

Character and Form



human scale

Overview



Indicator name	Street space for pedestrians		
Indicator number	32	Indicator type	Supplementary
Objective	To measure the space within a road corridor that is allocated for pedestrian activities		
Application guidance	<p>Movement can shape how comfortable people feel in places both negatively and positively, and the design of places can shape demand for movement – where an area is more permeable for people walking, getting around on foot becomes the natural choice for short trips. Safe, direct and comfortable space should be provided for people walking. Greater space dedicated to pedestrians along a corridor improves the walkability and connectivity of an area and provides greater comfort levels for pedestrians.</p> <p>This indicator will support practitioners to understand the experience of pedestrians within the road corridor, with particular importance in areas of high pedestrian activity. Based on the assessment outcome, practitioners can determine whether road space should be reallocated to pedestrians in line with the Road User Space Allocation Policy.</p> <p>Practitioners can use the proportion of <i>road space allocated for pedestrians</i> metric to measure the amount of space dedicated to pedestrians within the road corridor.</p>		

Metric



Proportion of road space allocated for pedestrians

Related indicators



Access and Connection

- 2 Walking paths
- 7 Equitable access
- 8 Steepness



Amenity and Use

- 13 Places to stop and rest



Comfort and Safety

- 24 Pedestrian crowding



Character and Form

- 29 Permeability
- 35 Legibility

Recommendation



- Items such as street furniture, trees, power lines, etc, are not included in the analysis, but will impact on the walking space allocated to pedestrians. Effective (ie. usable) width should form the basis of this calculation as it is more representative of actual walking space as opposed to overall footpath width which does not account for space taken up by obstructions and kerb/property buffers. This could be achieved through manual data collection and/or the methodology outlined in the 2 Walking paths indicator.
- To enhance the analysis, data should be collected on actual kerb to kerb road corridor width and/or lane numbers and widths to ensure a more accurate calculation
- Proportion of road space allocated to pedestrian activity should be considered in conjunction with the effective footpath width from 2 Walking paths to ensure an accurate assessment of walking space



Metric – Proportion of road space allocated for pedestrians

Metric unit	Percentage (%)
Description	To measure the proportion of road space allocated to pedestrians along a road corridor segment
Spatial coverage	Applicable to all NSW
Spatial application	This metric is most suitable for link-based analysis based on the road network

Calculation methodology

Calculate average road corridor width

1. Use TfNSW Road Track Path Network to select roads accessible to pedestrians and bicycle riders
2. Create vertices every 10m along the road network
3. Create 25m distance perpendicular lines at vertices created from step1
4. Intersect with road corridor to calculate average intersected perpendicular line length.

Determine the road width allocated to vehicles

5. Calculate kerb to kerb width for each corridor segment from local surveys. Where unknown, estimate the width based on road classification and the following table:

Road classification	Assumed lanes	Assumed width
Motorway	6	21m
Highway	4	15m
Arterial Road	4	15m
Sub-Arterial Road	4	14m
Collector Road	2	8m
Local Road	2	7m
Other	1	<u>5m</u>

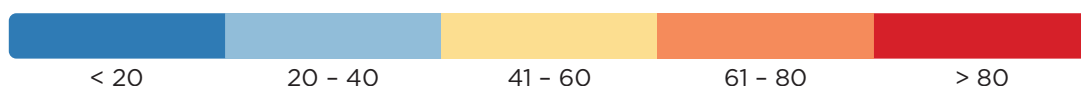
Calculate the percentage of road space allocated for pedestrians

6. Subtract the kerb to kerb width from road corridor width to obtain a width for road space allocation for pedestrians along both sides
7. Divide width of road space allocated for pedestrians by total road corridor to find the percentage of road space allocated for pedestrians

Data representation

8. Assign colour based on the classification below

Unit: Percentage (%)





Metric – Proportion of road space allocated for pedestrians (Cont.)

Assumption

- Within the property boundary to boundary width of a road corridor, the area between the kerbs is allocated to vehicle movement and parking, and the area leftover is allocated to pedestrians
- Items such as street furniture and trees have not been considered in this assessment
- A standard 3.5m lane width has been assumed aligned with Austroads standards
- After assessing various perpendicular line distances in a sample area, 25m as distance has been chosen, as it minimises both overshooting and undershooting
- Analysis does not consider the quality or incline of the walking space surface, or whether a footpath or non-penetrable vegetation exists (e.g. outside paved town centres)

Limitation

- No data available for actual kerb to kerb or lane width
- Plazas and segments of road where pedestrians are fully able to utilise the kerb to kerb width of the road (ie. Pitt Street Mall) are not considered in this analysis. These areas will need to be identified and considered separately.
- Some road corridor polygons with irregular shapes do not represent the road width accurately. Practitioners can collect their own data to improve the accuracy.

Data Source

- TfNSW Road Track Path Network
- Spatial Services Road Corridor Boundaries: maps.six.nsw.gov.au/clipnship.html
- Spatial Services Cadastral Boundaries: maps.six.nsw.gov.au/clipnship.html

Reference



- Austroads Guide to Road Design Part 3: Geometric Design Section 4.2.4
- TfNSW, Road User Space Allocation Policy (2021): transport.nsw.gov.au/system/files/media/documents/2021/road-user-space-allocation-policy.pdf