Character and Form

distinct

Overview

Indicator name	**Land division**		
Indicator number	34	**Indicator type**	Supplementary
Objective	To measure potential block diversity using land division and zoning		
Application guidance	Better design of our streets can enhance visual interest for all users, contributing to their enjoyment, comfort, and sense of safety, social connection, and wellbeing. Land division sizes and patterns inform the built environment outcomes of an area – higher diversity correlates with better outcomes as each division can be specialised to accommodate the different requirements of businesses and residences occupying them. This indicator will support practitioners to understand how block diversity can contribute to the built environment outcomes of an area. Based on the outcome of the assessment, practitioners can determine whether the land division and zoning are conducive to supporting a variety of businesses and amenities. Practitioners can use the *diversity of land zoning* metric to measure the proportion of major land zone type over road allocation zone.		

Metric

Diversity of land zoning

Related indicators

Amenity and Use

14 Mix of uses

17 Local jobs

Character and Form

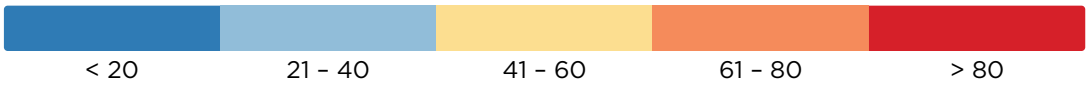
30 Building height

31 Building density

Recommendation

- Development applications or other data sources that show the as-built (ie. existing) land-use could be utilised to enrich the accuracy of the analysis, where possible
- Future iterations of this metric should consider inclusion of this intra-zone diversity within its calculations. A table of land zones with potential diversity within zoning is included below:
  - Potential diversity within zoning:
    R3, R4, RU5 – RU6
  - Assumed diversity within zoning:
    B1 – B4 and B7, SP3

Metric – Diversity of land zoning

Metric unit	Proportion (%)
Description	To measure the diversity of permitted uses in planning zones along a road segment
Spatial coverage	Applicable to all NSW
Spatial application	This metric is best suited to link-based analysis based on the road network
Calculation methodology	**Determine road segments** 1. Obtain road segment data from TfNSW Road Track Path Network dataset 2. Combine road segments of the same road ID/name, splitting along intersections with major roads (distributor road, sub-arterial road, arterial road, motorway) **Create road allocation zone (RAZ)** 3. Use Euclidean Allocation tool in GIS to create road allocation zone *Note: If Euclidian allocation is not available, a 25m buffer for each combined road can be used* **Determine dominant land zone proportion along the road** 4. Obtain land zoning data set from DPIE Planning Zones dataset 5. Sign land zoning SYM_CODE to LPI cadastre data (excluding the zone on the road) and convert it to raster based on SYM_CODE 6. Perform zonal analysis using "MAJOR" as calculation method between road allocation zone and land zone raster 7. Use count of pixel to calculate major zone area 8. Determine proportion of major land zone type over road allocation zone using the following formula $$Proportion = \frac{Major\ land\ zone\ area}{Road\ allocation\ zone} \times 100$$ **Data representation** 9. Assign colour based on the classification below based the maximum Pi Unit: Proportion (%)  < 20 21 – 40 41 – 60 61 – 80 > 80
Assumption	• Calculation of diversity is based on the dominant land zone as a proportion of the zoned area and not the total number of discrete land zoning types fronting a road allocation zone (RAZ) • Road allocation zone is using 5m raster cell size • Zones along each side of street will be considered • Only diversity between zones is considered in this analysis, not diversity within zones. For example, a mixed-use zoned precinct may be 100% zoned as B4 and thus un-diverse according to this metric but have diversity within the land-use.

Metric – Diversity of land zoning (Cont.)

Limitation	• Only zoning of the land is considered, not land ownership • Some cadastres overlap with the road corridor • Some roads are far from each side of cadastre, such as Warringah Freeway near Falcon St (Falcon St Bridge) in North Sydney. In this case, the diversity rate will be 0.
Data Source	• DPIE, Environmental Planning Instrument Land Zoning (LZN): datasets.seed.nsw.gov.au/dataset/environment-planning-instrument-local-environmental-plan-land-zoning • TfNSW Road Track Path Network

Reference

N/A