Carpark Asset Management Plan

February 2013

Knox City Council

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Executive Summary

Knox City Council is responsible for the management of 220 off-street carparks (equating to 313,849 m^2) located within the municipality. These assets support the use of Council and community services and support a number of major shopping precincts. Like other infrastructure, for which Council has responsibility, it is critical that these assets are managed appropriately and responsibly. This Asset Management Plan is intended to assist Council as it works towards more proactive and sustainable management of its off-street carparks.

Chapter 1 – Introduction

- This Plan forms part of a suite of asset management plans previously adopted by Council.

- It has been developed to provide a strategic and practical framework for the management, protection and care of Council's off-street carparks.

- A list of assets considered in this Plan is provided in **Attachment 1**.

- Development and adoption of this Plan meets a number of Council objectives as well as the requirements of State and Federal Governments.

- Implementation of this Plan is expected to contribute to delivery of all Council Plan Themes:

  o Healthy, Connected Communities
  o Culturally Rich & Active Communities
  o Dynamic Services & Facilities
  o Attractive & Vibrant Places
  o Accessible Transport Choices
  o Sustainable Natural Environment
  o A Prosperous Modern Economy
  o A Well Governed & Leading Organisation

Chapter 2 – Asset Knowledge

- Council is responsible for the management of 31.4 ha of off-street car parking worth approximately $19.2M (current replacement cost June 2011).

- Data regarding Council owned and managed off-street carparks is stored within Council's asset management information system (Lifecycle) and the Geographic Information System (GIS).

- There are a number of instances where Council managed carparks are not located on Council land and a handful of locations where Council owned carparks lie adjacent to carparks managed by others where it is difficult to define the line of demarcation on site.

- A proposed hierarchy has been developed. It recognises the use and criticality of each carpark and is expected to be used in future years to facilitate prioritisation of Council's renewal, upgrade, inspection and maintenance programs.

- Carpark maintenance is largely unfunded and limited to routine maintenance of shopping centre carparks (vegetation only) and addressing public safety risks reported by the community at other sites.

- <u>Recommended improvement actions:</u>

- o Develop demarcation agreements for off-street carparks on Council's asset register that are not both owned and managed by Council.
- o Modify current carpark valuation methodology.
- o Adopt revised hierarchy and define desired requirements for each classification.

Chapter 3 – Current Asset Performance

- In 2012, a carpark condition audit was undertaken. It included:
  - o Confirmation of asset inventory data
  - o Collection of condition and defect data for the carpark surface, pavement, kerb & channel
  - o Assessment of line marking
  - o Assessment of universal accessibility

- Since the previous audit, conducted in 2007, a significant deterioration in condition of Council's off-street carparks was reported.

- 91.6% of unsealed carparks were reported to be in Poor or Failed Condition.

- 65% of sealed carparks were reported to be in Poor or Failed Condition compared with only 37.9% in 2007.

- Common defects identified by the auditors (that are contributing to the poor condition ratings) included surface cracking, and kerb & channel spalling and cracking.

- 55% of carparks were found to have Poor or Failed line marking.

- Due to the historic underfunding of carpark maintenance and lack of maintenance activities, it is difficult to analyse maintenance history and performance.

- No public liability claims, attributable to a Council carpark issue, have been made against Council since 2009

- Council provides 135 parking bays for disabled access at 59 carparks. Not all accessible bays meet current Australian Standards. 80 carparks have no accessible bays.

- Where bays for disabled access are provided, Council typically provides more bays than required under the Building Code of Australia.

- Recommended improvement actions:
  - o Incorporate accessibility and functionality improvements when carparks are renewed or upgraded.
  - o Introduce crack sealing to address identified defects prior to renewal.
  - o Develop routine and reactive carpark maintenance activities.
  - o Update the Work Order system to support introduction of new maintenance activities.

Chapter 4 – Understanding Community Expectations & Demand

- Council's off-street carparks support the use of many Council and community services.

- Stakeholders include: local residents and businesses, Council facility users and operators, visitors to the municipality, shopping centre land owners, traders, Council's insurers, and utility providers.

- Council currently investigates community expectations and demand in a number of ways:
  - Informal interactions between Council officers and the community as part of normal daily activities
  - Review of community requests
  - Community consultation undertaken during the development of strategic documents
  - Participation in the Department of Planning & Community Services Local Government Community Satisfaction Survey

- It is recognised that further strategic service planning work is required to better understand current and future community needs.

- Recommended improvement actions:
  - Develop a Knox Transport and Parking Strategy to set the strategic direction for future provision and management of parking within the municipality.

Chapter 5 – Integrated Service & Asset Lifecycle Management

- A coordinated approach to the management of all phases of the service and asset lifecycles is considered necessary to sustainably meet community needs.

- This Plan focuses on analysing Council's approach to asset lifecycle management recognising that Council's Corporate Planning team is currently developing a Service Planning Framework to assist all service owners to undertake important strategic service planning work.

- Recommended improvement actions:
  - Develop a standardised approach/framework for asset option analysis.
  - Include maintenance and renewal cost estimates into designs to enable improved estimation of lifecycle costs associated with new works.
  - Adopt a revised renewal ranking criteria that incorporates the hierarchy described in Chapter 2.
  - Continue to invest in strategic service planning.
  - Inspect parking bays on VicRoads arterial roads.

Chapter 6 – Financial Sustainability

- Financial sustainability requires a balance between the delivery of new assets and the maintenance, renewal or disposal of existing assets.

- Funding allocations at each stage of the asset lifecycle impact the standard to which the assets perform.

- It is recommended that Council adopt the funding levels summarised in the table below. This level of funding will enable:
  - Addressing of renewal backlog to ensure surface is maintained at a minimum condition 3 (Fair), pavement is maintained at a minimum condition 4 (Poor) and kerb & channel is maintained at a minimum condition 4 (Poor) after 15 years.
  - Introduction of maintenance activities and budget structure to allow carpark maintenance to be recorded and monitored.
  - Minor level of funding to facilitate implementation of all recommended improvement projects over the next 3 years.

Recommended Funding ($ '000) – Medium Scenario					
	2012/13	**2013/14**	**2014/15**	**2015/16**	**2016/17**
Capital Works – New/Upgrade					
Upgrades	$50	$0	$0	$0	$0
Capital Works – Renewal					
Renewal (incl. Disposal)	$202	$607	$584	$541	$533
Operating Budget – Maintenance					
Maintenance	$257	$265	$273	$281	$289
Operating Budget – Operational Improvements					
Improvement Projects	$0	$4	$4	$4	$0

- Recommended improvement actions:
  - Provide lifecycle cost training.
  - Modify budget to support reporting of carpark maintenance expenditure.

Chapter 7 – Recommended Improvement Projects

- Sixteen (16) improvement projects have been identified. These are described in Chapter 7 and summarised in **Attachment 7.** They are the result of research and feedback as part of this Plan's development.

- A Project Leader has been assigned to each proposed project. Successful implementation will require each nominated Project Leader to incorporate the project into their annual business plan or prepare a business case to seek funding if required.

- Implementation of recommended projects is expected to result in the following desirable outcomes:
  - Improved Asset Knowledge and Data Management
  - Improved Integration of Decision Makers
  - Better Meet Community Expectations
  - Improved Financial Sustainability
  - Improved Risk Management
  - Strategic Investment in Asset Management

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Chapter 1   Introduction

1.1 Purpose of this Plan

Knox City Council provides residents and visitors with off-street carparks and numerous on-street car parking facilities. These carparks support the use of a multitude of community facilities including preschools, sporting facilities, parks and gardens. There are a total of 220 off-street carparks (representing a total area of 313,849 m^2 and comprising approximately 9000 parking bays). Like other infrastructure asset classes for which Council has responsibility, it is critical that these assets are managed appropriately and responsibly.

The purpose of this Plan is to:

- Demonstrate responsible management of Council's off-street carpark assets
- Meet expectations outlined in Council's Vision, policies and strategies
- Meet the National Asset Management Assessment Framework expectations, as monitored by the Municipal Association of Victoria (MAV)
- Ensure that the community is provided an appropriate and consistent level of service
- Communicate and justify sustainable funding requirements

It is anticipated that implementation of this asset management plan (including the recommended improvement projects outlined in Chapter 7) will lead to improved management of Council's network of off-street carparks and contribute to delivery of the following strategic asset management objectives:

- Improved Asset Knowledge and Data Management
- Strategic Investment in Asset Management
- Improved Risk Management
- Improved Integration of Decision Makers
- Better Meet Community Expectations
- Improved Financial Sustainability

This asset management plan demonstrates Council's improving maturity with respect to core asset management knowledge and documentation.

1.2 Drivers of Strategic Asset Management

Development and adoption of this Plan meets a number of Council policy and strategy objectives, as well as general requirements of the Federal and State Governments.

1.2.1 Council Drivers

Preparation of this Plan aligns with the principles of Council's overall asset management planning framework.

Council Plan

The Council Plan 2009-13 is Knox's key corporate document that supports the achievement of the Knox Vision 2025 over the medium term. The Council Plan identifies eight themes as the focus for action. The implementation and delivery of all themes are supported by this Asset Management Plan due to the broad services that carparks support.

Healthy, Connected Communities	Improve the health and wellbeing of the Knox community.
Culturally Rich & Active Communities	Provide and support opportunities for community members to participate in a vibrant community life.
Dynamic Services & Facilities	Continuously improve the capacity of Council's services and infrastructure to best meet the community's needs.

Attractive & Vibrant Places	Improve the quality and sustainability of the built environment and ensure it enhances the city's leafy character and cultural heritage.
Accessible Transport Choices	Improve transport connectivity through the municipality through open space and transport infrastructure provision.
Sustainable Natural Environment	Protect and enhance the natural environment and reduce our environmental footprint.
A Prosperous Modern Economy	Attract and stimulate economic and employment opportunities through the provision of well managed open space.
A Well Governed & Leading Organisation	Ensure the highest standards and transparency of our governance practices and the capability of our organisation, and to improve the condition and suitability of the municipality's assets.

Asset Management Policy

Council's Asset Management Policy 2009 articulates Council's overarching commitment to asset management. A key policy statement is that "Council will continue to invest in improving its asset management knowledge and commit to further research and development of asset management plans."

Strategic Asset Management Plan

Council's Strategic Asset Management Plan 2003-13 identifies several improvements required for the responsible management of all Council assets. One of the key recommendations (recommendation 18) outlines that individual Asset Management Plans for each asset category should be developed.

Other Asset Management Plans

This Carpark Asset Management Plan forms part of Council's suite of Asset Management Plans. Plans already adopted by Council are as follows:

- Footpath & Shared Path Asset Management Plan (2005)
- Road Asset Management Plan (2007)
- Building Asset Management Plan (2009)
- Drainage Asset Management Plan (2010)
- Open Space Asset Management Plan (2011)

1.2.2 External Drivers

In 2009, in order to foster a nationally consistent approach to asset management, the Local Government and Planning Ministers' Council developed a National Asset Management Framework to focus on long term assets managed by local governments. For some time, most Victorian Councils have been part of the Municipal Association of Victoria's (MAV) asset management capacity building approach, the STEP program. The development of a National Asset Management and Financial Planning Assessment Framework for Local Government provides the assessment framework of the STEP program, and enables benchmarking and reporting to be undertaken at both State and National levels. One of the eleven elements of this assessment framework is the requirement for Councils to work towards preparing documented asset management plans for all material asset categories. The framework also outlines key inclusions and components of a typical asset management plan, which are consistent with the recommendations of the International Infrastructure Management Manual (IIMM).

The IIMM notes that there are benefits in accepting limited objectives for the first asset management plan and recommends that an organisation wishing to implement asset management effectively should produce a plan now, recognise its deficiencies and undertake the necessary improvement activities to enhance the plan. The IIMM recommends core asset management plans address and include best available current information, and include the following:

- Random condition/performance sampling
- A simple risk assessment to identify critical assets
- Documentation of existing levels of service
- A contrast of existing management strategies with opportunities for improvement
- Prioritisation of capital works using simple ranking criteria
- Basic financial forecasting
- An identification of priorities for future asset management plan development
- Performance measures

The development of this Carpark Asset Management Plan meets and exceeds the requirements of a core asset management plan, while at the same time acknowledging improvements required to begin progressing towards a more advanced level.

1.3   Plan Scope

Council's current asset knowledge and approach to off-street carpark asset management is evaluated in this Plan. Recent performance, as measured by asset condition, risk exposure, maintenance performance and financial sustainability, is considered with a view to identifying gaps in current asset knowledge and service delivery. Strategic and operational techniques are proposed to address gaps and improve decision making across the asset lifecycle. Financial forecasting has been undertaken to highlight the long term implications of alternative carpark asset funding decisions and assist future budget preparations.

1.3.1   Included Assets

The following carparks (and components) are included in this Plan:

- Constructed sealed or unsealed off-street carparks on Council owned and/or maintained land
- All constructed vehicle access ways that are provided to connect the off-street carparks to adjoining roads (these access ways are typically incorporated into the same segment as the carpark itself)
- Road surface, pavement, kerb and channel, signage, and garden beds/plantings within the off-street carpark area.

A list of Council's off-street carparks is provided in Attachment 1.

Figure 1– Typical off-street carpark (including vehicle access way)

1.3.2 Excluded Assets

There are a number of carparks within the municipality that are the responsibility of other authorities or private entities, and therefore not included in this Plan. There are other infrastructure assets within or adjacent to Council carparks which are also not included.

The following assets are excluded from this Plan:

- Off-street carparks within the municipality that are constructed on land not owned by Council (e.g. Knox City Shopping Centre).
- Footpaths and shared paths in and adjacent to carparks. Management strategies for these assets are detailed in Council's Footpath & Shared Path Asset Management Plan (FSAMP) and the Road Management Plan (RMP).
- Drainage assets. Management strategies for these assets are detailed in the Drainage Asset Management Plan (DAMP). Regardless of where Council drainage assets are located (road reserve, Council land, other land), it is important that they continue to be managed on a network basis.
- Water Sensitive Urban Design (WSUD) assets. Management strategies for these assets are detailed in the Drainage Asset Management Plan (DAMP) and the WSUD & Stormwater Management Strategy.
- On-street parking bays along local roads that form part of the road reserve, including indented parking bays. These are considered to form part of the local road network and are therefore managed in accordance with Council's Road Management Plan (RMP) and Road Asset Management Plan (RAMP).
- On-street parking bays along urban and rural arterial roads, for which VicRoads is deemed to be the Coordinating Road Authority. Council is the Responsible Road Authority for these assets (there are 33 locations within the municipality as listed in Council's Road Management Plan). These on-street parking bays are not available for through traffic as defined under Section 10.3 of the Road Management Act (2004) Code of Practice – Operational Responsibility for Public Roads. They are effectively treated as part of the local road network and therefore managed in accordance with Council's Road Management Plan (RMP) and Road Asset Management Plan (RAMP).

1.4 Related Studies & Strategies

As noted previously, this plan supports the delivery of Council's strategic objectives as set out in the Council Plan and Asset Management Policy. Other documents that influence the strategic direction of Council carpark management include:

- Strategic Asset Management Plan (2003)
- Building Asset Management Plan (2009)
- Open Space Asset Management Plan (2011)
- Sporting Reserve & Facility Development Guidelines Policy (2011)
- Access & Inclusion Plan (2011)
- Open Space Plan (2012)

The results of financial modelling, presented later in this document, will inform Council's Long Term Financial Strategy and Annual Budget.

1.5 Internal Stakeholders

A number of Council departments play a role in the provision and ongoing management of Council's carparks, particularly as these assets provide access to a number of Council services.

As indicated in the table below, internal stakeholders include those Council departments responsible for:

- Services that the carpark assets support
- Physical asset management
- Supporting integrated decision-making

Internal Stakeholders		
Responsible for Services that Carparks Support	**Responsible for Physical Asset Management**	**Responsible for Supporting the Integration of Internal Decision Makers**
Corporate Communications & Customer Service	Community Infrastructure – Asset Preservation	Sustainable Infrastructure – Asset Strategy
Community Wellbeing	Operations – Construction	Governance
Family & Children's Services	Operations – Facilities	Information Management
Healthy Ageing	Operations – Park Services	
Community Infrastructure – Open Space & Landscape Design	Operations – Works Services	
City Futures	Community Infrastructure – Project Delivery	
Community Infrastructure – Traffic & Transport		
Youth Leisure & Cultural Services		

Table 1 – Internal Stakeholders

Key services that Council carparks support are detailed in Chapter 4. Responsibilities of all departments involved in carpark asset management are discussed in Chapter 5 of this Plan.

A Reference Group made up of representatives from all relevant Council departments was established during the development of this Plan. The Reference Group was consulted (individually and as a group) throughout the process to:

- Ensure the plan accurately represents current practice
- Assist in the identification of gaps
- Ensure the plan includes reasonable improvement recommendations.

Chapter 2   Asset Knowledge

2.1 Introduction

Council is currently responsible for the management of carparks with a current replacement cost of $19.2M as reported in Council's Annual Financial Report (2010/11). The carpark asset class represents approximately 1.7% of Council's total building and infrastructure base. Although these assets are minor in a financial sense, their important role in service provision means that they need to be managed in a strategic and proactive manner.

This Chapter outlines Council's existing carpark asset portfolio. The following aspects are described:

- Information Management Systems
- Inventory
- Ownership and demarcation of responsibilities
- Age and remaining life profile
- Valuations
- Hierarchy/criticality
- Recent expenditure – maintenance, renewal and upgrade

Figure 2 below, illustrates the distribution of carpark assets within the municipality.
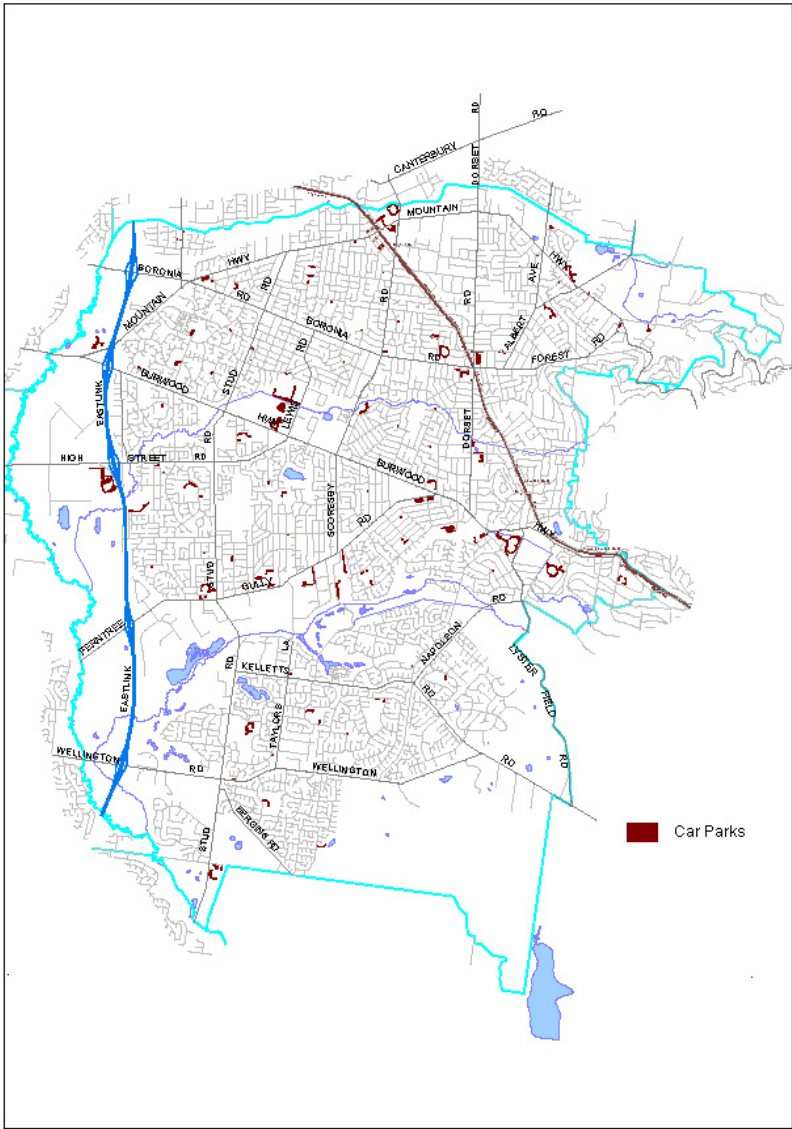
Figure 2 – Map – Carparks

2.2 Asset Information Management Systems

Council has a complete formal dataset regarding all carparks applicable to this Plan. Council's asset knowledge exists predominantly in the asset register of its corporate asset management information system (Lifecycle) and spatially on its Geographic Information System (GIS) Latitude.

Ongoing data management work is undertaken primarily by the Asset Strategy and Information Management teams. Data management involves collation and verification of data discrepancies to ensure all asset data is recorded appropriately.

2.2.1 Geographic Information System (GIS) Latitude

The following layer on Council's GIS is dedicated to off-street carparks that are the responsibility of Knox City Council:

- Layer 103 – Car Parks

All carpark segments have been assigned a unique GIS identifier (CPxxx). The segments include associated vehicular access ways that have been constructed within the Council property to connect the car parking area to the adjoining road network.

2.2.2 Lifecycle – Asset Register

Car park data is currently stored in the asset register of Council's asset management system (Lifecycle) in line with the following structure:

- Category: Transport
- Subcategory 1: Carparks
- Subcategory 2: Carparks Master

For each carpark, the asset register includes the following populated fields:

- Asset Name
- Suburb
- Address
- Directory Page & Ref
- GIS Link (these are unique IDs)
- Type (e.g. asphalt, concrete, crushed rock, pavers)
- Area
- Overall economic life
- Year of Construction
- Photo reference (which is updated after each condition audit)

A number of financial fields (such as replacement cost, depreciated replacement cost, etc) are also populated against each carpark asset in the register. A review of the asset register structure is being undertaken during 2012.

2.2.3 Lifecycle – Work Order System

Council's Work Order System is used to manage the maintenance of Council assets. In general, Work Orders are created whenever a customer, or Council Officer, identifies a maintenance issue that must be addressed by the Operations Department.

Each Work Order created is linked to the relevant asset in Council's asset register by way of unique identifiers (IDs). Road segment IDs and park parent numbers (or site IDs) have been defined in GIS and the asset register. These unique IDs enable Work Orders to be tagged to a specific location.

Given that proactive carpark maintenance has historically been unfunded, the Work Order System does not have a dedicated off-street carpark asset class or dedicated maintenance activities for carparks. As a result, maintenance requests relating to carparks are recorded

against the most relevant related activity (including Road Surface Maintenance, Reserve Vegetation Maintenance and other activities as detailed in Chapter 3).

When it is actually undertaken, off-street carpark maintenance usually occurs on Council maintained land, hence most maintenance activities relating to carparks are recorded under park parent numbers. A significant number of Work Orders also appear to be tagged to the closest road segment.

Via the implementation of improvement recommendations, outlined in Chapter 7, it is expected that the Work Order System will be updated to include dedicated off-street carpark maintenance activities and include system validation to ensure that Work Orders for carpark maintenance are assigned to the relevant unique carpark ID (stored in GIS and the asset register). These system improvements are expected to enable Council to better analyse Council's carpark maintenance in future years.

2.2.4 Capturing New Assets & Asset Modifications

In order for Council to be confident that it has a reliable understanding of the assets that it is responsible for, it is considered important to have in place robust procedures for capturing new assets and asset modifications.

New assets are created as a result of Council's capital works program or developer contributions. It must be noted, however, that Council's carpark inventory rarely changes. The construction of new carparks is uncommon, particularly as a result of Council's capital works program. When new carparks are created, or an existing carpark is upgraded, the data in GIS and Council's asset register is updated. This occurs either via the existing subdivision handover process or through the capital works handover process (refer Attachment 4).

Carpark renewals are managed by the Construction team. No formal process exists to ensure the condition data stored in the asset register is updated to reflect the impact of the works undertaken, although ongoing improvements are underway. Asset condition audits are used to verify and update Council's Asset Register and capture changes that may have occurred during the period between audits.

2.3 Asset Inventory

The table below summarises Council's off-street carpark assets. The majority of Council carparks have an asphalt surface. Many are unsealed (gravel) and only a small number of carparks have a concrete or paver surface. The use of paving in carparks has been discouraged in recent years as these assets have a tendency to have a short lifespan and be difficult to maintain.

Asset Type	Quantity		
	Area	No. carpark segments	No. parking bays
Asphalt	217,365	132	6,389
Concrete	4,464	12	147
Pavers	5,252	10	172
Unsealed(Gravel)	86,768	66	2,326 (approx)
TOTAL	313,849	220	9,034 (approx)

Table 2 – Carpark Inventory

2.4 Asset Ownership / Demarcation of Responsibilities

All off-street carparks depicted in GIS and listed in Council's asset register (refer Attachment 1) are owned and/or managed by Council. As indicated in the Attachment, the majority of these carparks are located on Council owned land.

There are however a number of instances where the Council managed off-street carparks are not located on Council land:

- Lewis Park (Melbourne Water)
- Rowville Recreation Reserve (Melbourne Water)
- Wantirna Reserve (DSE)
- Boronia Senior Citizens (Victrack)
- Linton Place, Scoresby (Private)
- Rear 152 Boronia Road (Private)

There are also a number of carparks located on Council owned land, but are associated with scout halls that are managed by Scouts Australia (Victoria) under a leasing agreement. The former lease was not clear on carpark responsibility leading Council to the conclusion that carpark maintenance was the responsibility of the tenant in many of these cases. A new lease finalised at the time of writing this plan explicitly excludes the maintenance and renewal of carparks from the responsibility of Scouts Australia (Victoria). Council is currently in the process of amending its asset records at the following sites to ensure the carparks are recognised as Council's responsibility:

- Walker Reserve (1st Wantirna South – associated with building OB7)
- Arcadia Reserve (1st Rowville – associated with building OB8)
- Basin Triangle (1st The Basin – associated with building OB11)
- The Haven (4th Bayswater – associated with building OB13)
- Norvel Road (8th Knox – associated with building OB14)

There are also a handful of locations where Council carparks lie adjacent to carparks managed by other authorities or private entities. Examples include:

- Dorset Square, Boronia
- Alchester Village, Boronia
- Wantirna Reserve, Wantirna
- Scoresby Village

In these instances, it is often difficult to determine on site where the line of demarcation exists.

Figure 3 – Alchester Village Reserve Carpark Ownership

Note: Hatched area is Council maintained.

Within Council carparks themselves, there are also a number of assets which are not the responsibility of Council. These assets and their typical responsibility are shown in Table 3.

Asset	Typical Responsibility
Fire hydrant covers	Unclear. Requires confirmation with South East Water.
Light poles	While standard *street* light poles are the responsibility of SPAusnet, where these standard light poles occur in carparks or reserves, the responsibility typically falls back to Council. Facilities usually undertakes this type of work – however this maintenance is unfunded, so it does present problems at times. Non standard light poles are typically the responsibility of Council (either in the streets or in carparks) – in these cases Traffic & Transport engages a contractor to undertake any maintenance works.
Trolley bays, awning fixings and fixed trader furniture (and other infrastructure that exists only to support the use of the carpark by supermarket shoppers)	Traders. Requires establishment of an agreement.

Table 3 – Minor Asset within Council Carparks – Responsibilities of Others

It is considered important that Council officers, responsible for the maintenance and renewal of all Council carparks, are aware of locations and assets where Council is not the responsible authority. It is recommended that agreements with other authorities or private entities be developed to clarify maintenance and renewal responsibilities.

In cases where the demarcation of site ownership can affect Council's ability to enforce parking restrictions, the agreements should seek to clarify how enforcement of parking restrictions shall be managed.

2.5 Asset Age Profile

The figure below illustrates the age of all Council's off-street carparks. The age distribution for each carpark surface type is presented.
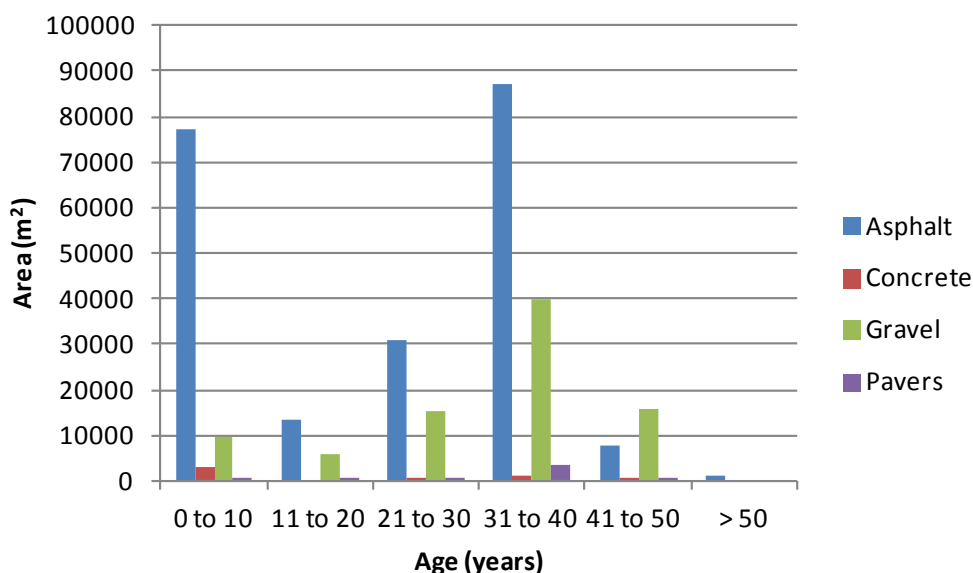
Figure 4 – Age Distribution by Surface Type

Carpark Surface Type	Estimated Useful Life (Years)
Asphalt	80
Concrete	50
Pavers	50
Unsealed (Gravel)	30

Table 4 – Estimated Useful Life by Surface Type

Concrete and paved carparks make up a small percentage of the network. The age of these carparks is evenly distributed. None of these carparks have reached the end of their predicted useful life of 50 years.

The estimated useful life for unsealed carparks is 30 years. The asset age profile presented above suggests that 65% of unsealed carparks have reached the end of their predicted life. Discussions with the Reference Group have indicated that unsealed carparks have a life in the order of 15 years before major renewal works are required to be undertaken. This would mean many more unsealed carparks have reached the end of their lives. This needs addressing in Council's asset valuation methodology.

The majority of Council carparks have an asphalt surface. Analysis of the remaining life of these carparks based on the asset age profile presented above and an estimated useful life of 80 years, suggests that 95% of off-street asphalt carparks have consumed less than half of their estimated economic life and therefore should not require renewal for many years. However, this interpretation of the data is misleading because it does not consider the actual asset condition. A more accurate assessment of renewal funding requirements is presented in Chapter 6 and is based on an assessment of the actual condition of each carpark's surface, pavement and kerb and channel (as reported by the recent audit and summarised in Chapter 3).

2.6 Annual Asset Valuations

Carpark valuations are reported in Council's financial reports under the Infrastructure Asset category. Council's annual financial reports are prepared in accordance with relevant accounting standards, including AASB 116, as well as Council's Fixed Asset Accounting Policy. In line with these standards, assets purchased or constructed which have a value above the prescribed threshold level ($10,000 for carparks), are recorded as non-current assets. Assets with a value below the threshold level are treated as expenditure in the year of purchase.

In 2010/11, the current replacement cost of Council car parks was reported as $19.2M. Formal asset valuations are undertaken on a three year cycle, and are verified by the Finance Department, as well as Council's auditors, before being incorporated into Council's Annual Report. In the intervening years, unit rates are checked for any material rises and new assets are brought to account at cost.

Asset valuations are undertaken predominantly by the Sustainable Infrastructure Department which determines representative greenfield unit rates to apply to the validated asset inventory. Valuations are based on the assumption that each asset is constructed on undisturbed ground (greenfield site). Rates for carparks (per square metre) are derived from first principles. The standard of straight line depreciation is then applied to determine the written down value, based on an assessment of consumed useful life.

The table below summarises the current and recent valuation of Council's carparks.

Year	Current Replacement Cost ($'000)	Written Down Value ($'000)
2006/07*	$13,715	$8,021
2007/08	$14,062	$8,183
2008/09	$14,369	$8,298
2009/10*	$15,659	$10,112
2010/11	$19,299	$13,515

Table 5 – Carpark Valuations

*Formal valuation was undertaken in 2006/07 and 2009/10.

The percentage breakdown for current replacement cost by surface type is as shown in the table below and is based on the formal valuation undertaken in 2009/10.

Carpark Surface Type	Current Replacement Cost (% of total)
Asphalt	85.1%
Concrete	1.5%
Pavers	2.2%
Unsealed (Gravel)	11.2%

Table 6 – Current Replacement Cost – Percentage breakdown by Surface Type

Council has historically valued each carpark as a single asset with an estimated economic life of 80 years. However, given that the carpark actually consists of three distinct components: surface, pavement and kerb & channel, which reach the end of their useful lives at different rates; it is recommended that each component be considered separately for future asset valuation and renewal modelling purposes.

Given that traffic volumes at Council carparks are considered to be similar to those found on Council's Access roads, it is considered appropriate in the first instance to adopt the same lives as those adopted for Access roads. That is, 30 years for surface, 185 years for pavement and 70 years for kerb & channel. These lives should be reviewed regularly in the future for reasonableness, particularly if there is evidence to suggest they may be less than first assumed.

2.7 Asset Hierarchy/Criticality

The International Infrastructure Management Manual (IIMM) recommends that core asset management plans identify critical assets and events. Critical assets are defined as those which have a significant consequence if they become unable to deliver the expected service level. To this end, the establishment of an asset hierarchy is an important part of the process of identifying critical assets.

For *valuation* purposes, two types of off-street carparks have been defined:

- Shopping centre carparks
- Other carparks

This classification has been applied because it is recognised that shopping centre carparks have a higher unit cost rate than other carparks.

A hierarchy of sorts exists as part of Council's carpark renewal ranking criteria, although it is not used consistently, nor has it been reviewed for many years.

A partial hierarchy was developed in 2011 as part of the review of the Knox Sporting Reserve and Facility Development Guidelines Policy. The Policy describes a three-tiered hierarchy which applies to all building infrastructure, sports fields and associated infrastructure (including carparks) located on active open space within the municipality. The classifications, listed below, reflect the capacity of each reserve and its associated facilities to cater for the needs of various sports clubs, with members competing at various levels.

- Regional
- Municipal
- Local

The adopted policy is used to assist Council with the planning and development of sporting infrastructure. It serves as a means of managing community expectations regarding sporting reserve carparks. While the hierarchy is used to inform the scope of upgrade works, it is currently not used to prioritise renewal works, nor is it used to inform the frequency and service levels of any maintenance activities undertaken on Council carparks.

The following table presents a hierarchy for all of Council's off-street carparks. It builds on the hierarchy adopted for Sport and Recreation (Active Open Space) and that used in the renewal ranking for carparks.

Proposed Hierarchy Classification	Criticality	Description	Quantity (No. segments/ Area)
Shopping/Retail Centre	High	These carparks are located on a Council owned site and accommodate traders and shoppers using the associated shopping/ retail precinct. These car parks have high utilisation rates. They make the surrounding commercial area more accessible to a larger number of residents, and in doing so support the economic wellbeing of the municipality. **Desired carpark requirements:** *To be determined – as part of future development of a Knox Transport and Parking Strategy*	17 48,953 m^2
Sport and Recreation – Regional*	High	These carparks are located on a Council owned active open space sites classified as Regional. Clubs using these sites competes at the top end of the competition organised by the relevant association and spectator numbers are high. Examples of Regional Level facilities already provided in the municipality include: Bayswater Park No1 Oval, Knox Park Athletics Track, Gilbert Park and Knox Regional Netball Centre **Desired carpark requirements:** 150-200 sealed carpark spaces (per site)	11 35,751 m^2
Sport and Recreation – Municipal*	Moderate	These carparks are located on a Council owned active open space sites classified as Municipal. Site features are typically designed to cater for the senior clubs that compete in the municipality, but do not compete at the Regional Level. Some clubs using Municipal Level facilities will field senior and junior teams. It is proposed that the Municipal Level facilities cater primarily for senior teams. **Desired carpark requirements:** 20-50 sealed carpark spaces (per site)	61 100,801 m^2
Sport and Recreation – Local*	Minor	These carparks are located on a Council owned active open space sites classified as Local. Site features are typically designed to cater primarily for junior level sport. However, they may also be used by adult teams at the lower end of the competition standard, or by clubs that have teams playing at more than one reserve. **Desired carpark requirements:** 20+ sealed carpark spaces (per site)	55 62,254 m^2
Community/Civic Facility	Moderate	These carparks are located on a Council owned sites that are not used for Sport and Recreation. The sites contain a Council building that is used to support one or more of the following services: - Family & Children's Services - Healthy Ageing - Community Wellbeing - Council Business	69 56,790 m^2

Proposed Hierarchy Classification	Criticality	Description	Quantity (No. segments/ Area
Passive Open Space	Moderate	These carparks are located on a Council owned sites that are not used for Sport and Recreation. The sites do not typically contain a Council building. **Desired carpark requirements:** *To be determined – as part of future development of a Knox Transport and Parking Strategy*	7 6,300 m^2

Table 7 – Proposed off-street carpark hierarchy

*Sourced from Knox City Council Sporting Reserve and Facility Development Guidelines Policy (2011)

Adoption of this hierarchy via the adoption of this Plan is expected to result in a more efficient approach to carpark asset management. Introduction of a hierarchy, such as that presented in the table above, is recommended to provide rationale for variation of standards across each classification. It is possible that Council can use the hierarchy to prioritise and vary the delivery standard of:

- Renewals
- Upgrades
- Routine inspections
- Maintenance/intervention levels
- Design standards

Further work is required to document the desired carpark requirements applicable for carparks within each hierarchy classification. Assessment of customer expectations should be used to define appropriate and feasible service level standards. It is recommended that this work be undertaken as part of the future development of a Knox Transport and Parking Strategy, discussed in Chapter 4.

2.8   Recent Expenditure

Funding allocations at each stage of the asset lifecycle impact on the standard to which the asset class is able to perform. Lifecycle cost components are illustrated in Figure 5 and described below. Financial sustainability requires a balance between the maintenance, renewal and disposal of existing assets and the delivery of new and upgraded assets.
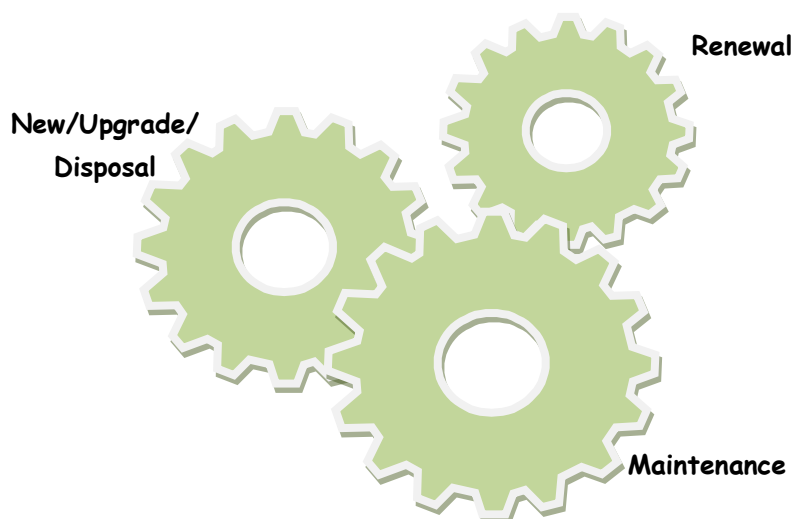
Figure 5 – Lifecycle Cost Components

- *Maintenance expenditure* is required to ensure Council's asset network is safe and functional. It is recurrent operational expenditure to ensure that the asset achieves its useful life and provides the required level of service. It also includes operational tasks such as street sweeping and litter collection.

- *Renewal expenditure* is required to reinstate or rehabilitate existing assets that have deteriorated to such an extent that they have become unserviceable. It is capital expenditure used to return the service potential or the life of the asset up to that which it had originally.

- *New/Upgrade expenditure* results from ongoing strategic assessment of the functionality of the network. New or upgraded assets enable an increase in the level of service that can be provided or an increase in the life of the asset beyond that which it had originally.

- *Disposal costs* are generally absorbed into the expenditure for asset renewal or upgrades.

Infrastructure owning organisations are increasingly focusing on the adequate provision of renewal funding to address backlogs in asset investment and to indicate a sustainable level of asset capital funding. Financial sustainability also relies on having a highly utilised and appropriate network size, with minimal surplus assets.

The figures presented in this section of the report summarise recent trends in Council expenditure for maintenance, renewal and new/upgrade of Council carparks.

2.8.1 Maintenance

Historically, limited funding has been provided for the maintenance of Council's off-street car parks.

Operational accounts, managed by the Parks Services team, that are used for maintenance of carparks, include:

- 35118 – Shopping Centre Maintenance
- 34505 – Tree Maintenance

Only account 35118 (Shopping Centre Maintenance) is dedicated purely to shopping centre carparks, which is only a subset (16%) of the total carpark network. Recent expenditure in this account has been relatively stable in recent years as summarised in the table below.

Year	Maintenance Expenditure (actual) Shopping Centre Maintenance – Parks Services $'000
2006/07	$206
2007/08	$222
2008/09	$143
2009/10	$146
2010/11	$120

Table 8 – Maintenance Funding 2006/07 – 2010/11 (for Shopping Centre carpark garden maintenance only)

Source: Business Intelligence System (BIS)

Rectification of high risk hazards related to trees and vegetation located in carparks are undertaken by Park Services under one of their reactive tree maintenance budgets.

In the case of car park maintenance undertaken by the Works Services team, there is currently no formal budget allocation, nor are there any dedicated carpark maintenance activities within Council's maintenance management system (Lifecycle). In the absence of dedicated carpark maintenance budgets and maintenance activities, the following key operational accounts are used by the Works Services team to fund the maintenance of carparks:

- 34300 – Road Surface Maintenance
- 34345 – Linemarking Program
- 34347 – Linemarking Reactive
- 34331 – Unsealed Roads Grading Maintenance

Carpark line marking is undertaken using funds from the general line marking budget, while grading of unconstructed carparks occurs if there is sufficient funding available within the unsealed road maintenance budget.

Given the current approach to funding of carpark maintenance, it is virtually impossible to clearly identify the proportion of expenditure that relates to carparks. Works Services agrees that a formal budget allocation for carpark maintenance (as well as the separate maintenance activities) is required. The Finance department currently finds it difficult to report on maintenance expenditure in carparks.

2.8.2 Renewal

Renewal works for car parks are typically undertaken under the capital works program *1011 – Car Parks* and administered by Council's Construction team. Renewal funding levels, summarised in the table below, have remained relatively constant in recent years.

Year	Network Quantity (No. carparks)	Network Area (m^2)	Renewal Expenditure (actual) ($'000)
2006/07	205	284,958	$86
2007/08	205	284,958	$143
2008/09	205	284,958	$202
2009/10	225	308,011	$202
2010/11	223	308,011	$201

Table 9 – Carpark - Renewal Funding 2006/07 – 2010/11

Source: All expenditure data has been obtained from Council Annual Reports and verified by Finance.

Historically, the lack of carpark condition data has made it difficult to assess whether current levels of renewal funding are adequate. Detailed asset condition modelling undertaken during the development of this plan (refer Chapter 6) estimates the renewal funding necessary to ensure the long-term sustainability of this asset class.

2.8.3 Upgrade

Carpark upgrades are often funded through capital works projects that include the renewal or upgrading of other physical Council assets (the users of which require the provision of a carpark). Examples include sporting pavilion upgrades, open space/recreation facilities upgrades or major place management projects such as Dorset Square. As such there is no formal program within the Capital Works Budget for Car Park Upgrades.

Currently the Finance team reviews the scope of individual capital works programs and determines the expenditure on carparks that occurs as part of other projects. The figures below have been derived from Finance.

Year	New/Upgrade funding (actual) ($'000)
2006/07	$59
2007/08	$204
2008/09	$106
2009/10	$61
2010/11	$3,440

Table 10 – Carpark - New/Upgrade Funding 2006/07 – 2010/11

Source: All expenditure data has been obtained from Council Annual Reports and verified by Finance.

The data suggests that expenditure, on the creation of new carparks and the upgrade of existing carparks, varies from year to year. In 2010/11, there was a significant increase to $3.44M due to carpark works associated with the Knox Regional Sports Park. This project is due to be completed in 2012. It is assumed that expenditure on new and upgraded carparks will be significantly less in 2011/12 than 2010/11.

The current approach used to determine the new/upgrade expenditure leads to some funding on carparks being overlooked. To improve data reliability, improvements in the current approach are required to ensure that all new/upgrade carpark expenditure is captured.

Chapter 3   Current Asset Performance

3.1 Introduction

It is important for Council to understand the condition of its assets in order to properly manage, value and maintain them for the benefit of current and future generations.

This Chapter summarises the findings of an audit conducted during 2012, to complement and update data collected in previous audits. The audit considered the carpark inventory, condition and accessibility.

The information presented in this Chapter provides an indication of the current performance of this asset class. The lack of recorded proactive maintenance is noted. Council's history of insurance claims and risks identified on Council's corporate risk register are also summarised.

3.2 Audit Scope

The audit, undertaken in 2012, gathered condition data and verified existing information relating to Council off-street carpark segments (220 in total at the time of the audit). It followed a similar methodology to the audit undertaken in 2007.

The auditors collected the following standard information for each carpark:

1. **Confirmation of Existing Asset Register Data**

   - Location information (name, address)
   - Surface type (eg. asphalt, crushed rock, concrete, pavers)
   - Area
   - Total number of parking bays
   - Year of construction
   - Number of access/egress points

2. **Condition and Defect Data**

   The following defects were collected.

   - Surface
     - Cracking
     - Potholes
     - Edge Break
     - Edge Drop
     - Patching
     - Delamination
     - Ravelling
     - Bleeding/Stripping/Flushing
     - Spalling
     - Stepping
     - Missing Blocks
     - Polishing
     - Joint Seal Defect
     - Heaved/Sunken
     - Channelling (only for unsealed carparks i.e. surface type = crushed rock/gravel)
     - Loose Surface (unsealed carparks only)
     - Coarse Surface (unsealed carparks only)
   - Pavement
     - Shoving
     - Depression
     - Failure
     - Rutting
     - Pumping

- Kerb & Channel
  - Cracking
  - Stepping
  - Ponding
  - Rotational Displacement/Sunken Bay
  - Spalling
- Line marking
  - Faded
  - Missing

The severity and extent of each defect identified was recorded and used to rate the condition of each of the following elements of each carpark segment (surface, pavement, kerb & channel and line marking). Overall condition ratings were calculated by Council officers (after receiving the data from the auditors) using the methodology described in Attachment 2.

It is intended that future audits follow the format of this audit to ensure consistency for benchmarking purposes. Repeated surveying over the long term will improve Council's ability to predict asset deterioration and provide updated data to assist in the planning of Council's renewal program.

3. Accessible Bays Data

The auditor collected the following information to assist in documenting Council's provision of designated accessible parking bays:

- Number of parking bays designated for drivers with disabilities
- Number of parking bays meeting current and former standards
- The line marking colour and signs associated with each bay
- Kerb ramps, access paths and tactile ground surface indicators associated with each bay

The data collected can be used to inform the introduction of accessibility improvements when carpark renewal and upgrade works are undertaken.

3.3 Audit Results

215 carpark segments were assessed in 2012 (5 carpark segments were unable to be inspected because they were not accessible at the time of the audit). The results are summarised here under the following headings:

- Condition – Surface, Pavement, Kerb & Channel
  - Unsealed
  - Sealed
- Condition – Line Marking
- Accessibility

3.3.1 Condition – Surface, Pavement, Kerb & Channel

The condition rating system used is described in the table below.

Condition Rating	Description	% Remaining Life (approx)
1 – Excellent	Asset is as new	95%
2 – Good	Asset is functional and displays superficial defects only	75%
3 – Fair	Asset is functional but shows signs of moderate wear & tear	50%

Condition Rating	Description	% Remaining Life (approx)
4 – Poor	Asset functionality is reduced. Asset has significant defects affecting major components	25%
5 – Failed	Asset is not functional	5%

Table 11 – Knox – Condition Rating Descriptions

The results of the 2012 condition audit presented below show that there has been a steady deterioration in the overall condition of Council's off-street carparks since the previous audit, conducted in 2007. Carparks in Condition 4 (Poor) and 5 (Failed) now account for 72% of the total area of carparks (compared to 48% in 2007).

The condition of sealed and unsealed carparks was considered separately because renewal of these carparks requires two very distinct approaches. In the case of sealed carparks, the surface, pavement and kerb & channel components need to be replaced as they age and their condition deteriorates. In the case of unsealed carparks, replacement of the surface and pavement does not occur in practice. Instead, regular grading and topping up of the crushed rock surface layers occurs to maintain and improve the condition, retain the formation and allow water to drain effectively from the surface.

a)   Unsealed Carparks

A total of 63 unsealed carpark segments (total area 85,212m^2) were audited. In the case of unsealed carparks, these consist of layers of compacted crushed rock or gravel and the surface becomes almost indistinguishable from the pavement. Council's unsealed carparks do not have kerb & channel. Therefore, for each segment, only the pavement condition was assessed and this represents the overall condition of each unsealed carpark segment.

The overall condition, at the time of the audit, is summarised in the figure below. It must be noted that the condition of an unsealed carpark changes rapidly as a function of the frequency of grading, rainfall patterns, traffic composition and volume, cross-fall and drainage system.
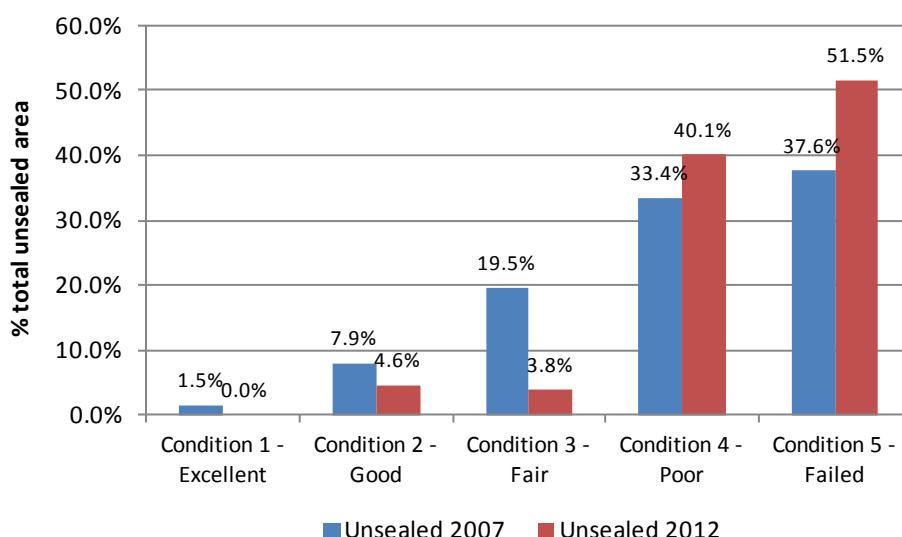
Figure 6 – Overall Condition Distribution – Carparks – Unsealed

Since 2007, there has been a moderate deterioration in the condition of Council's unsealed carparks. Although there has been a slight increase in the extent of unsealed carparks in

condition 4 and 5, there has been a significant fall in the area of carparks that are in conditions 1 to 3.

The condition distribution suggests that it is important for Council to invest in a regular unsealed carpark surface maintenance program that includes topping up of crushed rock and grading. Given that the majority of unsealed carparks were found to be in poor or failed condition, sealing of these carparks may be considered an alternative way of improving the condition of these assets. A lifecycle cost analysis for the upgrade, via sealing the unsealed carparks, is presented in Attachment 3. This suggests that sealing of all unsealed carparks would cost in the order of $8.5M and would not result in a reduction in the overall maintenance costs. Sealing of unsealed carparks is therefore only recommended where an increase in service level is considered necessary to meet user needs.

b) Sealed Carparks

A total of 152 sealed carpark segments (total area 226,799m^2) were audited. For each sealed carpark segment, the condition of each component (surface, pavement or kerb & channel) was assessed. The results are presented in Table 12. This data has been used for prediction of required carpark renewal funding (refer Chapter 6).

Sealed Carpark Component	1 – Excellent	2 – Good	3 – Fair	4 – Poor	5 – Failed
Surface	17.3%	17.6%	15.5%	39.1%	10.6%
Pavement	71.3%	13.7%	4.4%	5.5%	5.1%
Kerb & Channel	17.0%	16.6%	32.9%	28.7%	4.8%

Table 12 – Component Condition Distribution – Carparks – Sealed

To simplify the presentation of the sealed carpark condition data, the overall condition of each sealed carpark segment was determined and is illustrated in the graph below. For the preparation of this graph, the overall condition of a carpark segment was considered to be equivalent to that of the component found to be in the poorest condition. That is, a segment with pavement in Condition 2, kerb & channel in Condition 3 and surface in Condition 4 was assigned an overall condition rating of 4.
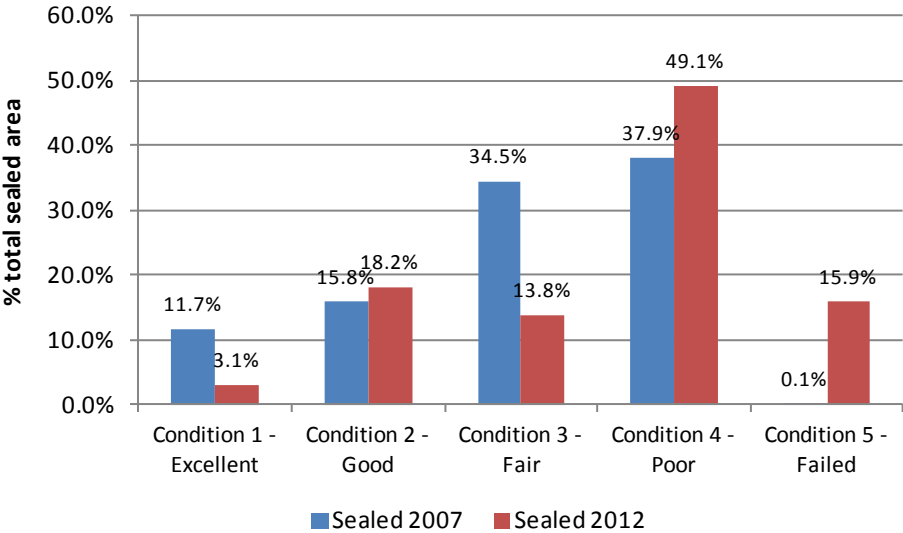
Figure 7 – Overall Condition Distribution – Carparks – Sealed

The number of sealed carparks found to be in Condition 1 (Excellent) is largely a reflection of recent upgrade works that have included sealing of a number of previously unsealed

carparks at sporting venues. Despite this investment in carpark improvements, the condition distribution, illustrated above, demonstrates a noticeable deterioration in the overall condition of Council's sealed carparks since the 2007 audit.

16% of the total sealed carpark area is considered to be in Condition 5 (Failed), compared with 0% in 2007. 49% is considered to be in Condition 4 (Poor) compared with 38% in 2007. These results suggest that Council's carpark renewal funding is not keeping pace with the rate of deterioration, and is insufficient to address the backlog of segments in Condition 4 and 5.

Common Defects

Given that the condition data presented here has been derived from the identification of defects, it is worth considering the most common defects in order to determine the type of works that could be undertaken to improve the condition results. The most common defects found on sealed carparks are listed in the table below.

Defect type	Number of times defects recorded
Surface Cracking	256
K&C Spalling	138
K&C Cracking	127
Ravelling	99
K&C Rotational displacement / sunken bay	74
K&C Ponding	61
Potholes	59
Rutting	59
Shoving	53

Table 13 – Most Common Defects (Sealed Carparks)

The above data suggests that Council may be able to improve the condition of the sealed carpark surfaces by undertaking crack sealing of the asphalt surfaces as a once off investment to improve the condition and protect the underlying pavement from water infiltration until the surface can be replaced via the carpark renewal program. Kerb defects affect the overall condition of the carpark but are more difficult to address without replacing sections of kerb or patching with asphalt or concrete.

3.3.2 Condition – Line marking

Line marking defects (missing or faded) were collected during the 2012 audit. 104 missing and 26 faded line marking defects were reported. For carpark segments where no line marking defects were recorded, the carpark segment was assumed to have line marking in Condition 1 (Excellent).

The results are summarised in the figure below.
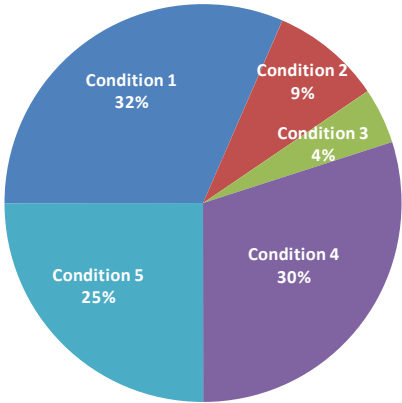
Condition 1 – Excellent, Condition 2 – Good, Condition 3 – Fair, Condition 4 – Poor, Condition 5 - Failed

Figure 8 – Line Marking Condition Distribution – Sealed Carparks (by area)

Over 50% of the sealed car parking area was found to have line marking that was assessed as being in Condition 4 (Poor) or 5 (Failed).

This data suggests that there is a need for Council to invest in the introduction of a routine maintenance program of carpark line marking. Initial priority should be given to line marking those carparks where a rating of Condition 5 (Failed) was assigned. Care should be taken to align the line marking program with the renewal program. Line marking should be brought up to the current Australian Standard at the time of renewal.

3.3.3 Accessible parking bays

The audit collected details relating to the provision of accessible parking bays. It found that Council currently provides a total of approximately 9,000 sealed parking bays, of which 135 are considered accessible.

The accessibility audit considered compliance with the current and previous Australian Standards:

- AS2890.1:1993 Car Parking – Off-street parking (previous)
- AS2890.6:2009 Part 6 – Off-street parking for people with disabilities (current)

The old standard (AS2890.1:1993) stipulated that accessible parking bays should be 3200mm wide (i.e. 1.5 x standard parking bay). In accordance with this standard, the bays must be denoted by blue lines with a blue symbol in the middle.

The new standard (AS2890.6:2009) requires accessible parking bays to be 2400mm wide, denoted by white or yellow lines with a white and blue symbol in the middle. In conjunction with this, however, there is also a requirement for a 2400mm wide refuge/shared zone between adjacent accessible bays to enable vehicle users to get in and out of their cars, as well as leading to a ramp if the parking area is not at the same level as the footpath.

The table below summarises the current status of compliance suggesting that only 17 bays fully comply with the latest Australian Standard.

Accessible Bays Conforming to the new Australian Standard (AS2890.6:2009) (i.e. 2400mm wide with the 2400mm yellow shared zone)	17 bays
Accessible Bays not Conforming to the new Australian Standard (AS2890.6:2009) (i.e. 2400mm wide but not with the correct size shared zone (either bigger, smaller or non-existent)	19 bays

32

Accessible Bays Conforming to the old Australian Standard (AS2890.1:1993) (i.e. bays are the old 3200mm width)	99 bays

Table 14 – Summary of Accessibility Audit Results

The 135 parking bays assessed as accessible were found in 59 carpark segments across the municipality. Of the 59 carparks with accessible bays:

- 48 of 59 carparks had kerb side ramps
- 22 still used the old standard blue lines to denote the accessible bays
- Only 17 had signs as recommended by the current Australian Standard (although signage is not mandatory – one needs to have the symbol on the ground OR the signs – it's preferable to have both)
- 1 of the bays did not have the accessible symbol on the ground

The audit found that Council has 95 sealed carparks segments (corresponding to approximately 80 locations) where no accessible parking bays are provided at all. Typically carparks with no accessible parking bays support the following Council Services:

- Early Years Education & Care (e.g. childcare centres, preschools)
- Family Health, Development & Support (e.g. Maternal and Child Health Centres)
- Non Regional sporting facilities

Accessible parking requirements for buildings and facilities are stipulated under AS1428.1 – Design for Access and Mobility. The standard refers to the Building Code of Australia, which is updated annually, for the number of accessible bays required for new buildings.

Under the Code, Council facilities can be classed as:

- **Class 5** – an office building used for professional or commercial purposes. This would include Council premises such as the Civic Centre, the Operations Centre and Eastgate.
- **Class 9b** – an assembly building (of a public nature), but excluding any other parts of the building. This would include sporting pavilions, pre-schools and other such buildings. The areas open to the general public in the Civic Centre would be considered Class 9b.
- **Class 10a** – a non-habitable building being a private garage, carport, shed or the like. The storage sheds at the Operations Centre yard would be considered to be class 10a.

Parking requirements as set out in the NCC 2012 Building Code of Australia – Volume One are as follows:

Class of building to which the car park or carparking area is associated	Number of *accessible* car parking spaces *required*
Class 5	1 space for every 100 car parking spaces or part thereof.
Class 9b (b) other assembly building (i) up to 1000 car parking spaces; and (ii) for each additional 100 car parking spaces or part thereof in excess of 1000 car parking spaces	1 space for every 50 car parking spaces or part thereof. 1 space.
Class 10a	Not Specified in Code.

Table 15 – Accessible Parking Requirements - Building Code of Australia – Vol I

Where Council has provided accessible parking, it has more often than not provided more accessible bays than required under the Building Code of Australia.

It is therefore recommended that Council continue to provide accessible parking bays wherever possible and in accordance with the contemporary Australian Standard and

Building Code requirements. It is considered important that whenever a Council building is due to be upgraded, or a carpark is due to be renewed, the capital works program manager should consult with relevant staff (particularly Traffic & Transport) and review the layout of parking bays so it can adjusted if necessary to better accommodate accessible bays.

3.4 Maintenance History

As discussed previously (refer Chapter 2), maintenance of Council's off-street carparks has not had a specific funding allocation. Given the lack of funding, a system for the capture of carpark maintenance data has not been incorporated into Council's Work Order System (Lifecycle). It is therefore difficult to describe and examine Council's recent off-street carpark maintenance history.

In order to enable improved future analysis of carpark maintenance, an upgrade of the Knox Work Order System (Lifecycle) is recommended. Council's current maintenance approach and improvement opportunities are outlined below and later in Chapter 5. Improvement recommendations are summarised in Chapter 7.

3.4.1 Routine Inspections

The current unsealed road contract requires the contractor to inspect unsealed carparks on a three monthly basis and grade on demand. Inspections and resulting works are not formally recorded. The works are essentially funded from Council's unsealed roads maintenance budget, which makes it difficult to establish the true lifecycle cost associated with unsealed carpark asset management.

There is no routine program for the inspection of sealed off-street carparks.

3.4.2 Routine Maintenance

Aside from garden bed maintenance and tree pruning which is done on a regular cycle in shopping centre carparks (refer Chapter 2) Council does not have a routine maintenance program for off-street carparks. Performance data is not captured.

It is recommended that routine maintenance activities, with clearly defined service levels, and achievable frequencies be developed and incorporated into Lifecycle.

3.4.3 Reactive Maintenance

Despite carpark maintenance not receiving any specific funding, reactive off-street carpark maintenance occurs to address public safety issues and customer complaints. These ad hoc works are undertaken using funding that has been allocated to other maintenance activities.

In order to provide a more consistent response to customer requests, expansion of Lifecycle is recommended. The system should include relevant reactive maintenance activities (with clearly defined intervention levels, and achievable target timelines).

3.4.4 Insurance Claims History

Insurance claims are managed by Council's Safety, Risk and Wellbeing team. Claims are separated into two categories:

- Public Liability – where a person has been injured or property has been damaged and the claimant is seeking damages from Council.
- Property – claims made for loss or damage to Council's infrastructure including building and contents.

Overall, carparks have not posed a significant insurance or personal injury risk to Council.

3.4.5 Public Liability

An analysis was undertaken of all over-excess (greater than $10,000) and under-excess public liability claims received in the 17 year period (from 1994 and 2011). Over-excess public liability claims are managed by Council's insurer MAV Insurance (formerly Civic Mutual Plus – CMP).

Claims received by Council relate to all aspects of Council activities and include claims arising from Council assets or from professional advice. As of August 2011, a total of 273 claims had been made against Council. To date there have been no over-excess claims for off-street carparks and only three other claims relating to carparks. Carparks therefore account for only 1% of all claims – compared to footpaths which account for over 25% of all claims.

The table below summarises the three claims made against Council relating to off-street carparks. The location of each incident is categorised, as well as the cause and resultant damage/injury. One of the claims was under excess, one was denied, while the most recent claim is still being investigated.

Year	Cause	Injury/issue		Excess	Comment
1994	Tree limb falling on motor vehicle	Damage to vehicle	No further information	Under	Incident happened in Ferntree Gully
2001	Trod on a rock in gravel car park	Fractured left elbow and injured left ankle	Fell over on a rock in car park	Denied	Incident happened on private property – not Council's responsibility
2009	Construction works in car park	Injured back and leg	Fell in inappropriately placed car arresters (wheel stops)	Still pending	Claim still being investigated

Table 16 – Breakdown of public liability claims - Carparks

Data source: MAV Insurance (formerly Civic Mutual Plus)

A key point to note is that public liability claims against Council, with respect to personal injury, will be limited in the future. The main reason for this is due to changes made to relevant State Government legislation between late 2002 and early 2004 (Limitation of Actions (Amendment) Act 2002, Wrongs and Other Acts (Public Liability Insurance Reform) Act 2002, Wrongs and Limitation of Actions Acts (Insurance Reform) Act 2003, Wrongs and Other Acts (Law of Negligence) Act 2003). The legislative changes were intended to codify the law of negligence to shift the burden of truth to the plaintiff and broaden the base of defence against claims of negligence.

Despite the impact of legislative changes, it is important that Council continues to maintain and upgrade its off-street carparks to minimise public safety and property risks. Proactive asset management measures that reduce risk will enable Council to generate savings by reducing insurance premiums and claims.

3.4.6 Property

Limited information was available for the analysis of property claims relating to off-street carparks. Over-excess property claims (over $5,000) are managed by JMAPP. No records of recent over-excess claims regarding Council's off-street carparks could be found.

No recent under-excess claims appear to have been identified. It is important to note that all under-excess claims that relate to Council off-street carparks are handled by the relevant Council team/unit (Parks Services, Works Services or Leisure Services).   These units undertake the necessary corrective actions including asset repair. Repairs are funded from the relevant department's annual operational budget.

3.5   Corporate Risk Register

Council's Corporate Risk Register includes risks relating to Council's carparks. These risks are identified from sources such as audits (internal and external), external reports, plans and strategies and annual business planning.   The identification, assessment, evaluation, treatment and monitoring of risks are undertaken in accordance with Council's Integrated Risk Management procedure.   The frequency of required reporting depends on the rating level assigned to each risk.   Risks currently reported in Council's risk register relating to carpark assets and management are summarised in Table 17 below.

Item	Risk Category	Risk Description
Ra4.2	Asset Management (Carpark risks)	Risks of vehicle damage or slip / trip injury arising from Council car parks particularly unmade car parks.

Table 17 – Extract of Corporate Risk Register

The risk described above is managed by relevant responsible senior officers, with residual risks generally reduced in the process. Progress is reported in accordance with the risk level and Council's Integrated Risk Management procedure.

Chapter 4 Understanding Community Expectations & Demand

4.1   Introduction

Community expectations and demand for Council carpark assets arise from demand for services provided from Council and other public facilities. Community expectations and demand regarding carpark assets are also influenced by the community's reliance on private vehicles and other modes of transport, including buses and bikes.

This Chapter summarises the services that Council's off-street carpark assets support. It summarises the current approach to understanding community expectations. It also outlines key factors that may impact future demand. The need to develop a Knox Transport and Parking Strategy is acknowledged. The information presented in this Chapter is therefore expected to inform the proposed Knox Transport and Parking Strategy, which is expected to include a more comprehensive assessment of community needs and demand for all forms of parking within the municipality.

4.2   Relevant Services

Services that make use of Council's off-street carparks are listed in the table below. The services, objectives and service owners listed here, have been documented by Council's Corporate Planning and Performance Department, which is currently developing a Knox Service Planning Framework that will be used for the preparation of Service Plans for all services provided by Council to the community.

Service	Service Objective	Service Owner
Arts & Cultural Services	This service aims to deliver a vibrant and active range of arts and cultural services for the Knox community. It aims to deliver services which reflects state and national best practice, and is of a consistently high standard of display, performance and delivery, and engages the local community.	Youth Leisure & Cultural Services
Community Care Services	This service provides a range of home and community based services that support frail older people, people with a disability and their carers. The service helps eligible Knox residents stay connected to the community, remain living in their own homes and enhances the quality of their life.	Healthy Ageing
Customer Service	This service is designed as a service-extension point, facilitating the delivery of a range of Council's programs and services to the community via telephone and counter contact centre(s). The Service supports the organisation to provide personalised, responsive customer service via all Council's contact channels. The team provides guidance and support for all customer interactions and exists to support information and connection between Council and the community.	Corporate Communications & Customer Service
Community Strengthening	This service aims to create stronger community through: building organisational and community capacity, developing and nurturing partnerships, and creating connections. This is achieved through the delivery of a range of programs which focus on supporting and resourcing Not For Profit community groups. The team has an internal and external focus.	Community Wellbeing
Early Years Education & Care	This service provides individualised opportunities for fun, enjoyment, and playing to meet all children's learning needs in recognition of the rights of the child and that these are the most important vehicles for learning during childhood. The service responds to the Australian and Victorian Government's Early Childhood Reform Agenda in relation to service planning and provision for all children and families across the tiered service system.	Family & Children's Services
Economic Development	This service provides information, advice and action in support of local business and economic development. The service supports businesses within Knox by providing education assistance with business development and planning; facilitating doing business with Council,	Strategic & Economic Development

Service	Service Objective	Service Owner
	Government agencies or utilities; connecting Knox businesses with each other; highlighting opportunities that may exist for funding or other business development services ; and working on economic development strategies to realise Knox's potential as a prosperous and modern economy.	
Family Health, Development & Support	This service is delivered to support, empower, inform and equip parents and primary carers of children from birth to 6 years to raise their children in their role as their child's first teacher. The service also aims to support and empower service providers, professionals, volunteer committees and community leaders to engage and support vulnerable families not connected with services.	Family & Children's Services
Leisure Services	This service includes the management and operation of Council's leisure facilities including internally managed leisure centres, externally managed facilities and sports grounds.	Youth Leisure & Cultural Services
Libraries	This service provides resources and programs in a variety of media for education, information, and personal development including recreation and leisure. The service plays the important role in a democratic society of giving individuals access to wide and varied knowledge, ideas and opinions. The service is a joint partnership between Maroondah, Yarra Ranges and Knox Councils and is known as the Eastern Regional Libraries.	Youth Leisure & Cultural Services
Open Space Management	This service provides planning, design, consultation and implementation of passive open space. The service also includes the development of policy and provision of design expertise for other areas of Council.	Community Infrastructure
Senior Citizens Support	This service supports the ongoing operation of Senior Citizens Clubs to host and plan programs that encourage older adults to socialise and participate in activities designed to assist them to live more independent, active and healthy lives.	Healthy Ageing
Youth Services	This service promotes, develops and encourages physical, social, and mental well being of young people by providing, facilitating, planning, funding and advocating for the needs of young people, their families and the community.	Youth Leisure & Cultural Services

Table 18 – Council Services that Use Council Carparks

In addition to the Council services that make use of Council carparks, listed in the table above, Council also provides the following relevant service as defined within the Knox Service Planning Framework:

Service	Service Objective	Service Owner
Transport & Traffic	This service provides local traffic management and advocacy for broad transport choices for a range of traffic and transport services provided by Council	Sustainable Infrastructure

Table 19 – Other Relevant Council Services

Based on the Knox Service Planning Framework, each service owner has responsibility for preparing a Service Plan that defines the strategic direction and objectives of each service. Each Service Plan is expected to outline how Council aims to ensure that all Council programs and Council assets (including carparks) support delivery of desired service objectives. Development of the Service Plans is therefore expected to include detailed consideration of current and future community expectations.

4.3 Relevant Service Planning Documents

It is clear from the previous section that many Council departments have an indirect involvement in carpark provision and management as a result of their involvement in other Council services. As a result, there is currently no single department responsible for setting the strategic direction for Council carpark provision and management within the municipality. Only a few existing strategic Council documents make some reference to off-street carparks:

- Sporting Reserve & Facility Development Guidelines Policy (2011)
- Structure Plans (e.g. Bayswater Activity Centre Structure Plan)
- Knox Central Urban Design Framework (2005)
- Municipal Strategic Statement

It is therefore recommended that Council develop a Knox Transport and Parking Strategy to bring together the needs of all service users and guide the overall strategic direction of future carpark provision and carpark management within the municipality.

The proposed Knox Transport and Parking Strategy is expected to consider current and future demands, the impacts of changing use of alternative transport options and indicate how Council can best balance community parking needs with environmental sustainability and community health objectives. The Traffic & Transport team is considered best placed to lead the development of this proposed Strategy in consultation with all service owners, listed in Table 18.

4.4 Levels of Service

Levels of service essentially act as management targets that facilitate decision making. They define the standard at which Council aims to provide assets for community use. The setting of service levels enables Council to balance conflicting priorities and assess the performance of Council's asset management strategies.

In recent years, the Local Government and Planning Ministers' Council has developed a nationally consistent framework for asset planning and management. Framework 2 (Asset Planning and Management) highlights the Federal Government's intention for State and Territory governments to develop mechanisms to ensure that local Councils:

- Define levels of service in consultation with the community
- Establish cost and quality standards for services delivered from Council assets
- Regularly review services in consultation with the community to determine the financial impact of a change in service levels

To support delivery of the National Framework objectives, the IPWEA International Infrastructure Management Manual (IIMM) (2011) describes levels of service as a mechanism that sits between higher level corporate objectives and feeds down into more operational objectives. It defines levels of service and recommends describing both *customer* and *technical* performance measures to monitor delivery.

Levels of Service – Describe what the organisation intends to deliver. The IIMM suggests that effective level of service statements:

- Describe the outputs the organisation intends to deliver to customers
- Commonly relate to service attributes such as quality, reliability, responsiveness, sustainability, timelines, accessibility and cost
- Should be written in terms the end user can understand and relate to
- Should drive the selection of performance measures.

Customer performance measures – Describe how the customer receives or experiences the service. These measures are generally those that would be used in public documents and should be aimed at the lay person.

With the exception of Leisure Services, service levels regarding car parking have not been documented. The customer service levels, outlined in the table below, have been developed by the Leisure Services team and are limited to providing an indication of the desired number of spaces for each sporting reserve hierarchy classification.

Sporting Reserve Hierarchy	Service level
Regional	150-200 sealed car park spaces
Municipal	20-50 sealed car park spaces
Local	20+ sealed car park spaces

Table 20 – Existing Customer Service Levels

Source: Sporting Reserve & Facility Development Guidelines Policy (2011)

Technical performance measures – Describes what the organisation does to deliver the service. These measures support customer measures and tend to be used internally to measure performance against service levels.

Council has yet to develop technical service levels for carparks because they are currently managed reactively, in response to community requests or to address public safety risk issues.

It is recommended that Council document customer and technical service levels for off-street carparks, in a manner consistent with the objectives of the National Framework and the recommendations provided in the IIMM. Customer service levels are expected to be developed by each service owner and documented in the relevant Service Plans. The recommended Knox Transport and Parking Strategy is then expected to draw on the information contained in the Service Plans to document customer and technical service levels that will guide carpark asset management into the future.

4.5 External Stakeholders

Key community stakeholders include:

- Local residents
- Local businesses
- Council facility users and operators
- Visitors to the municipality
- Shopping centre land owners
- Utility providers (gas, electricity, lighting, telecommunications, water)
- Council's insurers

Each stakeholder group has different needs and expectations and is likely to use different parameters when judging Council's performance.

Stakeholder needs affect the provision, management and use of Council's off-street carparks. The Service Owners, listed previously in this Chapter, are responsible for understanding and predicting stakeholder expectations and demands in order to guide Council's response, within practical constraints.

4.6 Current Approach to Understanding Community Expectations

Council investigates community expectations in a number of ways:

- Informal interactions between Council officers and the community as part of normal daily activities.
- Review of community requests
- Community consultation undertaken during the development of strategic documents or major projects

- Participation in the Department of Planning and Community Development Local Government Community Satisfaction Survey (LGCSS)

4.6.1 Investigation of Community Needs

To date, a comprehensive assessment of all community parking needs, within the municipality, has not been undertaken. The majority of Council's knowledge stems from informal interactions with the community as part of the provision of other services. Key drivers of community satisfaction with regard to Council's off-street carparks are assumed to include:

- Asset condition
- Accessibility
- Safety
- Capacity
- Functionality
- Council's responsiveness to asset repair issues raised

Carpark capacity or design complaints are generally recorded in Council's customer service system (Pathway) and allocated to the Traffic & Transport team, which has the expertise necessary to investigate the request. Community requests received vary and may include requests for more lighting, sealing of unsealed carparks, and creation of more accessible parking bays. The resulting investigation may include site inspections, traffic counts and analysis.

When undertaking re-design for major carparks as part of the Place Management program, there is typically considerable engagement undertaken with the community (and traders). This engagement is based on specific locations and projects, rather than a broader assessment of municipality needs. Project reference groups are formed to seek input on proposed designs and to balance the needs of Council, the community and the traders alike. Traffic and mobility studies are also undertaken to assist in the design process and to manage perceptions and expectations.

4.6.2 Review of Community Satisfaction Survey Results

Council participates in the annual Local Government Community Satisfaction Survey (LGCSS) which is coordinated by the Department of Planning and Community Development. The LGCSS provides Council with feedback on community satisfaction each year. Council performance is benchmarked against the performance of 77 other Victorian Councils. Although the survey is pitched at a relatively high level, it does provide Local Government with information about how their performance is rated over time by the communities they represent.

Council performance is given a score out of 100 for a number of key result areas. The category that can be best used to measure satisfaction regarding car park management is Traffic Management & Parking Facilities. Although this category does not relate exclusively to off-street car parks, it does provide some information on community expectations regarding car parks.

Output Indicators set out in the Knox Council Plan 2009-2013 indicate that Council aims to achieve a score of 62 for the Traffic Management & Park Facilities category. Figure 9 below, summarises Council's performance over the past twelve years. It is worth noting that the 2011 score of 60 is the highest among large metropolitan Councils for the same category, despite being below Council's target.

Figure 9 – Local Government Community Satisfaction Survey Results 2000-2011

The LGCSS includes an open ended question for respondents to summarise the reasons why improvement in a particular category is needed. In 2011, the most common responses relating directly to car parks were as follows:

- More parking facilities/capacity (28% of respondents)
- More parking facilities adjacent to shopping and business centres (26%)
- More disabled parking needed (11%)
- Improved parking management/more parking around schools (6%)

4.7 Current Approach to Predicting Future Demand

Council delivers services and manages its asset portfolio within a complex operating environment which influences its approach to the provision and management of off-street Council carparks within the municipality. Given that the municipality is largely established, with largely unrestricted on-street parking, demand for off-street carparks has not been given detailed consideration. This asset management plan (refer Table 21 below) demonstrates Council's first attempt to understand potential demand drivers.

4.7.1 Review of Asset Utilisation Data

Council does not proactively measure the number or type of vehicles using Council carparks. Carpark utilisation measurement occurs only when investigations are undertaken in response to site-specific concerns raised by the public or facility user groups.

Some Service Managers, in constant contact with community groups and Council facility users, suggest that inadequate parking is available at some Council facilities (e.g. Millers Homestead, The Basin Neighbourhood House, The Basin Progress Hall and Knox Community Volunteers Centre). Anecdotal evidence suggests that alternative transport options are often not available, and therefore parking capacity issues at these sites impact the viability of the service and levels of community participation in some programs. It is recommended that further investigation of carpark capacity and utilisation be undertaken at selected sites. Asset and non-asset options should be identified and assessed to enable Council to address identified issues in a cost-effective manner.

4.7.2 Factors Influencing Demand

Current demand for car parking at facilities is not recorded formally. Family & Children's Services, and other teams, have anecdotal evidence of where complaints have been made regarding capacity. However current and future demand has not been investigated in detail.

Demand is affected by changes in the operating environment. The table below highlights how some factors that may affect demand for Council services and therefore to some extent demand for off-street car parking. It is expected that future development of a Knox Transport and Parking Strategy will consider these (and other) factors and their implications in more detail.

Factor	Description	Expected Impact
Built Environment		
Increasing Dwelling Density	Increasing density of dwellings resulting from subdivision of residential lots and Government policy (Melbourne 2030 & Melbourne @ 5 million plans) (ABS Forecast provided by ID Consulting predicts a 17% increase in the number of dwellings in the City of Knox between 2010 and 2030. The number of dwellings is predicted to increase from 55,993 to 65,556)	Increasing numbers of people, bikes and vehicles will be using Council facilities within the municipality.
Ageing Assets	Deteriorating condition of assets	Increased demand for timely asset renewal and upgrade as assets begin to show increasing signs of wear and tear.
Technology Changes	Increasing use of the internet and social media means that many people participate in virtual community activities instead of traditional activities and therefore do not travel in order to socialise. This can lead to increasing social isolation and detachment from the community for some people.	Reduced demand for off-street carparks as increasing numbers of people use the internet and avoid physical social interaction. Increasing need for Council to ensure that parking and alternative transport options are available for people to ensure they are able to participate in community activities and do not become isolated.
Natural Environment		
Climate Change	More intense and frequent storms and more severe drought periods.	More challenging conditions for the maintenance of Council assets. Potential for trees to fall and damage vehicles in carparks during significant storms.
Social & Cultural Environment		
Population Growth	Uneven growth, with increases focused in the suburbs of Scoresby and Knoxfield.	Increasing numbers of people, bikes and vehicles will be using the facilities within the growth areas of Knox.

Factor	Description	Expected Impact
Ageing Population	Increasing ageing population may have limited mobility	Increased demand for improved accessibility of Council buildings and surrounds including car parking facilities. Less demand for carparks, offset by more demand for improved public transport links to Council facilities
Environmental Health & Wellbeing Awareness	Increasing awareness of the health, fitness & environmental benefits associated with walking & cycling	Increasing popularity and demand for alternative modes of transport may result in reduced demand for cars and carparks Traditional carparks may need to provide for safe storage of bikes, scooters and skates
Legal & Political Environment		
National Asset Management Assessment Framework	Introduction of National Reporting Frameworks: • Criteria for Assessing Financial Sustainability • Asset Planning and Management • Financial Planning and Reporting	Increased asset reporting requirements. Council will need to demonstrate improved asset knowledge and data management. There is an expectation that Council can demonstrate clear links between service levels and current and future community expectations.
Changing Industry Standards	Recent updates to Australian Standards regarding off-street car parks aims to improve facilities available for people with disabilities. The changes to the standards affect parking space dimensions, configurations and marking of spaces.	The community expects Council to comply with current standards. Upgrades of existing off-street car parks to comply with current standards can result in a reduction in the total number of parking bays available

Table 21 – Summary of Factors Influencing Demand

4.8 Demand Management Strategies

Council has a range of tools at its disposal to ensure effective and efficient management of off-street carpark assets. These tools include the following non-asset related solutions:

- Collocate services with different peak operating hours so that one carpark can be used to support multiple services
- Increased advocacy for public transport improvements including placement of bus stops in close proximity to Council facilities. Timetable adjustments to align with facility usage peaks
- Introduction of community buses to transport people to and from community facilities.
- Participation and promotion of community education campaigns to encourage car pooling, walking and cycling
- Greater focus on providing services to residents at their homes
- Charging for car parking

It is expected that future development of a Knox Transport and Parking Strategy will consider how these demand management strategies can best be used by Council to improve the performance of Council's existing assets.

Chapter 5 Integrated Service & Asset Lifecycle Management

5.1   Introduction

Council's involvement in the provision and management of off-street carparks has evolved over a long period of time. Off-street Council carparks were initially constructed to support the use of community facilities.

It is generally accepted that wherever Council provides a broad range of readily accessible community facilities, opportunities for social interaction and community wellbeing are improved. The provision of off-street car parking can therefore provide community benefits if it has the effect of improving the utilisation of Council services. At the same time, however, it is recognised that excessive reliance on private vehicle use has negative impacts on the environment and results in reduced physical activity with harmful health implications. Council therefore has an obligation to encourage a healthy lifestyle that includes encouraging the use of alternative transport options. Council's involvement in the provision and management of off-street carpark assets must balance these conflicting priorities.

The Service Delivery Lifecycle Model, illustrated in Figure 10 below, forms part of Council's Asset Management Policy. The model aims to demonstrate the integrated relationship between service and asset management. It highlights the fact that Council assets are only required to support services that exist to address community needs. A coordinated approach to managing all phases of the service and asset lifecycles is considered necessary to enable delivery of outcomes that feasibly meet community expectations.
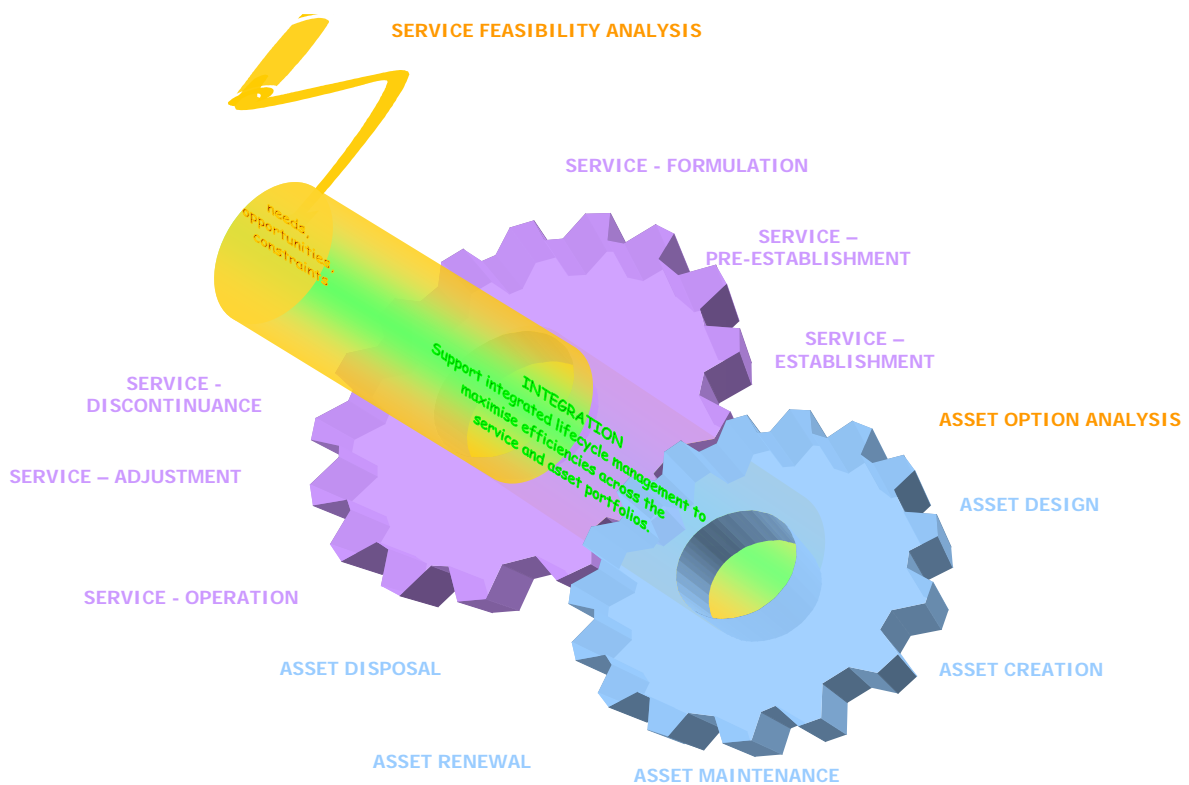

Figure 10 – Service Delivery Lifecycle Model

In this Chapter, the lifecycle model is used as a framework for the assessment of Council's current approach to the management of off-street Council carparks. Opportunities to improve

current work practices are identified with a view to improving the outcomes experienced by the community.

5.2 Lifecycle Management

In this section of the Plan, the management objectives for each phase of the service and asset lifecycle are presented. Council's current approach is described and improvement opportunities are highlighted.

5.2.1 Horizon Scanning

> Gain an understanding of Council's internal and external operating environment. Use this knowledge to define current service demand, community needs and expectations and predict future changes.

The purpose of horizon scanning, as indicated above, is to ensure that Council proactively investigates community needs and expectations and uses this information to predict future changes in service demand. This enables Council to participate in the provision and management of services and assets that meet the needs of current and future communities.

As noted in the previous Chapter, Council has not formally defined demand, community needs and expectations regarding parking within the municipality. Council's desired role(s) in the provision and management of carparks to support the use of Council and other community facilities has not been established.

Horizon scanning information is formally reported by the Corporate Planning & Performance department to Council management, at a high level, as part of Council's annual planning process. When developing their annual business plans, all managers are expected to consider the implications of the information provided.

Informally, officers at all levels of the organisation scan the environment within the sector they operate and reactively adjust their work processes and services accordingly. Identification of any potential need to make changes in Council car parking provision occurs in an ad hoc manner as part of this informal approach.

As noted in the previous Chapter, opportunity exists for Council to develop a Knox Transport and Parking Strategy to define current and future community needs and expectations and describe Council's role and policy objectives with respect to parking provision and management in the future.

5.2.1 Service Lifecycle

The service lifecycle phases are illustrated in Figure 11. Management objectives for each phase are outlined in Table 22.
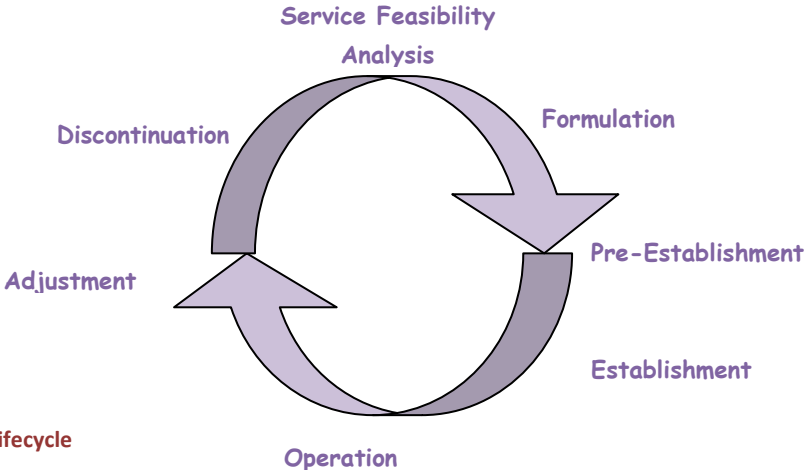

Figure 11 – Service Lifecycle

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Phase	Objectives
Feasibility Analysis	Assess the appropriateness of current services. Determine the best approach for Council to meet current and future community needs. Define service objectives so that analysis can be undertaken to compare a range of options including: ▪ Introduction of a new service ▪ Alteration of an existing service (or aspects of a service) ▪ Discontinuation of an existing service (or aspect of a service)
Formulation	Broadly define all requirements to enable service delivery. Translate detailed service requirements into physical asset needs and measurable service standards and targets.
Pre-establishment	Design the organisation structure, systems, standards, skill sets, and performance measures required for operation and monitoring of the service. Communicate service delivery objectives to all stakeholders.
Establishment	Set up/revise the operating structure, systems, standards, resources and performance measures required to enable operation and monitoring of the service.
Operation	Operate and monitor delivery of the service to sustainably meet community needs.
Adjustment	Undertake a service feasibility analysis to determine whether the current service is still aligned with community expectations and the operating environment. Identify service and asset adjustments required to ensure service objectives are met. Adjust internal service agreements, organisation structure, systems, resources and performance measures to ensure service objectives can be monitored and met. Communicate adjustments to affected parties.
Discontinuation	Ensure Council has a considered approach to the termination of services (or aspects of a service) no longer required in a manner that minimises community disruption.

Table 22 – Service Lifecycle – Management Objectives

As noted in the previous Chapter (section 4.2), Council carparks support the delivery of many Council services. In the context of the service lifecycle, it is fair to say that the current services that make use of Council's off-street carparks have already been established and are primarily in the operation phase.

Organisation wide service planning work is currently underway under the guidance of the Corporate Planning & Performance department. It is therefore not the intention of this Plan to act as a service planning document. It is expected that future service planning work will include consideration of the future of each service and document Council's current and desired approach to the management of each phase of the service lifecycle.

To avoid duplication, this Plan therefore focuses on assessing Council's approach to carpark asset lifecycle management.

5.3   Asset Lifecycle Management

Figure 12 below, illustrates the asset lifecycle. This section of the Plan describes Council's current approach to off-street carpark asset management. The current approach is best described as reactive. Council responds to issues raised on a case-by-case basis, with the primary objective of mitigating public safety risks.
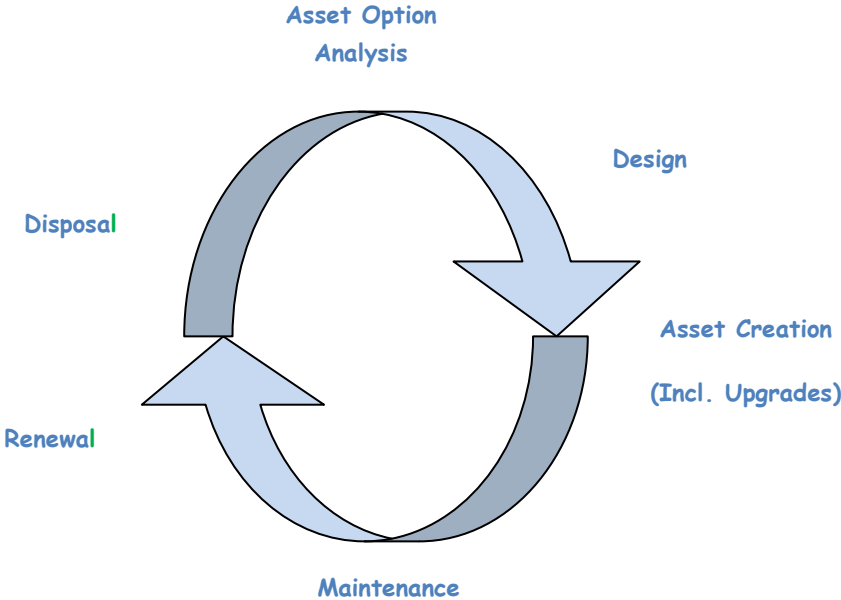
Figure 12 – Asset Lifecycle Phases

5.3.1   Asset Management Roles and Responsibilities

Table 23 below, summarises the Sustainable Infrastructure Department's understanding of current asset lifecycle responsibilities as they relate to the management of Council's off-street carparks.

Asset Class	Asset Type	Current - Responsible Team/Unit					
		Asset Lifecycle Phase					
		Asset Option Analysis	Design	Creation (incl. Upgrades)	Maintenance	Renewal	Disposal
Carparks	Sealed Surface Pavement Kerb & Channel	Service Owners – representing carpark users (refer Table 18) Traffic & Transport Place Management (for Carparks in Activity Centres only)	Project Delivery (with input from those responsible for Asset Option Analysis)	Project Delivery	Works Services	Construction	-
Carparks	Unsealed				Works Services	Works Services	-
Carparks	Vegetation (Trees & Garden beds)				Parks Services	Parks Services	-
Carparks	Signs				Works Services	Works Services	-
Carparks	Line marking				Works Services	Works Services	-
Carparks	Lights – poles				Traffic & Transport (non standard poles) Facilities* (standard poles)	-	-
Carparks	Lights – power supply (utility bills)				Traffic & Transport (connected to electricity grid) Facilities (metered)	-	
Carparks	Furniture (including Bins, Seats, bike racks, bollards, planter box etc)				Works Services	Works Services	-

Table 23 – Asset Lifecycle – Current Off-Street Carpark Asset Management Responsibilities

* These works are currently unfunded and pose budget issues for the Facilities team when maintenance issues arise with light poles in reserves.

a) *Asset Option Analysis*

> **Management Objective** – Consider the asset requirements necessary to support objectives of all relevant services. Undertake analysis to ensure the best asset solutions are provided to meet service needs within physical, financial, legislative and other constraints.
>
> **Technical Service Levels** – There is currently no consistent methodology used to identify and analyse asset options.

In the absence of detailed Service Plans and an overarching Knox Transport and Parking Strategy, the decision regarding whether an off-street carpark is required at any given location is generally governed by the expected use of the associated Council or community facilities and availability of alternative transport options. The capacity and layout of each off-street carpark is considered unique and governed by land availability, site-specific constraints, available funding and relevant Australian Standards.

There is currently no overarching methodology for undertaking Asset Option Analysis prior to the creation or upgrade of an off-street carpark. Proposals to create or upgrade an off-street carpark are generally initiated by the Service Owners (listed previously in section 4.2) and are incorporated into existing capital works programs. Carpark upgrade (or creation) works tend to be a minor component of the relevant capital works project and as such are not generally subject to a detailed investigation of asset and non-asset options. Lifecycle costs associated with the proposed assets (for example regarding the introduction new types of furniture into Council carparks) are not formally considered when capital works projects are initiated.

It is recommended that a consistent methodology for undertaking asset option analysis be developed and utilised by all officers responsible for this asset lifecycle phase.

b) *Design*

> **Management Objective** – Prepare requisite documentation to ensure delivered assets meet service needs, match expected service life and are able to be created, maintained and renewed in a sustainable manner.
>
> **Technical Service Levels** – Council has a number of design standards applicable to carparks
>
> - S204.1 Car park and Access Road Pavement Options
> - S240.1 Speed Control Hump, Reserves and Carparks
> - Landscape (600 Series)

Contributed Assets

Contribution of off-street car parks (through subdivisional developments) is rare. When they occur, they are designed by the land developer and the design is approved by Council through the planning referral process. Before a permit is issued, relevant Council departments have the opportunity to review the design drawings and specifications.

Capital Works Projects

Council creation of new off-street carparks is also rare. It generally only occurs as part of the creation or upgrade of a Council facility. The most recent example is the current creation of in excess of 20,000 m^2 of new sealed carpark areas as part of the

Knox Regional Sports Park in Wantirna South. Inclusion of appropriate off-street car parking infrastructure was considered an important part of the scope of this major project.

The design phase involves two distinct phases:

- Strategic / Preliminary Concept Design
- Advanced / Detailed Design

Both phases tend to be managed by the Program Coordinator responsible for the relevant capital works program. Off-street carpark upgrades at high-profile sites, such as Wantirna Mall, tend to form part of Council's Place Management Program, which is managed by the City Futures department.

Concept Design

The concept design phase at large, high profile off-street carpark sites tends to involve extensive master planning and consultation with the community and affected stakeholders. Limited concept design work is undertaken for smaller, lower profile off-street carparks.

Detailed Design

Detailed design is either outsourced or undertaken internally by the Project Delivery team. Depending on the complexity of the project, the detailed design documentation may include engineering drawings and specifications. It is rare for the off-street car park designs to include detailed consideration of future maintenance needs and lifecycle costs.

Council's standard design drawings are now administered by the Community Infrastructure Department. The Community Infrastructure Department convenes the Standards Committee, which is made up of representatives from Sustainable Infrastructure, Community Infrastructure, Operations, Planning and City Futures.

A Council design standard exists for carpark and associated access road pavement and speed control humps. These are applicable for all off-street Council carparks created or upgraded within the municipality. Specific standards for minor assets (i.e. furniture) constructed or installed in Council carparks have not been developed. However, there is a Landscape Series of Council standards that includes the following:

- Seat with Back (S602)
- Seat Detail (S604)
- Rock Detail (S610)
- Seat Detail (S612)
- Garden Edge Detail (S615)

These standards tend to be used for the majority of Council carparks, with the exception of carparks associated with passive open space or shopping centres/activity centres.

In the case of carparks associated with passive open space, the Open Space & Landscape Design team developed a number of standard designs for street furniture in 2007. This set of standards was endorsed by EMT and is currently located centrally on Council's record management system, Dataworks. The standard designs provide a consistent design framework for the creation and upgrade of open space assets but they have not been endorsed by the Standards Committee. Preparing these standards in Council's standard format, and addressing some minor conflicts with other standard drawings, will ensure they can form part of the overall suite of Council standards and can then be used within Council carparks. As part of

the development of revised standards, maintenance requirements associated with each design can be defined and budgeted for appropriately.

In the case of shopping centre/activity centre carpark upgrades, these have typically been designed as part of Council's Place Management program. The furniture installed has been unique to each site. The designs often involve the introduction of new types of furniture and surfaces. Again Council's Standards Committee endorsement has not been provided prior to the installation of these assets. As a result, the opportunity to identify and address foreseeable maintenance implications associated with new assets has been missed. Examples of missed opportunities identified during the development of this Plan include:

- Vandalised furniture components cannot be replaced with the same product because the Operations Centre does not have replacement stock for non-standard furniture
- Furniture that requires repair or replacement is often difficult to remove and replace or repair because it has been anchored into the pavement. Removal of the furniture requires extraction and replacement of the surrounding pavement. Introduction of sleeve-mounted furniture as part of the design standard would make removal and replacement easier and cheaper for maintenance crews
- The lack of standard fixings on kerbs for shop awnings in shopping centre carparks cause trip hazards

Such issues could be avoided by developing Knox specific standards and ensuring increased involvement of the Standards Committee when new asset designs are introduced.

c) Creation (incl. Upgrades)

> **Management Objective** – Deliver via construction or acquisition, physical assets that meet service needs within physical, financial and other practical constraints.

As noted previously, new assets are created as a result of developer contributions or Council's capital works program.

Contributed Assets

Given the extent of existing development, off-street carparks are rarely contributed by private developers. In the instances of contributed assets, this occurs via the existing subdivision handover process (refer Attachment 4). Asset data is updated in Council's GIS and Lifecycle system in accordance with this process. This ensures that the new assets are included in subsequent asset valuations and the Asset Register.

Capital Works Program

Council does not currently have a program to seal all unsealed off-street carparks. During the development of this Plan, the option of sealing Council's existing unsealed carparks (86,768 m^2) was assessed. The lifecycle cost analysis is presented in Attachment 3 and suggests that there is a lifecycle cost benefit associated with sealing unsealed carparks, despite the significant initial capital cost required. Any decision to upgrade unsealed carparks will subsequently result in a decreased annual lifecycle cost. Sealing of unsealed carparks should therefore occur where there is evidence of community need, where it is demonstrated that this is the appropriate service standard and where prioritisation has occurred as part of capital works planning. It is expected that development of a Knox Transport and Parking

Strategy, as recommended previously in this Plan, will consider community need in detail and provide justification for carpark upgrade proposals.

The creation or upgrade of carparks is related to the development of a new Council facility or redevelopment of an old Council building. Off-street carparks may therefore be created and upgraded as a result of capital works projects delivered under many programs including:

- 4000 – Structured Sporting Facilities
- 4001 – Cultural and Library Facilities
- 4002 – Indoor Leisure Facilities
- 4003 – Family and Children's Services Buildings and Facilities
- 4004 – Aged Care Buildings
- 4005 – Community Buildings and Facilities for Others
- 4014 – Unstructured Recreation
- 4015 – Place Management
- 4019 – Civic & Corporate Buildings & Facility Upgrades

Despite a change to relevant Australian Standards (refer Chapter 3) in 2009, Council has not introduced a carpark upgrade program to ensure all carparks comply with the latest standards. It is recommended that consideration be given to the introduction of an upgrade program to implement the new standards which relate to improvement of accessibility for people with disabilities. Alternatively (and perhaps more cost effectively) Council could simply amend its current carpark renewal and facility upgrade processes to ensure that the project scope is adjusted as appropriate to incorporate changes to the carpark layout in order to meet current standards.

Since 2009, implementation of Council's Asset Management Policy and Untied Funding Allocation Policy has meant that Council's capital works process includes project ranking and ensures lifecycle funds are allocated to enable sustainable future maintenance and renewal of created and upgraded assets.

When capital works projects are completed, the Assets team records new assets in Council's asset register (Lifecycle) and GIS. The current process relies on asset handover information being provided to the Assets team by the capital works program manager in accordance with Council's capital works handover process (refer Attachment 4).

d) Maintenance

Management Objective – Preserve assets to ensure they continuously meet service expectations. Routinely inspect the asset for defects and act to repair assets to mitigate potential risks and ensure the asset is able to achieve its expected useful life

Technical Service Levels – There are currently no inspection or maintenance standards for off-street carparks.

As noted previously (refer Chapter 2), the maintenance of Council's off-street carparks is underfunded. Funded activities are limited to clearing of litter, maintaining garden beds and tree pruning in shopping centre carparks which is only a small subset of the total carpark network.

Given the lack of funding, specific car park maintenance activities have not been defined in Council's Work Order System (Lifecycle). A routine inspection program for off-street carparks has not been established. Standards for the identification of off-street carpark maintenance issues (i.e. maintenance intervention levels and response timeframes) have not been defined.

Despite the lack of funding, both the Parks Services and the Works Services teams have responsibility for the maintenance of Council's off-street carparks. The key focus of their current role is to manage and mitigate public safety risks. For example, rectification of high risk hazards related to trees and vegetation located in carparks is undertaken by Park Services under one of its reactive tree maintenance budgets. Rectification of high risk hazards relating to the pavement surface, line marking, signs, furniture and other minor assets in carparks are undertaken by the Works Services team using funds from available operating budgets. When major works need to be undertaken, a request for renewal works is made to the Construction team, which uses any available resources to address high risk issues.

A review of maintenance data, captured in Council's Works Order system, indicates that when works are undertaken in a carpark, the activities are recorded under an activity associated with the most relevant asset class. These include:

- Road Surface
- Road Pavement
- Kerb & Channel
- Signs
- Road Furniture
- Unsealed Roads
- Roadside Vegetation
- Reserves
- Reserve Trees/Plants
- Reserve Furniture

The following table demonstrates the various activities that reactive carpark maintenance has been documented against. The data reported here has been sourced by searching for the words 'carpark' or 'car park' in various Work Order comments fields. This is an imperfect method of analysis, making it difficult to confidently document the magnitude of carpark maintenance currently undertaken.

It must be noted, that maintenance requests for footpaths, shared paths and drainage in or around carparks have not been included in this assessment. There are dedicated maintenance activities within the Work Order System and dedicated budgets for the maintenance of these assets, which fall outside the scope of this Plan. These assets are managed in accordance with the Footpath & Shared Path Asset Management Plan and the Drainage Asset Management Plan, regardless of their location. Drainage within off-street carparks is only maintained reactively and issues are typically recorded against an existing activity for easement drainage maintenance.

Reactive Maintenance Activity		Total Work Orders relevant to carparks	Work Orders relevant to carparks *Ad hoc Inspection*	Work Orders relevant to carparks *Customer Request*
KERB AND CHANNEL	Kerb & Channel Repair	3	0	3
RESERVE FURNITURE	Maintain Bins	7	1	6
	Maintain External Reserve Lighting Infrastructure	2	0	2
	Maintain Fencing	35	23	12
	Miscellaneous Furniture - Structural Maintenance	22	2	20
RESERVE TREES	Blackberry Removal	1	0	1

Reactive Maintenance Activity		Total Work Orders relevant to carparks	Work Orders relevant to carparks *Ad hoc Inspection*	Work Orders relevant to carparks *Customer Request*
/ PLANTS	Fallen Limb or Fallen Tree Removal	31	8	23
	Garden Bed Maintenance	1	0	1
	Pest and/or Vegetation Disease Control	5	0	5
	Pruning - Trees & Shrubs	12	8	4
	Replanting Trees & Shrubs	5	0	5
	Tree & Stump Removal	11	6	5
RESERVES	Graffiti Removal	3	0	3
	Information Sign Maintenance	1	0	1
	Lawn Maintenance	1	0	1
	Litter Clearing - Dumped/ Dangerous	73	14	59
	Mowing - undeveloped Blocks & Reserves	9	0	9
	Retaining Walls, Stairs & Minor Structure Maintenance	3	1	2
	Weed Control / Edge trimming	2	0	2
ROAD FURNITURE	Maintain Bins	2	0	2
	Maintain Fencing within Road Reserve	1	1	
	Maintain Guard Rail	1	0	1
	Maintain Guide Posts	3	0	3
	Miscellaneous Roadside Furniture Maintenance	5	0	5
ROAD PAVEMENT	Repair Pavement Collapse (Digouts/ Major Patching)	1	1	
ROAD SURFACE	Brick Paved Road Surface Repair	4	1	3
	Clear Liquid Spillage	2	0	2
	Edge Repair	3	0	3
	Litter Clearing / Dumped Rubbish	25	2	23
	Minor Surface Treatment	4	0	4
	Pavement Markings Maintenance	28	3	25
	Pothole Repair/ Minor Patching	42	14	28
	Street Sweeping	11	6	5
ROADSIDE VEGETATION	Fallen Limb or Fallen Tree Removal	14	2	12
	Litter Clearing - Dumped	17	1	16
	Litter Clearing / Dumped Rubbish	1	0	1
	Mowing/ Edge Trimming - Nature Strip	6	0	6
	Pest and/or Vegetation Disease Control	3	0	3
	Pruning - Street Trees & Shrubs	17	2	15
	Stump Removal	4	2	2
	Tree Removal	11	1	10
SIGNS	Graffiti Removal	1	0	1
	Sign Maintenance - Regulatory/ Warning	38	16	22
	Sign Maintenance - Special Purpose/ Directional/ Street Name/	15	4	11

Reactive Maintenance Activity		Total Work Orders relevant to carparks	Work Orders relevant to carparks Ad hoc Inspection	Work Orders relevant to carparks Customer Request
	Parking			
UNSEALED ROADS	Unsealed Surface Repair (Grading)	5	1	4
TOTAL		491	120	371

Table 24 – Reactive Maintenance – Carpark related Work Orders

Data source: Work Order System (LifeCycle) October 2004 to present (2012)

Despite there being no corresponding maintenance budget or dedicated activities for carpark maintenance, the table above indicates that there has been a considerable amount of reactive maintenance work undertaken on carparks since the Work Order System was implemented in October 2004. It is important to note that 75% of works undertaken were initiated by a customer request, suggesting that the community expects Council to maintain the carparks.

In order to enable improved future analysis of demand for carpark maintenance, and a more consistent approach to customer requests, the development of reactive and routine carpark maintenance activities, with clearly defined intervention levels, and achievable target timelines and frequencies is warranted. Creation of dedicated activities will enable the establishment of an appropriate annual carpark maintenance budget that is used to fund activities such as:

- Sealed Carpark Surface & Kerb Maintenance
- Unsealed Surface Carpark Maintenance
- Carpark Graffiti Removal
- Carpark Sign Maintenance
- Carpark Furniture Maintenance
- Carpark Tree Maintenance
- Carpark Garden Bed Maintenance
- Carpark Pavement Marking Maintenance

A combination of routine and reactive activities is expected to be required. Proposed maintenance activities are listed in Attachment 5.

During the development of this Plan, it was discovered that arterial parking bay assets are not specifically included on Council's existing road inspection schedules. Only reactive maintenance is undertaken on them (funded under road maintenance) and some ad hoc line marking. It is therefore recommended that the existing inspection schedules be updated to include these assets.

e) Renewal

Management Objective – Monitor asset condition. Replace assets in a timely manner to ensure expected asset condition and functionality is continuously provided throughout the life of the service.

Technical Service Levels – There are currently no technical service levels relating to renewal. Proposed ranking criteria are detailed in this section.

Sealed Carpark renewals are currently funded under the Capital Renewal Program 1011: Car Parks which is managed by the Construction team. There is currently no

formal program for the renewal of unsealed car parks. This work occurs in an informal manner as part of the current unsealed road maintenance contract.

Renewal ranking criteria for carparks have not been fully developed and utilised in the past. The table below therefore proposes an updated set of renewal ranking criteria for sealed car parks. The ranking system considers the hierarchy and the condition. Use of these ranking criteria will enable improved prioritisation of expenditure within budget constraints. The primary intention of these criteria is to prioritise renewal of the more highly utilised carparks in poorest condition. Its implementation relies on collection of asset condition data via regular condition audits.

Sealed Carpark Renewal Ranking Criterion	Score

1. **Hierarchy**
    Shopping/Retail Centre
    Sport & Rec – Regional
    Sport & Rec – Municipal
    Community/Civic Facility
    Passive Open Space
    Sport & Rec – Local
	
	20
	20
	15
	15
	15
	10

2. **Surface Condition**
    1 – Excellent
    2 – Good
    3 – Fair
    4 – Poor
    5 – Failed
	
	0
	5
	10
	25
	30

3. **Pavement Condition**
    1 – Excellent
    2 – Good
    3 – Fair
    4 – Poor
    5 – Failed
	
	0
	5
	10
	15
	25

4. **K&C Condition**
    1 – Excellent
    2 – Good
    3 – Fair
    4 – Poor
    5 – Failed
	
	0
	5
	5
	10
	15

5. **Future Capital Works**
Is carpark identified on upgrade or place management program in next 5 years?
        Yes
        No
	
	-10
	10

TOTAL	100

Table 25 –Ranking criteria for Implementation of the Carpark Renewal Program – Sealed

Given that the works associated with renewing sealed and unsealed carparks are very different and are managed by two separate teams, it is considered appropriate to implement two separate programs and two different approaches.

In the case of sealed car parks, it is recommended that the ranking criteria be used to prioritise the timing of renewal works to be undertaken by the Construction team under the Capital Renewal Program 1011: Car Parks. Carparks which are assigned a high score should be given renewal priority ahead of low scoring sites.

It is recommended that the existing process be improved to ensure that the Traffic & Transport team (in consultation with other relevant Service Owners) are given a

timely opportunity to adjust the current design (line marking) of the carpark to meet current industry standards and address known functionality and accessibility issues.

In the case of unsealed carparks, maintained by Works Services, it is proposed that in the first instance major renewal and topping up works simply be recorded to enable better analysis of data. In the future, prioritisation may be able to be developed and incorporated into the works undertaken under the routine unsealed carpark maintenance contract.

A preliminary set of ranking criteria are proposed in the table below.

Unsealed Carpark Renewal Ranking Criterion	Score
1. **Hierarchy** Shopping/Retail Centre Sport & Rec – Regional Sport & Rec – Municipal Community/Civic Facility Passive Open Space Sport & Rec – Local	 50 50 30 30 20 10
2. **Condition** 1 – Excellent 2 – Good 3 – Fair 4 – Poor 5 – Failed	 0 10 20 30 40
3. **Future Capital Works** Is carpark identified on upgrade or place management program in next 5 years? Yes No	 -10 10
TOTAL	100

Table 26 – Ranking criteria to support implementation of the Unsealed Carpark Maintenance/Grading Program

f) Disposal

Management Objective – Ensure assets that have no current (or foreseeable future use) are removed from Council's asset portfolio.

Financial sustainability requires a balance between the maintenance, renewal and disposal of existing assets and the delivery of new and upgraded assets. The purpose of asset disposal is therefore to ensure Council resources are not spent on maintaining and renewing assets that are no longer required. Effective asset disposal enables Council to use its limited resources for maximum community benefit.

In practice, disposal of off-street Council carparks rarely occurs. Council does not have a clearly documented policy regarding asset disposal. However, Council's Asset Management Policy is due for review in 2013 and it is expected that Council's policy on asset disposal (including off-street carparks) will be incorporated into the revised Asset Management Policy document.

Chapter 6 Financial Sustainability

6.1 Introduction

In pursuit of good governance, Council must ensure all off-street carparks are managed in a way that influences and caters for community demand. Funding allocations at each stage of the lifecycle impact the standard to which Council assets perform.

6.2 Lifecycle Cost Components

Councils are expected to have the capacity to manage their existing infrastructure into the future. Sustainable asset management is therefore focused on the provision of adequate renewal and maintenance funding.
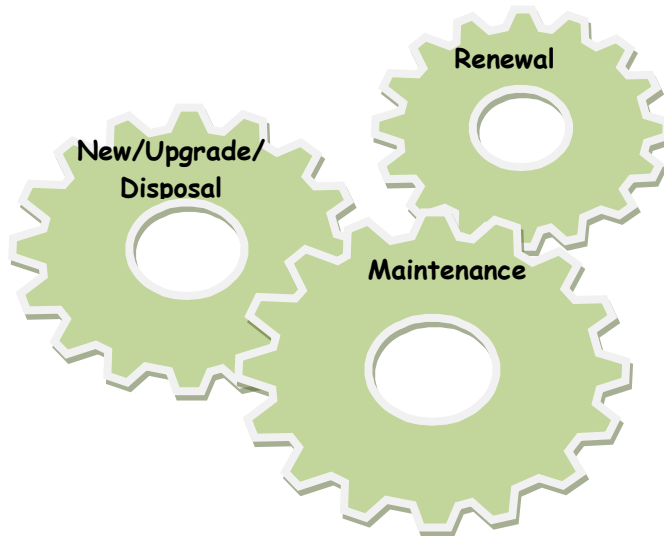

Figure 13 – Lifecycle Cost Components

Financial sustainability requires a balance between the delivery of new assets and the maintenance, renewal or disposal of existing assets. Increasingly, Councils are required to demonstrate that their asset portfolio is commensurate with community demand for the services that the assets support. Identified surplus assets should therefore be disposed, to reduce exposure to liabilities associated with asset ownership. Retained assets must be maintained and renewed to provide the desired level of service.

6.3 Funding Sources

Council has access to a number of funding sources to support delivery of this Carpark Asset Management Plan. Funding sources include:

- Rates
- Federal and State Government Grants
- Private and Public Partnerships
- Special Charge Schemes
- Borrowings
- Earnings from Asset Disposals
- Charging for Parking

Council's Asset Management Policy recommends that Council proactively seek grants and partnership opportunities, as well as consider the disposal of surplus or obsolete assets, to supplement investment in asset provision and management.

6.4 Financial Model

The financial model compares existing funding arrangements with two alternative scenarios. The purpose of the model is to analyse the appropriate level of funding required to deliver these assets to the community safely and to the level of service expected. The model is most critical from the perspective of renewals. Using the present condition distribution of the asset as a starting point, the model calculates the renewal expenditure required to retain a desired minimum asset condition. The following assumptions have been made:

- Time Period – the model analyses asset performance over a 20 year period
- Asset Growth Rate – 0%
- Maintenance Costs – the starting point for prediction of annual maintenance funding requirements is the current maintenance expenditure level of $249,410 (based on 2011/12 financial figures for shopping centre maintenance only)

The table below summarises the scenarios modelled.

Service Delivery Standard			
	Scenario 1 – Status Quo	**Scenario 2 – Medium**	**Scenario 3 – High**
New/ Upgrade	Fund in accordance with Long Term Financial Strategy and Capital Works Program (adjusted for inflation). Assumes funding of $50,000 in 2012/13 for Murrindal Family Centre (program 4003) and no forecast funding thereafter.		
Renewal	Fund in accordance with Long Term Financial Strategy and Capital Works Program (adjusted for inflation).	Fund the following: • Address sealed carpark surfaces in condition 4 or 5 over 15 year period (aim for minimum condition 3) • Address sealed carpark pavements in condition 5 over 15 year period (aim for minimum condition 4) • Address sealed carpark kerb & channel in condition 5 over 15 year period (aim for minimum condition 4) Maintain the following minimum conditions: • Surface – 3 • Pavement – 4 • Kerb & channel – 4 Funding for crack sealing over 2 years.	Fund the following: • Address sealed carpark surfaces in condition 4 or 5 over 10 year period (aim for minimum condition 3) • Address sealed carpark pavements in condition 5 over 10 year period (aim for minimum condition 4) • Address sealed carpark kerb & channel in condition 5 over 10 year period (aim for minimum condition 4) Maintain the following minimum conditions: • Surface – 3 • Pavement – 4 • Kerb & channel – 4 Funding for crack sealing over 1 year.
Maintenance	Fund in accordance with Long Term Financial Strategy (adjusted for inflation). Assumes no	Status quo funding. (It is important to note that although introduction of maintenance activities and	Status quo funding. (It is important to note that although introduction of maintenance activities and

Service Delivery Standard			
	Scenario 1 – Status Quo	**Scenario 2 – Medium**	**Scenario 3 – High**
	change to current maintenance funding levels.	corresponding budget accounts are recommended in this plan, it is also recommended that these budgets are zero based to enable expenditure to be tracked while at the same time monitoring the overall asset maintenance budget)*	corresponding budget accounts are recommended in this plan, it is also recommended that these budgets are zero based to enable expenditure to be tracked while at the same time monitoring the overall asset maintenance budget)*
Operation	No change	Fund to allow introduction of all Improvement projects over a 3 year period. Projects to be absorbed internally except where external resources are specifically required.	Fund to allow introduction of all Improvement projects over a 3 year period, with extra external (or additional) resources assumed for ALL projects.

Table 27 – Summary of Model Funding Scenarios

* Although maintenance costs have not been included in the financial forecasting, preliminary estimates of routine maintenance activities are listed below. Reactive maintenance funding has not yet been estimated.

- Routine line marking – $21,000 (annually)
- Routine sweeping/cleaning – $55,000 (annually)
- Routine grading (unsealed) – $121,000 (annually)
- Routine tree/garden maintenance – As per current funding

Scenario 1 – Status Quo

This scenario involves Council continuing to fund all phases of asset management in accordance with its current Long Term Financial Strategy, Capital Works Program and existing expenditure profiles.

Scenario 2 – Medium

The medium scenario adopts the same proposals for new and upgrade as represented in the status quo scenario – there has been no additional allowance for new or upgraded carparks, nor has it been recommended to propose a general program of upgrades from unsealed to sealed carparks. Future variations to the new and upgrade program for carparks should be based on sound service planning or outcomes from the proposed Knox Traffic and Parking Strategy.

The rate of asset renewal under this scenario has been based on the following assumptions:

- Address all sealed carpark surfaces in Condition 4 (Poor) or Condition 5 (Failed) over a **15** year period. Maintain surface condition at a minimum Condition 3 (Fair) – proposed medium renewal service level
- Address all sealed carpark pavements in Condition 5 (Failed) over a **15** year period. Maintain pavement condition at a minimum Condition 4 (Poor) – proposed medium renewal service level
- Address all sealed carpark kerb & channel in Condition 5 (Failed) over a **15** year period. Maintain kerb & channel condition at a minimum Condition 4 (Poor) – proposed medium renewal service level

A recommended $25,000 per year over two years for crack sealing has been added to the renewal forecasts.

As a means of verification, the data has also been modelled in the Moloney renewal modelling software (as used by the MAV STEP program). Comparison of renewal projections can be seen in Figure 18.

In terms of maintenance, funding under this scenario has remained unchanged. Carpark maintenance accounts are recommended for creation (refer section 5.3 and Attachment 5) although initial funding should be set as follows:

- Reactive Carpark Maintenance – Works $0
- Reactive Carpark Maintenance – Parks   Current funding of account 35118
- Routine Carpark Maintenance – Works $0
- Routine Carpark Maintenance – Parks   Current funding of account 35118

This will enable expenditure to be tracked under these accounts with a reduction in expenditure expected in related maintenance accounts (e.g. road surface). Trends will enable budgets to be adjusted in future years while still resulting in no net effect on the overall maintenance budget.

A modest increase to operational funding is recommended in this scenario to allow external support for the delivery of some improvement projects.

Scenario 3 – High

The high scenario adopts the same proposals for new and upgrade as represented in the status quo scenario – there has been no additional allowance for new or upgraded carparks, nor has it been recommended to propose a general program of upgrades from unsealed to sealed carparks. Future variations to the new and upgrade program for carparks should be based on sound service planning or outcomes from the proposed Knox Traffic and Parking Strategy.

The rate of asset renewal under this scenario has been based on the following assumptions:

- Address all sealed carpark surfaces in Condition 4 (Poor) or Condition 5 (Failed) over a **10** year period. Maintain surface condition at a minimum Condition 3 (Fair) – proposed high renewal service level
- Address all sealed carpark pavements in Condition 5 (Failed) over a **10** year period. Maintain pavement condition at a minimum Condition 4 (Poor) – proposed high renewal service level
- Address all sealed carpark kerb & channel in Condition 5 (Failed) over a **10** year period. Maintain kerb & channel condition at a minimum Condition 4 (Poor) – proposed high renewal service level

A recommended $50,000 over one year for crack sealing has been added to the renewal forecasts.

As a means of verification, the data has also been modelled in the Moloney renewal modelling software (as used by the MAV STEP program). Comparison of renewal projections can be seen in Figure 18.

In terms of maintenance, funding under this scenario has remained unchanged. Carpark maintenance accounts are recommended for creation (refer section 5.3 and Attachment 5) although initial funding should be set as follows:

- Reactive Carpark Maintenance – Works $0
- Reactive Carpark Maintenance – Parks   Current funding of account 35118
- Routine Carpark Maintenance – Works $0
- Routine Carpark Maintenance – Parks   Current funding of account 35118

This will enable expenditure to be tracked under these accounts with a reduction in expenditure expected in related maintenance accounts (e.g. road surface). Trends will enable budgets to be adjusted in future years while still resulting in no net effect on the overall maintenance budget.

A more substantial increase to operational funding is recommended to allow external resources to be engaged for all improvement projects.

6.5 Financial Model Results

Financial information presented in the graphs and tables below represents the best available data to model future provision and maintenance of Council's carpark assets. Future updates of the model will supersede existing data and be used to inform decision making. Due to the assumptions made in the development of the model, it is important that it is updated every 4 years on receipt of new audit data so that renewal projections can be recalculated and verified.

As can be demonstrated from the forecast calculations, the long term sustainable level of asset management funding is generally higher than what is currently budgeted by Council. This is predominantly due to a backlog of required renewal works. The following figures are nominal (adjusted for inflation).
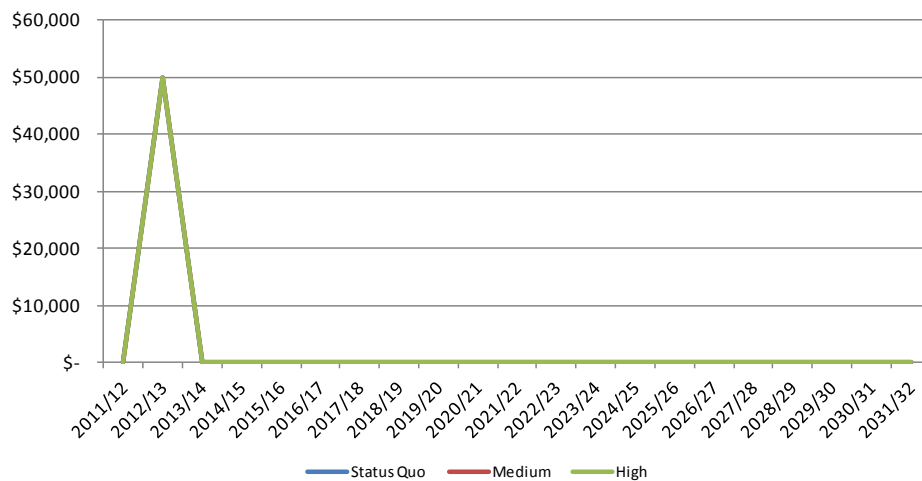

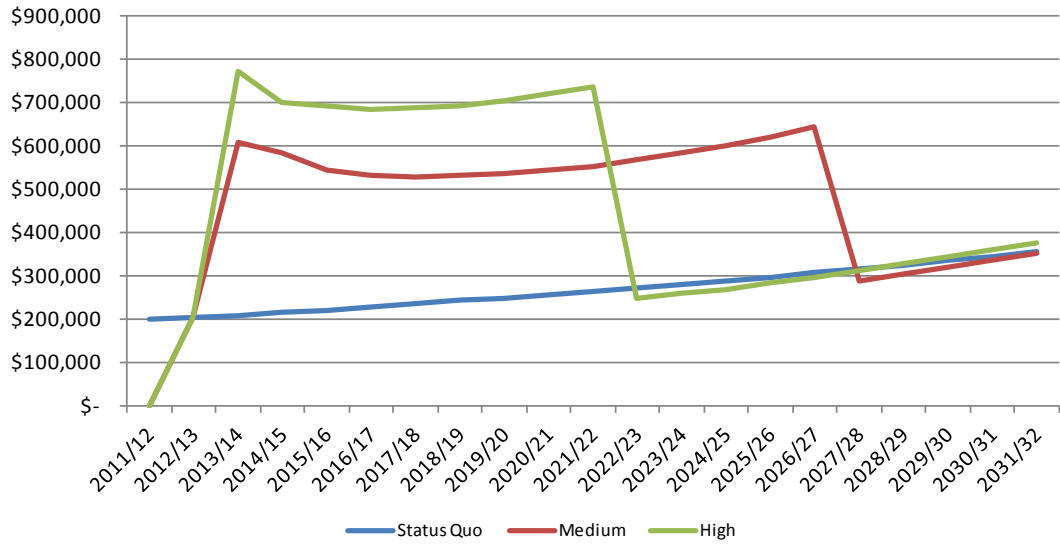**Figure 14 – Predicted New/Upgrade Costs**
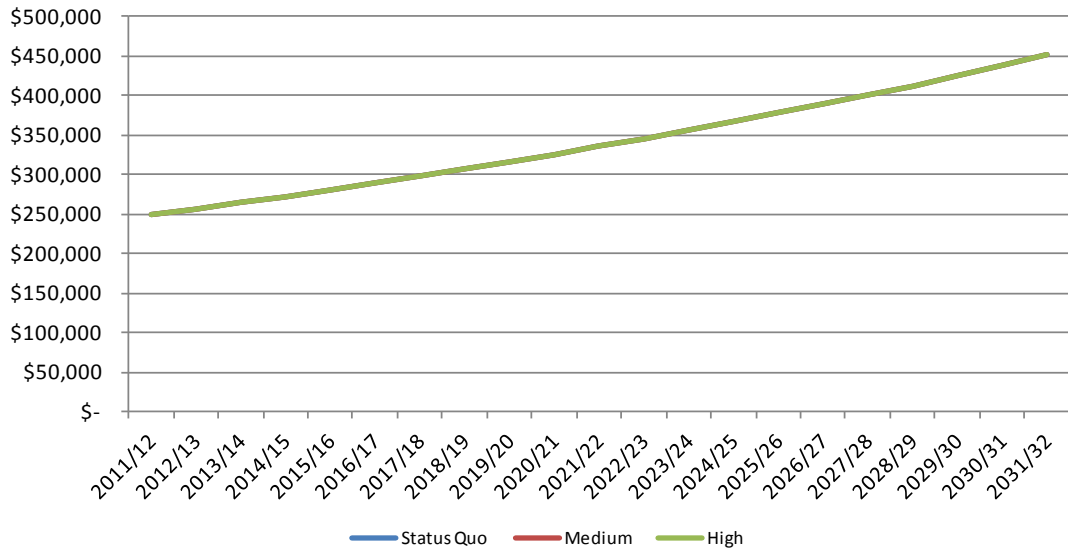
Figure 15 – Predicted Renewal Costs

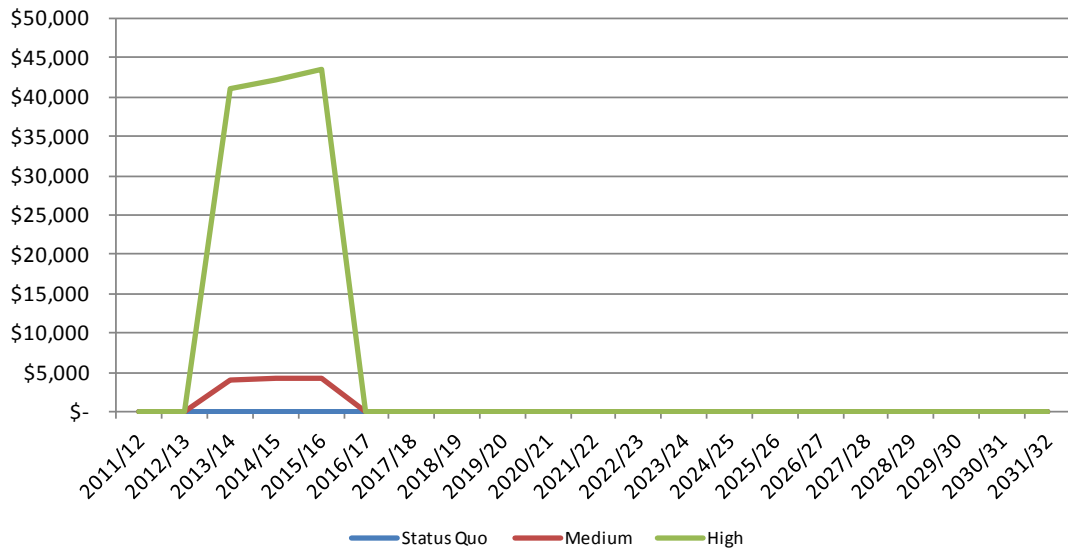**Figure 16 – Predicted Maintenance Costs**

Figure 17 – Predicted Operational Costs

Renewal funding

The following graph demonstrates the level of renewal funding projected over the different scenarios. Moloney renewal modelling has also been undertaken to assist in the validation of the renewal modelling. Costs in this graph are represented in real terms (today's dollars). It is clear from the medium funding scenario that Council requires on average $200,000 (in today's dollars) annually to sustainably manage the carpark renewal program in the long term, although a significant increase is required in the next 15 years to address the backlog of already deteriorated carparks.
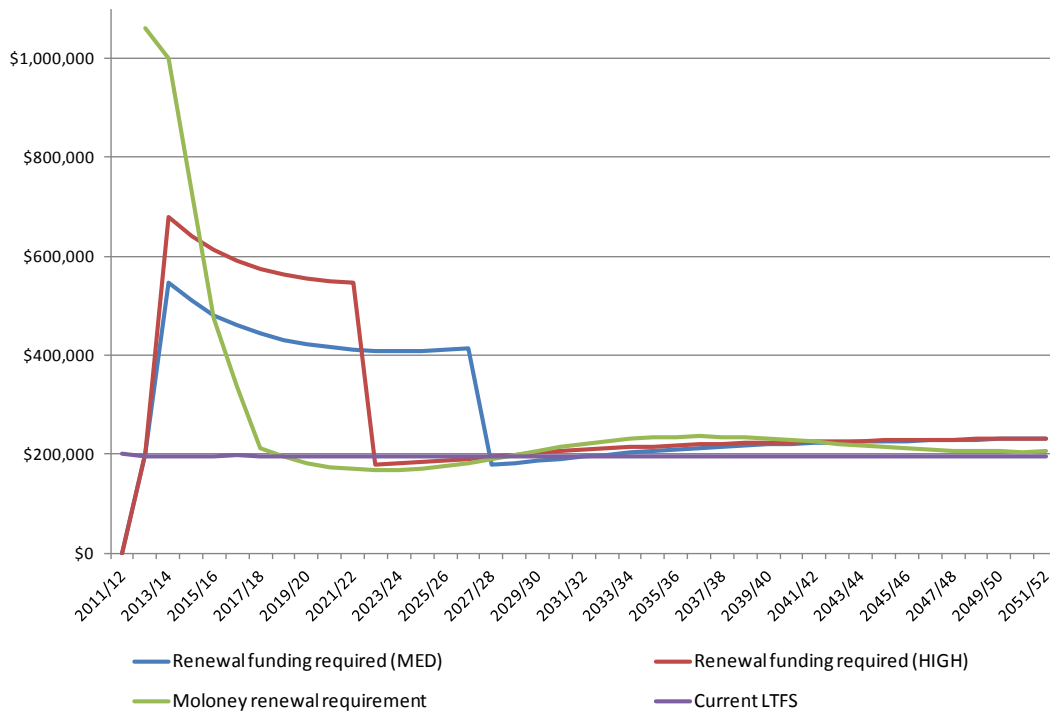

Figure 18 – Renewal Modelling Comparison

6.6 Recommended Funding Levels

To achieve improved asset management outcomes, a sustained commitment to the provision of adequate funding for asset renewal and maintenance is required. The funding targets necessary to deliver sound asset management for the next five years based on delivery of the *medium* scenario, described above, is summarised in Table 28. This table also compares the current funding levels set out in the Long Term Financial Strategy (LTFS) to the recommended optimal levels and identifies the annual funding shortfall in both the capital and operating budgets.

Funding decisions should be based on information that justifies initial expenditure and demonstrates the longer term benefits and costs. It must be noted however that sound asset management and sustainability are not solely reliant on the provision of funds. Continual assessment and improvement of Council's asset management practices is required to ensure assets deliver the required level of service in the most cost effective manner.

PROPOSED (MEDIUM) FUNDING – CARPARKS ($'000)					
	2012/13	**2013/14**	**2014/15**	**2015/16**	**2016/17**
Capital Works – New/Upgrade					
Upgrades	$50	$0	$0	$0	$0
LTFS / Status Quo	$50	$0	$0	$0	$0
Funding Shortfall	$0	$0	$0	$0	$0
Capital Works – Renewal					
Renewal (incl. Disposal)	$202	$607	$584	$541	$533
LTFS / Status Quo	$202	$208	$214	$221	$228
Funding Shortfall	$0	$399	$370	$320	$305
***Operating Budget – Maintenance**					
Maintenance	$257	$265	$273	$281	$289
LTFS / Status Quo	$257	$265	$273	$281	$289
Funding Shortfall	$0	$0	$0	$0	$0
Operating Budget – Operational Improvements					
Improvement Projects	$0	$4	$4	$4	$0
LTFS / Status Quo	$0	$0	$0	$0	$0
Funding Shortfall	$0	$4	$4	$4	$0

Table 28 – Recommended Funding

* Assumes recommended new maintenance accounts commence with zero budget

Under the recommended funding scenario it is important that the objectives of Council's Asset Management Policy are applied. Although no new or upgrade projects have been specifically recommended, appropriate lifecycle funding for maintenance and operation must be determined and committed within the operational budget upon approving any new or upgrade capital works project,. It is therefore important that Council staff have the necessary skills to estimate the lifecycle costs for all new and upgrade projects.

Chapter 7   Recommended Improvement Projects

7.1 Introduction

The improvement projects presented in this Chapter are the result of research and feedback as part of this Plan's development – they are intended to enable Council to move toward best practice asset management. Implementation of this Plan will ensure that off-street Council carparks will be more proactively managed in future years.

It is recommended that the Medium funding scenario presented in the previous Chapter be adopted. The financial model includes an allowance for progressive implementation of all the improvement projects. It is expected that via changes in work practices and priorities, and minimal use of external resources, all recommended improvement projects can be progressively delivered over the next three years.

7.2 Improvement Recommendations

Project 1. Update Work Order System

Update Work Order System to include dedicated off-street carpark maintenance activities and include system validation to ensure that Work Orders for carpark maintenance are assigned to the relevant unique carpark ID (stored in GIS and the asset register).

(Refer Chapters 2, 3)

Project 2. Develop Demarcation Agreements

It is considered important that Council officers, responsible for the maintenance and renewal of all Council carparks, are aware of locations and assets where Council is not the responsible authority. It is recommended that agreements with other authorities or private entities be developed to clarify maintenance and renewal responsibilities at the following sites:

- Lewis Park (Melbourne Water)
- Rowville Recreation Reserve (Melbourne Water)
- Wantirna Reserve (DSE)
- Boronia Senior Citizens (Victrack)
- Linton Place, Scoresby (Private)
- Rear 152 Boronia Road (Private)
- Dorset Square, Boronia
- Alchester Village, Boronia
- Scoresby Village

and the following assets located on Council's off-street carparks

- Trolley bays and other infrastructure installed to support supermarket shoppers
- Trader owned fixed furniture and awning fixings

In cases where the demarcation of site ownership can affect Council's ability to enforce parking restrictions, the agreements should seek to clarify how enforcement of parking restrictions shall be managed.

It is therefore recommended that Council's Sustainable Infrastructure Department (with input from Operations) document Council's current understanding of the demarcation, then arrange for the agreement to be discussed and ultimately signed off by representatives of the other organisations.

(Refer Chapter 2)

Project 3. Modify Current Carpark Valuation Methodology

Given that sealed carparks consists of three distinct components: surface, pavement and kerb & channel, which reach the end of their useful lives at different rates; it is recommended that each component be considered separately for future asset valuation.

Given that traffic volumes at Council carparks are considered to be similar to those found on Council's Access roads, it is considered appropriate, in the first instance, to adopt the same lives as those adopted for Access roads. That is, 30 years for surface, 185 years for pavement and 70 years for kerb & channel. These lives should be reviewed regularly in the future for reasonableness, particularly if there is evidence to suggest they may be less than first assumed.

Consider revising useful life of unsealed carparks to 15 years.

(Refer Chapter 2)

Project 4. Adopt Revised Hierarchy & Define Desired Requirements

A hierarchy for off-street Council carparks is outlined in section 2.7. Adoption of this hierarchy via the adoption of this Plan is expected to result in a more efficient approach to carpark asset management.

Further work is required to document the desired carpark requirements applicable for carparks within each hierarchy classification. Assessment of customer expectations should be used to define appropriate and feasible service level standards. It is recommended that this work be undertaken as part of the future development of a Knox Transport and Parking Strategy (Refer Project 9)

(Refer Chapter 2)

Project 5. Modify Budget to Support Reporting of Carpark Maintenance Expenditure

Formal budget allocation for carpark maintenance is recommended to enable improved accuracy in the reporting of maintenance expenditure. It is recommended that the following operating accounts be created to support the delivery of the proposed carpark maintenance activities summarised in Attachment 5:

- Routine Carpark Maintenance (Parks Services)
  - May replace existing account 35118
- Routine Carpark Maintenance (Works Services)
- Reactive Carpark Maintenance (Parks Services)
  - May replace existing account 35118
- Reactive Carpark Maintenance (Works Services)

Given that carpark maintenance has been cross-subsidised via a range of other existing accounts, it is recommended that, in the first instance, no additional funds be assigned to the new accounts (an alternative is to commence with nominal seed funding until more accurate estimates can be made). It is expected that the proposed maintenance activities will be able to occur without noticeably affecting the Operations Centre's bottom line budget responsibilities. Use of the proposed new accounts, as carpark works are undertaken during the following financial years, is expected to enable future carpark maintenance funding requirements to be better estimated and allocated.

(Refer Chapters 2, 6)

Project 6. Develop Routine & Reactive Carpark Maintenance Activities

In order to enable improved future analysis of demand for carpark maintenance, and a more consistent approach to customer requests, the development of reactive and routine carpark maintenance activities, with clearly defined intervention levels, and achievable target timelines and frequencies is warranted. Creation of dedicated activities will enable the establishment of an appropriate annual carpark maintenance budget that is used to fund activities.

Attachment 5 provides a summary of *proposed* routine and reactive carpark maintenance service levels. It is recommended that the Parks and Works Services teams review these service levels, amend them as necessary to ensure that timeframes and intervention levels are not too onerous in the first instance and adopt these service levels *prior* to the modification of Council's Work Order System (refer Project 1).

In the case of line marking, initial priority should be given to those carparks where line marking was found to be missing or faded. Care is required to align the routine line marking maintenance program with the renewal program.

(Refer Chapters 3, 5)

Project 7. Introduce a once-off crack sealing program

To address the backlog of asphalt surfaces found to be cracked and in poor condition, it is recommended that Construction undertake crack sealing at all carparks identified in the audit as having significant amount of surface cracking. This can occur ahead of the planned carpark resurfacing program.

(Refer Chapter 3)

Project 8. Incorporate Accessibility Improvements into Carpark Upgrades & Renewals

It is recommended that Council continue to provide accessible parking bays wherever possible and in accordance with the latest Australian Standard and Building Code requirements. It is considered important that whenever a Council building is due to be upgraded, or a carpark is due to be renewed, the capital works program manager consult with relevant staff and review the layout of parking bays so it can adjusted if necessary to better accommodate accessible bays. A formal protocol for this consultation should be developed and implemented via the capital works planning process.

Although consultation currently occurs, it is recommended that the existing process be improved to ensure that the Traffic & Transport team (in consultation with other relevant Service Owners) are given a timely opportunity to adjust the current design of the carpark to meet current industry standards and address known functionality and accessibility issues.

(Refer Chapters 3, 5)

Project 9. Develop Knox Transport and Parking Strategy

Development of a Knox Transport and Parking Strategy is recommended to guide the future provision and management of carparking within the municipality. The Strategy is expected to include a comprehensive assessment of community needs and demand for all forms of parking within the municipality.

It is expected to involve:

- Review of Stakeholder needs
- Review of demand drivers and demand management strategies outlined in this Plan
- Definition of current and future community needs and expectations
- Definition of Council's role and policy objectives with respect to parking provision and management in the future
- Assessment of off-street carpark capacity and utilisation
- Management of carpark capacity issues into the future
- Documentation of desired features of each Carpark Hierarchy Classification
- Consideration of current and future community expectations regarding car parks as defined in Service Plans (refer Project 10)
- Draw on information regarding customer and technical service levels contained in individual Service Plans to guide carpark management into the future (refer Project 10)
- Consideration of alternative transport options
- Consideration of service/program delivery approaches to modify and manage demand
- Environmental sustainability and community health and wellbeing objectives
- Accessibility requirements
- Parking management around schools

It is recommended that the Traffic & Transport Team lead the development of the Strategy, in consultation with service owners. Development of the strategy will be dependent on a successful business case bid and subject to resourcing commitments.

(Refer Chapter 2, 4)

Project 10.   Investment in Service Planning

The Corporate Planning and Performance department is currently in the process of developing a Service Planning Framework to assist all Service Managers with the preparation of first generation Service Plans.

It is expected that initial Service Plans will be developed for all Council services listed in section 4.2. These Plans are expected to outline stakeholder expectations and define how Council aims to ensure that all programs and assets support desired service objectives. They are also expected to document customer service level targets in a manner consistent with the recommendations provided by the International Infrastructure Management Manual 2011 (refer section 4.4).

In future years, when these initial service plans are due to be revised, it is expected that they will be expanded and document Council's current and desired approach to the management of each phase of the service lifecycle:

- Service Feasibility Analysis
- Formulation
- Pre-establishment
- Establishment
- Operation
- Adjustment
- Discontinuation

(Refer Chapter 4, 5)

Project 11.   Develop Approach for Asset Option Analysis

Council's service delivery model, which is documented in Council's Asset Management Policy and Chapter 5 of this Plan, suggests that asset option analysis is a key phase of the asset lifecycle.

The objective of asset option analysis is to consider the asset requirements necessary to support objectives of all relevant services and undertake analysis to ensure the best asset solutions are provided to meet service needs within physical, financial, legislative and other constraints. This analysis should include consideration of non-asset solutions.

Given that Council does not currently have a consistent approach to undertaking this type of analysis, it is recommended that a consistent approach be developed for use by all officers responsible for this lifecycle phase.

(Refer Chapter 5)

Project 12.   Incorporate maintenance and lifecycle costs into design process

It is recommended that all design and construction standards for carparks be modified to include information to support the calculation of average annual lifecycle costs necessary to maintain the assets throughout their serviceable life.

All future master plans and concept designs, that form part of Council business cases for capital works funding, should provide information regarding maintenance and renewal service standards and an estimate of average annual lifecycle costs necessary to maintain the created and upgraded assets.

(Refer Chapter 5)

Project 13.   Adopt   revised   renewal   ranking   criteria   (including hierarchy)

It is recommended that the Construction team adopt the revised renewal ranking criteria presented in Chapter 5.   After each carpark condition audit, all sealed carparks should be rated using this criteria. Carparks assigned the highest score should be given renewal funding priority.

(Refer Chapters 2, 5)

Project 14.   Inspection of Parking Bays on VicRoads arterial roads

In accordance with the Road Management Act, and Council's Road Management Plan (RMP), Council is the Responsible Authority (responsible for inspection, maintenance and repair) of parking bays located on VicRoads arterial roads within the municipality. These assets are excluded from the scope of this Asset Management Plan because they are effectively treated as part of the road network and therefore managed in accordance with Council's RMP and Road Asset Management Plan (RAMP).

During the development of this Plan, it was discovered that these arterial parking bay assets are not specifically included on Council's existing road inspection schedules. Only reactive maintenance is undertaken on them (funded under road maintenance) and some ad hoc line marking.   It is therefore recommended that the existing inspection schedules be updated to include these assets.

(Refer Chapter 5)

Project 15.　　　Standards Review

It is recommended that the Standards Committee consider the introduction of new standards for:

- Introduction of sleeve-mounted furniture footings
- Standard fixings on kerbs for shop awnings

As recommended previously in the Open Space Asset Management Plan, it is recommended that the Standards Committee review the open space design and construction standard (currently stored in Dataworks) and the designs implemented in recently upgraded shopping carparks and provide advice on how the designs may be amended prior to endorsement and inclusion in Council's standards.

The process should include investigation of maintenance requirements and facilitation of adjustments to maintenance practices and spare parts stocks to enable all new assets to be maintained appropriately.

(Refer Chapter 5)

Project 16.　　　Provide lifecycle cost training

Given the importance of ensuring that Council's operating budgets are sufficient to maintain Council assets at a standard that is safe, and meets other community expectations, it is considered important that all Capital Works Program/Delivery Managers have a good understanding of the importance of accurate lifecycle cost estimation.　It is therefore recommended that the Sustainable Infrastructure Department educate all relevant staff.　If necessary, the capital works planning process should also be reviewed and adjusted in a manner that ensures Program Managers allocate sufficient time and resources to the task of lifecycle cost estimation.

(Refer Chapter 6)

7.3　Implementation of Improvement Recommendations

Attachment 7 summarises the improvement recommendations. It highlights the following:

- Related Projects
- Expected Project Benefits
- Risk Assessment
- Expected Extent of Impact on Efficiency
- Organisation Dimension (Structure, Strategy, Processes, Skills)
- Responsible Directorate
- Recommended Project Leader (Department Manager)
- Council teams to be consulted during project implementation
- Preliminary cost and resource estimates

Each Project Leader has responsibility for incorporating delivery of the project into their annual business plan. Further work is therefore required by each Project Leader to define the scope of nominated projects and review the project delivery costs and resource requirements, which are all estimates at this stage.

To prioritise implementation, the consequence of not undertaking each project was assessed by the Asset Strategy team. Council's Integrated Risk Management Framework was used for this assessment. It is envisaged that the relevant Project

Leader will use the risk rating to prioritise the inclusion of the improvement projects into their annual business plan.

Given that a number of the recommended improvement projects are interdependent, it is expected that nominated Project Leaders will seek to combine the delivery of related projects. In the event that multiple stakeholders are expected to be required to contribute to the successful delivery of an improvement project, it will be incumbent on the Project Leader to define the scope, estimate the hours required to complete the works and communicate this information to all stakeholders to ensure they too allocate appropriate time and resources to work collaboratively on the improvement project.

For some projects, it may be necessary for the nominated Project Leader to prepare a business case submission to seek additional funding for the delivery of the improvement project. Consideration for funding of new initiatives occurs on a biannual basis either during the development of the budget or at the mid year review.

7.4   CAMP Implementation & Review

All internal stakeholders have a significant role to play in the delivery of sustainable asset management and the implementation of improvement recommendations.

The Asset Strategy team is responsible for the review and update of this Plan.

Implementation of the improvement projects, set out in Attachment 7, should be monitored on an annual basis and used to inform business planning activities and budget priorities in subsequent years.

Review of this Plan should occur at 5 year intervals and focus on updating asset performance, the model and the applicability of outstanding improvement projects. The model presented in Chapter 6 should be updated to reflect impacts of new works and improvements in Council's asset knowledge. Updates of the financial model should incorporate:

- Future condition audit results
- Changes to the improvement project priorities and expected costs
- Asset changes resulting from renewal works
- Asset changes resulting from capital upgrades
- New developments