

56.06

15/09/2008
VC49

ACCESS AND MOBILITY MANAGEMENT

56.06-1

09/10/2006
VC42

Integrated mobility objectives

To achieve an urban structure where compact and walkable neighbourhoods are clustered to support larger activity centres on the Principal Public Transport Network in Metropolitan Melbourne and on the regional public transport network outside Metropolitan Melbourne.

To provide for walking (including persons with impaired mobility), cycling, public transport and other motor vehicles in an integrated manner.

To contribute to reduced car dependence, improved energy efficiency, reduced greenhouse gas emissions and reduced air pollution.

Standard C14

An application for a subdivision must include a plan of the layout of the neighbourhood that meets the objectives of:

- Clause 56.06-2 Walking and cycling network.
- Clause 56.06-3 Public transport network.
- Clause 56.06-4 Neighbourhood street network.

56.06-2

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Walking and cycling network objectives

To contribute to community health and well being by encouraging walking and cycling as part of the daily lives of residents, employees and visitors.

To provide safe and direct movement through and between neighbourhoods by pedestrians and cyclists.

To reduce car use, greenhouse gas emissions and air pollution.

Standard C15

The walking and cycling network should be designed to:

- Implement any relevant regional and local walking and cycling strategy, plan or policy for the area set out in this scheme.
- Link to any existing pedestrian and cycling networks.
- Provide safe walkable distances to activity centres, community facilities, public transport stops and public open spaces.
- Provide an interconnected and continuous network of safe, efficient and convenient footpaths, shared paths, cycle paths and cycle lanes based primarily on the network of arterial roads, neighbourhood streets and regional public open spaces.
- Provide direct cycling routes for regional journeys to major activity centres, community facilities, public transport and other regional activities and for regional recreational cycling.
- Ensure safe street and road crossings including the provision of traffic controls where required.
- Provide an appropriate level of priority for pedestrians and cyclists.

- Have natural surveillance along streets and from abutting dwellings and be designed for personal safety and security particularly at night.
- Be accessible to people with disabilities.

56.06-3

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Public transport network objectives

To provide an arterial road and neighbourhood street network that supports a direct, efficient and safe public transport system.

To encourage maximum use of public transport.

Standard C16

The public transport network should be designed to:

- Implement any relevant public transport strategy, plan or policy for the area set out in this scheme.
- Connect new public transport routes to existing and proposed routes to the satisfaction of the relevant public transport authority.
- Provide for public transport links between activity centres and other locations that attract people using the Principal Public Transport Network in Metropolitan Melbourne and the regional public transport network outside Metropolitan Melbourne.
- Locate regional bus routes principally on arterial roads and locate local bus services principally on connector streets to provide:
 - Safe and direct movement between activity centres without complicated turning manoeuvres.
 - Direct travel between neighbourhoods and neighbourhood activity centres.
 - A short and safe walk to a public transport stop from most dwellings.

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Neighbourhood street network objective

To provide for direct, safe and easy movement through and between neighbourhoods for pedestrians, cyclists, public transport and other motor vehicles using the neighbourhood street network.

Standard C17

The neighbourhood street network must:

- Take account of the existing mobility network of arterial roads, neighbourhood streets, cycle paths, cycle paths, footpaths and public transport routes.
- Provide clear physical distinctions between arterial roads and neighbourhood street types.
- Comply with the Roads Corporation's arterial road access management policies.
- Provide an appropriate speed environment and movement priority for the safe and easy movement of pedestrians and cyclists and for accessing public transport.
- Provide safe and efficient access to activity centres for commercial and freight vehicles.
- Provide safe and efficient access to all lots for service and emergency vehicles.
- Provide safe movement for all vehicles.

- Incorporate any necessary traffic control measures and traffic management infrastructure.

The neighbourhood street network should be designed to:

- Implement any relevant transport strategy, plan or policy for the area set out in this scheme.
- Include arterial roads at intervals of approximately 1.6 kilometres that have adequate reservation widths to accommodate long term movement demand.
- Include connector streets approximately halfway between arterial roads and provide adequate reservation widths to accommodate long term movement demand.
- Ensure connector streets align between neighbourhoods for direct and efficient movement of pedestrians, cyclists, public transport and other motor vehicles.
- Provide an interconnected and continuous network of streets within and between neighbourhoods for use by pedestrians, cyclists, public transport and other vehicles.
- Provide an appropriate level of local traffic dispersal.
- Indicate the appropriate street type.
- Provide a speed environment that is appropriate to the street type.
- Provide a street environment that appropriately manages movement demand (volume, type and mix of pedestrians, cyclists, public transport and other motor vehicles).
- Encourage appropriate and safe pedestrian, cyclist and driver behaviour.
- Provide safe sharing of access lanes and access places by pedestrians, cyclists and vehicles.
- Minimise the provision of culs-de-sac.
- Provide for service and emergency vehicles to safely turn at the end of a dead-end street.
- Facilitate solar orientation of lots.
- Facilitate the provision of the walking and cycling network, integrated water management systems, utilities and planting of trees.
- Contribute to the area's character and identity.
- Take account of any identified significant features.

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Walking and cycling network detail objectives

To design and construct footpaths, shared path and cycle path networks that are safe, comfortable, well constructed and accessible for people with disabilities.

To design footpaths to accommodate wheelchairs, prams, scooters and other footpath bound vehicles.

Standard C18

Footpaths, shared paths, cycle paths and cycle lanes should be designed to:

- Be part of a comprehensive design of the road or street reservation.
- Be continuous and connect.

- Provide for public transport stops, street crossings for pedestrians and cyclists and kerb crossovers for access to lots.
- Accommodate projected user volumes and mix.
- Meet the requirements of Table C1.
- Provide pavement edge, kerb, channel and crossover details that support safe travel for pedestrians, footpath bound vehicles and cyclists, perform required drainage functions and are structurally sound.
- Provide appropriate signage.
- Be constructed to allow access to lots without damage to the footpath or shared path surfaces.
- Be constructed with a durable, non-skid surface.
- Be of a quality and durability to ensure:
 - Safe passage for pedestrians, cyclists, footpath bound vehicles and vehicles.
 - Discharge of urban run-off.
 - Preservation of all-weather access.
 - Maintenance of a reasonable, comfortable riding quality.
 - A minimum 20 year life span.
- Be accessible to people with disabilities and include tactile ground surface indicators, audible signals and kerb ramps required for the movement of people with disabilities.

56.06-6

09/10/2006
VC42

Public transport network detail objectives

To provide for the safe, efficient operation of public transport and the comfort and convenience of public transport users.

To provide public transport stops that are accessible to people with disabilities.

Standard C19

Bus priority measures must be provided along arterial roads forming part of the existing or proposed Principal Public Transport Network in Metropolitan Melbourne and the regional public transport network outside Metropolitan Melbourne to the requirements of the relevant roads authority.

Road alignment and geometry along bus routes should provide for the efficient, unimpeded movement of buses and the safety and comfort of passengers.

The design of public transport stops should not impede the movement of pedestrians.

Bus and tram stops should have:

- Surveillance from streets and adjacent lots.
- Safe street crossing conditions for pedestrians and cyclists.
- Safe pedestrian crossings on arterial roads and at schools including the provision of traffic controls as required by the roads authority.
- Continuous hard pavement from the footpath to the kerb.
- Sufficient lighting and paved, sheltered waiting areas for forecast user volume at neighbourhood centres, schools and other locations with expected high patronage.
- Appropriate signage.

Public transport stops and associated waiting areas should be accessible to people with disabilities and include tactile ground surface indicators, audible signals and kerb ramps required for the movement of people with physical disabilities.

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Neighbourhood street network detail objective

To design and construct street carriageways and verges so that the street geometry and traffic speeds provide an accessible and safe neighbourhood street system for all users.

Standard C20

The design of streets and roads should:

- Meet the requirements of Table C1. Where the widths of access lanes, access places, and access streets do not comply with the requirements of Table C1, the requirements of the relevant fire authority and roads authority must be met.
- Provide street blocks that are generally between 120 metres and 240 metres in length and generally between 60 metres to 120 metres in width to facilitate pedestrian movement and control traffic speed.
- Have verges of sufficient width to accommodate footpaths, shared paths, cycle paths, integrated water management, street tree planting, lighting and utility needs.
- Have street geometry appropriate to the street type and function, the physical land characteristics and achieve a safe environment for all users.
- Provide a low-speed environment while allowing all road users to proceed without unreasonable inconvenience or delay.
- Provide a safe environment for all street users applying speed control measures where appropriate.
- Ensure intersection layouts clearly indicate the travel path and priority of movement for pedestrians, cyclists and vehicles.
- Provide a minimum 5 metre by 5 metre corner splay at junctions with arterial roads and a minimum 3 metre by 3 metre corner splay at other junctions unless site conditions justify a variation to achieve safe sight lines across corners.
- Ensure streets are of sufficient strength to:
 - Enable the carriage of vehicles.
 - Avoid damage by construction vehicles and equipment.
- Ensure street pavements are of sufficient quality and durability for the:
 - Safe passage of pedestrians, cyclists and vehicles.
 - Discharge of urban run-off.
 - Preservation of all-weather access and maintenance of a reasonable, comfortable riding quality.
- Ensure carriageways of planned arterial roads are designed to the requirements of the relevant road authority.
- Ensure carriageways of neighbourhood streets are designed for a minimum 20 year life span.
- Provide pavement edges, kerbs, channel and crossover details designed to:
 - Perform the required integrated water management functions.

- Delineate the edge of the carriageway for all street users.
- Provide efficient and comfortable access to abutting lots at appropriate locations.
- Contribute to streetscape design.
- Provide for the safe and efficient collection of waste and recycling materials from lots.
- Be accessible to people with disabilities.
- Meet the requirements of Table C1. Where the widths of access lanes, access places, and access streets do not comply with the requirements of Table C1, the requirements of the relevant fire authority and roads authority must be met. Where the widths of connector streets do not comply with the requirements of Table C1, the requirements of the relevant public transport authority must be met.

A street detail plan should be prepared that shows, as appropriate:

- The street hierarchy and typical cross-sections for all street types.
- Location of carriageway pavement, parking, bus stops, kerbs, crossovers, footpaths, tactile surface indicators, cycle paths and speed control and traffic management devices.
- Water sensitive urban design features.
- Location and species of proposed street trees and other vegetation.
- Location of existing vegetation to be retained and proposed treatment to ensure its health.
- Any relevant details for the design and location of street furniture, lighting, seats, bus stops, telephone boxes and mailboxes.

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Lot access objective

To provide for safe vehicle access between roads and lots.

Standard C21

Vehicle access to lots abutting arterial roads should be provided from service roads, side or rear access lanes, access places or access streets where appropriate and in accordance with the access management requirements of the relevant roads authority.

Vehicle access to lots of 300 square metres or less in area and lots with a frontage of 7.5 metres or less should be provided via rear or side access lanes, places or streets.

The design and construction of a crossover should meet the requirements of the relevant road authority.

Table C1 Design of roads and neighbourhood streets

Access Lane

A side or rear lane principally providing access to parking on lots with another street frontage.

▪ Traffic volume¹	300vpd
▪ Target speed²	10kph
▪ Carriageway width³ & parking provision within street reservation	5.5m ⁶ wide with no parking spaces to be provided. Appropriately signed.

▪ Verge width⁴	No verge required.
▪ Kerbing⁵	
▪ Footpath provision	None Carriageway designed as a shared zone and appropriately signed.
▪ Cycle path provision	None

Access Place

A minor street providing local residential access with shared traffic, pedestrian and recreation use, but with pedestrian priority.

▪ Traffic volume¹	300vpd to 1000vpd
▪ Target speed²	15kph
▪ Carriageway width³ & parking provision within street reservation	5.5m wide with 1 hard standing verge parking space per 2 lots. or 5.5m wide with parking on carriageway - one side. Appropriately signed.
▪ Verge width⁴	7.5m minimum total width. For services provide a minimum of 3.5m on one side and a minimum of 2.5m on the other.
▪ Kerbing⁵	Semi-mountable rollover or flush and swale or other water sensitive urban design treatment area.
▪ Footpath provision	Not required if serving 5 dwellings or less and the carriageway is designed as a shared zone and appropriately signed. or 1.5m wide footpath offset a minimum distance of 1m from the kerb.
▪ Cycle path provision	None

Access Street - Level 1

A street providing local residential access where traffic is subservient, speed and volume are low and pedestrian and bicycle movements are facilitated.

▪ Traffic volume¹	1000vpd to 2000vpd
▪ Target speed²	30kph
▪ Carriageway width³ & parking provision within street reservation	5.5m wide with 1 hard standing verge parking space per 2 lots.
▪ Verge width⁴	4m minimum each side
▪ Kerbing⁵	Semi-mountable rollover or flush and swale or other water sensitive urban design treatment area.

<ul style="list-style-type: none"> ▪ Footpath provision 	<p>1.5m wide footpaths on both sides.</p> <p>Footpaths should be widened to 2.0m in vicinity of a school, shop or other activity centre.</p> <p>Be offset a minimum distance of 1m from the kerb.</p>
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<ul style="list-style-type: none"> ▪ Cycle path provision 	<p>Carriageway designed as a shared zone and appropriately signed.</p>
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Access Street - Level 2

A street providing local residential access where traffic is subservient, speed and volume are low and pedestrian and bicycle movements are facilitated.

<ul style="list-style-type: none"> ▪ Traffic volume¹ 	<p>2000vpd to 3000vpd</p>
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<ul style="list-style-type: none"> ▪ Target speed² 	<p>40kph</p>
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<ul style="list-style-type: none"> ▪ Carriageway width³ & parking provision within street reservation 	<p>7m-7.5m wide with parking on both sides of carriageway</p>
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<ul style="list-style-type: none"> ▪ Verge width⁴ 	<p>4.5m minimum each side</p>
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<ul style="list-style-type: none"> ▪ Kerbing⁵ 	<p>Semi-mountable rollover or flush and swale or other water sensitive urban design treatment area.</p>
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<ul style="list-style-type: none"> ▪ Footpath provision 	<p>1.5m wide footpaths on both sides.</p> <p>Footpaths should be widened to 2.0m in vicinity of a school, shop or other activity centre.</p> <p>Be offset a minimum distance of 1m from the kerb.</p>
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<ul style="list-style-type: none"> ▪ Cycle path provision 	<p>Carriageway designed as a shared zone and appropriately signed.</p>
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Connector Street - Level 1

A street that carries higher volumes of traffic. It connects access places and access streets through and between neighbourhoods.

<ul style="list-style-type: none"> ▪ Traffic volume¹ 	<p>3000 vpd</p>
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<ul style="list-style-type: none"> ▪ Target speed² 	<p>50 kph⁷ reduced to 40 kph at schools and 20 kph at pedestrian and cycle crossing points.</p>
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<ul style="list-style-type: none"> ▪ Carriageway width³, parking provision and bus stops within street reservation 	<ul style="list-style-type: none"> ▪ 3.5m minimum lane width in each direction of travel. ▪ 4.0m minimum lane width at approaches to and departures from roundabouts and T-intersections. ▪ For on-street cycling, increase the minimum clear carriageway in each direction by: <ul style="list-style-type: none"> ▪ 0.7m where the trafficable carriageway is shared by cyclists but no dedicated bicycle lane is marked on the carriageway; or ▪ 1.5m where a trafficable carriageway is shared by cyclists but no dedicated bicycle lane is marked on the carriageway and there is a single lane in each direction separated by a raised trafficable median of at least 2.0m in width with mountable kerbs; or
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	<ul style="list-style-type: none"> ▪ 1.7m in where a dedicated 1.7m wide bicycle lane is marked on the carriageway. ▪ An additional dedicated parking lane or indented parking within the verge must be provided where street parking is required. A parking lane width of 2.3m is required where parallel parking is provided. ▪ Bus stops at the kerbside, not indented within the verge.
▪ Verge width⁴	4.5m minimum each side.
▪ Kerbing⁵	Semi-mountable rollover or flush and swale or other water sensitive urban design treatment area.
▪ Footpath provision	<ul style="list-style-type: none"> ▪ 1.5m wide footpaths on both sides. ▪ Footpath widened to a minimum 2.0m in the vicinity of a school, shop or other activity centre. ▪ Footpaths offset a minimum distance of 1m from the kerb.

Connector Street - Level 2

A street that carries higher volumes of traffic. It connects access places and access streets through and between neighbourhoods.

▪ Traffic volume¹	3,000 vpd to 7,000 vpd
▪ Target speed²	60 kph ⁸ or 50km/h reduced to 40kph at schools.
▪ Carriageway width³, parking provision and bus stops within street reservation	<ul style="list-style-type: none"> ▪ 3.5m minimum lane width in each direction of travel. ▪ 4.0m minimum lane width at approaches to and departures from roundabouts and T-intersections. ▪ 7.0m minimum carriageway width in each direction of travel where there are two lanes in each direction separated by a non-trafficable central medium. ▪ 8.0m minimum carriageway width at approaches to and departures from roundabouts and T-intersections where there are two lanes in each direction separated by a non-trafficable central medium. ▪ For on-street cycling, increase the minimum clear carriageway in each direction by: <ul style="list-style-type: none"> ▪ 0.7m where the trafficable carriageway is shared by cyclists but no dedicated bicycle lane is marked on the carriageway; or ▪ 1.7m where a dedicated 1.7m wide dedicated bicycle lane is marked on the carriageway ▪ 0.3m where there are two trafficable lanes in each direction separated by a non-trafficable central median and the carriageways are shared by cyclists but no dedicated bicycle lane is marked on the carriageway; or ▪ 0.5m where there are two trafficable lanes in each direction separated by a non-trafficable central median and a 1.7m wide dedicated bicycle lane is marked on the carriageway. ▪ An additional dedicated parking lane or indented parking within the verge must be provided where street parking is

	required. A parking lane width of 2.3m is required where parallel parking is provided.
	<ul style="list-style-type: none"> ▪ Bus stops located at the kerbside, not indented within the verge.
▪ Verge width⁴	▪ 6m minimum each side (plus central median).
▪ Kerbing⁵	▪ Semi-mountable rollover or flush and swale or other water sensitive urban design treatment area.
▪ Footpath and cycle path provision	<ul style="list-style-type: none"> ▪ 1.5m wide footpath on each side and 1.7m bicycle lanes on the carriageway; or ▪ 2.5m wide shared foot and cycle path on both sides and no dedicate bicycle lanes marked on the carriageway. ▪ Footpaths widened to a minimum of 2.0m in the vicinity of a school, shop or other activity centre. ▪ Footpaths or shared foot and cycle paths offset a minimum distance of 1m from the kerb.

Arterial Road

▪ Traffic volume¹	Greater than 7000vpd
▪ Target speed²	Arterial road design as required by the relevant roads authority.
▪ Carriageway width³ & parking provision within street reservation	Arterial road design as required by the relevant roads authority.
▪ Verge width⁴	Arterial road design as required by the relevant roads authority.
▪ Kerbing⁵	Arterial road design as required by the relevant roads authority.
▪ Footpath & cycle path provision	2.5m wide shared path on each side or as otherwise required by the relevant roads authority.

Key to Table C1

1. Indicative maximum traffic volume for 24-hour period. These volumes depend upon location. Generation rates may vary between existing and newly developing areas.
2. Target speed is the desired speed at which motorists should travel. This is not necessarily the design speed and is not greater than the marked legal speed limit.
3. Width is measured from kerb invert to kerb invert. Widening may be required at bends to allow for wider vehicle paths using appropriate Australian Standards for on street and off-street parking but should not negate the function of bends serving as slow points.
4. Verge width includes footpaths. Additional width may be required to accommodate a bicycle path.
5. Where drainage is not required a flush pavement edge treatment can be used. Layback kerbs are preferred for safety reasons. Upright kerbs may be considered for drainage purposes or in locations where on-street parking should be clearly defined and parking within the verge is not desired.
6. Turning requirements to access and egress parking on abutting lots may require additional carriageway width. The recommended carriageway width of 5.5m will provide adequate access to a standard 3.5m wide single garage built to the property line.
7. 50kph is the default urban speed limit in Victoria.
8. Target speed must not exceed the legal speed limit.