

Amenity and Use



local opportunities

Overview



Indicator name Local jobs

Indicator number 17

Indicator type Supplementary

Objective To measure the density of local jobs across a given area. Higher density standards assist in enhancing economic productivity, encourage more sustainable patterns of travel, facilitate a more suitable mix of new dwellings and increase occupational densities to support a more productive workforce.

Application guidance Job density can be considered a proxy indicator for the amenity and vibrancy of an area. If job density is too sparse, then efficiency is lost, whereas a dense concentration of jobs supports innovation and productivity. High job densities in mixed-use areas support live-work neighbourhoods, also reducing travel times and promoting walking/cycling. Additionally, if a neighbourhood grows in population and services do not keep pace, there are fewer amenities and job opportunities per person, resulting in more competition and higher prices.

This indicator will support practitioners to understand the density of jobs in an area. Based on the outcome of this assessment, practitioners can determine capacity of an area to absorb more population, jobs and non-residential land-use, and demand for a range of services and amenities.

Practitioners can use the *job density* in Travel Zone 2016 metric to measure the employed persons count per square kilometre within the joint effective land area by travel zone.

Metric



Job density in Travel Zone 2016

Recommendation



To further refine the measurement of job density, assessment could exclude residential mesh blocks within travel zones. This, however, would exclude employment that also occurs in residential areas such as trades

Related indicators



Amenity and Use

- 15 Population density
- 16 Housing diversity
- 18 Economic development and regeneration



Metric – Job density in Travel Zone 2016

Metric unit	Employed persons per square kilometre
Description	Job density is measured as employed persons at place of work per square kilometre of joint effective land area by travel zone
Spatial coverage	Applicable to all NSW
Spatial application	This metric is most suitable for area-based analysis based on travel zones

Calculation methodology

Obtain total employment data

1. Extract employment count (EMP 2016) from TZP19 employment projection table

Calculate travel zone joint effective area

2. Select land type data by ABS Mesh Block 2016 below:

- Primary production
- Industrial
- Commercial
- Education
- Hospital/medical
- Residential
- Transport

Parkland, water and other land types are excluded from the joint effective land area measurement

3. Derive effective area by adding mesh block areas within a travel zone

Calculate job density

4. Use employment count in 2016 for a travel zone divided by the joint effective area for a travel zone 2016:

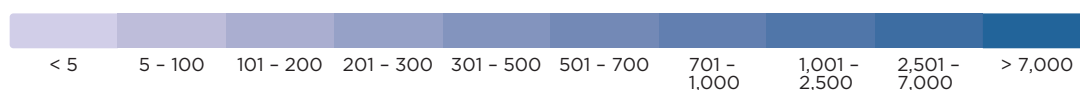
$$\text{Employment density} = \frac{\text{TZP19 employment}_{2016}}{\text{TZ joint effective area}}$$

Note: In the small number of travel zones where employment exists and joint effective area is zero (due to coarse mesh block measurement), job density is calculated as employment divided by total TZ area.

Data representation

5. Assign colour based on the classification below

Unit: Employed persons per square kilometre





Metric – Job density in Travel Zone 2016 (Cont.)

Assumption

- Employment is assumed to be the same as a job. A job is a task or piece of work, especially one that is paid. Jobs can be full-time or part-time. And a person in full-time employment can hold more than one job.
- In contrast, employment is a count of employed persons. Employment is similar in concept to occupied jobs.
- The joint effective land area measure is chosen to apply a more accurate area and to standardise the area used to calculate job density. Joint effective area is calculated as the total area of a travel zone less mesh block areas defined as parkland, water and other. Some travel zones contain a significant parkland area for example.
- TZP19 measure of 2016 employment differs from 2016 Census Journey to Work (JTW) measure because TfNSW adjust the Census measure for several differences including population (Estimated Resident Population rather than Census population) and split some Census Destination Zones into TfNSW Travel Zones.

Limitation

- Employment at the place of work is used as a proxy for jobs because small area data on jobs at the place of work is not available
- Job density may vary significantly within a travel zone
- Travel zone sizes can vary significantly, with smaller zones in CBD areas and larger zones in regional areas
- Mesh block land use typology using ABS can be coarse. For example, just over 60 out of 3,758 travel zones have zero effective land area for calculation of job density. For these travel zones, total travel zone area is used.
- Timing differences can occur between the measures of mesh block land type and employment count

Data source

- Travel Zones 2016: opendata.transport.nsw.gov.au/dataset/travel-zones-2016
- TZP19 Population Projections: opendata.transport.nsw.gov.au/dataset/population-projections
- ABS Mesh Block 2016: abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1270.0.55.001July%202016?OpenDocument

Reference

N/A

