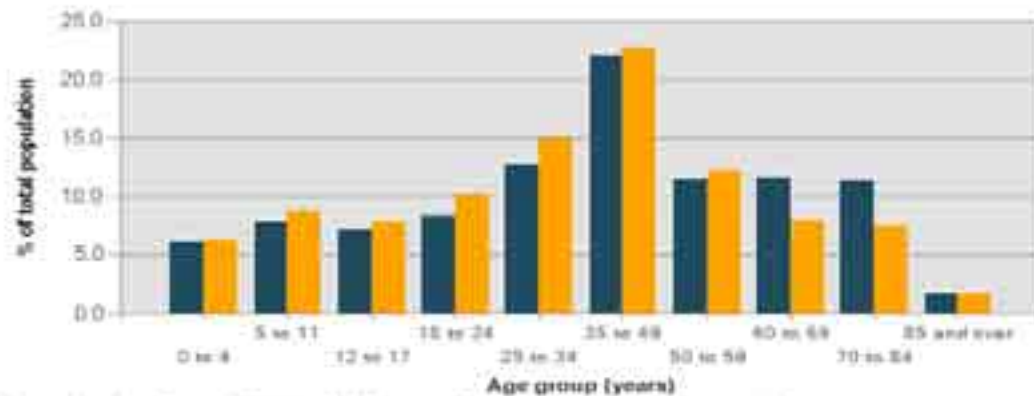
- A larger percentage of 70 to 84 year olds (11.4% compared to 7.5%);
- A larger percentage of 60 to 69 year olds (11.6% compared to 7.9%);
- A smaller percentage of 25 to 34 year olds (12.8% compared to 14.9%), and;
- A smaller percentage of 18 to 24 year olds (8.3% compared to 10.2%).

The largest changes in age structure in this area between 2001 and 2006 were in the age groups:

- 70 to 84 (+560 persons);
- 35 to 49 (+369 persons);
- 25 to 34 (-391 persons), and;
- 50 to 59 (-285 persons).

Age structure age group (years)	Koonung Creek Linear Park Catchment						Change 2001 to 2006
	2006		2001		Melbourne Statistical Division %		
Imputed data	number	%	number	%	number	%	
0 to 4	1,350	6.1	1,259	5.8	1,259	6.4	91
5 to 11	1,712	7.7	1,705	7.9	1,705	9.4	6
12 to 17	1,560	7.0	1,496	6.9	1,496	7.9	63
18 to 24	1,829	8.3	1,884	8.7	1,884	10.2	-54
25 to 34	2,826	12.8	3,217	14.9	3,217	16.0	-391
35 to 49	4,678	22.0	4,510	20.9	4,510	22.5	369
50 to 59	2,529	11.4	2,814	13.0	2,814	11.5	-285
60 to 69	2,573	11.6	2,506	11.6	2,506	7.3	67
70 to 84	2,516	11.4	1,955	9.1	1,955	7.3	560
85 and over	362	1.6	217	1.0	217	1.4	145
Total	22,135	100.0	21,564	100.0	21,564	100.0	571

Age structure of Koonung Creek Linear Park Catchment and Melbourne Statistical Division, 2006 (Enumerated data)



Source: Australian Bureau of Statistics, 2006 Census of Population and Housing (Enumerated)

Where they are born

Analysis of the country of birth of the population in Koonung Creek Linear Park Catchment in 2006 compared to City of Manningham shows that there was a similar proportion of people born overseas as well as a similar proportion of people from a non-English speaking background.

Overall, 33.5% of the population was born overseas, and 27.9% were from a non-English speaking background, compared with 34.3% and 28.3% respectively for City of Manningham.

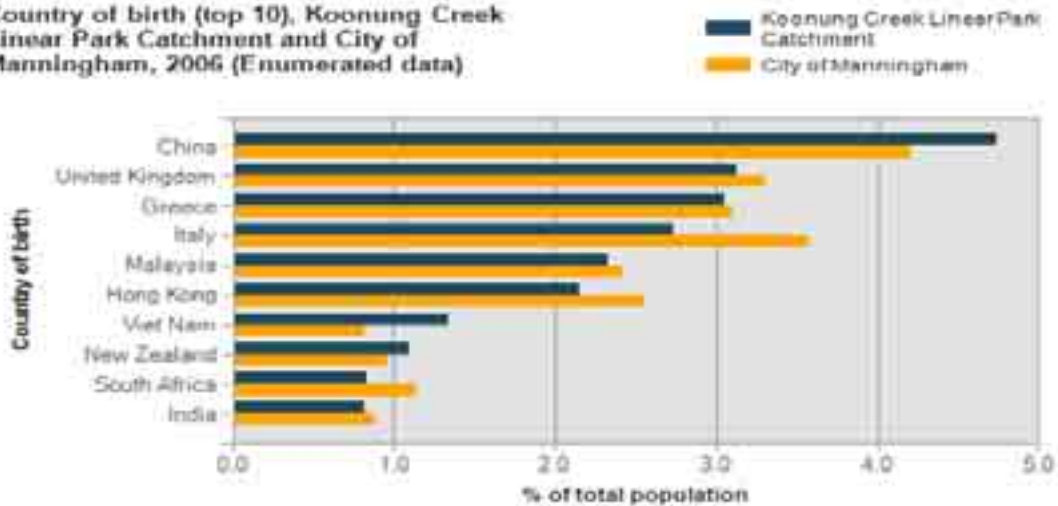
The dominant non-English speaking country of birth in Koonung Creek Linear Park Catchment was China, where 4.7% of the population, or 1,050 people, were born.

There were no major differences between Koonung Creek Linear Park Catchment and City of Manningham's country of birth data in 2006.

The largest changes in birthplace countries of the population in this area between 2001 and 2006 were for those born in:

- China (+215 persons);
- Malaysia (+103 persons);
- Viet Nam (+86 persons), and;
- Italy (-91 persons).

Country of birth (top 10), Koonung Creek Linear Park Catchment and City of Manningham, 2006 (Enumerated data)



Source: Australian Bureau of Statistics, 2006 Census of Population and Housing (Enumerated)

Mode of travel to work

In 2006, there were 1,105 people who caught public transport to work (train, bus, tram or ferry) in Koonung Creek Linear Park Catchment, compared with 7,244 who drove in private vehicles (car –as driver, car – as passenger, motorbike, or truck).

Analysis of the method of travel to work of the residents in Koonung Creek Linear Park Catchment in 2006 compared to the Melbourne Statistical Division shows that 10.7% used public transport, while 70.2% used a private vehicle, compared with 11.7% and 67.1% respectively in the Melbourne Statistical Division.

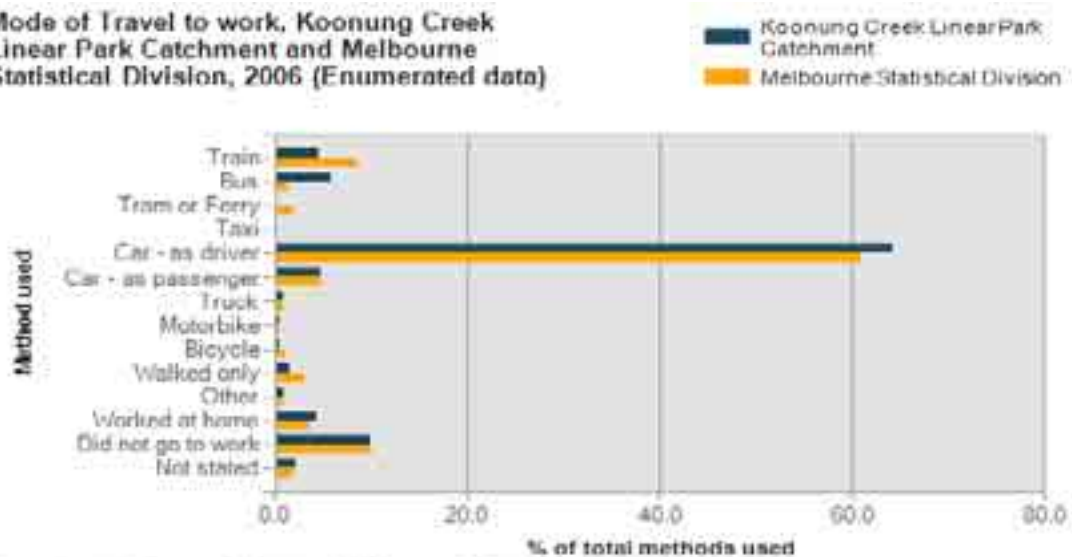
The major differences between the method of travel to work of Koonung Creek Linear Park Catchment and the Melbourne Statistical Division were:

- A larger percentage of bus commuters (5.8% compared to 1.2%);
- A larger percentage of car - as driver commuters (64.2% compared to 61.1%), and;
- A smaller percentage of train commuters (4.6% compared to 8.5%).

The largest changes in the method of travel to work by resident population in Koonung Creek Linear Park Catchment between 2001 and 2006 were for those nominated:

- Bus (+112 persons);
- Walked only (+51 persons), and;
- Car - as driver (-122 persons).

Mode of Travel to work, Koonung Creek Linear Park Catchment and Melbourne Statistical Division, 2006 (Enumerated data)



Source: Australian Bureau of Statistics, 2006 Census of Population and Housing (Enumerated)

Type of household we live in

Analysis of the family types in Koonung Creek Linear Park Catchment in 2006 compared to the Melbourne Statistical Division shows that there was a similar proportion of couple families with child(ren) but a smaller proportion of one-parent families.

Overall, 47.7% of total families were couple families with child(ren), and 13.5% were one-parent families, compared with 48.4% and 15.4% respectively for the Melbourne Statistical Division.

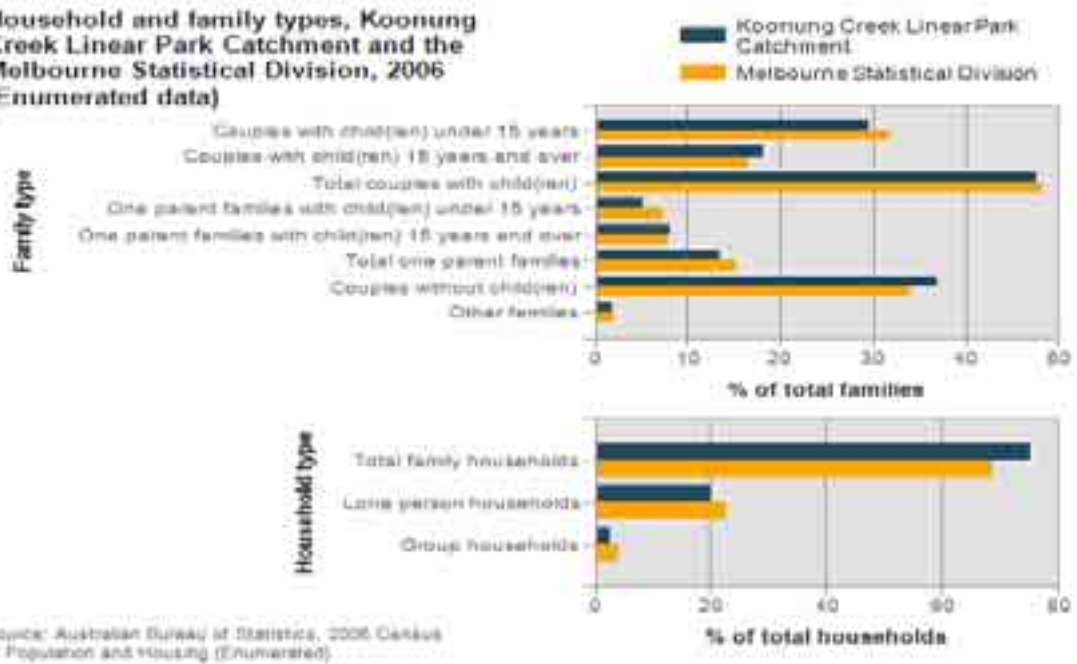
The largest changes in family types in Koonung Creek Linear Park Catchment between 2001 and 2006 were:

- Couples with child(ren) under 15 years (+133);
- Couples without child(ren) (+98), and;
- Couples with child(ren) 15 years and over (-88).

Comparing Household types between Koonung Creek Linear Park Catchment and the Melbourne Statistical Division in 2006 reveals a larger proportion of Family households, but a smaller proportion of lone person households. Family households accounted for 75.2% of total households in Koonung Creek Linear Park Catchment while lone person households comprised 20.0%, (68.6% and 22.7% respectively for the Melbourne Statistical Division).

Between 2001 and 2006 in Koonung Creek Linear Park Catchment, there was an increase in the number of Family households (151), an increase in lone person households (186) and a decrease in group households (-11).

Household and family types, Koonung Creek Linear Park Catchment and the Melbourne Statistical Division, 2006 (Enumerated data)



Car ownership

Analysis of the car ownership of the households in Koonung Creek Linear Park Catchment in 2006 compared to the Melbourne Statistical Division shows that 90.0% of the households owned at least one car, while 4.9% did not, compared with 82.7% and 9.4% respectively in the Melbourne Statistical Division.

Of those that owned at least one vehicle, there was a similar proportion who owned just one car; a larger proportion who owned two cars; and a similar proportion who owned three cars or more.

Overall, 33.8% of the households owned one car; 41.7% owned two cars; and 14.5% owned three cars or more, compared with 33.5%; 35.0% and 14.2% respectively for the Melbourne Statistical Division.

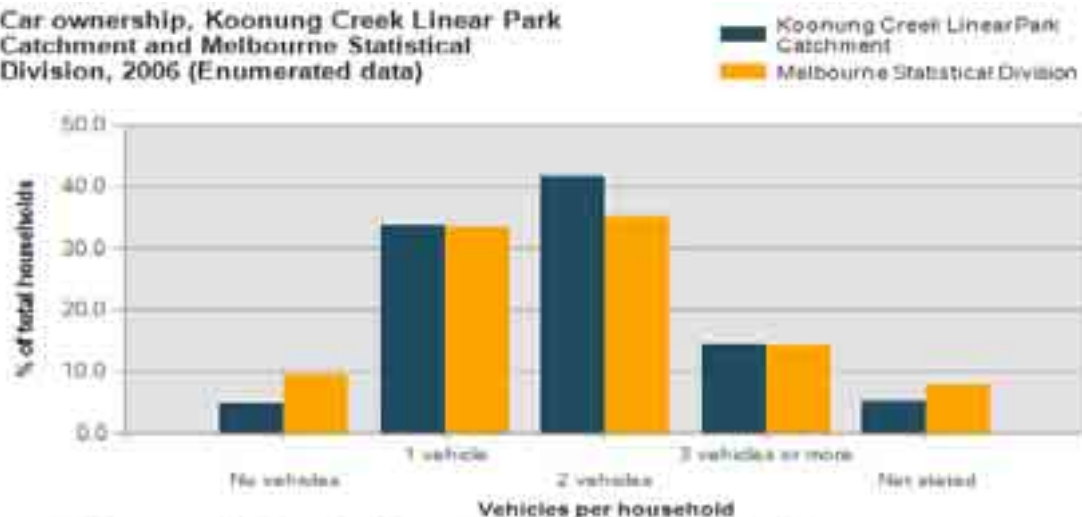
The major differences between the car ownership of the households in Koonung Creek Linear Park Catchment and the Melbourne Statistical Division were:

- A larger percentage of households with 2 vehicles (41.7% compared to 35.0%), and;
- A smaller percentage of households with No vehicles (4.9% compared to 9.4%).

The largest changes in the household car ownership in Koonung Creek Linear Park Catchment between 2001 and 2006 was with those who owned:

- 1 vehicle (+180 households), and;
- 2 vehicles (+123 households).

Car ownership, Koonung Creek Linear Park Catchment and Melbourne Statistical Division, 2006 (Enumerated data)



Source: Australian Bureau of Statistics, 2006 Census of Population and Housing (Enumerated)

11.5. Relevant Strategies and Guidelines

11.5.1. Melbourne 2030 (2002)

In 2002 the State Government adopted Melbourne 2030 Planning for Sustainable Growth, which provides a strategy for future development within Metropolitan Melbourne for the next 30 years. The Strategy contains several policies and initiatives which are relevant to the Koonung Creek Linear Park. These include: improving community safety, protecting open spaces for future generations (major open space corridors including waterways) and giving priority to cycling and walking in the planning of urban development and the management of road system and neighbourhoods.

11.5.2. Metropolitan Open Space Strategy (2002)

In September 2002, the State Government released *Linking People and Spaces, A Strategy for Melbourne's Open Space Network*. Prepared by Parks Victoria, the Strategy provides for the long term planning of open space and protection of areas of environmental significance within metropolitan Melbourne.

Manningham is located in the eastern region of the Strategy. Open space areas within this region have a high visitor use and a high conservation value, as they support a variety of functions including: protection of natural values and habitat corridors, trail linkages and recreation opportunities. The key focus of this region is to enhance existing facilities at a range of sites, to protect open space areas of environmental significance from increasing visitor numbers and pressure for recreation facilities and enhance vegetation links, especially along streams.

The Strategy identifies actions to link the Koonung Trail to the Mullum Mullum Creek Trail.

11.5.3. Manningham Public Open Space Strategy 2004

The Manningham Open Space Strategy 2004 provides a guide for the strategic planning, development and management of Manningham's Open Space network.

The municipality has over 19.8 square kilometres of open space representing over 17% of the area of the municipality. The open space network is divided fairly evenly between the east (53%) and west (47%) of the municipality. The open space

network comprises over 300 separate parks, gardens and reserves. It is the range and quality of open space opportunities that sets the municipality apart.

The Open Space Strategy identifies the Koonung as a linear park of regional significance. It supports the importance of the Park providing regional recreation facilities for users from both the Cities of Manningham and Whitehorse. It recommends as a part of the Bulleen Park Management Plan the investigation of developing a path between Bulleen Road and Bulleen Park along Boroondara and Manningham owned land.

11.5.4. Mullum Mullum Creek Linear Park Stage 3 Management Plan

The Mullum Mullum Creek Linear Park Stage 3 (MMCLP) Management Plan describes how the City of Manningham can protect and improve the natural environment and wildlife corridor of Mullum Mullum Creek valley for visitor enjoyment and appreciation.

This Management Plan outlines recommendations for the future use, development, management and maintenance including the extension of the Mullum Mullum Trail from Park Road to the East Link Trail, Donvale. This is the final stage of the Linear Park to be developed in the City of Manningham and will complete the gap in Manningham's shared path network connecting the Main Yarra Trail with the Koonung Trail via the Mullum Mullum Trail. This linkage will result in a shared path network covering over half the size of the municipality.

11.5.5. Action and Inclusion Policy and Action Plan (2008-2012)

Council has acknowledged that people with disabilities comprise a significant proportion of the community. Accordingly, Council has made a continuing policy commitment to including people with disabilities and their needs in all Council's roles, facilities and services in the community as expressed in Council's Community Development Principles.

The Action Plan contains the following key objective that relates to Koonung Creek Linear Park Management Plan:

Objective 1: To take account of the needs of people with disabilities of all ages in all Council planning and strategies designed for the community.

11.5.6. Melbourne's Principal Bicycle Network

The State government is committed to implementing the Principal Bicycle Network (PBN), currently under review, for on road and metropolitan trail network for off road for the next 10 years.

The Koonung Creek Linear Park main/commuter path is classified in the PBN as being part of the Metropolitan Trail Network as a shared footway/bicycle path. It travels west from Springvale Road to Eram Park where it crosses the border to Whitehorse, connecting to Boroondara, and eventually links to the Main Yarra Trail. The metropolitan trail network supports completion of the Koonung Trail with the Mullum Mullum Trail.

11.5.7. Manningham Bicycle Strategy (2001)



The Manningham Bicycle Strategy 2001 aims to develop a framework to facilitate the realistic and effective implementation of bicycle facilities throughout municipality. Existing and future on and off-road cycling trails are identified within the City.

The Strategy 2001 and Supplementary Action Plan 2006 recommended in 2006/07, 'the installation of advisory behavioural signage to address conflict

between cyclists and pedestrians'. It also recommended in 2010/11 'on-road advisory signage on Church Road and Leed Street'. In the event external funding is available it has recommended: 'on road advisory signage and bike lanes for Bulleen Road, Doncaster Road and Blackburn Road links to the Koonung Trail; and, linking the Koonung paths to Bulleen Park and Mullum Mullum Trail'.

11.5.8. Doncaster Hill Pedestrian & Cycling 2010

As a Principal Activity Centre, Doncaster Hill is the focus for high-density residential and mixed-use development within an integrated transport system. As the vision for Doncaster Hill becomes a reality, it is anticipated that there will be a reduction in private vehicle usage and ownership, particularly with the convenience of access to a range of services and facilities within walking distance or with ready access to public transport. As a more health-focused society, walking and cycling are increasingly being taken up as popular recreational pastimes and as a mode of travel amongst all age groups and abilities.

Walking, cycling and public transport also brings with it a host of social benefits and is a way of increasing interactions with neighbours and the broader community.

It is acknowledged, as the name "Doncaster Hill" implies, that the topography of the area poses some challenges for walking and cycling. However, this will be managed with Council's planned improvements to the extent and location of shared paths, links with other regional paths. These networks will also be supported by the provision of a range of facilities and networks to encourage and support people of all ages and abilities to walk and cycle for both recreational and commuting purposes and/or as part of their overall trip planning.

Doncaster Hill cycle paths have also been diverted to provide linkages from the Koonung Creek Trail south of Doncaster Hill through to the Main Yarra Trail to the north.

Actions to be done:

- Install wayfinding signage to identify preferred cycling route to Koonung Creek Trail from Doncaster Road.
- Install way-finding signage to indicate preferred cycling route connecting footbridge (between Middleborough Road and Station Street), through to Doncaster Hill and onto the Main Yarra Trail.
- Install way-finding signage to indicate preferred cycling route from Stanton Street bridge to Eastern Golf Course site (between Heyington Ave & Petty's Lane).

11.5.9. 'Active for Life' Manningham Recreation Strategy 2010-2025

Manningham's Recreation Strategy has been developed to inform recreation provision in Manningham up to 2025 and address the challenge for the whole community to be active and involved for life.

From a State and National perspective, physical activity has been ranked second only to tobacco control in being the most important factor in health promotion and disease prevention in Australia Vic Health Website: Physical Activity 2009.

Through the development of the Strategy, Council has identified four key objectives for future recreation provision within the municipality. These are to:

- Increase participation in recreation for all;
- To ensure the community has a diverse range of recreational choices;
- Provide great places for people to recreate in; and,
- Inspire people to recreate.

The Strategy identifies the following key actions in relation to the planning, development and management of open space areas within the Koonung Creek Linear Park:

Objective One: People Participating in Manningham

- Existing promotional opportunities such as Manningham Matters, the Manningham Leader, Council website and other publications where appropriate, and
- An annual production and distribution of updated and new publications i.e. brochures for cycling, walking and play spaces

Item 4.6.13 Develop a series of activities to promote our local parks and reserves and play opportunities.

Item 4.3.1 Continue to support linear trail developments as identified through existing and proposed reserve management plans:

Item 4.5.34 Investigate (as part of the Koonung Creek Linear Trail Management Plan) a pedestrian link to create a circuit at Bolin Bolin Cultural Heritage Trail site at the southern end. As this Trails falls outside of the study area it is recommended that it be investigated as a part of review for the Bulleen Park Management Plan.

11.5.10. Making Manningham Mobile 2010

Making Manningham Mobile (MMM) is Manningham City Council's Integrated Transport Strategy for the next 20 years. It sets out key actions to improve, manage and promote all transport modes, with particular emphasis on sustainable transport such as walking, cycling and public transport. It recommends increasing walking and cycling accessibility to Doncaster Park and Ride and to improve pedestrian and cycle access to Doncaster Hill precinct.

The improvements recommended in this Plan supports MMM.

11.5.11. Manningham Domestic Animals Strategy (2004)

The Manningham Domestic Animal Strategy (2004) aims to promote and facilitate responsible ownership of dogs and cats, support animal welfare and promotes the benefits of animal companionship, with an emphasis on the protection and enhancement of community safety and the environment.

Dogs and their owners are significant users of open space, however some dogs in public places can have an adverse effect on community safety and the environment. The Strategy aims to balance the needs of all users of open space through its Dog in Public Places policy by providing a network of on lead, off lead and prohibited areas.

The Strategy identifies the Koonung Creek Linear Park (KCLP) as a designated dog off lead area.

Whitehorse Council's Domestic Animal Strategy (WDAS) identifies the parcels of land that are within the Whitehorse boundary and on the northern side of the Freeway as dog on-lead. Dog controls are unclear in Eram Park due to lack of signage and confusion over locality of municipal boundary. Whitehorse are currently in the process of reviewing their WDAS. Manningham's Order needs to be amended to include the land being transferred from VicRoads, but currently located within Whitehorse, as dog of lead areas. Whitehorse to be informed of this intention.

Manningham Health and Local Laws are currently reviewing those areas where a shared path goes through or is part of the perimeter of an off lead dog area to identify opportunities for improving safety in the area. The report recognises that the requirements warrants change to the dog controls as the Koonung is a developed Park that runs through wide corridors with established off lead spaces adjacent. The report suggests that the five metre rule be considered, ie that dogs be leashed on and within five metres of the share path. The outcome of the review will be presented to Council in the near future. It is recommended that the main/commuter section be dog on lead on and within five metres of the path.

11.5.12. Guidelines (Signage, Lighting, Park and Path Design)

The following guidelines have been developed to guide the development and design of our community spaces.

Manningham Urban and Park Design Guideline (July 2010)

The planning and provision of Manningham's shared path network is very important. The Guidelines provide a guide for detailed parkland development to help develop and implement a system for planning and developing open space. It sets the standard for paths, fencing, furniture and other facility provision in Council's streetscapes, shopping centres and open space reserves.

Commuter trails and shared paths

Shared paths cater for a range of users including walking, jogging, cycling, in line skaters, dog walking, pushing prams, children learning to ride bikes and people with limited mobility or in wheelchairs. As such, there is a strong need to manage the risk issues of cyclists and pedestrians sharing the same path.

Particular problems with highly used shared paths such as Koonung Creek Trail are:

- High volumes of people using these trails;

- Wide variety of users travelling at different speeds and with different levels of attention to other trail users;
- Close proximity of vegetation to the edges of the trail can create poor sight-lines, reduce visibility distances and narrow the usable width of the trail; and
- Commuter cyclists can reach high speeds, creating danger for pedestrians when overtaking and increasing the danger posed by obstacles adjacent to the path.

Range of walking challenges

The range of walking opportunities and experiences in any park should be considered in the context of all nearby public land. The priority is creating a variety of experiences, while ensuring that similar types of pathways are linked as much as practicable. This is especially so with linear shared pathways and commuter pathways.

Many park users prefer an occasional challenge in their discovery of natural areas. It may be desirable in some cases to provide loop tracks to connect with main trails. These can also provide a variety of track lengths and conditions, such as steep or difficult sections for more experienced walkers.

Access

There are a number of different path types offering a variety of different experiences and levels of access. Access for people for limited abilities in some areas of the park is limited as the clay and uneven nature of the surface of the existing path network is not suitable for people in wheelchairs, with prams or who are unsteady on their feet

Sometimes local topography that is part of the character of Manningham's hilly suburbs will create steep gradients that fall outside of accessibility standards. In such instances providing access for visitors with disabilities may be compromised or not achievable.

Melbourne Water Requirements for Shared paths and waterway crossing

These shared path guidelines outline a standardised approach to design, construction, upgrade and maintenance of paths along waterways. They have been developed to ensure that, where shared paths are constructed along waterways, the community is able to enjoy them safely and that the condition of our waterways, and any adjacent Melbourne Water asset, is protected

Melbourne Water has developed a standard agreement — a Pathways Agreement — for shared pathways and other recreational facilities situated within the land they own, or for which they are responsible. The agreement will acknowledge that while Melbourne Water will provide all possible assistance as you plan for the pathway, Melbourne Water does not have ongoing responsibility for the ownership and maintenance of paths and crossings. The Pathways Agreement includes a statement that the path manager indemnifies Melbourne Water for any loss or damage suffered as a result of the design, construction or maintenance of any path on Melbourne Water owned/managed land.

Manningham City Council Signage Strategy (December 2010)

Manningham City Council's Signage Strategy is intended to provide:

- A single point of reference for the sign types most commonly used by the Manningham City Council, including practical information on use, placement, colour, size and graphics.

- General guidelines for the implementation and future design development of signage, so a consistent and cost effective system is maintained by the Manningham City Council.

The manual covers permanent outdoor signage including:

- Park & facility directional signs;
- Park regulatory signs;
- Shared path regulatory signs;
- Behavioural signs;
- Risk warning signs;
- Emergency signs;
- Community notice boards; and
- Interpretation signs.

Sign placement must be sympathetic to building architecture, landscape design, the elements within the streetscape, other signage and the needs of city inhabitants and tenants.

Avoid placing signage where the regular maintenance of the city will result in damage to the sign, e.g. along regular street sweeping or lawn mowing paths.

Wayfinding Principles

Effective planning of directional and identification signage needs to accommodate common wayfinding techniques and expectations

Walking out a route to be sign posted is a good starting point for planning, asking “do I know where I am now, where do I want to go and what do I need in the way of directions”. Plotting likely locations on a plan and then reviewing these for location, frequency, logic of sequence and their messages will help confirm the planning.

To effectively decide on messages to be included on a directional sign and the type of identification signage required, it is necessary to establish a destination hierarchy. Destinations at the top of the list are high use/importance and require directions from further away and higher grade identification. Destinations at the bottom of the list require directions only from the immediate vicinity and modest identification.

Reserves, Parks and Trails Signs

Sign types include: standard post; large pylon, standard pylon and narrow pylons.

They aim to:

- Consistently identify parks & reserves to pedestrian and vehicular traffic;
- Identify key destinations within parks & reserves;
- Provide orientation information;
- Provide directional information to leisure activities and nearby significant destinations (eg playgrounds, walking trails & bike paths); and
- Provide regulatory, advisory and safety information.

They will show name of centre, user groups and directions to function/facilities (pictograms may be used). They will be situated at site boundaries along all major pedestrian and vehicular thoroughfares. It is recommended that the installation of signage in the Park will be implemented in line with the Signage Strategy.

Manningham Public Lighting Procedures and Guidelines (June 2010)

The Manningham Public Lighting Procedures and Guidelines were developed to ensure that the management of existing public lighting and requests for new public lighting are dealt with consistently and in a manner which has taken into account factors such as relevant standards, costs, environmental factors, health and safety issues and maintenance.

Council parks and reserves are not lit at night unless there is a specific need for lighting such as:

- Popular pedestrian and cyclist shared path routes;
- Pedestrian and cyclist shared path routes associated with bus stops;
- Sports grounds used for organised night activities;
- Some carparks associated with areas that have increased evening activity.

Residents often raise the need for lighting within reserves to either prevent undesirable activity from occurring or to improve safety. However, there are conflicting reports as to whether lighting actually reduces misuse eg. vandalism from occurring or just allows people to see what they are doing easier.

Where continuous lighting along a path is difficult to justify, it may be appropriate to light only the locations of increased hazards such as:

1. Intersections with other paths or roads.
2. Sharp curves and steep grades.
3. Ramps to structures and at the portals to tunnels.
4. Where clearance to obstructions is minimal.
5. Where pedestrian numbers are high.
6. Locations that have special security problems.

11.5.13. Manningham Strategic Water Management Plan (2008)

The Manningham Strategic Water Management Plan (SWMP) was adopted by Council in 2008 and identifies water for open space (playing fields) as being the single highest category of water use within the organisation, accounting for over 40% of water consumed by Council.

At the time of preparation of the management plan water restrictions have severely curtailed the ability to provide water for management of sports fields and there is a need to identify appropriate alternate sources to replace or supplement potable water.

Council has embarked on a process of converting sports playing surfaces to reduce their demand for water; however it is expected that the total demand for water will still account for a significant proportion of Council's water budget.

The SWMP recognises that the management of water provides a common theme for a wide range of Council plans and strategies, and that there is a need to adapt to changing climatic conditions and the pressures of increased urbanisation and population in an environmentally responsible manner.

The SWMP identifies that an integrated approach to water management is required, and that all other plans and strategies should consider how they can support

improved water management, resource and environmental outcomes. In particular the plan identifies a number of areas in which Integrated Water Management can support multiple beneficial outcomes including:

- Compatibility with Council Vision and Goals
- Flora and fauna impacts (including biodiversity and natural ecosystem impacts)
- Water quality and sediment load impacts
- Public health and safety impacts
- Water resource impacts
- Flooding risk impacts
- Cultural and social heritage impacts
- Landscape and streetscape amenity impacts
- Recreational impacts
- Educational benefits

The SWMP further recommends an advocacy model be used to help identify the potential to support multiple beneficial outcomes through Integrated Water Management and the approach has been used in developing recommendations for capital works implementation.

11.6. Vegetation Types

The Department of Sustainability & Environment has devised a system of classifying vegetation types into groups called Ecological Vegetation Classes, or EVCs. The natural vegetation of the study area includes the EVCs.

Historically (pre-settlement) Ecological Vegetation Classes included Floodplain Riparian Woodland; Floodplain Wetland Complex; Plains Grassy Woodland; Creekline Grassy Woodland; Swampy Riparian Complex and Valley Heathy Forest. Today only the latter two remain. A description of the land along the Koonung Creek pre-settlement is as follows:

- (a) Thompsons Road to Kampman Avenue – River Redgum dominated Floodplain Riparian Woodland.
- (b) Kampman Avenue to Millicent Avenue - Stringybark dominated, 100 metre wide band of Swamp Gum Swampy Riparian Complex along the creek bordering a Redgum dominated Plains Grassy Woodland on the higher ground.
- (c) Millicent Avenue to Doncaster Road - 50 metre wide band of Yellow Box dominated Valley Grassy Forest bordering Stringybark dominated Valley Heathy Forest on the higher ground.
- (d) Doncaster Road to Wetherby Road - 40 metre wide band of Swampy Riparian Complex along the creek with another 50m band of Valley Grassy Forest grading into Valley Heathy Forest on the higher ground.
- (e) Upstream of Wetherby Road the 50 metre wide band of Swampy Riparian Complex along the creek extends up the gullies to the north. Valley Heathy Forest occupies the higher ground.

11.7. Biosites

Manningham's Biosites are classified as being of Regional, State and National biological significance and lie predominantly in the north-east of the municipality within Manningham's Green Wedge area. However, a number of Biosites and significant habitat areas lie outside the green wedge area.

Koonung, Biosite 32; Regional Significance (1 Sub-Criteria)

Description

Koonung (Biosite 32) comprises 8.65 ha of Swampy Riparian Complex (E) and Valley Heathy Forest (E) and is one of the smallest sites in Manningham. Located entirely along the length of Koonung Creek in Doncaster, East Doncaster and Donvale, this Biosite comprises three sections: one off Brindy Court (off Wetherby Road), another at Boronia Grove Reserve near Blackburn Road, another between Blackburn Road and the Darval Court turn-around, and another east from Darval Court. All are very small remnants close to the Koonung and surrounded by open parkland or extensive revegetation undertaken by Melbourne Water and Council.

MCC Sites of (Biological) Significance Review.

Part of an extensive Koonung Creek linear corridor, the Biosite consists of a mosaic of public land owned by the State and managed by either Melbourne Water or Council and private land owned and managed by Council. Some parcels are also owned by VicRoads and have been partly revegetated as part of the extension of the Eastern Freeway. A total of 21 vertebrate fauna species and 80 vascular flora species have been recorded for this Biosite.

The Koonung Biosite has not been previously classified for Botanical or Zoological Significance. Using the Biosites criteria, Koonung has been classified as Regional Significance under one sub-criteria (DNRE 2002b): Sub-Criteria 3.2.3. As contains 2 EVCs that have a High or Very High Conservation Status (Swampy Riparian Complex and Valley Heathy Forest).

Swampy Riparian Complex

Distribution

Restricted to a handful of minute remnants in the Hillcrest area of Donvale on the Mullum Mullum Creek, at Ruffey Lake Park and adjacent to the Eastern Freeway in Doncaster and East Doncaster along the Koonung Creek.

Position in landscape

Minor intermittent, low gradient gully lines of the Doncaster and Donvale low hills feeding through the Mullum Mullum, Ruffey and Koonung Creeks to the Yarra River.

Structural and floristic description

A woodland or forest (to 30m) dominated by a canopy of eucalyptus over a scattered shrub layer with a mix of exotics and indigenous narrow and broad-leaf species. The ground layer consists of a range of large to small (<1.5m) tussock and non-tussock forming grasses and some sedges interspersed with medium to small herbaceous dicots. As would be expected in the context of such a highly urbanised landscape, the ground layer usually has a high richness and abundance of exotics.

The canopy is characterised by Swamp Gum, Yellow Box and Narrow-leaf Peppermint over a scattered shrub layer including: Black Wattle, Blackwood, Sweet Bursaria and Cherry Ballarat.

On the ground, with the exception of Yellow Rush-lily and Wattle Mat-rush, the most common indigenous graminoids are almost all grasses, although there are some

sedges and lilies. These include: Weeping Grass, Wattle and Spiny-headed Mat-rushes, Thatch Saw-sedge, Kangaroo Grass plus Soft Slender Tussock-grasses.

A very similar story is reflected amongst the herbaceous dicots with an equal range of indigenous and exotic plants. The former include: Bidgee-widgee, Common Raspwort, Shady Wood-sorrel, Kidney-weed, Small Poranthera, Stinking Pennywort and Chocolate-lily.

The consistent presence of the common ground ferns, Common Maiden-hair and Austral Bracken plus three common climbers/scramblers, namely: Purple Coral-pea, Small-leaved Clematis and Love Creeper are indicative of the shaded, moist streamside environment.

Valley Heathy Forest

Distribution

Originally widespread in the western half of the study area, Valley Heathy Forest is today restricted to a handful of remnants centred around the head waters of the Mullum Mullum Creek along the southern margins of the municipality in Donvale Park Orchards and Ringwood North.

Position in landscape

Gently undulating ridgetops, lower slopes and even valley floors on the low plateau-like Doncaster Hills.

Structural and floristic description

A low, open forest or woodland (to 20m) dominated by a canopy of mixed eucalypts over a scattered layer of tall shrubs (to 5m) and a high cover of low to small ericoid, narrow-leaf and sclerophyllous shrubs (<2m) virtually all of which are indigenous. The ground layer consists of a diversity of medium to small (<1m) tussock and non-tussock forming grasses plus some mat-rushes, sedges and grass-trees interspersed with a diversity of medium to small herbaceous dicots. Whilst ground ferns are rare, a number of climbers/scramblers are also frequently present. Although the more degraded sites can have a high cover and diversity of exotic plants (especially grasses), most of the Manningham sites remain in a reasonably unmodified condition dominated by indigenous species.

The canopy is typically characterised by mixed eucalypts including: Red Stringybark, Bundy, Yellow Box, and Messmate Stringybark. Narrow-leaf Peppermint and Manna Gum can also be occasionally present. The tall, scattered shrub layer (to 5m) consists of Cherry Ballarat, Sweet Bursaria and a range of Wattles including: Silver and Black Wattle, Blackwood and Lightwood.

The typical low to prostrate shrubs (<2m) include the ericoids: Honey-pots, Common Heath, Common Beard-heath, Prickly Tea-tree and Thin-leaf Wattle, plus Common Flat-pea, Grey Parrot-pea, Common Hovea, Narrow-leaf Bitterpea, Common and Drooping Cassinia, Dusty Miller and Common Rice-flower.

On the ground the most common indigenous graminoids include: Wattle Mat-rush, Weeping Grass, Kangaroo Grass, Variable Sword-sedge, Silvertop Wallaby-grass, Soft Tussock-grass, Reed Bent-grass and Black-anther Flax-lily. Other notable graminoids are Small Grass-tree, Veined Spear-grass, various Wallaby-grasses and Common Grass-sedge.

A great richness of herbaceous dicots are usually found in abundance within the graminoid intertices. Species such as Common Raspwort, Small Poranthera, Button Everlasting, Tall and Scented Sundew, Ivy-leaf Violet, Shady Wood-sorrel, Small St John's Wort, Variable Stinkweed, Variable Plantain, Blue Pincushion, Kidney-weed

and Creamy Stackhousia are examples. Common geophytes include Milkmaids, Chocolate Lily, Common Early Nancy and Tall Greenhood.

Whilst there are no consistent ground ferns, there are a number of climbers/scramblers, namely: Purple Coral-pea, Love Creeper, Common Appleberry, Downy Dodder-laurel, Common Apple-berry and Mountain Clematis.

Pine trees

Manningham's public open spaces currently contain over 10,000 pine trees. These have some heritage value as remnants of former orcharding in the area, but are reaching the end of their lives. They are also a recognised environmental weed. Views are mixed as to whether these are desirable species, how best to manage these trees, and whether to replace them. Their removal over time as they become unsafe will result in a significant expense to Council.

There is a site along the Koonung where some pine trees have been identified as requiring removal in the near future, being near Melbourne Water's retarding basin (Larkspur Avenue). Over time the pines along the Koonung will be removed as they reach their useful life expectancy and/or for safety reasons and this process will involve succession planting.

11.8. Consultation

A community consultation plan was developed with assistance from Council's Community Development and Engagement Team. The information received as a part of the consultation process has been used to review the Management Plan and guide the recommendations.

Consultation included:

In October 2009 Bicycle Victoria was engaged to undertake a 'BikeScope Survey' (attachment?). BikeScope is a process which provides an in-depth analysis of an area's bike riding environment by gathering base data and direct input from residents. Using Bicycle Victoria's extensive membership and NameBank they reached 627 riders in Manningham and the surrounding municipalities. Whilst the survey asked questions Manningham wide with regards to both on-road and off-road bike/shared paths it did include questions in relation to the Koonung Creek Trail. The relevant findings are:

- 34.1% of the respondents were from outside of Manningham;
- 35-49 age group were the largest response being 41%;
- 25.2% respondents were female and 74.8 were male;
- Top destination out of Manningham was the CBD with 18.9% (Koonung Creek Trail is the only trail that links with the CBD);
- The most popular off-road route in Manningham is the Main Yarra Trail receiving 32.5% followed by the Koonung receiving 27.9% of responses (Mullum Mullum was third with 21.8%); and
- Suggested improvements/issues for the Koonung Trail were: signage (15%), lighting (12.6%); changing dog controls (9.6%); width of path (7.9%), blind spots (7.9%); quality of surface (7.9%); path maintenance (7.6%); and separate bike lane (6%).

A number of meetings have taken place with VicRoads to resolve the issues of ownership and management of the Park. There are a few anomalies remaining that will be resolved as soon as practical and these have been discussed in Part One, Section three, VicRoads.

Onsite meetings have taken place with Melbourne Water with regards to management of the Creek and areas owned by them along the Park.

Onsite meetings have also been held with relevant Council Units – Parks and Recreation, Economic and Environmental Planning, Engineering and Technical Services.

The Open Space and Streetscape Design Taskforce was presented with an update on the Management Plan for the Koonung Linear Park 15 November 2010.

11.8.1. Community Voice Questionnaire

Community consultation for the development of the Koonung Creek Linear Park Management Plan commenced March 2010. A community voice questionnaire was developed and distributed to 670 abutting households and key stakeholder groups (Manningham Bicycle User Group - BUG, Whitehorse Cyclist Group, Sporting Clubs using abutting reserves, and Friends Of Manningham Dog And Cats). As well an information flyer encouraging residents to complete the questionnaire via Councils website or by requesting one to be sent in the post was distributed to 1,800 Manningham households within 400metres of the Park. Adverts were placed in the local paper and to capture visitors input signs were posted at all entry points to the Park notifying of the commencement of the Management Plan process and inviting interested parties to contact Council to complete the questionnaire or to discuss the project in general. The invitation was also made in each of these forms of publicity for interested people to register with Council if they wished to continue to be involved in future consultation.

The questionnaire was designed to inform the community about the preparation of the Management Plan and ascertain how the Park is used by both the local community and other park users, what attributes are valued, and ideas and issues which should be addressed in the Management Plan. It was a mixture of tick boxes (yes, no, neutral) and space for individual written comments. Respondents were given an opportunity to indicate if they wished to be involved in future consultation. The respondents had six weeks to complete the questionnaire and return it via a reply paid envelope for data processing and analysis.

The results of the survey provide a number of insights into how the Park is used, why it's valued by the community, and also identifies the community's concerns and suggestions regarding future development and management.

A total 202 people responded to the questionnaire and the results included:

- 70 +years age group was the largest response being 29%; with 50+ being 69%;
- 41% of respondents visit the Park more then 2-3 times per week and 37% visit most days;
- 89% main usage being for recreation/leisure, compared to 11% for commuting;
- 77% of respondents walk to the Park; 16% cycle to Park and 7% drive;
- 76% respondents feel safe when visiting the Park; with the main reason given being other people being around and will only use the Park in daytime;
- The most valued aspect of the Park was its closeness to home (31%), a path for walking (16%) and place to walk the dog (12%);
- 18% of respondents entered and 16% exited the Park at Tram Road; and
- 35% of respondents rated the Park as good and 39% as requiring some or a lot of improvement.

The most suggested areas for improvement of the Park were the maintenance of the vegetation; maintenance of the Creek, need for lighting, seating and toilets. There were 11 responses comparing the Park to the areas on the other side of the Freeway, namely Whitehorse and Boroondara, where the path links are provided at a higher maintenance and aesthetic standard.

The facilities that respondents were most satisfied with at the Park include: access points (17%); road crossings (12%); path conditions (10%) and signage.

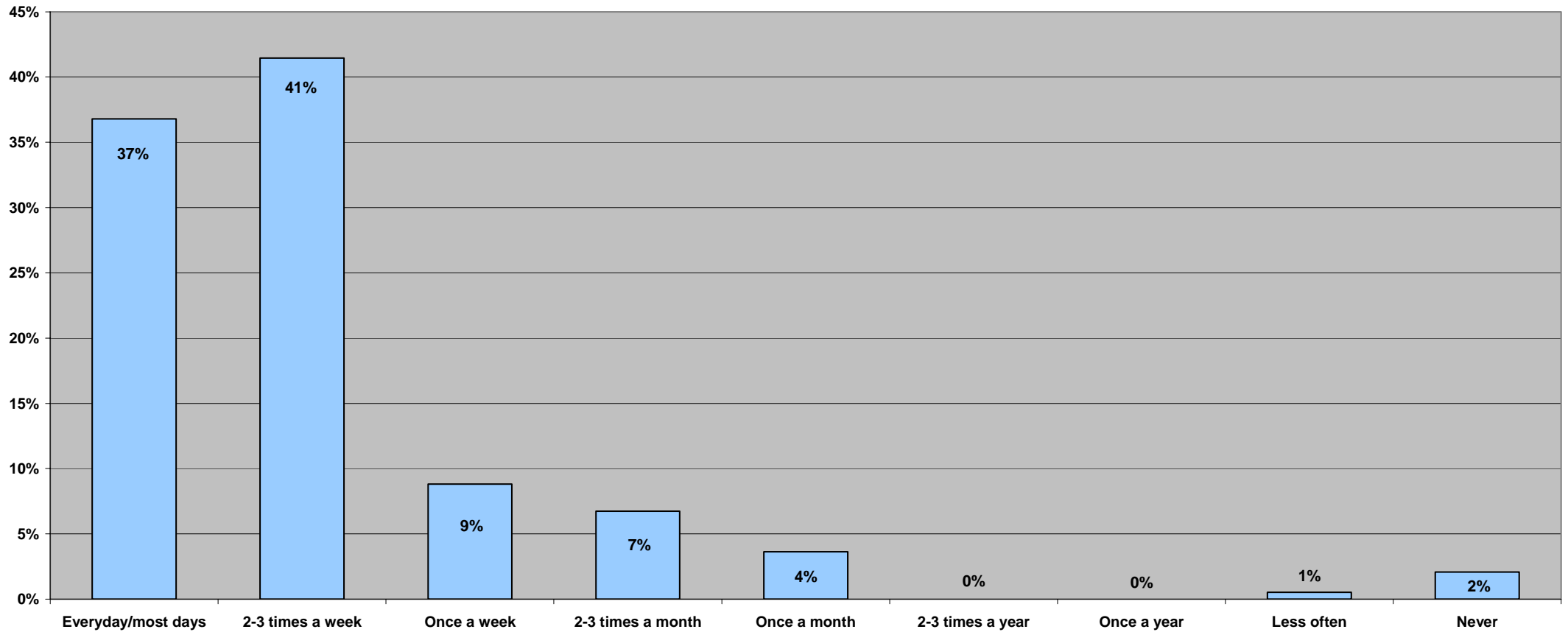
The facilities that respondents were least satisfied with at the Park include: public toilets (16%); lighting (13%), seating (13%) and Park maintenance (13%).

Another component of feedback from the questionnaire was the opportunity for respondents to mark on map suggestions for future amenities. The majority of respondents contributed with areas being identified as 'hot spots' for certain amenities and improvements. The amenities that were highlighted within 'hot spots' have been included in the maps.

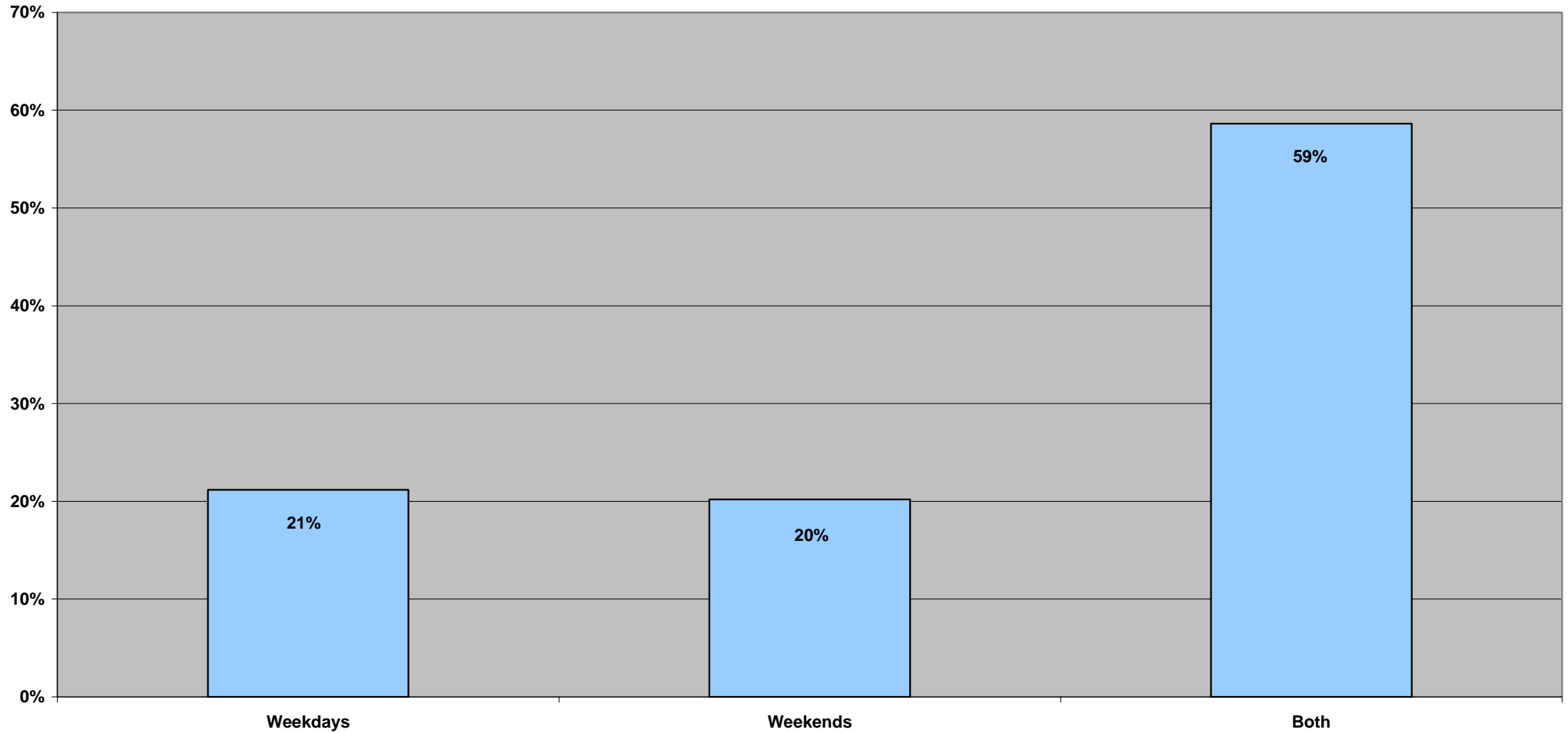
Three onsite meetings with residents followed receipt of the questionnaires, including a local resident who played an active role in bringing about safety changes to the path following the accident in early 2009 between a cyclist and walker.

Community Voice Survey Results in graph format as follows;

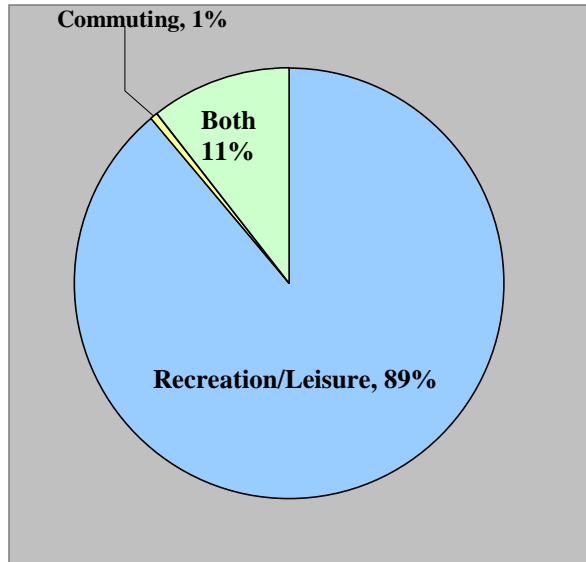
Q1.How often do you visit Koonung Creek Linear Park?



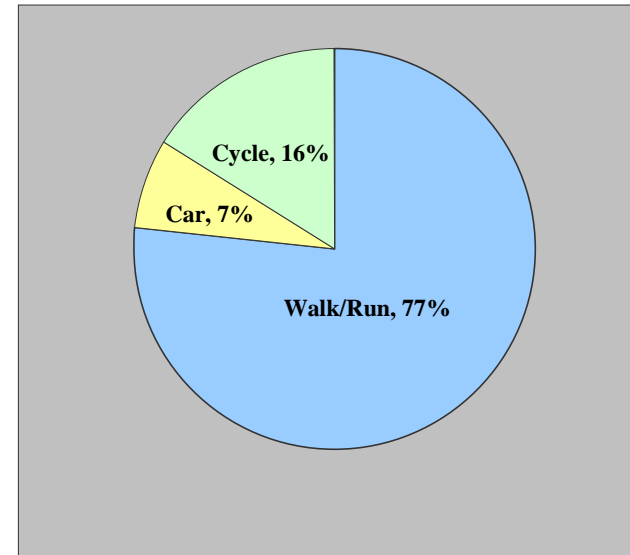
Q 2. When do you usually visit the Park?



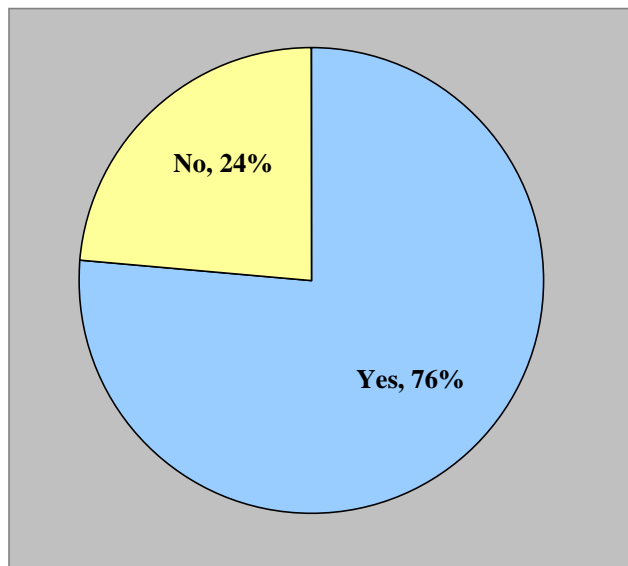
Q3. Why do you use Koonung Creek Linear Park?



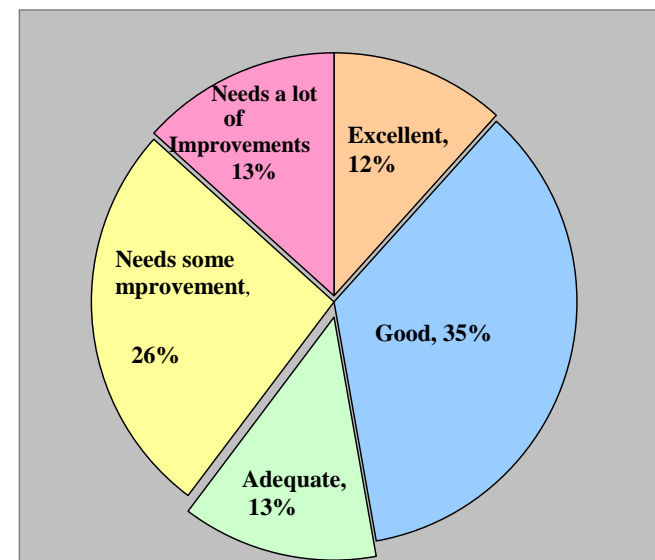
Q4. How do you usually get to the Park?



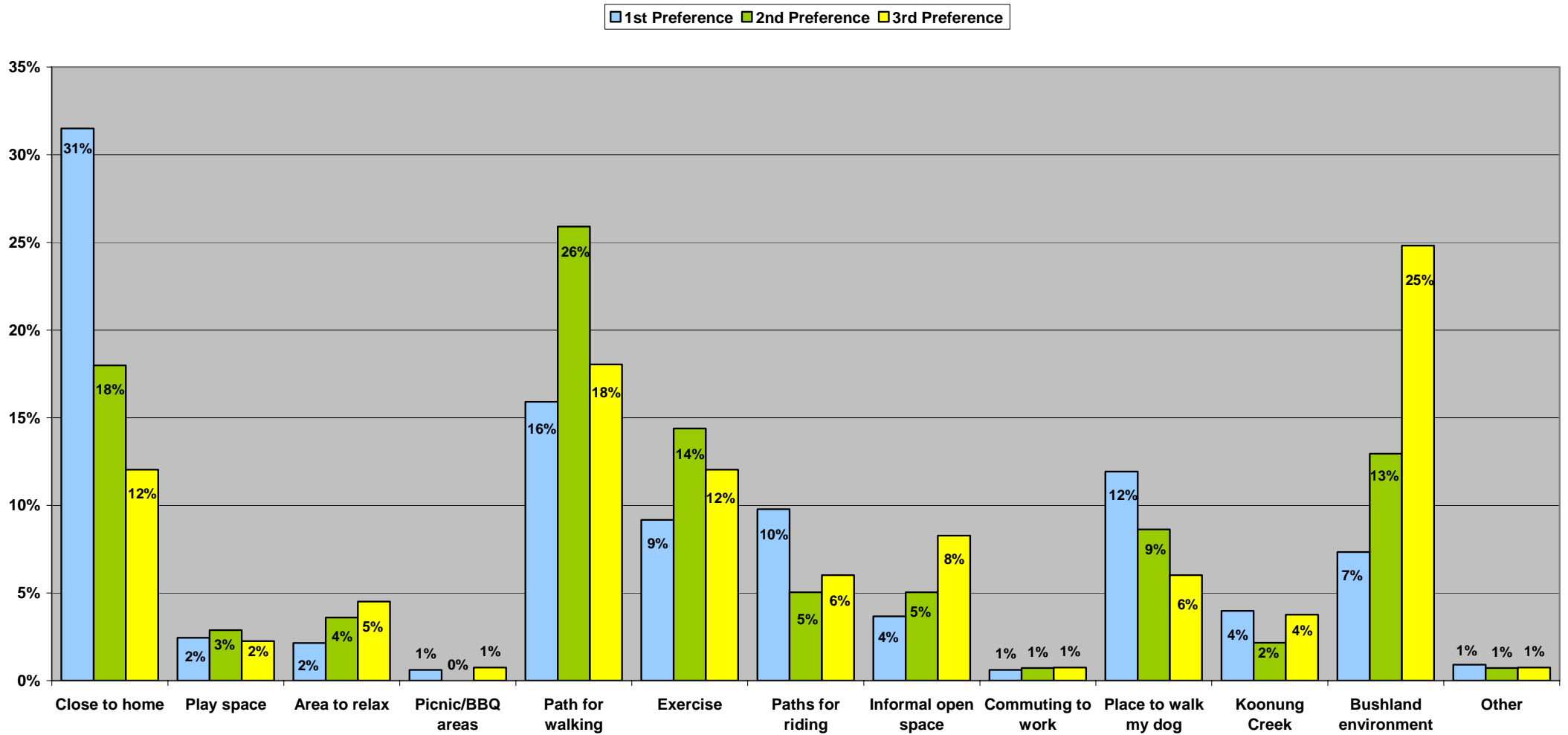
Q5. Do you feel safe when visiting the Park?



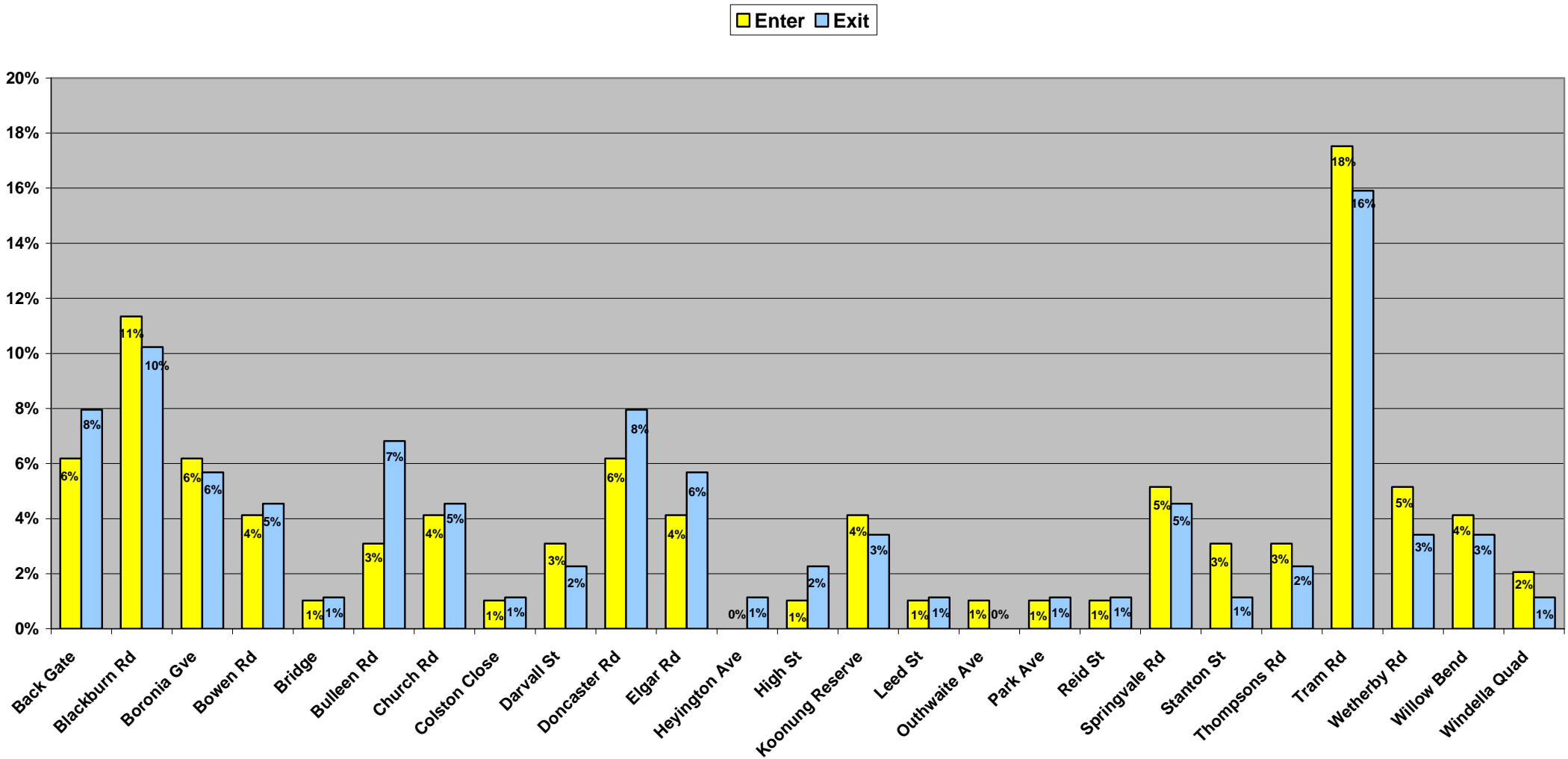
Q 7. How would you rate the Park overall?



Q 9. What do you value most about the Park?

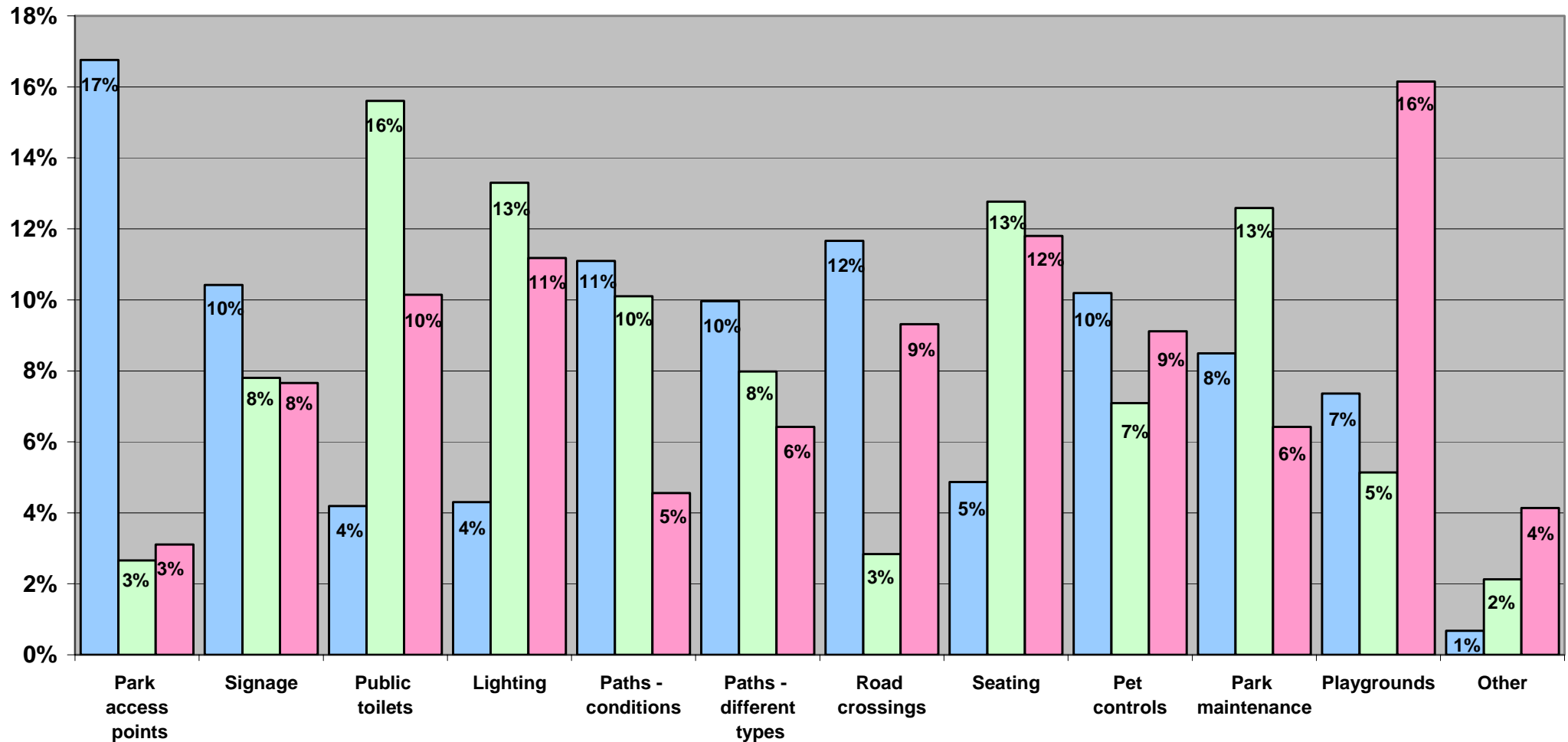


Q 11. When using the Park where do you usually enter and exit?

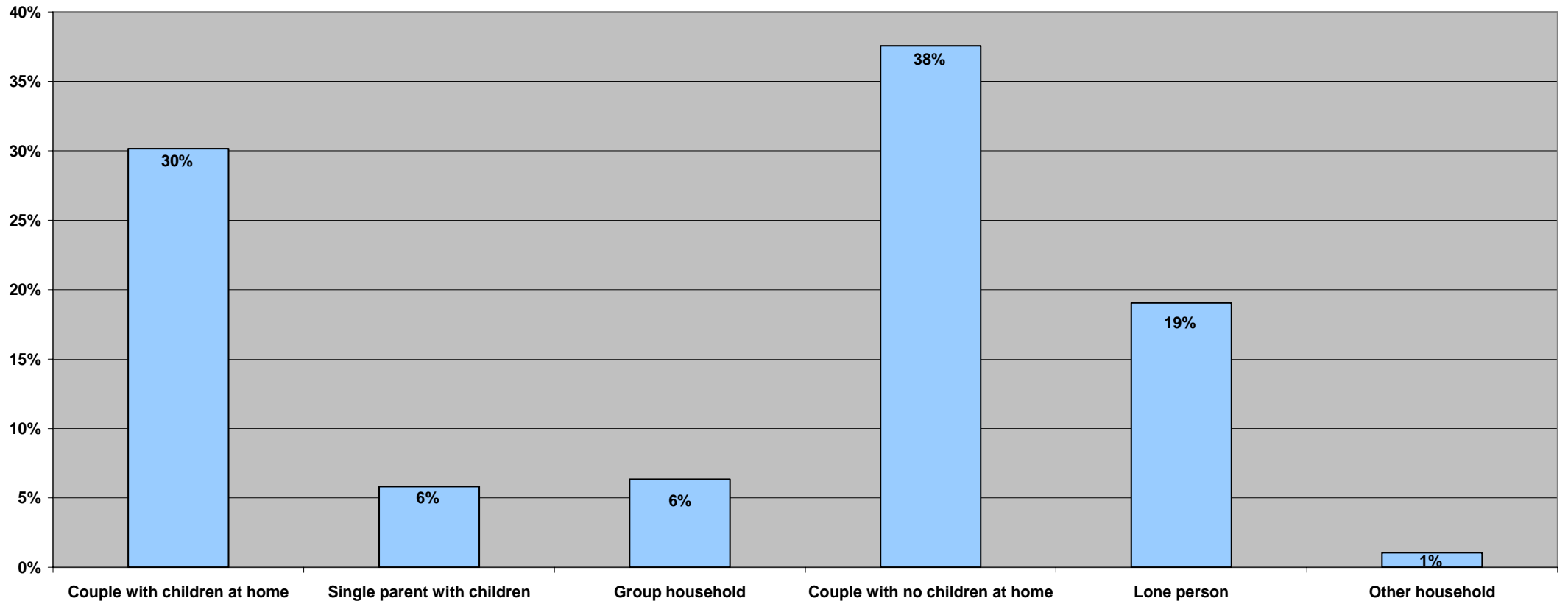


Q 12. Are you satisfied with the following facilities at the Park?

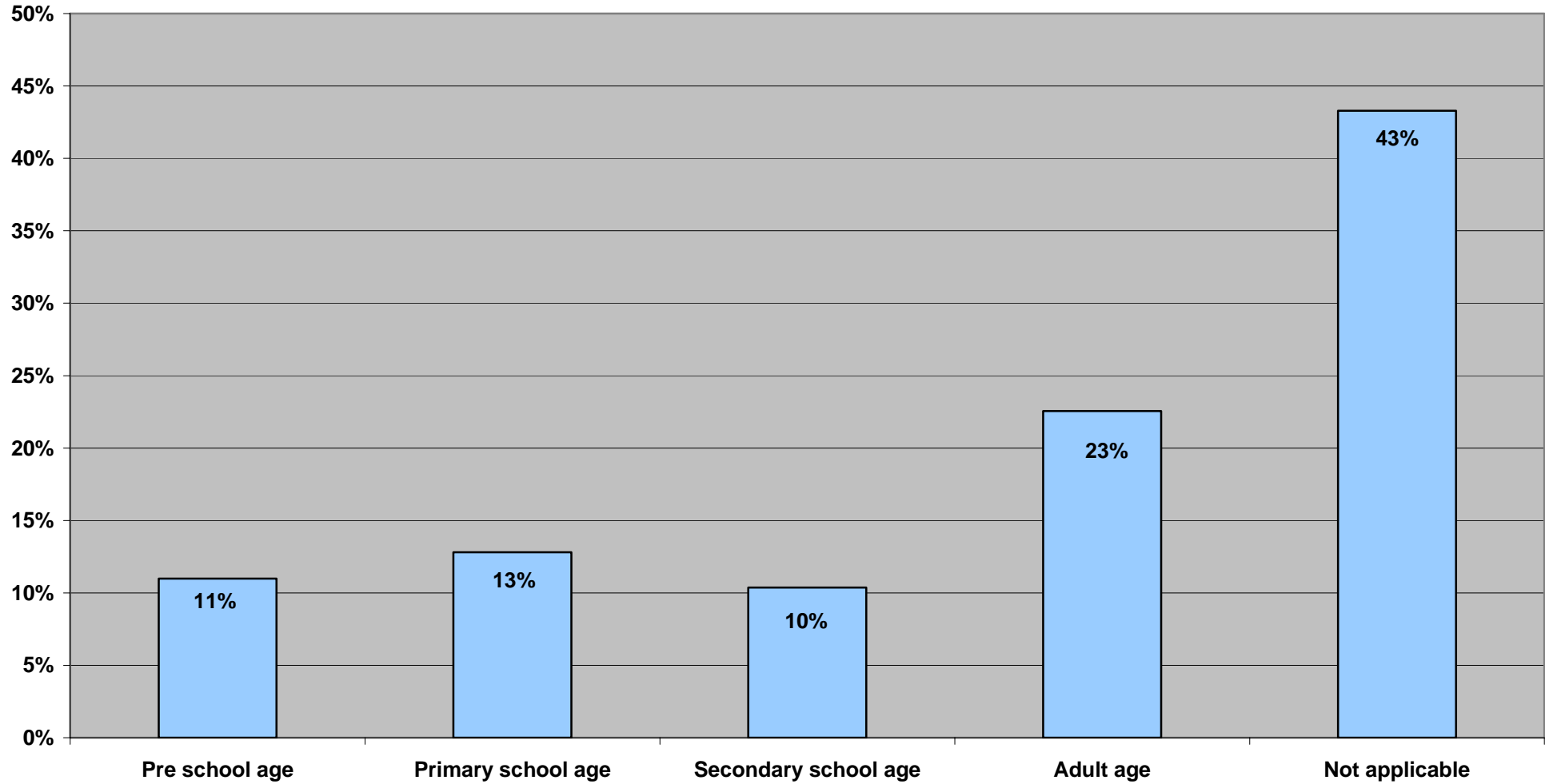
Yes No Neutral



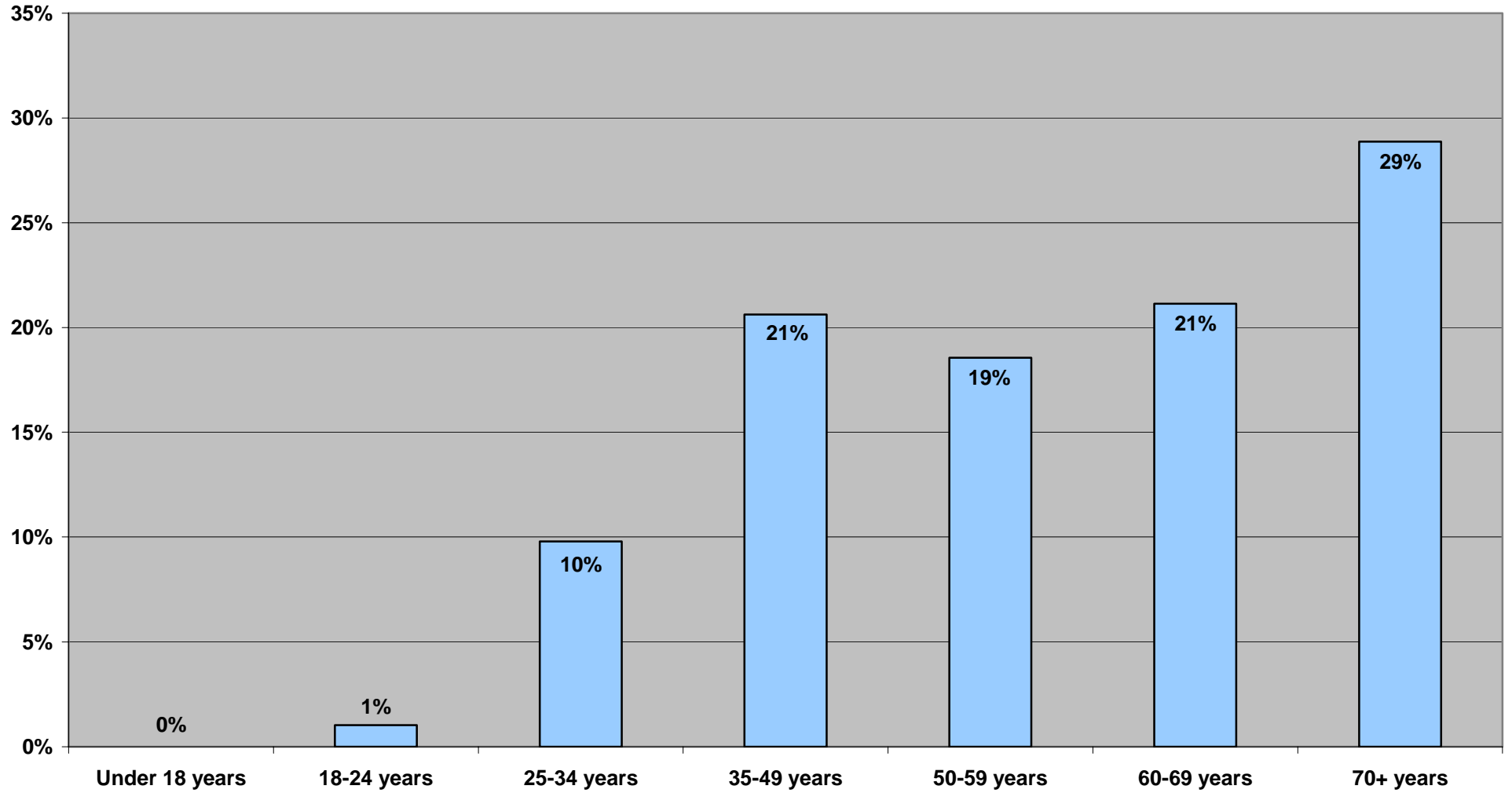
Q 13. Which of the following best describes your current household?



Q 14 Are there children in the household?



Q15. Age



11.9. Play assessment

Koonung Creek Linear Park Play opportunities

There are 5 reserves directly on the linear trail between Springvale Road, Donvale and Thompsons Road, Bulleen whose play opportunities have been assessed. These are: Darvall Reserve; Boronia Reserve; Koonung Creek Linear Park (Windella); Katrina Reserve and Koonung Park. Other reserves with play and shared path opportunities near the trail that should be included as part of the trail include: St Clems; Barratta; Thea; Kingsnorth; Harold and Yarralean Reserves. Other reserves such as Aranga, Hampshire and Wilsons Reserve were assessed and due to their distance/ and/or topography from the trail, will not be considered as part of the linear trail as such. Each reserve is detailed below.

Aranga Reserve, Donvale

- A traditional playground that should be considered separately to the linear trail.

Recommendation

- Do not include as part of the linear trail.

Darvall Reserve, Donvale

- Swing set only and entrance to linear trail.

Recommendation

- To consider removal of the swing set once past its usable life and make the reserve an attractive entrance to the linear trail through landscaping and a park bench.

St Clems Reserve, Doncaster East

- The current playground is located 700m from the linear trail but readily accessible by an existing path. This locality has a gap of playgrounds within a 400m radius. Existing play opportunities cater for 1-8 years.

Recommendations

- To investigate the possibility of a second playspace 270-400m closer to the linear Park that caters for ages 5-12 years.
- To create a safe crossing point for cyclists and pedestrians where the reserve meets Bowen Road.

Boronia Reserve, Doncaster East

- This is a sports ground and while amenities such as off street parking is provided, there is no playground.

Barratta Street, Thea Reserve, Doncaster East

- An existing pathway connects the playground and connected open space to Koonung Creek Linear Park directly (200m).

Recommendations

- Signage from linear trail: 'play 200m'.
- To create a safe crossing point for cyclists and pedestrians where the reserve meets Thea Road.

Hampshire Reserve, Doncaster

- 285m from linear trail through parkland (no pathways) but not highly accessible due to topography.

Recommendation

- Do not include as part of the linear trail.

Koonung Creek Linear Park (Windella Quadrant)

- The playground is located directly on the linear trail but is not at all visible from Windella Quadrant due to vegetation. The playground is only visible from

the trail. Style of equipment is very similar to Katrina Reserve which is only 1.6km along the trail.

Recommendations

- To investigate a shared path link to Marshall Reserve (through Windella Quadrant).
- When upgrading, ensure play opportunities differ in style to Katrina Reserve.

Katrina Reserve, Doncaster

- This is a comprehensive play space with opportunities for a wide range of ages. Pathways currently connect playground to linear trail. The playground is only visible from the trail. Style of equipment is very similar to Windella Quadrant which is only 1.6km along the trail.

Recommendation:

- Investigate extending the existing path to connect Blossom Court to Trail.
- When upgrading, ensure play opportunities differ in style to Windella Quadrant Reserve.

Wilson's Reserve, Doncaster

- Play is 260m from linear trail without pathways. It is ageing and does not offer any more play opportunities than nearby playgrounds on the linear trail.

Recommendation:

- To retain this playground as a separate neighbourhood playspace but to consider adding directional signage from Wilson's Reserve to create awareness of nearby linear trail.

Kingsnorth Reserve, Doncaster

- Links to Koonung Creek Trail (160m).

Recommendations:

- signage and appropriate road line marking from trail indicating playground and vice versa as this reserve is worth a detour for families to visit.
- To consider installing a picnic table to encourage families to incorporate a visit to the Park with a bike ride from home.

Harold Reserve, Bulleen

- The linear trail connects directly to Harold Reserve 500m off road.

Recommendation

- To investigate formalising the path between the reserve and Park.

Yarralean Reserve, Bulleen

- The linear trail connects directly to Yarralean Reserve 820m off road.

Recommendation

- To investigate formalising the path between the reserve and Park.

Koonung Reserve, Bulleen

- Playground, public toilets, pathway and signage all in place 60m from linear trail.

Recommendations:

- To install a BBQ, picnic table and shelter as part of the playground.
- Install signage from trail to show public toilets 50m.

11.10. Budget for the items included on the maps

Implement safety improvement to existing trails including path widening, drainage, road crossings and fencing.

Kampman reserve	lights x 2		\$10,000
Kampman St	link path 1.21m + 2x cross overs	\$1200+\$3,000	\$4,200
A5,6,11	Drainage/ path safety works	A5 \$2,000 A6 \$400 + \$200 A11 \$1000	\$3,800
B1,4,6	Hand rail, drainage	Drainage \$1,000 B4 \$400 B6 \$2,500	\$3,900
B2	footbridge intersection improvements		\$8,000
B2 Millicent Lane	crossings		\$2,800
B5 Estelle	Retaining wall		\$2,800
C	Widen footpath, fencing, drain fence	\$3,000 + 3,000 + \$2,500	\$8,500
D2	Replacing fence with retaining wall		\$5,000
D4	Pit lid		\$200
E1	Fence for drain		\$1,000
G3	Path upgrade 325m		\$21,000
H1	Stanton crossing		\$3,000
I1	Path to Elgar 134.1		\$22,000
I4	fence		\$700
I5	Path link over island 62.1m		\$10,000
J1	Shard path link to Whittens Lane		\$1,500
M10	Widen path 230m		\$20,500
M11	Widen path 141m		\$6,400
N2	Replace pit lid		\$5,000
O3	Remove concrete		\$500
O7	Bollards		\$1,100
P5	Widen 60m		\$9,800
P6	fence		\$1,800
Total			\$153,500

Upgrade gravel to sealed shared paths

F – G	Path upgrade inc drainage 535m	\$88,000
H7	156 m	\$25,000
I6	610m	\$100,000
J2	1305	\$216,000
M3	225m	\$29,000
P3	Upgrade path 120m, erosion work	\$23,500
Total		\$481,500

New or upgrade minor reserve paths

A9 Balwyn Rd link	Link footpath		\$4,000
D	Path to car park		\$4,000
G1	Footpath link		\$1,000
I3	Elgar footpath 20m		\$3,300
K3	Re-align path		\$18,000
M5	Leeds St footpath 37m		\$3,600
M7	Path link to Thea Grove 80m		\$9,000
O3	Footpath link to Tunstall Rd, clean up & replace bollards 13	\$1300 + \$1,200 + \$500	\$3,500
Total			\$46,400

Improvements to end of no-through roads/car parks abutting Park.

Estelle end		\$6,000
Marjorie end		\$5,000
Willow Bend		\$7,500
End of Park Av car park		\$1,500
E3	Bollards and gate	\$3,000
Hender		\$6,500
G4	Gate to car park	\$1,500
Stanton St		\$1,200
Total		\$32,200

TOTAL

\$713,600

Picnic facility

Koonung Reserve: BBQ -\$8,000; Bike rail - \$500; Drinking fountain - \$4,000 = \$12,500

Seating \$25,000

Signage –main (Thompson Windella, Church, Tunstall); 54 plastic \$48,600 + 4 metal \$12,000 \$60,600

Capital landscaping \$158,600

12. APPENDIX

12.1. Attachments

- ✓ Agreement with Roads Corporation (VicRoads).
- ✓ October 2009 Bicycle Victoria 'BikeScope Survey'

References

- ✓ Manningham 'Active for Life' Recreation Strategy 2010
- ✓ Manningham Public Open Space Strategy 2004
- ✓ Manningham Urban Parks and design Guidelines 2009
- ✓ Manningham City Council Outdoor Signage Strategy 2010
- ✓ Safety assessment the Koonung Creek Trail (March and May 2009)
- ✓ Doncaster Hill Pedestrian and Cycling Plan (February 2010)
- ✓ Manningham Bicycle Strategy 2001 and supplementary action plan 2006
- ✓ The Koonung – Mullum Forestway A Plan For Action, 1975; A report prepared for the Mullum Valley Action group and Koonung Action Group. Prepared by Randell Champion of Conservation Planning and Paul Thompson of Rob Paul Landscapes.
- ✓ Parks Victoria Linking People and Spaces (2002)
- ✓ Australia Bureau of Statistics - 2006 Census Tables <http://www.abs.gov.au/>
- ✓ City of Manningham – Community Profile 2006 & 2008
- ✓ Manningham Activity Centre Strategy (2005)
- ✓ Ageing Well in Manningham July 2006
- ✓ Manningham Disability Access Policy and Action Plan 2004-08
- ✓ Manningham Municipal Public Health Plan 2009-2013
- ✓ Heart Foundation Overweight and Obesity (2007)