

21.09 TRANSPORT AND INFRASTRUCTURE

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C149

The clause provides local content to support Clause 11 (Settlement), Clause 13 (Environmental Risks), Clause 14 (Natural Resource Management), Clause 18 (Transport) and Clause 19 (Infrastructure) of the State Planning Policy Framework.

Additional local content is also provided in Clause 21.10 to support implementation of both the State and Local Planning Policy Frameworks in a local area context.

21.09-1 Integrated and sustainable transport

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Knox historically grew around the rail corridor and local bus routes, however development in recent years has created low-density suburbs resulting in a dependence on cars for mobility. This has led to increasing use of resources, air pollution, traffic congestion and reduced amenity levels for Knox residents. Knox currently benefits from an extensive network of transport corridors and bicycle and pedestrian paths, however significant opportunities exist to improve linkages and overall transport infrastructure in the region and to facilitate further transit-oriented development so that Knox grows in a more sustainable manner.

An integrated transport system aims to connect various transport modes for greater efficiency, integrate land use with transport infrastructure for more sustainable development and promote sustainable active travel, such as walking, cycling, safety and accessibility improvements. Achieving a more integrated transport system will support local living and economic vitality in activity centres and key employment precincts, improved health and wellbeing of the community, create more efficient transport, safer travel and lower transport emissions.

Future opportunities for significant public transport improvements exist with the expansion of the Dandenong train line to Rowville and the potential for an extension of the tram network along Burwood Highway to Knox Central Activity Centre (see Figure 1 below).

Key issues

- Integrating land-use and transport planning.
- The transport network, including Knox's network of footpaths and shared paths, needs to be better linked to create greater efficiencies and reduce travel times.
- An increasing population will put strain on existing transport infrastructure.
- Providing convenient alternative transport choices to a private car.
- The need for greater accessibility and mobility for pedestrians.
- Poor pedestrian amenity on busy arterial roads that fragment activity centres.
- Advocating for a future train extension to Rowville and a tram extension to Knox Central.

Objective 1

To provide for the transport needs of existing and future populations in an integrated and sustainable manner.

Strategies

- 1.1 Focus population and housing density in and around activity centres and locations with frequent and reliable public transport facilities and services.
- 1.2 Consolidate commercial and retail activities into areas close to railway stations and other reliable public transport nodes.
- 1.3 Require the redevelopment of shopping centres and Strategic Investigation Sites to integrate public transport facilities within the development.
- 1.4 Maintain and upgrade transport infrastructure to meet existing and future transport needs of the community.

Objective 2

To encourage development that contributes towards an active, safe and accessible transport network.

Strategies

- 2.1 Require new development to provide footpaths and/or cycle paths to complement the existing path network and improve safety, connectivity and accessibility for people of all abilities.
- 2.2 Enhance walking and bicycle routes between activity centres and surrounding neighbourhoods and employment precincts.
- 2.3 Improve pedestrian infrastructure and prioritise pedestrian movements, including minimising new vehicle crossovers.
- 2.4 Enhance pedestrian accessibility, mobility and amenity to and around public transport facilities to encourage the use of public transport.
- 2.5 Provide access for people with limited mobility in all streets in activity centres, Strategic Investigation Sites and public and commercial buildings.
- 2.6 Encourage installation of end of trip facilities including cycle parking, change rooms and shower facilities in businesses for employees.

21.09-2 Providing and maintaining infrastructure

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The provision of infrastructure in Knox requires an integrated approach to land use planning and the efficient, equitable and timely maintenance, replacement and upgrade of infrastructure. This is particularly important in the more established areas of Knox which have ageing infrastructure assets, and where maintenance and/or replacement is a priority. There is also a need to address infrastructure needs in areas of accelerated usage due to population growth and/or an increased employment base.

It is important that any new development is adequately serviced with developers and servicing agencies contributing towards the provision of new and upgraded social and physical infrastructure on a fair and reasonable basis.

Key issues

- Infrastructure nearing the end of intended lifespan.
- Increased demand from new development impacting on the function, efficiency and lifespan of existing infrastructure.
- Funding new or upgraded infrastructure as a result of new development.

Objective 3

To ensure that infrastructure is able to accommodate existing and new development and contributes positively to urban amenity.

Strategies

- 3.1 Maintain the efficiency of existing infrastructure by requiring the upgrade and maintenance of infrastructure as a result of new development.
- 3.2 Facilitate an integrated approach to land use planning and infrastructure provision.
- 3.3 Require a contribution (where a need has been identified) towards infrastructure provision and upgrade through the implementation of Development Contributions Plans or Infrastructure Contributions Plans.

21.09-3 Integrated water management

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Council has adopted an integrated water management approach that seeks to manage all water sources (for example greywater, stormwater, surface water, and groundwater) as a potential resource. This approach considers Knox's context in an urban environment

traversed by a series of waterways, drainage easements, floodways, parks and other public reserves, with a view to managing water resources in a more efficient, equitable and sustainable manner. Integrated water management aims to provide benefits by reducing the burden on limited potable (drinking) water supply, reducing wastewater discharges to the bay and reducing stormwater runoff and flooding impacts through harvesting and fit-for-purpose reuse.

The integrated water management approach also seeks to protect waterways with water sensitive urban design that improves the quality of stormwater entering Knox's waterways and mitigates flooding by incorporating water-related social and ecological objectives into designs that optimise the urban water balance.

Parts of Knox are prone to flooding, including in existing urban areas where natural overland flow paths have been lost over time. Flooding is a natural hazard that will be exacerbated by climate change, causing extensive harm to the built environment and community safety. Careful planning and management of floodplains and overland flow paths can reduce the risk to community safety, the environment and the damage and costs associated with flood events.

Achieving an integrated approach to water management will facilitate efficient and adaptive infrastructure to provide a safer and more resilient, liveable and sustainable city.

Key issues

- Relieving pressure on existing infrastructure networks.
- Protecting the ecological health of waterways from urban impacts.
- Development pressures on land subject to existing flooding and inundation issues.
- Managing the flood risk of an increased frequency of intense storms associated with climate change.
- Increasing use of alternate water sources, such as stormwater, to reduce reliance on potable water and reduce stormwater runoff.
- Mitigating increased pollutant loads from urban runoff associated with increased development by improving stormwater quality.
- Wide availability of tools and technologies to capture, store, filter, and reuse water at both the site and precinct level.
- Constructing water assets that respond to population and climate change to improve Knox's water security and resilience.

Objective 4

To support the efficient and sustainable use of water by requiring development to adopt an integrated approach to water management and infrastructure provision.

Strategies

- 4.1 Support innovative design approaches for the provision, use and management of water infrastructure, including water sensitive urban design and integrated water management.
- 4.2 Support the use of technologies and best practice that minimise water consumption, including the installation of water saving devices in new development.
- 4.3 Support development that harnesses and utilises stormwater as a resource, including the installation of water tanks plumbed directly to households in all new development.
- 4.4 Support development that recycles water, including on-site treatment and fit-for-purpose reuse of grey water or wastewater.

Objective 5

To minimise the risk to people, property and the environment as a result of flooding.

Strategies

- 5.1 Require development to mitigate the risk of flood to people, property and the environment.
- 5.2 Avoid development on land prone to flooding that will increase the risk of flooding.
- 5.3 Require all proposals to accord with the capacity of available infrastructure to accommodate changes in run-off (including on-site detention) and/or contribute to the improvement of infrastructure off-site where this is appropriate.
- 5.4 Ensure new development can accommodate overland flowpaths.

Objective 6

To protect the ecological health of waterways and wetlands from the impact of development.

Strategies

- 6.1 Require new development to achieve a 'no net increase' in the rate, volume and pollutant load of stormwater entering the municipal drainage system and waterways.
- 6.2 Require new development to apply best practice environmental management to be used in the design, construction and operation of drainage systems to reduce impacts on surface water and ground water in accordance with the *Urban Stormwater - Best Practice Environmental Management Guidelines (CSIRO, 2006)*.
- 6.3 Require development to minimise the amount of impervious surfaces on a site.
- 6.4 Require preparation of Stormwater Management Plans for development of sites larger than one hectare and smaller sites as appropriate.
- 6.5 Support development in high value catchment areas that protect and rehabilitate waterways towards pre-development characteristics of the original ecosystem.

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Implementation**Policy Guidelines**

- Apply Clause 22.08 (Scoresby-Rowville Employment Precinct local policy) to development in the precinct to guide specific access and connectivity requirements.
- Apply the objectives of *the Knox Integrated Transport Plan, A Transport Vision for Knox 2015-2025*.
- Implement local structure plans that include transport, access and mobility objectives for activity centres.
- Take into account Traffic Impact Assessments in considering applications which will result in significant increases in traffic, as required by the responsible authority.
- When making decisions on the provision of infrastructure to service new development, consider relevant structure plans and infrastructure plans, as required.

Applying zones and overlays

- Apply the Public Use Zone to identify land required for the provision of public uses, services and facilities.
- Apply the Urban Flood Zone to areas affected by flooding.
- Apply the Special Building Overlay to areas affected by overland flows from the local drainage system and Melbourne Water assets in storm events.

- Apply the Land Subject to Inundation Overlay or Floodway Overlay to land affected by flooding along watercourses.
- Apply the Design and Development Overlay to areas requiring specific transport and infrastructure design outcomes.
- Apply the Development Plan Overlay as appropriate, to provide for the integrated and orderly development of local areas, including for roads, pedestrian and bicycle paths and car parking requirements.
- Apply the Public Acquisition Overlay to all land required for the future provision of public uses, services and facilities.

Further strategic work

- Identify future infrastructure needs for Knox as part of an Infrastructure Plan
- Investigate opportunities and develop a Development Contributions Plan and/or Infrastructure Contributions Plan to fund and upgrade infrastructure in accordance with the Infrastructure Plan.
- Develop precinct parking plans to support the implementation of the *Knox Integrated Transport Plan, A Transport Vision for Knox, 2015-2025*
- Develop a Principal Pedestrian Network Plan for the municipality.
- Review the current Knox Bicycle Plan and develop a new Cycling Plan.
- Develop guidelines on mobility for transport infrastructure.
- Develop a Green Travel Plan policy and accompanying planning framework for sustainably managing movement in and around high trip generating sites within Knox.
- Advocate to VicRoads for the extension of the Route 75 tram along Burwood Highway to Knox Central Activity Centre and transport interchanges at key locations.
- Work with the Country Fire Authority to determine and plan for the need for fire fighting infrastructure.
- Collaborate with Melbourne Water to update existing and apply new Special Building Overlays based on the results of Melbourne Water mapping and the Knox Flood Mapping and Modelling Project.
- Develop a strategic approach to managing High Value Catchment areas in Knox, including mapping, setting targets for water quantity and pollutant loads in stormwater runoff and determining an appropriate planning implementation response.
- Develop a strategic approach to managing directly connected impervious surfaces in Knox, including mapping and policy objectives and strategies.
- Work with Melbourne Water to develop comprehensive local and regional flood modelling and mapping, with the aim to identify appropriate flood overlay and supporting planning controls for flood affected areas.

Reference documents

Integrated City Strategy and Implementation Plan 2015-17, Knox City Council, 2015 (or as amended)

Knox Bicycle Plan Review, Knox City Council, 2008

Knox City Council Mobility Study, Knox City Council, 2011

Knox Integrated Transport Plan, A Transport Vision for Knox 2015-2025, Knox City Council, 2015 (or as amended)

Knox Liveable Streets Plan 2012-2022, Knox City Council, 2012

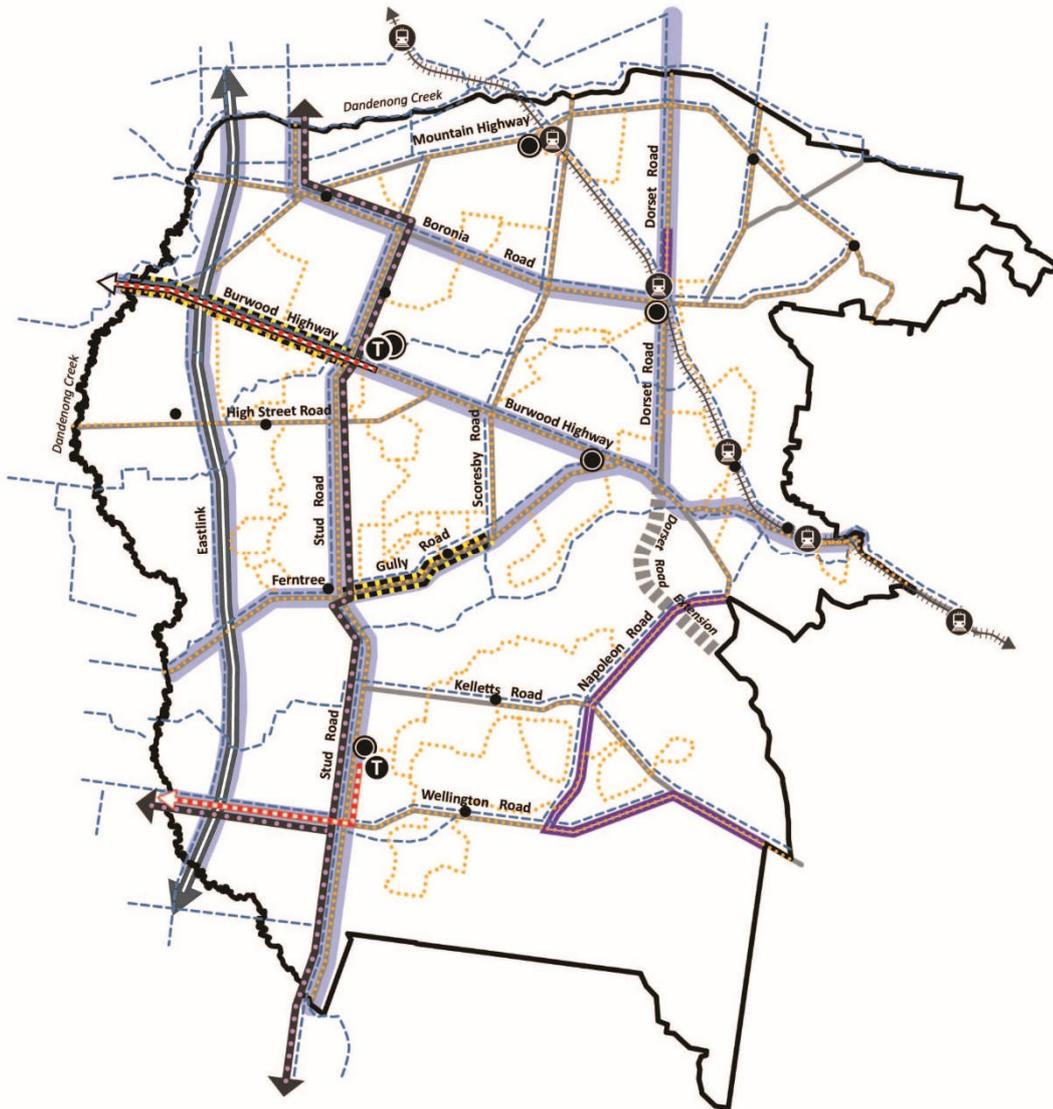
Urban Stormwater - Best Practice Environmental Management Guidelines, CSIRO, 2006

Water Sensitive Urban Design (WSUD) Policy, Knox City Council, 2015

Water Sensitive Urban Design (WSUD) Procedure, Knox City Council, 2012

Water Sensitive Urban Design & Stormwater Management Strategy, Knox City Council, 2010

Figure 1: Integrated Transport Map



LEGEND

Not to scale 

- | | |
|---|--|
|  MUNICIPAL BOUNDARY |  PRINCIPAL BIKE PATH |
|  RAIL CORRIDOR / TRAIN STATION |  SMART BUS |
|  PRINCIPAL PUBLIC TRANSPORT NETWORK |  POTENTIAL BURWOOD HIGHWAY TRAM EXTENSION |
|  DECLARED ARTERIAL ROAD |  FUTURE ROWVILLE RAIL |
|  EASTLINK |  BUS ROUTE |
|  FUTURE DORSET ROAD EXTENSION |  TRANSPORT INTERCHANGE |
|  FUTURE MAJOR ROAD IMPROVEMENT AND DUPLICATION PROJECT | HIERARCHY OF ACTIVITY CENTRES: |
|  FUTURE MAJOR ROAD WIDENING / ADDED LANES |  ACTIVITY CENTRE |
| |  NEIGHBOURHOOD ACTIVITY CENTRE |