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Liveable Neighbourhoods

3.2 Row and Terrace House Design

DESIGN GUIDELINES

FOR SUSTAINABLE HOUSING & LIVEABLE NEIGHBOURHOODS

on behalf of the South Australian Housing Trust

Government of South Australia
SA Housing Authority

3.2 ROW AND TERRACE HOUSE DESIGN

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INTRODUCTION

Background

Established in July 2018, the SA Housing Authority (SAHA) is a statutory corporation that administers the South Australian Housing Trust (SAHT) Act 1995.

The SAHA consolidates housing-related services and management of the housing stock; including strategy, service delivery, assets and related corporate supports; and plays a key role in enabling and supporting the State's modern, multi-provider housing system and in establishing an environment that promotes shared responsibility and ownership.

The Authority is committed to providing housing that is socially and environmentally affordable and sustainable. To help achieve this, a suite of design guidelines for sustainable housing and liveable neighbourhoods that are applicable to all types of new residential construction, both rental and affordable have been developed.

The suite of design guidelines comprise the following:

1.1 House Design Guide

1.2 Amenity Targets

1.3 Apartment Design BCA Class 2 Construction

1.4 Housing Accommodation Schedules

1.5 Affordable and Market Housing

2.1 Land Titling and Service Infrastructure

2.2 Design Guidelines for Site Layouts

2.3 SAHT Universal Housing Design Criteria

2.4 Environmental Sustainability

3.1 Neighbourhood Renewal

3.2 Row and Terrace House Design

4.1 Housing Modifications

4.2 Generic Design Guidelines for House Renovations

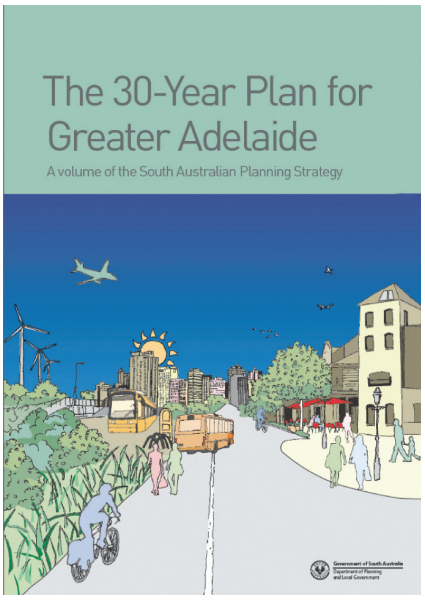
Designers must understand and incorporate the requirements of these guidelines on all residential projects that involve land and properties owned by the SAHT. These guidelines assist designers in the interpretation of current policies and practices and include applicable features of the Good Design Guide SA historically published by Planning SA.

Some design compromise is acceptable to take into account site constraints and local planning conditions. All designs will be considered by the SAHA on merit. However, the minimum spatial dimensions needed to meet universal housing living requirements are generally not negotiable.

3.2 ROW AND TERRACE HOUSE DESIGN

This Design Guideline

Row houses and terraces provide an urban form that has the potential to deliver residential densities of up to forty five dwellings per hectare within traditional suburban localities. These form of houses will be crucial to the successful implementation of infill residential development that will support the intent of the SA Government's 30 year plan for Greater Adelaide.



South Australian Planning Strategy - The 30 Year Plan for Greater Metropolitan Adelaide (July 2009)

The 30 Year Plan sets out the land-use policies to manage the growth and change that is forecast to occur in the Greater Metropolitan Adelaide region. It is used by the State Government to guide the planning and delivery of services and infrastructure. The plan outlines the population, housing (including affordable housing) and jobs targets and directions at a regional area level.

Housing developments can use available land and street frontages efficiently by the introduction of shared walls, zero lot lines, and upper level construction, all without compromising amenity privacy and solar access. They can be built within group developments or on individual allotments, by regular house builders all in accordance with BCA Class 1 construction. Ownership can be single lot, sharing a party wall with a neighbour or under a simple community title scheme.

Row housing development can be integrated with both suburban single lot development and medium rise inner urban apartment development, utilising existing infrastructure and street networks and new innovative laneways.

Proposed row housing at Angle Park

Sustainable Design Principles

Passive design principles are to be applied rigorously to all residential developments. In particular row house dwellings should be orientated in such a way that the maximum solar benefit, and access to natural daylight and ventilation, is obtainable for individual dwellings without compromise due to shading or overshadowing from adjacent development.

History of Row and Terrace Housing in South Australia

In South Australia the notion of row and attached housing was introduced by the early settlers of English background. Early row development began in the larger settlements and some mining villages.

The earliest examples appeared in Glenelg, Adelaide and Port Adelaide. The terraces provided township accommodation for merchant classes while single storey rows provided accommodation for workmen and artisans in lesser or smaller streets. Mining settlements Burra (principally), Willunga and Moonta saw single storey rows introduced by persons of Cornish and Welsh extraction. Railway development in the 1880s saw row houses appearing in some sparse rural locations for use by railway employees. However the nature of sprawling townships with large plots of land together with larger rural plots soon saw the predominance of single storey detached housing throughout the state. Only a smattering of attached housing continued to be developed in the 20th century.

The creation of the SAHT in 1937 saw the introduction of the maisonette into the urban landscape. Later, in the 1970s, the SAHT also pioneered the reintroduction of rows and terraces in new developments in both the inner city and areas such as West Lakes, Noarlunga and Hackham. In the suburban areas these houses were often in medium density groups and in other areas were associated with Radburn urban design planning principles.

Innovative row housing at the "Lightsview" development, Northgate

The English Terrace House

It is useful to review the history of the terrace housing, and question its relevance for housing in South Australia.

In Europe tightly packed multi storey housing in rows have been the norm for centuries in towns and villages. Only size and architectural decoration distinguished between the houses of the rich and poor. The industrial revolution of the 18th and 19th centuries brought greater pressures into urban conurbations and created vast tracts of humble workers row housing. These pressures also created interest in building regulation, town planning and health issues associated with urban living.

The gentry also took a serious interest in design with some developers creating exclusive estates such as in towns like Bath. There large terrace houses were designed facing large crescents, circuses or squares. They all featured grand front entries facing traditional streets, beyond which are communal parks sometimes fenced and gated. Squares in London were also similarly divided from the houses by trafficable streets. Good examples are Norfolk Square near Paddington Railway Station and Dorset Square, Marylebone. An alternative arrangement for private communal gardens was at the rear of the terraces with all residents (estate tenants) having a key. These types still exist with no public access allowed.

Rear access to backyards was provided in a number of different ways. Where rear lanes were not provided covered access ways between buildings were sometimes used. In grander terrace house developments rear cul-de-sac laneways, known as mews, were provided giving access to horse stables, carriages and ancillary (servant) living accommodation. The mews development also created a unique housing form with residential accommodation intermingled with and above stabling and garaging. In more recent times the mews development in older cities has become a sought after housing alternative to the terrace housing.

In England the row or terrace developed as a single occupancy dwelling with vertical separation between tenancies. However in Scotland the tenement house appeared in the larger cities of Glasgow and Edinburgh. Although they were similar in external appearance to the English row house but internally tenancies were separated horizontally between floors in the manner of flats or apartments. Tenement houses also historically became a feature of many other European cities.

English row housing, Isle of Sheppy

Terrace house backs, London

Glasgow tenement row

Definitions and Glossary

Nomenclature applicable in the South Australian context only:

Detached house	Single occupancy dwelling unattached to any other building. One or more storeys.
Semi-detached house	Single occupancy dwelling built as a pair, attached on one side, often more than one storey. Also referred to as a duplex or maisonette.
Maisonette	Smaller single occupancy dwelling built as a pair, attached on one side, usually single storey.
Row house	Single occupancy cottage built in a row attached on both sides, generally single storey.
Terrace	Single occupancy dwelling, built in a row, attached on both sides, generally more than one storey.
Cottage	Smaller single occupancy dwelling, one storey.
Bungalow	A single storey detached house or cottage.
Townhouse	A multi storey house, generally attached.
Rear-loaded	Applicable to dwellings with garaging serviced from the back of the house.

Semi-detached houses at Osborne

Townhouses at Parkholme

Rear-loaded townhouses at Kilburn

HOUSING DENSITY

In South Australian urban planning, residential density is typically defined as the number of dwellings per hectare (dw/ha) and is measured as "net" or "gross".

Net density refers to the number of dwellings per hectare on land devoted solely to residential development. While it includes private driveways and private open space, it does not include public roads and areas of public open space.

Gross density means the density of a given area, including infrastructure such as public roads, public open space and in some instances non-residential development such as schools and shops.

	Approx. Gross Density	Approx. Net Density
VERY LOW DENSITY	Less than 11 dw/ha	Less than 17 dw/ha
LOW DENSITY	11-22 dw/ha	17-33 dw/ha
MEDIUM DENSITY	23-45 dw/ha	34-67 dw/ha
HIGH DENSITY	Greater than 45 dw/ha	Greater than 67 dw/ha

Residential density, as defined in the *Planning Strategy for Metropolitan Adelaide*.

There are other assessment measures that may better indicate population density. These comprise number of habitual rooms or number of bedrooms, which may give a more realistic measure and better distinguish between occupancy of single person apartments and family dwellings.

Increasing Density

Attached housing can assist in increasing residential density from the low base of around 11 to 22 dwellings per hectare (gross) that exists across suburban Adelaide. Lot sizes can be reduced by using a combination of smaller house footprints, reduced street frontage setbacks, eliminating side alleyways by joining dwellings in rows and aligning private open space to household size.

The SAHT has successfully demonstrated an increase of gross density of 30 dwellings per hectare at the Newhaven Project at Osborne on the Lefevre Peninsula, and at around 40 dwellings per hectare (gross) in the "Inspire" mixed residential development at Noarlunga Centre. Both of these market-driven housing projects have provided households with private spaces that have preserved suburban social norms of privacy and sunlight, retaining the opportunities for an "Aussie" outdoor barbeque lifestyle.

Advantages of Two Storey Houses

As value of land and cost of development increases lot sizes have reduced in area, generally at the expense of the reduction of usable outdoor space. However, if house footprints can be reduced by the use of multi-storey construction open space amenity can still be retained. Further land area can be saved by joining houses in rows thereby eliminating inefficient long narrow slivers of space that has traditionally separated detached houses. Service access to the rear of properties can usually be achieved through garage areas. Alternatively rear access can be provided using laneways where applicable.

Upper storey development also has the advantage of enhancing both street presence and activation by the provision of windows and balconies. Unlike single storey housing, where garaging can dominate facades, upper storey construction can aesthetically enhance appearances and overshadow the monotony of blank garage doorways.

Affordability criteria can also be met by grouping development into rows to increase the efficiency of scale, and also to implement design and construction efficiencies that are cost saving.

Street fronted two storey terrace houses at Housing SA "Inspire" project, Noarlunga Central

STREET AND NEIGHBOURHOOD COHESION

The SAHT has historically from time to time built innovative developments. These include large estates, group housing and enclaves of walk up flats. A consistent feature of the larger estate has been the reliance upon internal (private) roadways and common spaces for access to individual dwellings. Blurring between common access and individual (tenant) privacy has created a source of tension and management difficulties. A clear definition between public (common) and private areas is fundamental to successful management and resident satisfaction.

Role of the Residential Street

The traditional street is a publically owned right of way. In a town or community it is a significant activity generator and is fundamental to "wayfinding", in both commercial and residential locations.

- Means of access, delivery point and emergency services;
- Letter box location - communication and identification point;
- Conduit for utility services and drainage.

Public Laneways

Laneways are generally smaller streets that provide local and service access to properties. Their principle function in new development has been to facilitate narrow frontage lots by the use of laneway garaging, and consequently maximising street frontages for on-street car parking.

The introduction of new laneways does however increase both the lineage of roadway with hard paving areas required for vehicle circulation and further increased stormwater runoff. Consequently the proportion of land area required for vehicle circulation will increase and have a negative effect on gross density. Total infrastructure costs will also be proportionally increased.

The adoption of laneways will also influence urban form as secondary residential dwellings must be introduced in order to activate laneways.

Garage fronted street with limited passive surveillance

Rear Loading

Back lanes are re-appearing in some new urban development projects. Their development appears in private projects from a supposition that narrow fronted street facing allotments are unable to accept two-car width garage accommodation. The street frontages can become dominated by vehicle crossovers reducing on-street car parking options.

In other options terrace housing has been developed fronting parkland reserve. For these houses vehicle access is only available from the rear. Confusion can occur as the street address and letter box location are at a garage door.

These proposals must be carefully designed and managed, as the laneways can create security and surveillance issues that do not accord with meet CPTED guidelines.

A pro-active solution is to promote wider frontages with squarer building footprints offset by shallower building block depth. The squarer allotment format also has advantages of providing terrace housing with greater access to natural light and improved solar orientation. On street car parking and driveway footpath crossovers can be designed to successfully co-exist.

Unacceptable rear-loaded solution

Unacceptable rear-loaded solution

Shared Streets

In some older dense urban areas some narrow streets have been redefined as shared pedestrian and vehicle low-speed streets. The concept was first developed in the Netherlands where it was known as a Woonerf and later in England as a HomeZone. The HomeZone street is identified by a 10km/hr speed and distinctive signage. The SAHT pioneered the concept in South Australia with the creation of narrow shared roadways in the Newhaven development. Subsequently the SAHT has included two shared streets in the "Inspire" development located off Goldsmith Drive at Noarlunga Centre.

Typical shared roadway sign

Shared roadway. Visitor car parking opportunities occur at road widenings and on garage forecourts

STREET FRONTED HOUSING

The following is applicable to single frontage housing access from a public roadway.

Depth of Frontages

Most local government authorities have rules about building setbacks that require, for aesthetic reasons, that garaging is recessed back from the main house frontage. The usual minimum setback is around 500mm. A visitors or second open car space is allowed for in front of the main garage door at a minimum depth of usually 5.50m. Porches, verandahs and balconies are usually allowed to project beyond the defined building frontage. A minimum frontage setback for this discussion could be assumed to be 3.00m. This will allow for a porch and small garden space. At the driveway the setback will increase to 5.50m.

Any increase in frontage setback will generally increase depth of lot and land area proportionally.

Dwelling Separation Walls and Attached House Construction

Dwellings may share walls within a development subject to building rules compliance to meet fire and acoustic separation criteria as set out in the BCA.

Shared (party or common) walls

Shared walls are integral within a multiple development comprising the construction of a number of separate dwellings in a row form. The walls share construction support and jointly provide fire and acoustic separations. They are usually easier to construct and economical to build as construction methods are integral to the complete project

For separate ownership, where there is a title boundary between the dwellings, these walls are known as “party walls” and embodied in a shared ownership where rights between owners are secured. The BCA requirements are the same for common and party walls.

Zero lot line

Zero lot line is a form of construction where a building is built to the boundary. In zero lot line construction the end units may have a wall built on a boundary with no windows allowed. Walls not on a boundary should be 1000mm clear except for an open sided carport where the structure can be 600mm off a boundary.

Infill row housing construction can be expensive due to limited site access. For affordable development it is smarter to build in groups.

Forms of construction can be dictated by circumstances such as existence of adjacent development or the ability to gain access to the adjacent property to enable the undertaking of construction fixings and finishes. Irrespective of the form of construction the wall is required to be designed and constructed in such a way that each wall must be weathered so that an adjacent property can be demolished or reconstructed without interference with the retained structure. Although no connecting pieces including flashings are allowed, there needs to be continuity of the termite treatment and the slight gap between the walls need to be weather and vermin sealed. Matters pertaining to fire separation, finishes, weathering and maintenance must be resolved with the owners of the adjoining buildings.

Building boundary offsets

Boundary Condition	BCA	South Australian Housing Trust
Zero Lot Line	nil	nil
Carport	600mm	600mm
Dwelling Ground Floor	900mm	1000mm
Dwelling Upper Levels	900mm	1000mm but may be subject to planning constraints
Shared (Party) Walls	Subject to identification on ownership titles	

Garages and Carports

For market housing double garages are selling points but they come at a cost in terms of additional land required and increased frontage width. The garages can be used to link buildings and provide effective barriers between individual dwellings. In multi story housing, garages can be incorporated into the main construction with living accommodation above.

Carports

For construction reasons, carports associated with the main buildings are generally not appropriate except where applied to end units. Attached carports with an open side are required to be a minimum of 600mm off the boundary.

For rear loaded developments carports with roller doors facing laneways are a suitable and cost effective option.

Garages

Garages with a minimum internal width of 3.2m allows for car doors to open to second stop for loading and unloading (2.6m allowed for in AS 2890.1 *Parking Facilities - Off-street car parking*) and can also fit a small work bench or cupboard where not interfering with opening doors.

Double garages require an internal width minimum of 6.0m with a minimum single door opening of 4.8m.

Wet Area Accommodation

For two storey housing where the living areas are on the ground floor it is usual for a WC with hand basin and a laundry to be provided. For upper floor bedroom areas provide full bathroom including a WC, bath, separate shower and hand basin. Refinements may include a separate toilet and an ensuite bathroom off the major bedroom.

For housing where there is a bedroom on the ground floor allow for the provision of a combined WC, shower and hand basin on the ground floor.

Minimum Dwelling Widths for Row Housing

For single storey housing on a north-south alignment:

- A minimum effective width for a house should allow for a single room and passage along side. A boundary to boundary building width of 4.8m will satisfy, made up of a nominal 3.6m room and 1.2m passage widths. Actual internal dimensions will reduce to take into account wall thickness and structure. A 4.8m width will also allow for a usable garage space and a passage or straight stair alongside.

For two-storey housing similar minimum widths can apply as follows:

- 4.8m width will allow for a straight stair to pass a usable garage space and on upper levels a passage past a straight stair adjacent to an in board bathroom area;
- For rear loaded two-storey houses where it is not necessary to provide separate passage access past a garage space the overall width could be reduced to 4.5m or at an absolute minimum of 4.2m. Upper-level access can be achieved by the use of a centrally located return stair. Note that spiral and circular stair forms, and stairs with winders are impractical for furniture moving and are challenging for general use;
- For rear-loaded two-storey houses with double garaging an absolute minimum width is 6.0m but this is not ideal as at the upper-level a pair of side by side bedrooms will be uncomfortably narrow. Widening the dwelling to a minimum of 7.2m or a more relaxed 7.5m will allow for a pair of wider secondary bedrooms and also give options for a passage past the garaging for both street frontage and rear-loaded houses.

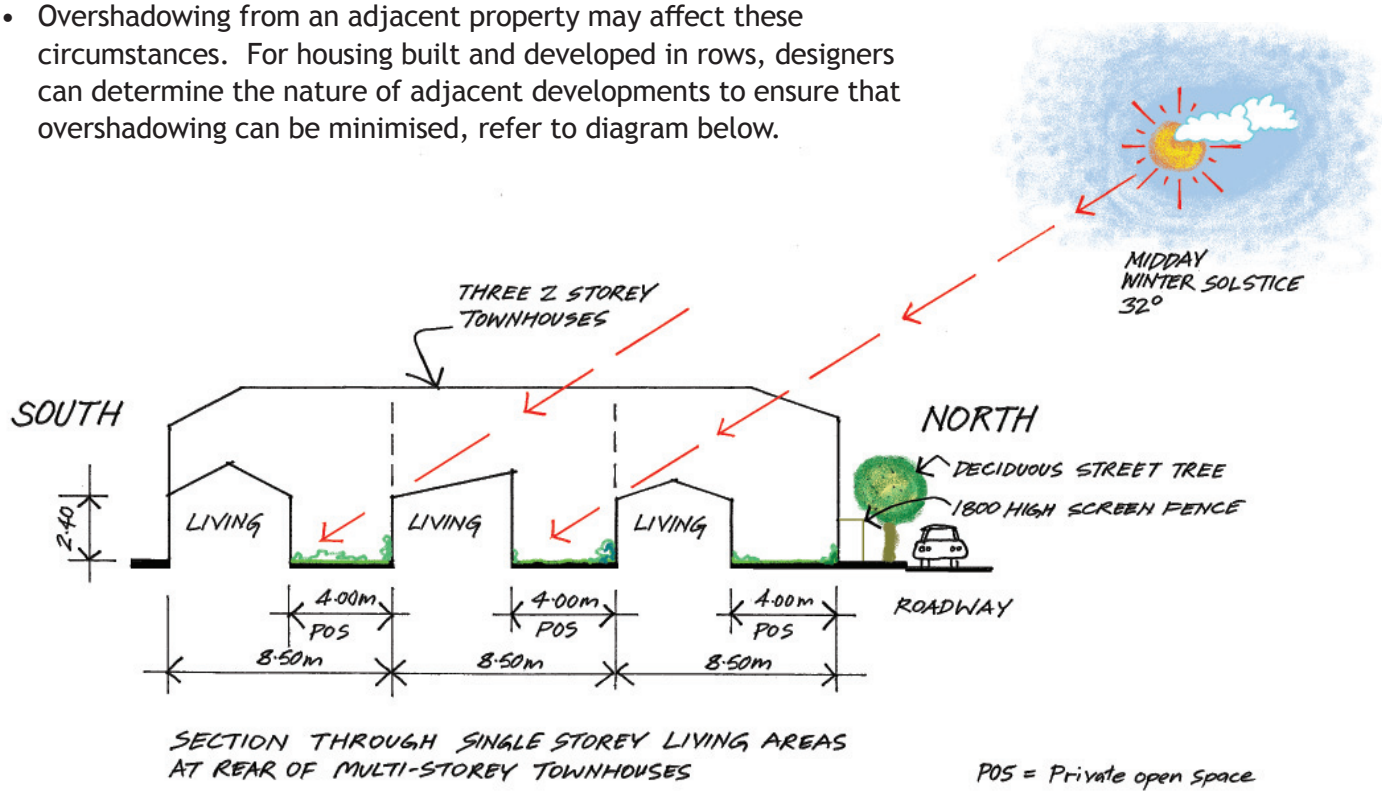
Orientation of Narrow Lots and Skinny Houses

The narrowest lots are only suitable for north-south orientated houses.

- Lots on the northern side of the street are the most favourable as rear yards can be co-located with living areas to achieve the most desirable solar aspects.
- Lots on the southern side of the street will need to locate the living areas to the front and provide a component of outdoor living in a front garden area. For multistorey housing a front balcony may achieve a desirable solar orientated outcome.

For lots set out on an East-West alignment widths should allow for a side courtyard to provide northern aspect to a living area.

- For family housing the minimum width of the side courtyard should be 4.0m. Allowing for living room widths of 4.5m including structure a minimum acceptable lot width shall be 8.5m.
- For smaller housing a courtyard width of 3.0m may be acceptable where minimum private open space rectangle of 3m x 5m is usually the minimum allowed by planning authorities.
- These dimensions and spaces assume that spatial requirements for clotheslines, wheelie bins, rainwater tanks, and hot water services are elsewhere usually to the rear.
- Overshadowing from an adjacent property may affect these circumstances. For housing built and developed in rows, designers can determine the nature of adjacent developments to ensure that overshadowing can be minimised, refer to diagram below.



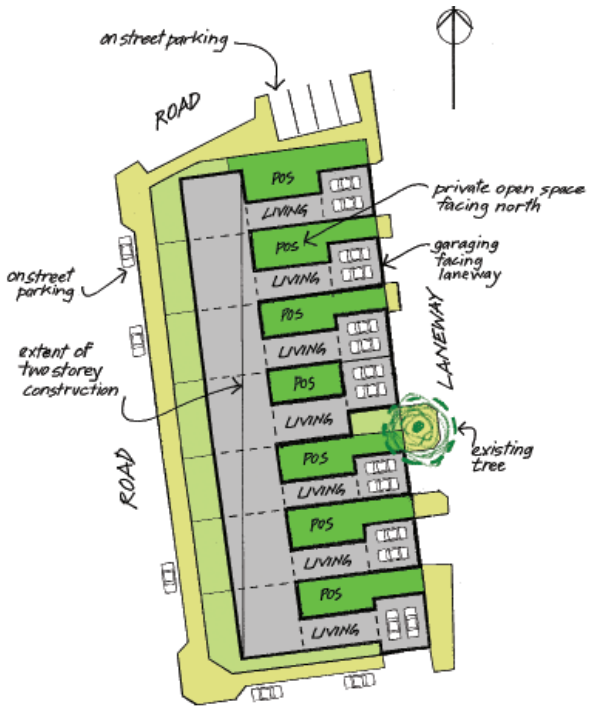
Section through rear of a row of three townhouses showing solar exposure to living areas at winter solstice. Three acceptable roof forms are shown over the single storey living accommodation

3.2 ROW AND TERRACE HOUSE DESIGN

Innovative east-west orientated terrace housing at Lochiel Park. North facing to the right, garaging is "rear-loaded".

For lots unaligned to compass points or diagonally arranged, additional space should be provided to allow for buildings to be aligned appropriately. Alternatively innovative design techniques may be applied to introduce diagonally aligned windows or walls to achieve desirable solar orientations. These designs, although achievable, may impose substantial cost penalties on construction processes, and for these reasons should be avoided.

Refer to dwsign guideline *1.1 House Design Guide* for further information on private open space requirements, and *2.4 Environmental Sustainability* for further information on housing orientation and the advantages of a northern solar aspect.



Plan of a typical east-west orientated housing showing north orientated private open space

Plan of a typical east-west orientated dwelling showing living areas with northern aspect relating direct to private space

Allotment Dimensions and Dwelling Area

Areas and dimensions in the tables below are to be used as a guide only. The floor area of a house includes all walls but excludes garages, porches, verandahs and balconies. Wall thickness is allowed but variations can occur subject to form of construction, design ingenuity and site circumstances.

For houses with double garages width of garage could be reduced by 300mm to 5.7m if second vehicle is assumed to be small. The width of the side room can also be narrowed at the expense of internal amenity. Private open space is assumed at a rate of 20m² per bedroom (60m² for 3-bed and 80m² for 4-bed), but may be reduced to 15m² per bedroom.

Width of frontage for single storey row house (2 bedroom)

Description of House	Frontage	Floor Area	Land Area	Depth of Lot
Single garage (3.2m) type with passage and narrow side room (2.7m) ***Really skinny type***	8.5m	90m²	187m²	22m
Single garage (3.2m) type with passage and side room (3.6m)	9.5m	90m²	190m²	20m
Single garage (3.2m) type with central passage and flanking side rooms	11.0m - 12.0m	90m²	200m²	17m

Note: Frontage setback is assumed to be 3.0m.
Flanking garage setback 5.5m to provide for a visition car park

Width of frontage for single storey row house (3 bedroom)

Description of House	Frontage	Floor Area	Land Area	Depth of Lot
Single garage (3.2m) type with passage and narrow side room (2.7m) ***Really skinny type***	8.5m	140m²	277m²	33m
Single garage (3.2m) type with passage and side room (3.6m)	9.5m	140m²	280m²	30m
Single garage (3.2m) type with passage and flanking side rooms	11.0m - 12.0m	140m²	290m²	25m
Double garage type with passage and narrow side room (2.7m)	11.0m	140m²	298m²	28m
Double garage type with passage and side room (3.6m)	12.0m	140m²	301m²	26m
Double garage type with passage and flanking side rooms	15.0m - 16.0m	140m²	311m²	20m

Note: Frontage setback is assumed to be 3.0m.
Flanking garage setback 5.5m to provide for a visition car park

Width of frontage for single storey detached house (2 bedroom)

Description of House	Frontage	Floor Area	Land Area	Depth of Lot
Single garage (3.2m) type with passage and narrow side room (2.7m) ***Really skinny type***	9.5m	90m²	190m²	22m
Single garage (3.2m) type with passage and side room (3.6m)	10.5m	90m²	193m²	21m
Single garage (3.2m) type with passage and flanking side room s	11.0m - 13.0m	90m²	203m²	16m

Note: Frontage setback is assumed to be 3.0m.
Flanking garage setback 5.5m to provide for a visition car park

Width of frontage for single storey detached house (3 bedroom)

Description of House	Frontage	Floor Area	Land Area	Depth of Lot
Single garage (3.2m) type with passage and narrow side room (2.7m) ***Really skinny type***	9.5m	140m²	280m²	33m
Single garage (3.2m) type with passage and side room (3.6m)	10.5m	140m²	283m²	30m
Single garage (3.2m) type with passage and flanking side rooms	11.0m - 13.0m	140m²	293m²	23m
Double garage type with passage and narrow side room (2.7m)	12.0m	140m²	301m²	25m
Double garage type with passage and side room (3.6m)	13.0m	140m²	304m²	24m
Double garage type with passage and flanking side rooms	15.0m - 17.0m	140m²	314m²	19m

Note: Frontage setback is assumed to be 3.0m.
Flanking garage setback 5.5m to provide for a visition car park

Width of frontage for two storey row house (3 bedroom)

Description of House	Frontage	Floor Area	Land Area	Depth of Lot
Single garage (3.2m) type with narrow passage (1.0m) *Absolute skinny type*	4.0m - 4.8m	140m²	174m²	37m
Single garage (3.2m) type with passage and stair (2.0m)	5.5m - 6.0m	140m²	179m²	30m
Single garage (3.2m) type with passage (1.0m) and side room (3.6m)	8.0m - 9.0m	160m²	187m²	21m
Single garage (3.2m) type with passage and stair (2.0m) and side room (3.6m)	9.5m - 10.0m	160m²	200m²	20m
Single garage (3.2m) type with central passage and flanking side rooms	11.0m - 12.0m	160m²	206m²	18m
Double garage (6.0 m) type with narrow passage (1.0m)	7.5m - 8.0m	160m²	248m²	31m
Double garage (6.0m) type with passage and stair (2.0m)	8.0m - 9.0m	160m²	251m²	28m
Double garage (6.0m) type with passage (1.0m) and side room (3.6m)	11.0m - 12.0m	160m²	250m²	22m
Double garage (6.0m) type with passage and stair (2.0m) and side room (3.6m)	12.0m - 13.0m	160m²	263m²	21m

Note: Frontage setback is assumed to be 3.0m.
Flanking garage setback 5.5m to provide for a visition car park

Width of frontage for two storey row house (4 bedroom)

Description of House	Frontage	Floor Area	Land Area	Depth of Lot
Double garage (6.0m) type with narrow passage (1.0m)	7.5m - 8.0m	180m²	278m²	35m
Double garage (6.0m) type with passage and stair (2.0m)	8.0m - 9.0m	180m²	281m²	32m
Double garage (6.0m) type with passage (1.0m) and side room (3.6m)	11.0m - 12.0m	180m²	290m²	25m
Double garage (6.0m) type with passage and stair(2.0m) and side room (3.6m)	12.0m - 13.0m	160m²	293m²	23m

Note: Frontage setback is assumed to be 3.0m.
Flanking garage setback 5.5m to provide for a visition car park

Conclusions from Tables

- 11m to 12m wide frontages are suitable for all house types and give flexibility for inclusion of single or double width garaging.
- Provision of a double garage increases land area by an average of 40m² (all house types).
- Attachment of housing does not materially affect total land area but may affect depth of usable space at rear of dwelling. Side alley space in skinny detached housing is around a maximum of 30m². Planning rules requiring a 6m x 4m rectangle of usable space should be the design criteria for attached or detached housing solutions.

On an area basis the following applies:

- 200m² will sustain a 2-bedroom single storey house OR 3-bedroom two storey house (both single garage).
- 200m² to 263m² will support a range of two storey 3 bedroom houses with single and double carports.
- 278m² to 293m² will sustain a 4-bedroom two storey house (double garage).
- 300m² will sustain a 4-bedroom two storey house (double garage) *or* 3-bedroom single storey with single garage.
- 320m² will sustain a 3-bedroom single storey house (double garage).

Skinny Houses

Absolute skinny houses require very deep allotments and may be more suitable for inner city circumstances where three storey construction is sustainable or where existing allotment arrangements force the circumstance.

Other Concessions for Affordable Housing

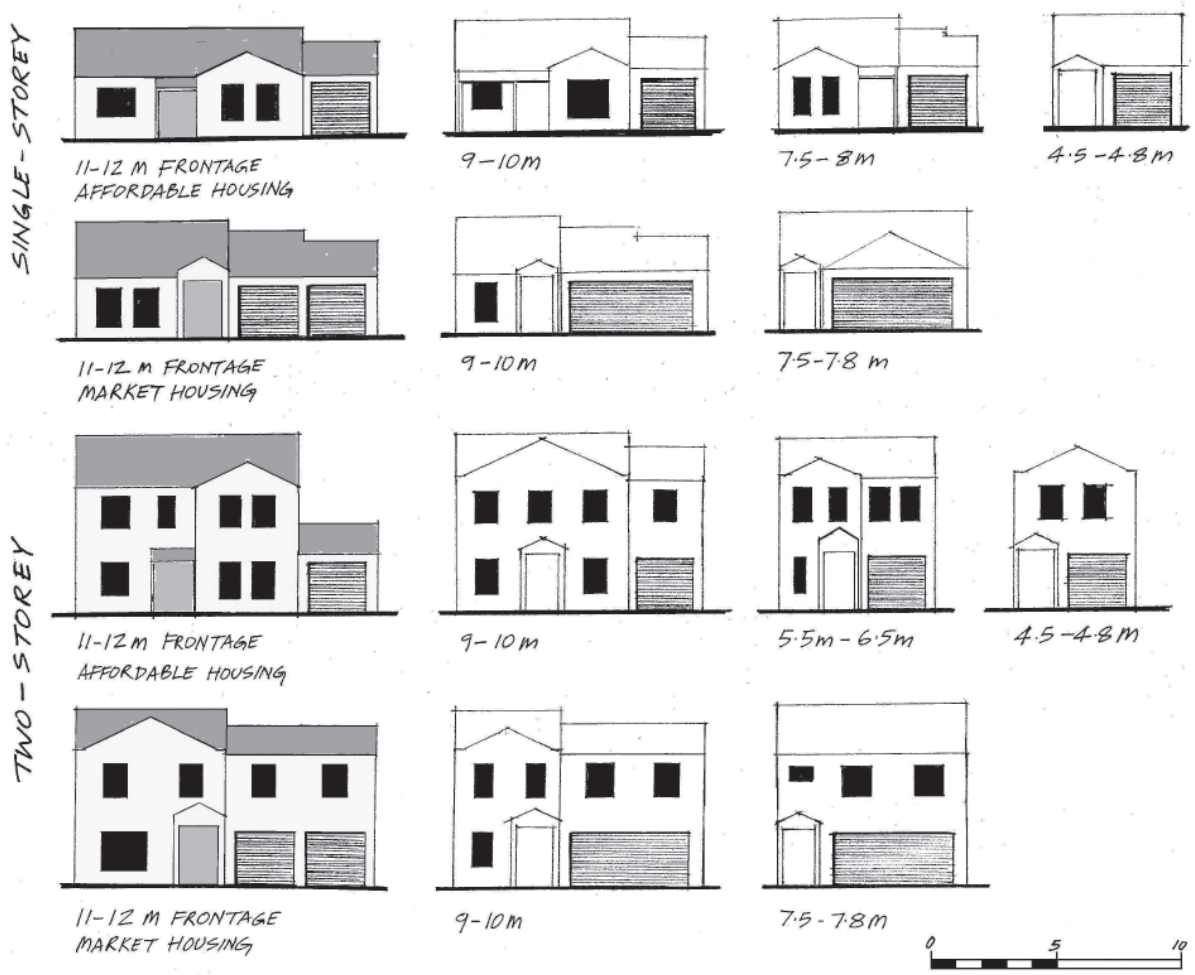
The tabled dimensions can also be tightened by assuming that a two storey development always builds over vehicle garaging. Reducing street setbacks to less than 2m will marginally reduce land area in that 5.5m setback is still required for visitor parking. The front area (beyond the setback) can usefully be used for a porch or verandah.

Elevation Options for Allotment Widths

House lot size should not be prescribed. Instead a performance approach is recommended. Locality or precinct guidelines should be used to determine effective use of land prescribed by the following parameters:

- Set back for house frontage;
- Car accommodation related to household size (no of bedrooms);
- Visitor carparking; and
- Private Open Space related to household size (no of bedrooms).

Lot size will then determine the nature of the development such as household size and number of storeys.



Elevation options for various lot widths for front loaded row houses
(Coloured facades show preferred options, but any two storey outcomes are acceptable where upper level windows and balconies can provide street presence).

REAR-LOADED HOUSING

Historically in older inner urban development, laneways were frequently provided for residential service requirements, including access for stables and carriages. Before the introduction of deep level sewers the laneways were used by a "nightcart" that was used to empty backyard privies. The lanes were also used (and still are) for garaging.

In 18th century England laneways were provided at the rear of larger housing estates for access to horse stabling and carriage accommodation. Often one or two levels of living accommodation were built over the stables for use by servants attached to the main house, and were colloquially known as "mews". In recent times some of this accommodation has been redeveloped piecemeal as individual residential units above vehicle garaging. In the London inner-city context it is seen as desirable as vehicle accommodation is on site and householders do not share entry and stair space.

"Rear-loading" is now a common real estate term used to describe the provision of garaging at the back of housing accessed by means of laneways.

Origin of Mews

An old English descriptor applied to the group of buildings, used as stables and servants' quarters, lining or surrounding a yard, court or alley.

A typical London laneway at Randor Mews, London

Laneway Widths

Laneways can be as narrow as 6.0m, can support two way vehicle traffic and service vehicles. Nevertheless garaging on 6.0m wide laneways will need to be setback a minimum of 1.0m beyond the traffic way in order to allow for cars turning to align with garage doors. Where building construction is allowed on the laneway boundary, upper level building construction may cantilever over the garage setback.

Alternatively a minimum clear width of 7.0m is required for garage access to one side *or* 8.0m for dual access (both sides). A minimum of 8.0m wide or a preferred width of 9.0m will allow for both building alignments on the street boundaries and ensuring appropriate vehicle manoeuvrability. A wider laneway will also allow for landings at doorway entries, landscape plots, lighting poles and wheelie bin clearance. At laneway entrances, carriageway widths can be reduced to 3.6m to create slow points or chicanes with complementary landscape softening at the edges.

A typical London laneway at Bathurst Mews, London

Car Parking in Laneways

Opportunities for casual and visitor carparking are limited within laneways. To meet local planning authority criteria the development should allow for additional spaces on adjacent streets. Provision for on street carparking can also be achieved by the creation of bays or widenings within the laneway development.

Security and Liveability

Laneways can create security problems due to limited natural surveillance. Means of implementing CPTED requirements should be developed. Techniques can include the introduction of some residential development and opening up sightlines for passive surveillance.

A laneway can also be softened with the introduction of landscaping at pavement narrowings and verges, and innovative fencing design including opportunities for vegetated trellises.

Garage housing facing a laneway at Noarlunga Central, in the SAHT "Inspire" project. As the dwellings are south facing balconies are not provided on front elevations.

Laneway Housing

Residential development above garaging can assist in adding presence and variety to laneway development. In particular upper level development can provide passive security by creating 'eyes to the street' by means of windows and balconies.

There are two distinctive forms of laneway housing used in the current South Australian context which are collectively known as "mews".

Mews Housing

Commonly applied to a usually single upper level residence spread over two or more garages not all for the use of the upper level dwelling. The "mews" dwelling is parasitic in that it relies on a second dwelling, usually a grander family townhouse, facing an ordinary street to provide an above garage space. The ground footprint for the "mews" accommodation is reduced to a single garage width with an access stair alongside. Options for a small garden or yard space at the side or rear can assist with provision of natural light and ventilation to habitable areas. A balcony space can be provided to meet minimum private open space requirements associated with the main living rooms.

Garage Housing

These laneway houses are stand alone and do not rely on secondary ownership; the entire ground level being in the one separately titled ownership. The ground level footprint may comprise garaging with stair access from a front door, with opportunities for ancillary rooms such as a secondary bedroom, laundry and the like, however the principle living areas will still be at the upper level. The lot should allow for a small yard space which will also ensure that natural light and ventilation can be provided to rear or side aspects. The building footprint may extend to boundaries, including the frontage, with shared wall or zero lot line construction techniques applying. Likewise adjacent construction may be built up to boundaries.

Examples of active laneway housing in Melbourne

Usable Widths for Rear-Loaded Housing

Single garage development

Frontage Width	Commentary
Less than 4.4m	Room width dwelling only - stair required to be offset in central location. Allows for a single car garage at rear minimum internal clear with 3.2m.
4.5m to 4.8m	Allows for access space along side of a single car garage. Passage can run past rooms.
5.1m to 5.7m	Allows for space along side of a single car garage. Passage and stair can run past rooms. Note: A 3-bedroom family dwelling will usually require two off street carparks.

Double garage development

Frontage Width	Commentary
6.0m to 6.6m	Allows for a two car carport or garage at rear. Width of dwelling can support two skinny bedrooms OR bathroom alongside bedroom.
7.2m to 7.8m	Allows for space along side of a two car garage. Width of dwelling can support two usable bedrooms at upper level
Greater than 7.8m wide	As above but allows for semi-detached development and east-west orientated dwellings with a north facing side courtyard or open space.

Mews and multiple garage development - laneway frontage

Frontage Width	Commentary
7.2m to 8.0m	Allows for single garage for family dwelling and a single garage with entry and stair alongside for an over garage single-bed mews dwelling. Note: a 3-bedroom family dwelling may require two off street carparks.
9.0m	Minimum width for three cars across rear. The significant (front) dwelling may be semi detached, will suit a 4 bedroom family dwelling.
11.0m	Allows for double garage for family dwelling and a single garage with entry and stair alongside for an over garage 2-bed mews dwelling. Family dwelling may be semi detached.

Government of South Australia
SA Housing Authority