Thirty Minute City and Metro Strategic Centre Catchments

Datasets & Assumptions

Revision History

Version	Date	Comments	Author
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Contents

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1. Background

The <u>Greater Sydney Regional Plan</u> Objective 14 'A Metropolis of Three Cities – integrated land use and transport creates walkable and 30-minute cities', states two strategies:

1. Establish a metropolitan transport network which reinforces the metropolis of three cities, particularly the delivery of a 30-minute city where most residents in each city can access their metropolitan centre or cluster within 30 minutes by public transport.

2. Develop a network of 34 strategic centres with jobs, goods and services supported by a public transport, walking and cycling network. This would provide residents with a 30-minute public transport service to their nearest strategic centre seven days a week.

10 Directions	Basis for monitoring performance
Productivity	
6. A well-connected city	*A Metropolis of Three Cities* requires a well-connected Greater Sydney with new jobs, shops and services in well-located centres with efficient transport connections and safe and convenient walking and cycling routes. This creates a 30-minute city.
	A well-connected city will be measured against the outcomes achieved by improved access to metropolitan, strategic and local centres.
	Potential indicators: *Percentage of dwellings located within 30 minutes by public transport of a metropolitan centre/cluster; Percentage of dwellings located within 30 minutes by public transport of a strategic centre.*

A 30 minute city is a foundation of the <u>Future Transport Strategy</u>:

The 30 minute city will be one where people can conveniently access jobs and services within 30 minutes by public or active transport, 7 days a week.

Well planned centres and cities, will enable a shift from private cars to public transport and active transport modes such as walking and cycling. In Sydney, the key to this will be the delivery of three 30 minute cities, supported by reliable 'turn up and go' mass transit services.

A metropolis of three cities, where people can access the jobs, education and services they need within 30 minutes by public or active transport.

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The Future Transport Strategy states the following customer outcome:

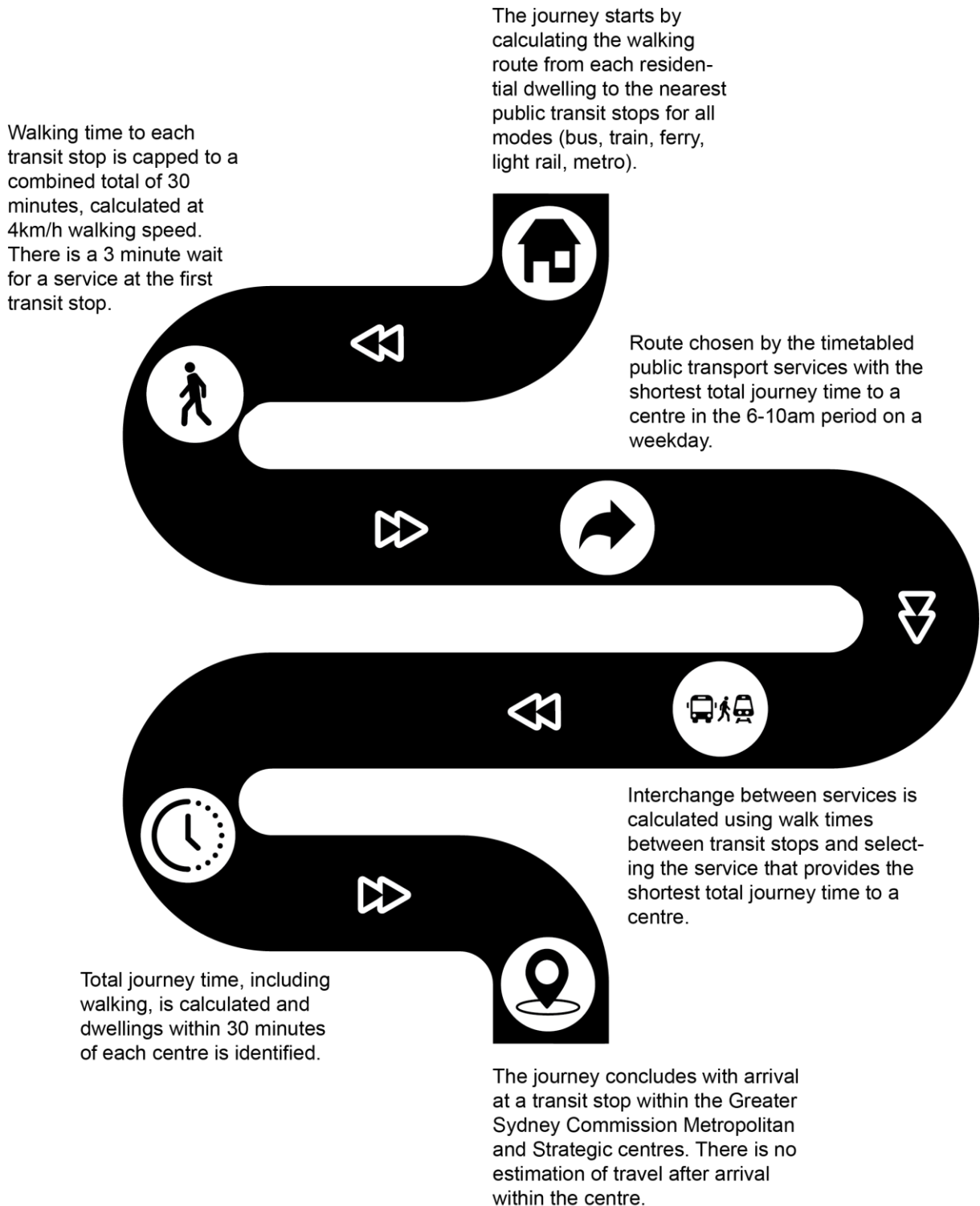| Future Transport Outcomes	Greater Sydney transport customer outcomes
Growing the Economy	**Connecting people and places in the growing city** 5. 30 minute access for cutomers to their nearest metropolitan centre and strategic centre by public transport seven days a week

The Strategy states the performance measure to monitor and report how Transport for NSW's activities is contributing to the state wide Future Transport outcomes:

Future Transport Statewide Outcomes	Performance focus	Measures and indicators
Growing the Economy	**Provide efficient public transport and road connections for passengers and freight**	**Metropolitan 30 minute city** › Monitor the % of population within Greater Sydney with 30 minute or less access to their nearest strategic centre by public or active transport

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2. Methodology

The methodology developed for the 30 Minute City calculation included stakeholder engagement within TfNSW and the Greater Sydney Commission (GSC).

The 30 Minute City methodology measures the travel time from all dwellings within the GSC districts of Sydney to the metropolitan and strategic centres as defined by the GSC. The travel time includes walking time from each dwelling to a transit stop, 3 minutes wait at the first stop, plus the travel time on public transport between 6-10am on a weekday to a destination transit stop within a centre, including interchange time as illustrated in the following graphic.

The journey starts by calculating the walking route from each residential dwelling to the nearest public transit stops for all modes (bus, train, ferry, light rail, metro).

Walking time to each transit stop is capped to a combined total of 30 minutes, calculated at 4km/h walking speed. There is a 3 minute wait for a service at the first transit stop.

Route chosen by the timetabled public transport services with the shortest total journey time to a centre in the 6-10am period on a weekday.

Interchange between services is calculated using walk times between transit stops and selecting the service that provides the shortest total journey time to a centre.

Total journey time, including walking, is calculated and dwellings within 30 minutes of each centre is identified.

The journey concludes with arrival at a transit stop within the Greater Sydney Commission Metropolitan and Strategic centres. There is no estimation of travel after arrival within the centre.

This provides a base metric which reflects the infrastructure and services provided at a point in time as captured by the public transport timetable. It does not attempt to reflect the performance of the network or the services running or customer choice.

2.1.   Datasets

The datasets used in the calculation are all publicly available:

- Geocoded National Address File (GNAF) – the authorative address database for Australia (https://www.psma.com.au/products/g-naf) December 2019

- Public transport timetable in General Transit Feed Specification (GTFS) format from the TfNSW Open Data Hub (https://opendata.transport.nsw.gov.au/dataset/public-transport-timetables-realtime) December 2019

- Routable street network – for calculating walking distances between addresses and public transit stops. The version used is from TfNSW Spatial Competency Centre as at December 2019. The equivalent data can be sourced from OpenStreetMap (https://www.openstreetmap.org)

- Australian Bureau of Statistics (ABS) Census 2016 meshblock dwelling counts (http://www.abs.gov.au/ausstats/abs@.nsf/mf/2074.0)

- Sydney Region Dwelling Completions from September 2016 to December 2019 (https://data.nsw.gov.au/data/dataset/sydney-region-dwellings)

- GSC District map boundaries (https://www.greater.sydney/district-plans) October 2018

The list of GSC centres is in the following table.

Metro Centre/Clusters

Greater Parramatta	Greater Penrith
Harbour CBD	Liverpool
Campbelltown-Macarthur	Western Sydney Airport and Badgerys Creek Aerotropolis

Strategic Centres

Bankstown	Leppington
Blacktown	Macquarie Park
Bondi Junction	Manly
Brookvale-Dee Why	Marsden Park
Burwood	Miranda
Campsie	Mona Vale
Castle Hill	Mt Druitt
Chatswood	Narellan
Eastgardens-Maroubra Junction	Norwest
Epping	Randwick
Fairfield	Rhodes
Frenchs Forest	Richmond-Windsor
Green Square-Mascot	Rouse Hill
Hornsby	St Leonards
Hurstville	St Marys
Katoomba	Sutherland
Kogarah	Sydney Olympic Park

2.2. Assumptions

1. The travel from a dwelling to a centre requires at least one trip on a public transport service plus walk time.

2. All dwellings within a centre have access to that centre.

3. The walk time is capped at a maximum combined total of 30 minutes, including interchange time.

4. 4km/h walk speed is used for walk times which is the 'normal' walk speed used in the TfNSW Trip Planner.

5. There is a 3 minute wait time at the first transit stop before boarding a service. This is an assumption about typical customer behaviour when using public transport.

6. Interchange times are calculated using straight-line distance between transit stops using 4km/h walk speed multiplied by 1.3 to determine which interchange service can be boarded. In future as better interchange path travel times become available the specific transfer times at an interchange location can be used in the calculation.

7. The 30 minute catchment is calculated using the best timetabled services and infrastructure provided by the transport network as reflected in the timetable.

8. The metric is based on services provided in the AM Peak period of 6-10am on a Tuesday in December 2019 during school term.

9. The journey concludes at the first transit stop within a GSC metropolitan or strategic centre. There is no calculation for customer travel after they alight at a transit stop within a centre.

10. A GNAF address is assigned as a dwelling based on the total dwellings within the ABS 2016 meshblock. Census 2016 dwelling counts by meshblock have the dwelling growth by GSC district from September 2016 to December 2019 added to each meshblock to determine the total dwellings as at December 2019. Each address within the meshblock is then randomly assigned as a dwelling to match the total dwellings for the meshblock. Each individual address assigned as a dwelling may not be an actual dwelling and vice versa, but within the meshblock the total dwelling count will be reasonably accurate.