OBJECTIVE:

To define the Council’s specification and financial obligations for the construction of vehicle crossovers in road reserves.

DEFINITIONS:

• The crossover is the section of driveway between the property boundary and the road kerb.
• The crossover belongs to the property owner but the land it is on remains part of the road reserve.
• The property owner must maintain the crossover in a safe condition that will not be a hazard for the public.
• All motorists using the crossover must give-way to pedestrians and cyclists.

PROCEDURE:

An owner of a property should apply in writing for their proposed crossover. This may be shown on their Building Application or on the Crossover Application Form available on the Town’s website. Approval to construct a crossover shall be issued a separate letter of approval. The application fee for a crossover covers the cost to inspect the site prior to construction and check that the completed crossover complies with the specification. A subsidy is paid to the owner for improved primary crossovers to properties that comply with these specifications.

Council Policy No. 5.2.7 (as adopted by Council 28 October 2014)

All new and reconstructed crossovers/driveways require approval by the Town of Cambridge prior to construction.

All crossovers must be constructed in accordance with the Town's "Standard Vehicle Crossover Specifications".

(i) Crossovers may be constructed in concrete or clay bricks or other material as approved by the Town. The thickness of the pavement material shall be determined by the Director Infrastructure. Where material shear and compressive strength are not known, NATA approved test laboratory results shall be provided to Council to support calculation of pavement thickness;

(ii) Crossovers are to be constructed perpendicular to the property boundary with a minimum clearance of 0.75 metres from a side boundary;
(iii) The clearance of any pole in the verge is to be 0.5 metres. Where an existing tree is within 1.5 metres of a proposed crossover, advice shall be obtained from Parks and Landscape Administration on the future size of the tree and the advisability of it being retained. The written approval of the Town is required for all street tree removals;

(iv) Crossover Width - Allowable Vehicle crossover widths vary throughout the Town and are guided by the adopted Town Planning Scheme Streetscape Policy 3.1. This policy was adopted by Council in August 2014 (DV14.188):-

- The minimum width of a crossover at the property line is 3.0 metres;
- The minimum width of crossovers at the kerb line, including splays, if applicable is 4.5 metres;
- The maximum crossover width at kerb line is 4.5 metres (inclusive of splays) in the West Leederville precincts (east of Selby Street) and 6.0 metres (exclusive of splays) in the Floreat and City Beach precincts (west of Selby Street);
- Details relevant to the Streetscape Policy 3.1 are provided in the Town's "Standard Vehicle Crossover Specification".
Transition arrangements:-
The following scenarios require some deliberation for transition approvals in the Wembley and West Leederville precincts:-

a) Upgrading/reinstatement of existing crossover that connects to internal carport/ garage accessible from a street access while having suitable laneway access?
Proposal - Allow the upgrade to be the same width as existing or grant a width extension up to the maximum allowable of 4.5 metres if it is less than 4.5 metres;

b) Upgrading/reinstatement of existing crossover that connects to internal carport/ garage accessible from a street access while having laneway access and a garage/ carport connected to the laneway?
Proposal - Allow the upgrade to be the same width as existing or grant a width extension up to the maximum allowable of 4.5 metres if it is less than 4.5 metres;

c) Upgrading/reinstatement of existing crossover that connects to internal carport/ garage with no laneway but crossover width is currently is wider than 4.5 metres.
Proposal - Allow the upgrade to be the same width as existing;

d) Upgrading/reinstatement of secondary crossover that connects to internal carport/ garage?
Proposal - Allow the upgrade to be the same width as existing;

e) Upgrading/reinstatement of existing crossover that is currently offset 0.75 metres from the property boundary's that has an adjoining crossover?
Proposal - Allow the upgrade to be the same width as existing;

f) What crossover width is applicable where a carport/garage has received planning /building approval prior to the adoption of DV 14.118 in August 2014 and a crossover application is received?
Proposal - It is proposed the crossover width be up to 6.0 metres in accordance with the previous policy.
Optional - The alternate option for consideration is allowing the kerb line width (inclusive of splays) to be 4.5 metres and allow a taper between the kerb line and property boundary to a maximum property line width of 6.0 metres. The Attachment provides examples of various scenarios.
(v) The crossover levels are to be approved by the Director Infrastructure;

(vi) The owner of the property to which the crossover is being constructed shall bear the cost of any public utility services adjustments required as a result of constructing the vehicle crossover. The crossover has to be inspected to ensure it meets the Town's requirements prior to the Town's contribution being made;

(vii) Vehicle crossovers that are no longer required, or no longer connect with an internal driveway or parking area shall be removed at the cost of the property owner;

(viii) The location of a crossover shall be approved by the Town. It shall be no closer to an intersection than 7.3 metres from the intersection of the street alignments;

(ix) Crossovers to be constructed within 25 metres of a signalised intersection shall be referred by the Town to Main Roads WA for approval;

Crossovers and driveways shall provide for vehicles to enter the roadway in forward gear where the road is designated as a District Distributor or above in the Town's Road Hierarchy or where the location of the crossover has insufficient sight distance at the property boundary;

(x) Any alteration to the verge, path or crossover that encroaches onto the land in front of a neighbour will be carried out at the proponents cost. The neighbour must be notified of the details of the alterations prior to applying to Council for approval. Council must be notified in writing of the response of the neighbour with the application for the crossover;

(xi) Maintenance and repairs to crossovers/driveways are the responsibility of residents/owners of the property. This also applies if damage to the crossover/driveway is:
- caused by an unauthorized verge tree;
- due to non-conformance to this Specification.

(xii) Having regard to the provisions of the Local Government Act 1995, all proposals relating to the construction of vehicle crossovers shall be approved by the Town;

(xiii) Construction and maintenance of crossovers may be undertaken by a contractor at the request of the property owner or by the property owner direct. In each case, the crossover will comply with the Town’s requirements relating to the location and the standards of construction.

(xiv) In accordance with the Local Government Act 1995, the Town will contribute one half of the cost of a first "Standard Crossover". Pursuant to Regulation 15(2) of the Local Government (Uniform Local Provisions) Regulations 1996, the Town defines a "Standard Crossover" as one that is 3.0 metres wide (excluding splays) and is constructed in grey pre-mixed concrete in accordance with this Policy.

Construction and maintenance of crossovers may be undertaken by a contractor at the request of the property owner or by the property owner direct. In each case, the crossover will comply with the Town's requirements relating to the location and the standards of construction.

The cost of a standard crossover will be determined by the Town and is listed in the Fees and Charges section of the current Budget.

Last updated December 2014
The subsidy is only provided when crossovers are constructed in accordance with this policy and have received approval prior to construction.

COMPLIANCE

Now compliance matters in relation to this policy will be dealt with in accordance with Local Government Regulations (Uniform Local Provisions) Regulations 1996. Regulations 12 to 17 refer.

LEGISLATION/LOCAL LAW REQUIREMENTS

Local Government Act 1995 (Schedule 9.1; Clause 7)


The Town's Local Government and Public Property Local Law - Part 9 - Works In Thoroughfares refers.

ORIGIN/AUTHORITY
Council Meeting – 1 July 1994 (Previous No.122)

DATE AMENDED
All policies are reviewed every two years in April. This policy was amended at the following meetings:- Council Meeting – 17 September 1996
Council Meeting – 27 May 1997
Council Meeting – 27 June 2000
Council Meeting – 26 August 2003
Council Meeting – 28 October 2003
Council Meeting – 26 July 2005
Council Meeting – 22 November 2005
Council Meeting - 22 April 2008
Council Meeting - 25 May 2010
Council Meeting - 24 April 2012 Council Meeting - October 2014

Last updated December 2014
3.1.12 Access and Crossovers for single and grouped dwellings

Please Note: The Western Australian Planning Commission has given its support to the following section of this policy as required under Part 7 of the Residential Design Codes to introduce provisions to amend deemed-to-comply provisions of Section 5.3.5. “Vehicular Access” of the R-Codes.

The demand for double garages, large carports and multiple vehicles on-site has resulted in many streetscapes becoming dominated by large crossovers and driveways at the expense of landscaping, street trees and kerbside parking.

Where a right of way (laneway) adjoins a lot, access is to be taken from the laneway. If there is no laneway, then access may be taken from the street. In the case of a corner lot, access is to be taken from the secondary street.

Narrow lots cannot accommodate more than a single width driveway and crossover if landscaping requirements of this policy are to be achieved and opportunities for on-street parking are to be maximised. Should access from the primary street be necessary in these circumstances, suitable alternatives include tandem parking with a single width crossover or shared crossovers over two properties.

The access and parking requirements under the R-Codes still apply to all single and grouped dwellings. The following provisions address crossover design from a streetscape perspective.

The following provisions apply for **single and grouped dwellings**. For multiple dwellings the vehicular access provisions of Part 6 of the R-Codes apply.

**Note:** A crossover refers to the section of the vehicle access way on the verge while a driveway refers to the section of the access way on private land (see diagram below).

Deemed-to-comply provisions

**Wembley and West Leederville Precincts**
- Garages, carports and/or parking spaces must be located off a right-of-way (laneway) where an adequately formed right-of-way is available for use of the relevant lot.
Note: In order to encourage garages to be built at the rear, where a garage is located off a right-of-way, it is permitted as of right to be built to the side boundaries, provided parapet walls are no higher than 3 m with an average height no greater than 2.7 m and provided the wall is no greater than 6 m in length along the boundary.

- Where a right-of-way is not available, a maximum of one crossover per lot is permitted from the street.

- In the case of a corner lot without right-of-way access, access to the lot is to be taken from the secondary street and the crossover shall be a maximum width of 4.5m (excluding splays). However, in the case of the secondary street being a district distributor road and the primary street is a local road, access shall be taken from the primary street subject to the provisions below.

Where no right of way or secondary street exists, access may be taken from the primary street subject to the following provisions:

- A crossover is to be no more than 4.5 m in width where proposed.

- Splays, if proposed, shall be contained within the 4.5 m width as measured at the kerb line and a parking line will need to be marked on the road 2.0 m back from the crossover.

Notes:-

- Depending on lot width and the setback of a dwelling, a driveway may splay or taper to service a double garage provided the garage complies with this policy and the landscaping requirements for the front setback area under the policy are met.

- In some cases, a driveway may need to be less than 4.5 m in width in order to meet landscaping requirements for the front setback area (to a minimum width of 3.0 m wide).

- Access via a shared access way and crossover between adjoining lots is preferred, particularly for lots that have been formed through down the middle subdivision, creating narrow lots.

- In the case of access being required from a distributor road the crossover may be up to 6.0m in width with splays of 1.0m x 1.0m required either side.
Crossover locations and width scenarios
West Leederville and Wembley Precinct

Laneway access

No crossover if laneway (ROW) access is available. Access from laneway only.

Secondary Street Access for corner lots

If no laneway is available, access is to be taken from the secondary street (maximum width of crossover 4.5 m including splays).

Local Primary Street Access - For lot frontages generally > 9.0m

Maximum crossover width 4.5 m (including splays if proposed).

Tapering of driveway to double garage permitted on wider lots provided that landscaping requirements are also met.

Local Primary Street Access - For lot frontages generally < 9.0m

Maximum crossover width 4.5 m (including splays if proposed).

To meet landscaping requirements, the driveway may need to be less than 4.5 m in width and no double garage would be possible.
Primary Street Access - Grouped Dwelling with Common Property

One crossover with a maximum width of 4.5 m (including splays if proposed) to access the parking spaces.

Parking should be located between the properties and should be out of view of the street.

Primary Street Access - Shared Access for side by side development

One crossover per lot of maximum width of 4.5m (including splays if proposed).

Two crossovers/driveways may abut.

On narrow lots, each driveway may need to be less than 4.5 m in width so as to meet landscaping requirements.

Note: Only applicable for concurrent development of both lots.

City Beach and Floreat Precincts

- A single crossover must not exceed 6.0 m in width (excluding splays).

- For a lot which only has a primary street frontage (no secondary street frontage) the combined crossover width shall not exceed 6.0 m (excluding splays).

- For a corner lot, the combined crossover width shall not exceed 9.0 m (excluding splays). No more than one crossover is permitted per street frontage.

Crossover locations and width scenarios

City Beach and Floreat Precinct

No Secondary Street Access (i.e. not a corner lot)

Maximum width of 6.0 m for crossover (excluding splays 1.0 m x 1.0 m permitted either side of crossover)

Total crossover width (excluding splays) is to be no greater than 6.0 m.
Secondary Street Access (i.e. corner lot)

Maximum width of 6.0m per crossover (including splays 1.0m x 1.0m permitted either side of crossover)

Total crossover width (excluding splays) is to be no greater than 9.0m.

There may be one crossover to each street, subject to meeting the above standards (For instance 2 x 4.5m wide crossovers or 1 x 3.0m and 1 x 6.0m wide crossover)

All precincts
The following provisions apply for all vehicle access:-

- The minimum width of a driveway and crossover at the property line is 3.0 m in all cases.
- Unless specified above, splays of 1.0 m x 1.0 m are required either side of a crossover.
- The minimum width of the vehicle entry point; that is the total width of a crossover and splays if required or permitted, as measured at the kerb line, is 4.5m in all cases.
- The width of a driveway must still allow the front setback area landscaping requirements to be met in all cases.
- The location of parking and their associated driveways and crossovers must be designed so as not to interfere with street trees, including their root systems and canopies. Crossovers must be a minimum of 1.5m from an existing street tree but may be required to be located a further distance from a tree if the Town considers a tree will be subject to any damage from a crossover.
- Only in exceptional circumstances the Town may consider applications for removing/pruning a street tree to allow for installation of a crossover. Trees removed will be replaced. Removal, planting or pruning can only be undertaken by the Town. The cost of these works are to be covered by the applicant. The tree species selected will be in accordance with the Town’s Treescape Plan.
- Where crossovers are redundant, the crossover is to be removed and the verge and kerbing is to be reinstalled at the applicant’s cost prior to occupation of the dwelling.
- The placement of crossovers and driveways along a street shall aim to maximise opportunities for on street parking as illustrated below.
Example of crossover / driveway positioning to maximise on street parking spaces

Example of crossover / driveway positioning which limits street parking spaces
SPECIFICATION DETAILS

Levels, Slope and Drainage Issues

The following guidelines are relevant for allowing vehicles to enter without scraping and preventing flooding from stormwater. If there is any doubt, please seek advice from the Town:-

- A 25mm lip on the edge of the crossover at the road edge.
- An “apron” that is 600mm wide and rising 100mm above the road to keep stormwater flowing along the road gutter.
- The crossover must be flush with the footpath and not change the levels in the footpath. In some cases, the footpath level may be raised or lowered to assist with drainage with approval by Director Infrastructure.
- A 2% crossfall on the footpath section of the crossover to keep stormwater flowing along the footpath.
- The crossover level at the property boundary must be same as the original ground level. This is required to protect utility services buried in the verge.
- Crossover must be flush with verge. No kerbing or retaining wall is allowed on the side of the crossover.
- Slopes on the driveway within the private property should comply with guidelines in AS 2890.1 Parking Facilities – Off Street Car Parking. Drawing ES01-04-03 shows the maximum slopes accessible by a standard vehicle. As a guide, a normal sedan car can negotiate a maximum of 1 metre rise or fall in a driveway over a distance of 6 metres.
- Stormwater runoff from roofs, driveways and other paved surfaces is required to be retained on site as a standard condition of the Building Approval for the property. Otherwise, the Town’s road drainage system will be overloaded and properties at low points will be flooded. Stormwater may be retained on site by sloping the driveway towards garden areas or installing soakwells. For every 30m² of impermeable area, 1m³ of soakwell capacity shall be adopted as nominal requirement for residential zones. Soakwells should be accessible for cleaning out leaves and silt each year.
- Drainage channels across the driveway at the property boundary and connected to a soakwell are not desirable because they stop working unless cleanout occurs monthly.

Clearances to Other Objects

- Minimum clearance to street trees is 1.5 metres to protect the tree and to reduce cracking or lifting of the crossover by tree roots.
- Minimum clearance to power poles and street light poles is 0.5 metres to reduce risk of collision by vehicles. Reflective tape should be wrapped around the pole to make it more visible at night.
- Minimum clearance to property boundary is 0.75 metres to avoid covering utility services that cross the road to the main-line on the other side. Utility authorities are not required by law to reinstate crossovers that are on top of their utilities. This 0.75 metre wide strip of verge may be brick paved separate from the crossover.

Safety Issues

- The works must be carried out with minimum disruption to pedestrian and vehicular traffic. Every precaution must be taken to ensure the safety of people and property.
• All excavations, materials, plant and equipment must be kept safe and barricaded during and after work each day. The contractor and property owner may be subject to a public liability claim if someone is injured due to removal of a section of footpath, road or verge.

• All work must be carried out in accordance with the Occupational Health Safety and Welfare Act 1994.

Public Utilities

There are various public utility services buried in every verge ie. electric power, gas, telecommunications, water and sewerage. These may be between 100mm and 1000mm deep in the verge. The contractor or person constructing the crossover must contact Dial Before You Dig on tel. 1100 or www.dialbeforeyoudig.com.au to obtain the drawings showing the location of these services. The main utility lines and domestic connections should be positively located onsite to avoid damaging them. The contractor or person carrying out works in the road reserve is liable for repair of any damage to these services and must report damage promptly.

Concrete Crossovers

Concrete crossovers must comply with the specifications for crossovers published by the Cement and Concrete Association (http://www.concrete.net.au/publications/pdf/Driveways.pdf).

The main requirements are:-

• Comply with the general layout as shown in Drawing ES01-08-01.
• Thickness: 100mm for domestic crossovers. 150mm for commercial crossovers. Apron 150mm. Sides of crossover should be thickened to 150 mm.
• Concrete strength: 20 Mpa minimum. 25 Mpa recommended for durability.
• Steel reinforcing may be used to reduce cracking or increase strength for crossovers that will have heavy vehicles on them.
• The sand sub-grade under the concrete must be compacted with a suitable plate compactor or roller. The compaction of the sand should be tested with a “penetrometer” and will require at least 7 blows per 300mm of penetration.
• Concrete surface must be made slip-resistant by finishing with either a broom finish or wood float finish.
• Glazed tiles are not allowed on crossovers because they are a hazard to pedestrians when wet.
• An expansion joint must be provided between the crossover and concrete footpath.
• Slopes, levels and drainage as described in previous section.

Brick Paved Crossovers

Brick paved crossovers must comply with the specifications for crossovers provided by the paving manufacturer or supplier (example: http://www.midlandbricks.com.au/).

The main requirements are:-

• General layout as shown in Drawings ES01-08-02 and ES06-06-01.
• The paving bricks must be provided by the manufacturer as suitable for crossover construction.
• Sand under the concrete must be compacted with a suitable plate compactor or roller. The sand should be tested with a “penetrometer” and will require at least 7
blows per 300mm penetration.

- A sub-base of crushed limestone or crushed rock is required under the brick paving. A thickness of 150mm is suitable for domestic crossovers and must be thoroughly compacted. It will discourage tree roots and reduce rutting from vehicle traffic.
- Bedding sand should be less than 30mm thickness maximum.
- A concrete apron or bond beam is required between the brick paving and the asphalt road surface. This is necessary to provide a firm edge where vehicles enter and restrain the bricks from rocking loose. The apron may be constructed from either concrete, precast kerb sections or mountable kerb.
- Edge restraints are required along the sides of the crossover to hold the bricks in place. These may be constructed from concrete or precast kerb. This will help discourage tree roots from lifting the paving.
- Slopes, levels and drainage as described in previous section.
TYPICAL PROFILE OF TREATMENT BELOW KERB – STANDARD APPROVAL

TYPICAL PROFILE OF TREATMENT ABOVE KERB – STANDARD APPROVAL

TYPICAL PROFILE OF TREATMENT ABOVE KERB – SPECIAL CASE
NOTES

1. PUBLIC UTILITIES ARE BURIED IN THE VERGE. CALL “DIAL BEFORE YOU DIG” ON PH 1100 TO AVOID DAMAGE TO GAS & TELSTRA AND POWER SERVICES.
2. CROSSOVER TO MATCH FOOTPATH LEVELS.
3. CONCRETE SHALL HAVE STRENGTH OF 25Mpa
4. CRACK CONTROL JOINTS ARE REQUIRED 3.0m MAX CENTRES IN CONCRETE.
5. REFER TO SPECIFICATION FOR FURTHER DETAILS
6. IF DRIVEWAY SLOPES TOWARD ROAD THEN STORMWATER TO BE RETAINED WITH SOAKWELLS AND/OR DRAINAGE CHANNEL

CROSSOVER
BROOM FINISHED CONCRETE

DRAWING NUMBER
E S01 08 01

DEPT
INFRASTRUCTURE

SHEET: 1 of 1
REVISION: A

GRID: 1 OF 1
ORIGINAL

SCALE: 1:50
DATE: 29/8/8
DESIGNED: JM
DRAWN: MW/PC

MRWA PM: MRWA APP:
FILE NAME: E S01 08 01
SUBURB: 03/12/08

BASECOURSE
SUB GRADE, COMPACT WITH PLATE COMPACTOR

100mm RESIDENTIAL
150mm COMMERCIAL 2%

MATCH KERB LEVEL
25mm LIP

APRIN
CROSSOVER

FOOTPATH

CRACK CONTROL JOINT
CRACK CONTROL JOINT

FOOTPATH
7% CROSSFALL

EXPANSION JOINT

FOOTPATH

BLEN D INTO KER B

1.0

BLEN D INTO KER B

1.0

3.0m - 6.0m

CRACK CONTROL JOINT REQUIRED IF UNREINFORCED

DRIVEWAY

FOOTPATH

EXPANSION JOINT

PRIVATE PROPERTY

PROPERTY BOUNDARY

CARRIAGEWAY

SECTION B-B

Last updated December 2014
NOTES

1. PUBLIC UTILITIES ARE BURIED IN THE VERRGE. CALL “DIAL BEFORE YOU DIG” ON PH. 1100 TO AVOID DAMAGE TO GAS & TELSTRA AND POWER SERVICES.

2. CROSSOVER TO MATCH FOOTPATH LEVELS.

3. CONCRETE SHALL HAVE STRENGTH OF 25MPa

4. CRACK CONTROL JOINTS ARE REQUIRED 3.0m MAX CENTRES IN CONCRETE.

5. REFER TO SPECIFICATION FOR FURTHER DETAILS

6. IF DRIVEWAY SLOPES TOWARD ROAD THEN STORMWATER TO BE RETAINED WITH SOAKWells AND/ OR DRAINAGE CHANNEL

CROSSOVER
BRICK PAVED

TOWN OF CAMBRIDGE
1 BOLD PARK DRIVE, FLOREAT
mail@cambridge.wa.gov.au

SCALE: 1:50
DATE: 29/8/8
DESIGNED: JM
DRAWN: PC

MRWA APP FILE: MRWA APP:
FILENAME: E S01 08 02

DEPT ASSET YEAR NUMBER
E S01 08 02

SHEET: 1 of 1
REVISION: A
SUBURB: 03/12/08
ORIGINAL DWG SIZE A4

Last updated December 2014
Concrete apron
Section (typical)

Brick footing
Edge restraint
Detail

In situ concrete
Edge restraint
Detail

Mortar Bed

Total Pavement Thickness

G.L.

0.6m min.

Kerb return

Mortar Bed

Header course

Brick paving

Bedding sand layer

Clay/concrete brick paving

Joint filling sand

(2-3mm gap)

Insitu concrete

Compacted sub-grade

Compacted sub-base

Compacted sub-grade

Compacted sub-base

Compacted sub-base

Compacted sub-base

Compacted sub-base

Bedding sand layer

Head course

Brick paving

Header course

Insitu concrete

Brick footing

Edge restraint

Detail

Concrete apron

Section (typical)