Amenity and Use

convenient facilities

Overview

Indicator name	**Transport node facilities**
Indicator number	12 **Indicator type** Supplementary
Objective	To measure the provision of start- and end-of-trip facilities by mode
Application guidance	People experience places at a fine-grained scale. The design of places can shape demand for movement – clusters of local shops, schools, stations and stops provide an efficient trip chain for daily visits from home to work and back. Deliveries and servicing are essential to create vibrant places and conflict between these essential functions and place amenity should be reduced. This indicator will support practitioners to understand the provision of start- and end-of-trip facilities across all modes, which supports connected journeys for people travelling to the area. Based on the outcome of the assessment, practitioners can determine whether additional transport node facilities should be considered in their project or design. Practitioners can use the *commuter car parking* metric to measure the availability of commuter car parking at train stations. Practitioners can use the *density of bicycle parking* facilities metric to measure the availability of bicycle parking at train stations and rapid bus routes. Practitioners can use the *density of bus stops* metric to measure the frequency of bus stops along the road network. Practitioners can use the *density of on-street parking, density of on-street disabled parking, and density of on-street loading zones* metrics to measure the availability of on-street parking facilities along the road network.

Metric

- Commuter car parking
- Density of bicycle parking facilities
- Density of bus stops
- Density of on-street parking
- Density of on-street disabled parking
- Density of on-street loading zones

Recommendation

- To enrich the analysis of bicycle parking facilities, End of Trip Facilities (EoTF) available in private/ commercial buildings could be counted
- To enrich the analysis of parking availability, private and off-street parking spaces (including disabled parking and loading zones) could be counted
- To enrich the analysis of bus stop density, location and access to bus stops should be considered alongside the analysis from indicators 4 Public transport accessibility and 6 Bus and strategic freight reliability

Related indicators

Access and Connection

1 Mode share
3 Cycling accessibility
7 Equitable access

Amenity and Use

10 Local living
14 Mix of uses

Comfort and Safety

25 Safe speed for environment

Metric – Commuter car parking

Metric unit	Yes / No
Description	To measure the availability of commuter car park facilities at train stations and rapid bus routes
Spatial coverage	Applicable to all NSW
Spatial application	This metric is most suitable for analysis based on relevant transit stops
Calculation methodology	**Commuter car parking facilities** 1. Using the TfNSW Location Facilities dataset, identify presence of commuter car parks using the 'Facilities' attribute 2. Find location of transit stops with commuter car parking facilities **Data representation** 3. Assign colour based on the classification below Unit: Yes / No  Commuter car parking available — No commuter car parking
Assumption	Location Facilities data includes facilities within 100m of a train station
Limitation	• Only considers formal provisions of designated commuter car parks and does not account for surrounding on-street parking • Commuter car parks are not a desirable facility at all train and rapid bus stations. Their provision should be part of a wider transport network access strategy.
Data source	TfNSW, Location Facilities: opendata.transport.nsw.gov.au/dataset/public-transport-location-facilities-and-operators

Metric – Density of bicycle parking facilities

Metric unit	Count per linear kilometre
Description	To measure the availability of public bicycle parking facilities along the road network
Spatial coverage	Applicable to all NSW
Spatial application	This metric is most suitable for link-based analysis based on the road network
Calculation methodology	**Bicycle parking facilities at train stations** 1. Using the TfNSW Location Facilities dataset, find location of all train stations in NSW 2. Identify presence of bicycle racks and bicycle lockers using the 'Facilities' attribute **Public bicycle parking facilities outside of train stations** 3. Where data is not available, manual collection of bicycle parking facilities should be undertaken to assess the presence and number of bicycle parking racks. These facility types could include u-rail, o-ring, bicycle sheds and bicycle lockers. This manual collection process could be undertaken as part of a site audit as outlined in 2 Walking paths. **Calculate density of all bicycle parking facilities** 4. Obtain road segment length data from road network 5. Generate a point from the train station location as a bicycle parking facility point 6. Merge manually collected data of public bicycle parking facilities with location 7. Snap the public bicycle parking facility to the nearest road segment and count the number of facilities based on each road segment 8. Calculate the density by dividing the number of facilities by the segment road length
Assumption	N/A
Limitation	• Only considers formal provisions of bicycle parking, not informal (ie. a pole) • Perceptions of the level of security offered by bicycle racks is varied and some bicycle riders may not feel those types of bicycle parking facilities are viable options to safely and securely store their bikes at the end of their trips
Data source	• TfNSW, Location Facilities: opendata.transport.nsw.gov.au/dataset/public-transport-location-facilities-and-operators • TfNSW Road Track Path Network

Metric – Density of bus stops

Metric unit	Count per linear kilometre
Description	To measure the density of bus stops along the road network
Spatial coverage	Applicable to all NSW
Spatial application	This metric is most suitable for link-based analysis based on the road network
Calculation methodology	**Obtain the road segments length** 1. Calculate the road length from road segments **Identify bus stop locations** 2. Using the TSN dataset, identify location of bus stops and bus interchanges **Calculate density of bus stops** 3. Snap the bus stop to the nearest road segment and count the number of bus stops based on each road segment 4. Calculate the density by dividing the number of facilities by the segment road length **Data representation** 5. Assign colour based on the classification below Unit: Count per linear kilometre  No bus stops 1 2 3 > 4 bus stops
Assumption	N/A
Limitation	• Greater density of bus stops does not necessarily indicate better bus servicing (or better place outcomes). Too many bus stops can add to customer confusion and indicate legibility problems. • GIS data does not include road elevation, so when splitting road segments along intersections along major roads errors will occur at grade separated intersections (tunnels, under/overpasses). These will need to be accounted for manually.
Data source	• TfNSW, Transit Stop Number (TSN): opendata.transport.nsw.gov.au/dataset/travel-zones-2016/resource/54409857-f097-4ec5-9e45-1daeb7d60efa • TfNSW Road Track Path Network

Metric – Density of on-street parking

Metric unit	Count per linear kilometre
Description	To measure density of on-street parking spaces along the road network
Spatial coverage	Applicable to all NSW
Spatial application	This metric is most suitable for link-based analysis based on the road network
Calculation methodology	**Identify on-street parking spaces** 1. Where data is not available, manual collection of parking spaces should be undertaken to assess the presence and number of parking spaces. This manual collection process could be undertaken as part of a site audit as outlined in 2 Walking paths. **Calculate density of on-street parking spaces** 2. Generate a point from each parking space location as a parking space point 3. Merge manually collected data of parking spaces (collected in Step 1) with location 4. Snap the parking space to the nearest road segment and count the number of parking spaces based on each road segment 5. Calculate the density by dividing the number of parking spaces by the segment road length
Assumption	Analysis only considers on-street parking spaces, excluding disabled parking and loading zones
Limitation	• Private or off-street parking facilities are not considered in this analysis • GIS data does not include road elevation, so when splitting road segments along intersections along major roads errors will occur at grade separated intersections (tunnels, under/overpasses). These will need to be accounted for manually.
Data source	TfNSW Road Track Path Network

Metric – Density of on-street disabled parking

Metric unit	Count per linear kilometre
Description	To measure the density of on-street disabled parking spaces along the road network
Spatial coverage	Applicable to all NSW
Spatial application	This metric is most suitable for link-based analysis based on the road network
Calculation methodology	**Identify on-street disabled parking spaces** 1. Where data is not available, manual collection of parking spaces should be undertaken to assess the presence and number of disabled parking spaces. This manual collection process could be undertaken as part of a site audit as outlined in 2 Walking Paths. **Calculate density of on-street disabled parking spaces** 2. Generate a point from each disabled parking space location as a disabled parking space point 3. Merge manually collected data of parking spaces (collected in Step 1) with location 4. Snap the parking space to the nearest road segment and count the number of parking spaces based on each road segment 5. Calculate the density by dividing the number of parking spaces by the segment road length
Assumption	N/A
Limitation	• Private or off-street disabled parking facilities are not considered in this analysis • GIS data does not include road elevation, so when splitting road segments along intersections along major roads errors will occur at grade separated intersections (tunnels, under/overpasses). These will need to be accounted for manually.
Data source	TfNSW Road Track Path Network

Metric – Density of on-street loading zones

Metric unit	Count per linear kilometre
Description	To measure the density of on-street loading zones along the road network
Spatial coverage	Applicable to all NSW
Spatial application	This metric is most suitable for link-based analysis based on the road network
Calculation methodology	**Identify on-street loading zone parking spaces** 1. Where data is not available, manual collection of parking spaces should be undertaken to assess the presence and number of loading zone parking spaces This manual collection process could be undertaken as part of a site audit as outlined in 2 Walking Paths. **Calculate density of on-street loading zone parking spaces** 2. Generate a point from each on-street loading zone parking space location as a loading zone parking space point 3. Merge manually collected data of parking spaces (collected in Step 1) with location 4. Snap the parking space to the nearest road segment and count the number of parking spaces based on each road segment 5. Calculate the density by dividing the number of parking spaces by the segment road length
Assumption	N/A
Limitation	• Private or off-street loading zone facilities such as Coles/Woolworth's loading docks are not considered in this analysis • GIS data does not include road elevation, so when splitting road segments along intersections along major roads errors will occur at grade separated intersections (tunnels, under/overpasses). These will need to be accounted for manually.
Data source	TfNSW Road Track Path Network

Reference

N/A