Comfort and Safety

low risk

Overview

Indicator name	**Community safety**		
Indicator number	26	**Indicator type**	Supplementary
Objective	To measure the actual and perceived comfort and safety experienced by a community		
Application guidance	A healthy environment is one where the road and surrounding environment is safe. Safety also forms a part of a community's wider wellbeing, including perception of safety, comfort, physical exercise, and mental health. Layout, landscaping, lighting, natural surveillance and wayfinding can make places feel safe. This indicator will support practitioners to understand the actual and perceived safety of a community based on presence of street lighting and historical crime data. Based on the outcome of the assessment, practitioners can determine whether improvements could be made to their project or design to enhance the safety for the community. Practitioners can use the *street lighting* metric to measure the density of streetlights along a road. Practitioners can use the *crime density* metric to measure the number of crimes per 100,000 people in an area.		

Metric

- Street lighting
- Crime density

Related indicators

Access and Connection

2 Walking paths

Amenity and Use

13 Places to stop and rest

14 Mix of uses

Comfort and Safety

23 Road safety

24 Pedestrian crowding

Recommendation

- To enrich the streetlight data, bulb brightness, pole length and distance from roadway or footpath could be incorporated into the calculation methodology to provide a more robust analysis
- To enrich the analysis, manual collection of streetlight data could be undertaken to consider lighting in parks, cycleways, shared path, etc
- Problem areas identified through the crime analysis should be further scrutinised by undertaking a Crime Prevention Through Environmental Design (CPTED) assessment, which provides additional detail on the factors contributing to an area's actual and perceived safety

Metric – Street lighting

Metric unit	Streetlights per km
Description	To measure the density of streetlights along a road
Spatial coverage	Applicable to all NSW, subject to data availability
Spatial application	This metric is most suitable for link-based analysis based on the road network
Calculation methodology	**Obtain road segment length** 1. Obtain road segment data and calculate the length of each road segment **Identify density of light poles along road length** 2. Obtain the locations of light poles based on the TfNSW Road Asset Management dataset, and any data sets from local councils. Where data is not available, manual collection will be required. 3. Based on the latitude/longitude of each light pole, snap its centroid to the nearest road segment calculated in Step 1 4. Determine the light pole density per kilometre of each road segment by dividing the number of light poles snapped to each segment by the segment length **Data representation** 5. Assign colour based on the classification below Unit: Number of streetlights per kilometre 
Assumption	N/A
Limitation	• Factors such as bulb brightness, pole length and distance from roadway or footpath are not considered in this analysis, but can influence the light intensity given off by streetlights • Street lighting data in RAMS was imported in 2016 and is of unknown quality and unmaintained • Street lighting data in RAMS only applies to State roads • Street lighting on local roads falls within the purview of local councils, and data will need to be obtained from council or manually collected
Data source	• TfNSW Road Track Path Network • TfNSW Road Asset Management

Metric – Crime density

Metric unit	Crimes per 100,000 people
Description	To measure the density of crime in a given area
Spatial coverage	Applicable to all NSW
Spatial application	This metric is most suitable for area-based analysis based on travel zones
Calculation methodology	**Obtain road segment length** 1. Identify each suburb and their boundaries within the study area, based on SIX Maps LGA boundaries 2. Identify population of each suburb based on the Australian Bureau of Statistics 2016 Census **Determine total number of crimes** 3. For each suburb, identify the total number of crimes within the previous year using the BOSCAR Crime Statistics dataset. All crimes should be aggregated. **Determine the density of crime** 4. For each suburb, divide the total number of crime incidents by the population in each suburb **Data representation** 5. Assign colour based on the classification below Unit: Crimes per 100,000 people  < 200 201 – 500 501 – 1,000 > 1,000
Assumption	• Population data is based on the 2016 Census • BOSCAR crime data is updated annually
Limitation	• Historical crimes are aggregated in this analysis • Likelihood and effect of each type of crime has not been considered
Data source	• BOSCAR Crime Statistics: data.nsw.gov.au/data/dataset/crime-data-by-offence/resource/56da017f-56d4-4a51-a2ee-8c93a237079d • SIX Maps LGA boundaries: maps.six.nsw.gov.au/clipnship.html • Australian Bureau of Statistics 2016 Census: abs.gov.au/websitedbs/censushome.nsf/home/2016

Reference

NSW Police Force, Safer by Design webpage:
police.nsw.gov.au/safety_and_prevention/policing_in_the_community/safer_by_design