Integrating land use planning and mobility planning

Understanding opportunities

Day 2 - Thursday November 8th

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Contents

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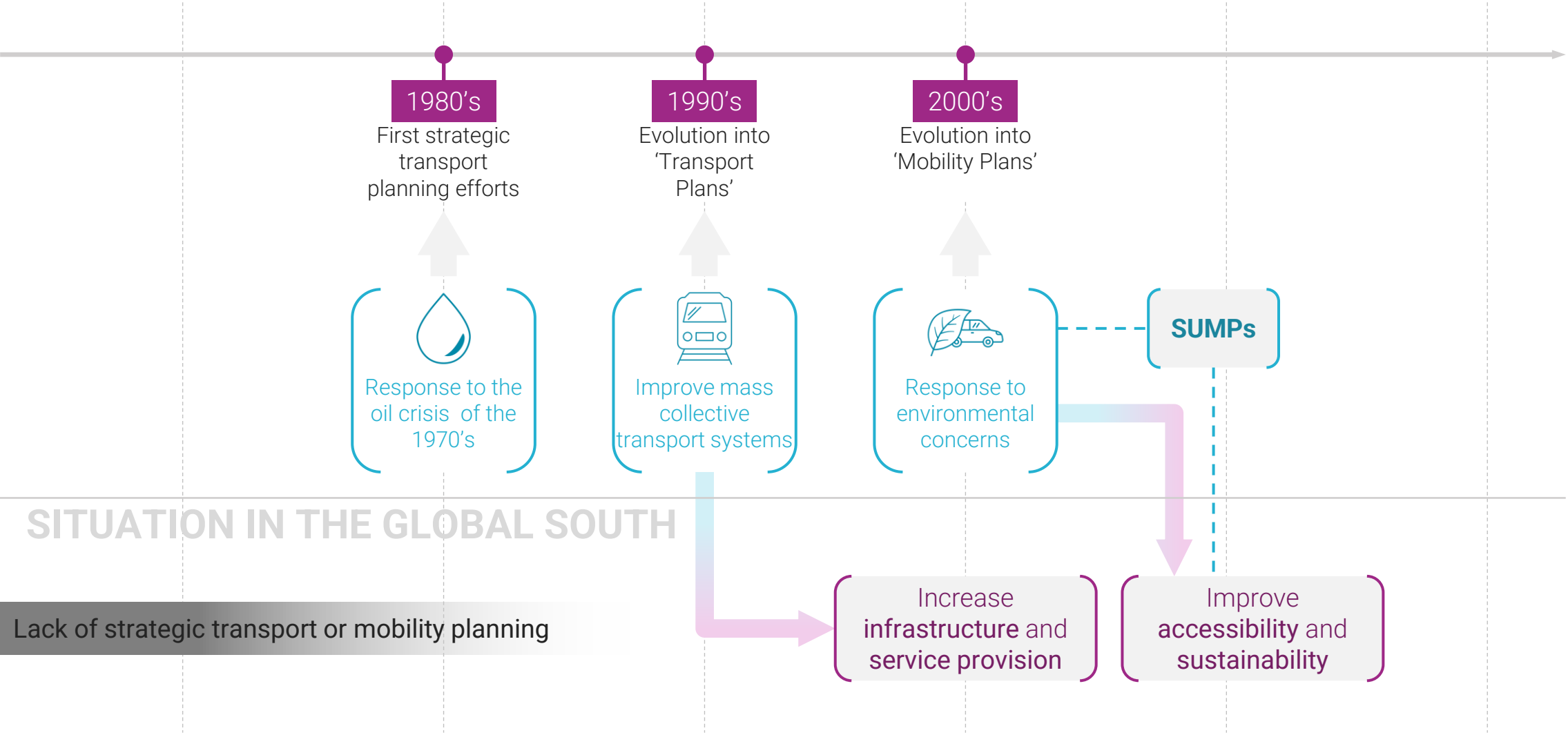
1

Historical processes

Historical land-use – mobility planning processes



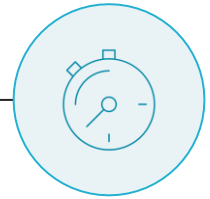
Main obstacles to planning integration

Increase **infrastructure** and **service provision**

Improve **accessibility** and **sustainability**

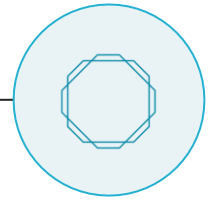
SITUATION IN THE GLOBAL SOUTH

Main obstacles to land-use – mobility planning integration



Time lags between the production of land-use planning and mobility planning documents

Lack of institutional dialogue between authorities in charge of urban planning and those responsible for mobility or transport planning



Excessively rigid plans that hamper the integration prospects

Lack of strategic transport or mobility planning

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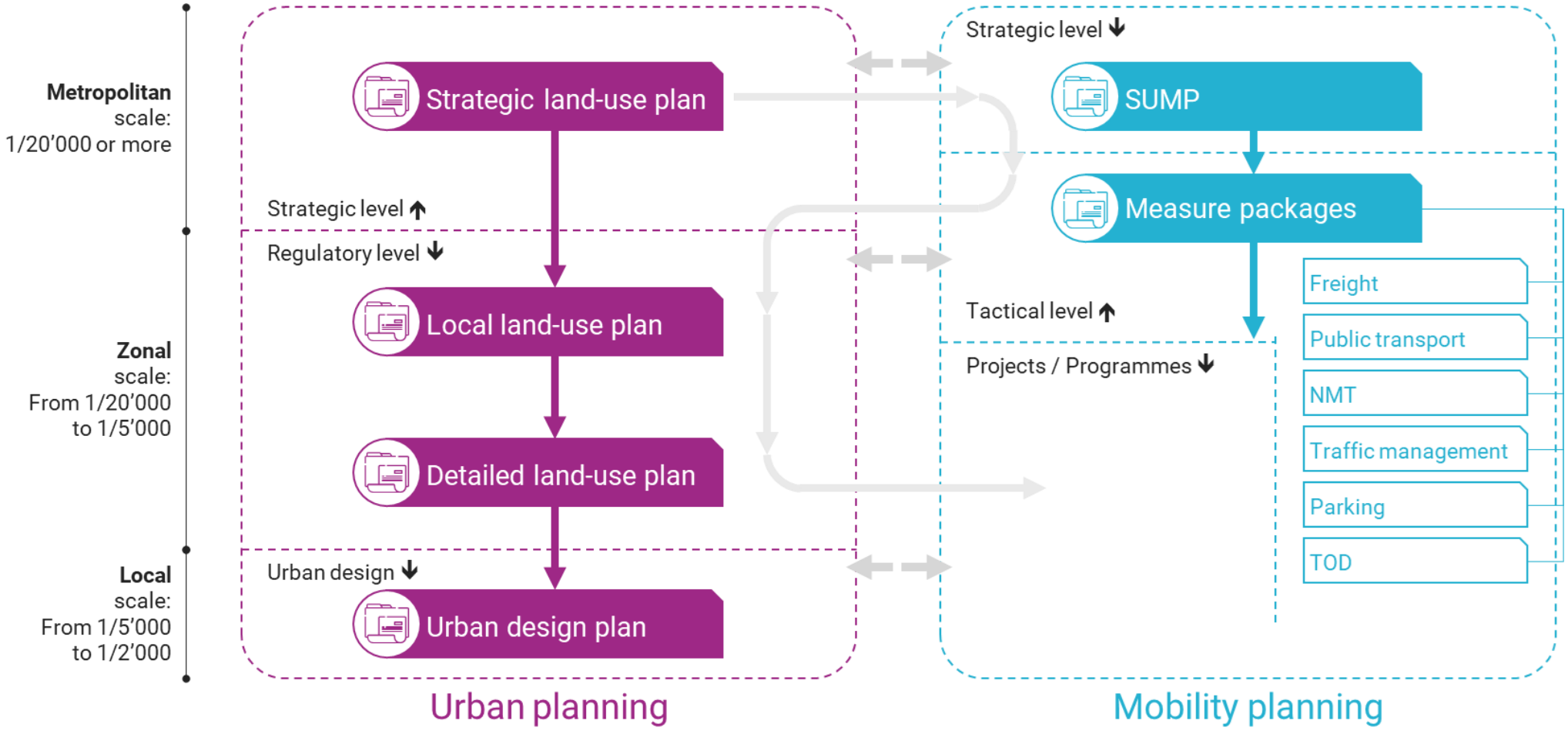
Linking planning documents



Tools for integration

Some cities of the Global South have developed interesting linkages between mobility and urban planning, when seeking well-managed and sustainable urban development.

Curitiba's famous corridor development

The city embarked very early (1966) on a process of urban development structured by main urban corridors where higher density would be encouraged.

Adapted to these corridors and aiming for simplified mobility for the most, the land use plan defined the higher densities along side the main transport axes.

Often presented as a best practice, the Curitiba case is exemplary as it managed to create a strong coherence between land uses, population and activity densities.

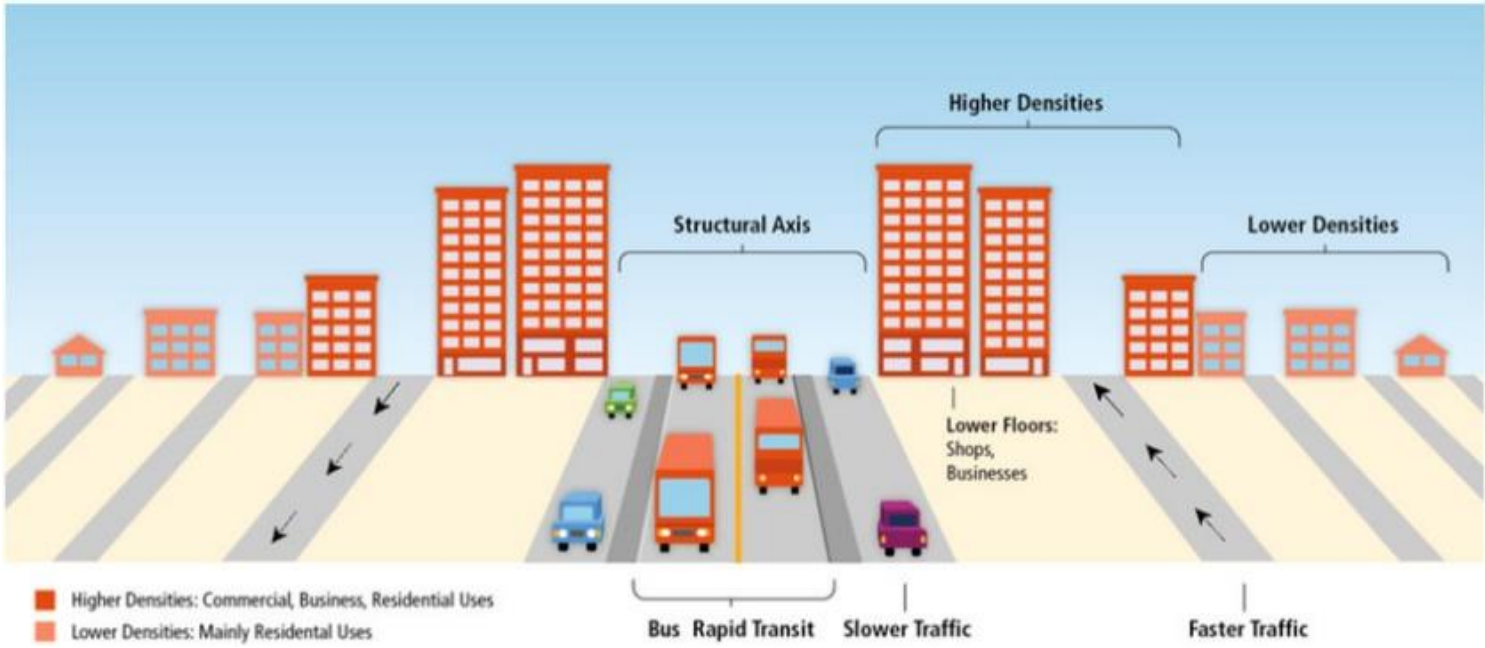


Image source: Pierer, Carl & Creutzig, Felix. (2019). Star-shaped cities alleviate trade-off between climate change mitigation and adaptation. Environmental Research Letters. 14. 10.1088/1748-9326/ab2081.

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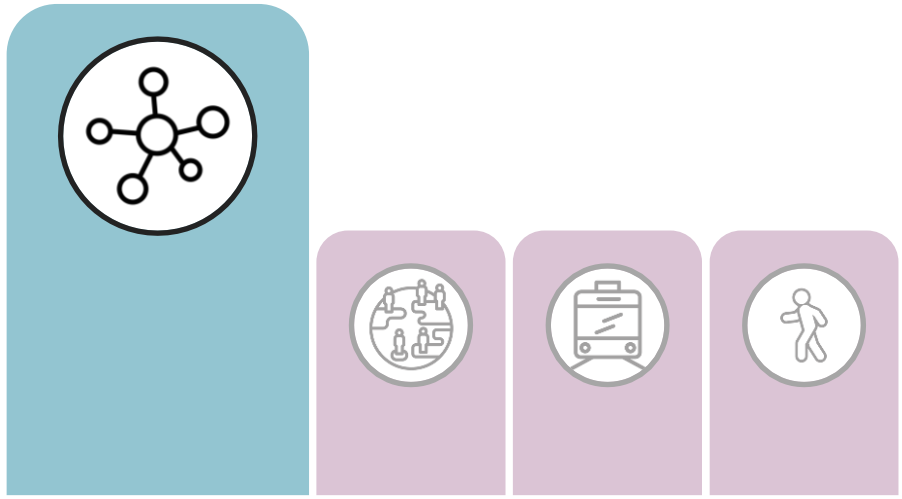
Tools for integration

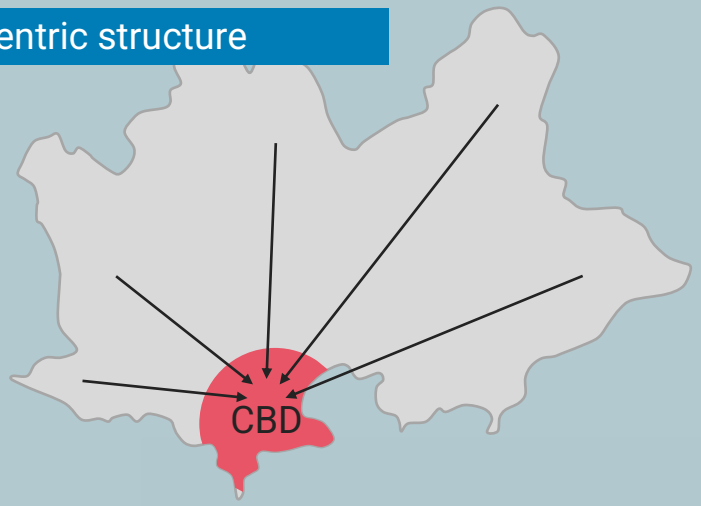
Multipolarity

Many cities of the Global South remain **highly monocentric** (historical centre, jobs, main facilities and services, etc.).

Multipolarity in cities seeks the development of new poles that can **counterbalance** the importance of the main centre.

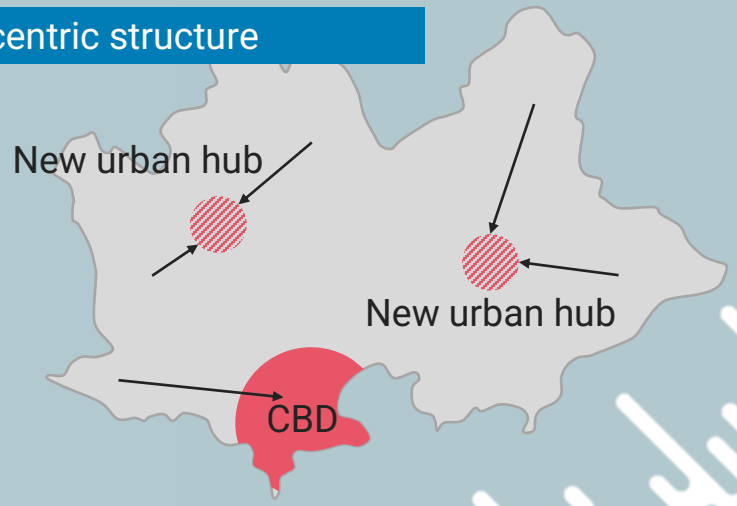


Monocentric structure



Monocentric urban structures often result in increased travel lengths (and time spend for travel). Arguably, they also encourage motorised modes usage.

Polycentric structure



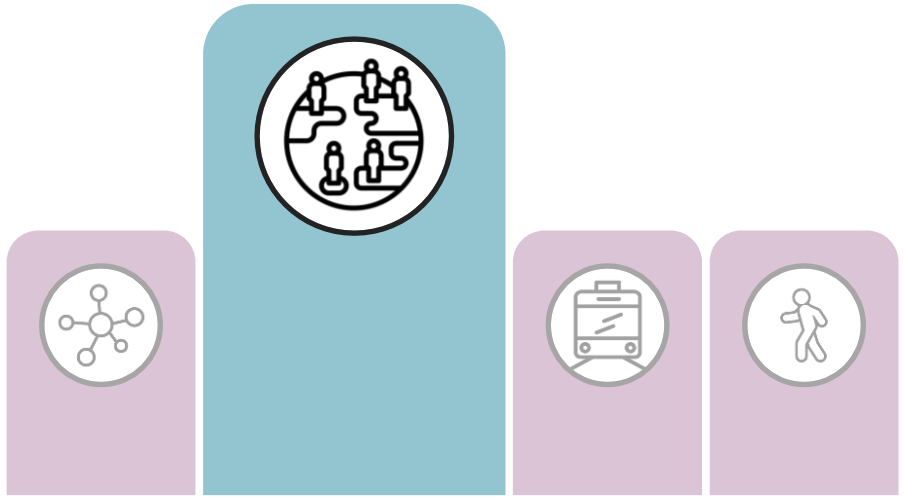
Polycentric structures can help in reducing travel needs, and travel times. They are also key when encouraging NMT.

Tools for integration

Targeted densification

Higher population densities are best suited for the implementation of medium- to high-capacity public transport modes, as higher densities mean higher public transport demands.

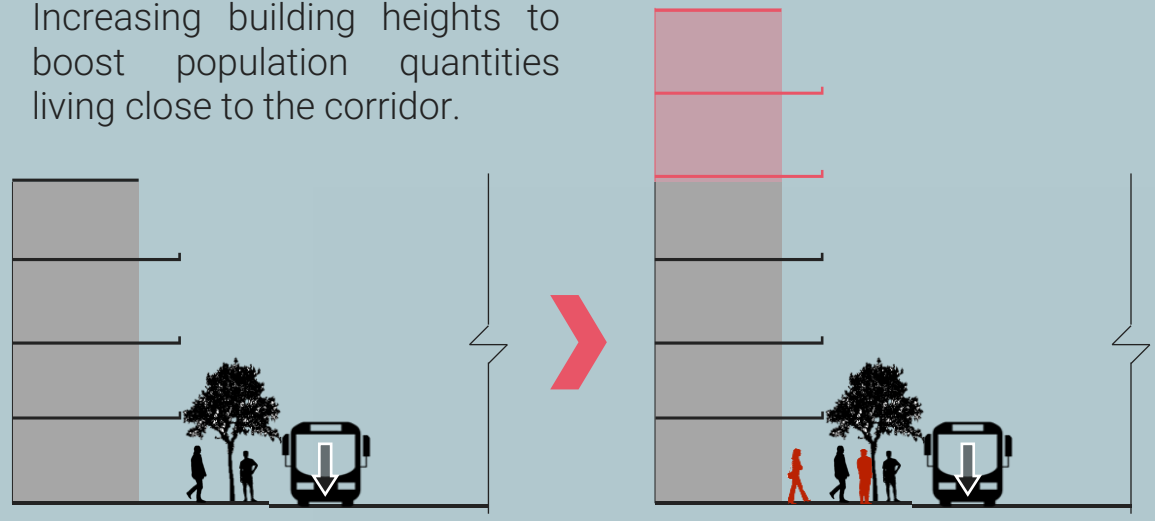
More condensed public transport demand can translate into reduced trip lengths and reduce the need to extend networks.



Targeted densification can take various forms:

Taller buildings

Increasing building heights to boost population quantities living close to the corridor.



Building regulations

Introducing building regulations to encourage smaller spaces.

Increased activity

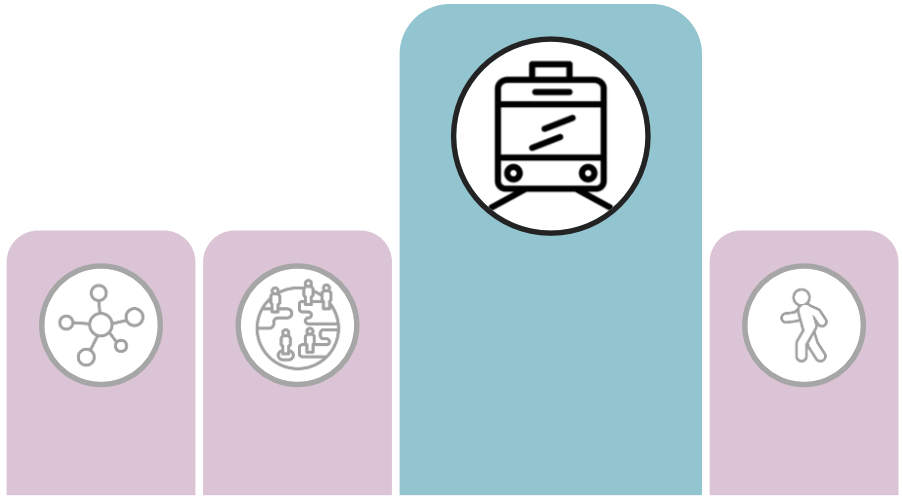
Intensifying urban activity near public transport infrastructure to consolidate attractivity.

Tools for integration

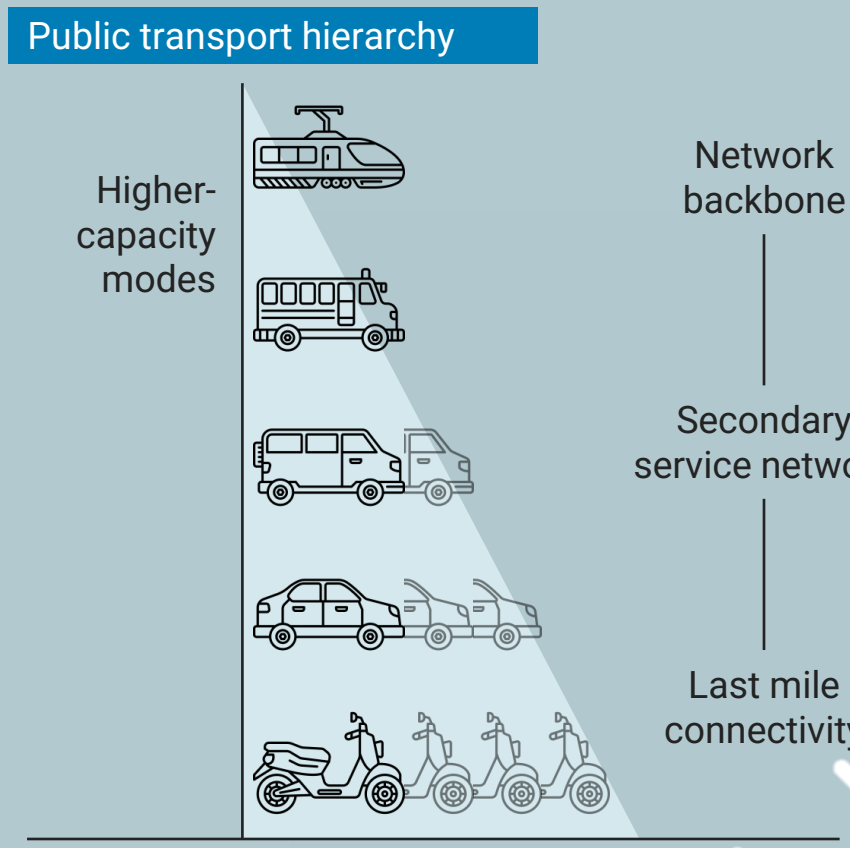
Higher capacity public transport

The implementation of high-capacity modes (train, tramway, BRT) relies on demand levels that justify the substantial capital investments required for implementation.

Improved quality of the public transport supply reduces or inverses the growth patterns (tendencies?) of motorisation.



A key part of the process is to produce a network with a clear hierarchy, that will help in (re)structuring other modes around the newly formed backbone.



* Modes included are, in order from top to bottom: Metro, BRT, BHNS, Bus, Minibus, Collective taxis, Mototaxis.

Tools for integration

Improved conditions for active modes

Walking and cycling align themselves with ‘slower’ urban areas where local-level mixed uses are encouraged.

NMT is also particularly relevant around public transport stations, knowing active mobility can irrigate zones around transport stations and ensure last-mile connectivity.

“Walking is the new BRT”
WRI & ITDP Africa
Walk21 Conference
Kigali, 2023

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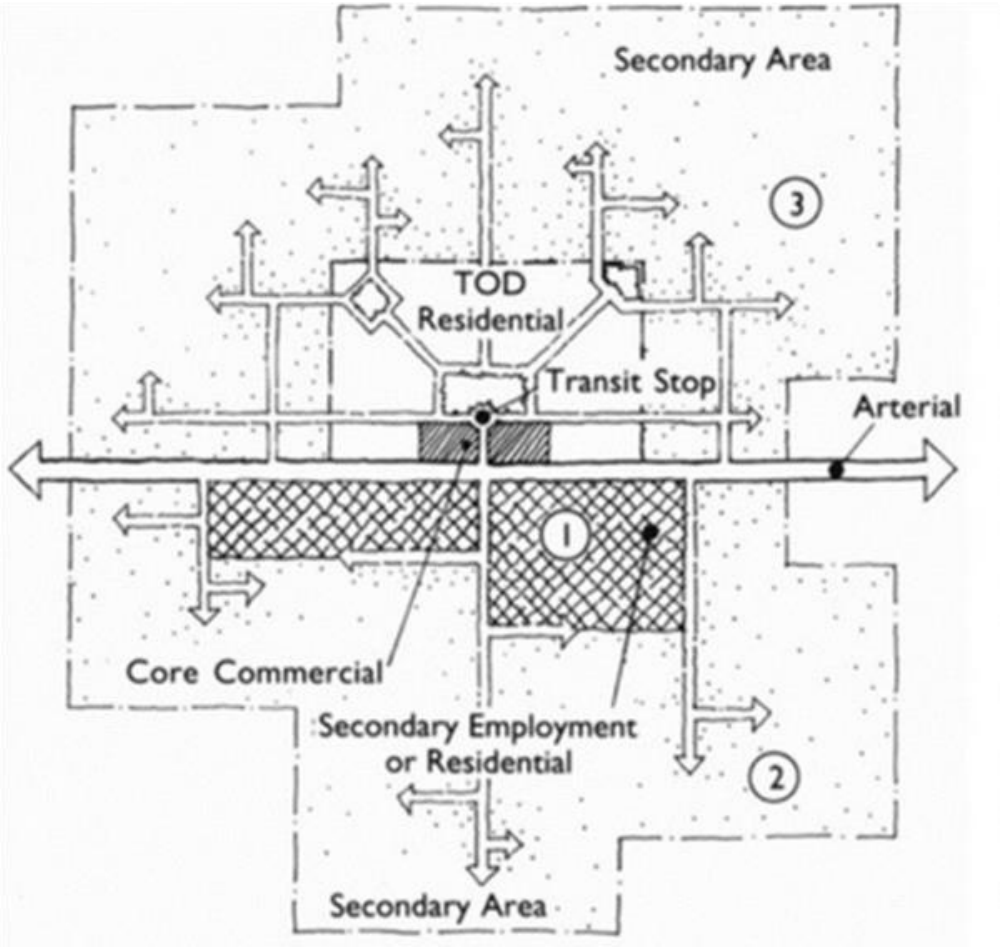
Integration concepts

Transit Oriented Development (TOD)

The TOD concept creates, at different scales and following a clear hierarchy, hubs along high-capacity public transport corridors, with strong well-defined roles for the other mobility modes. TODs necessarily rely on strong strategic and regulatory changes in urban planning, to reorganise mobility patterns and densify the major city axes.



General TOD representation

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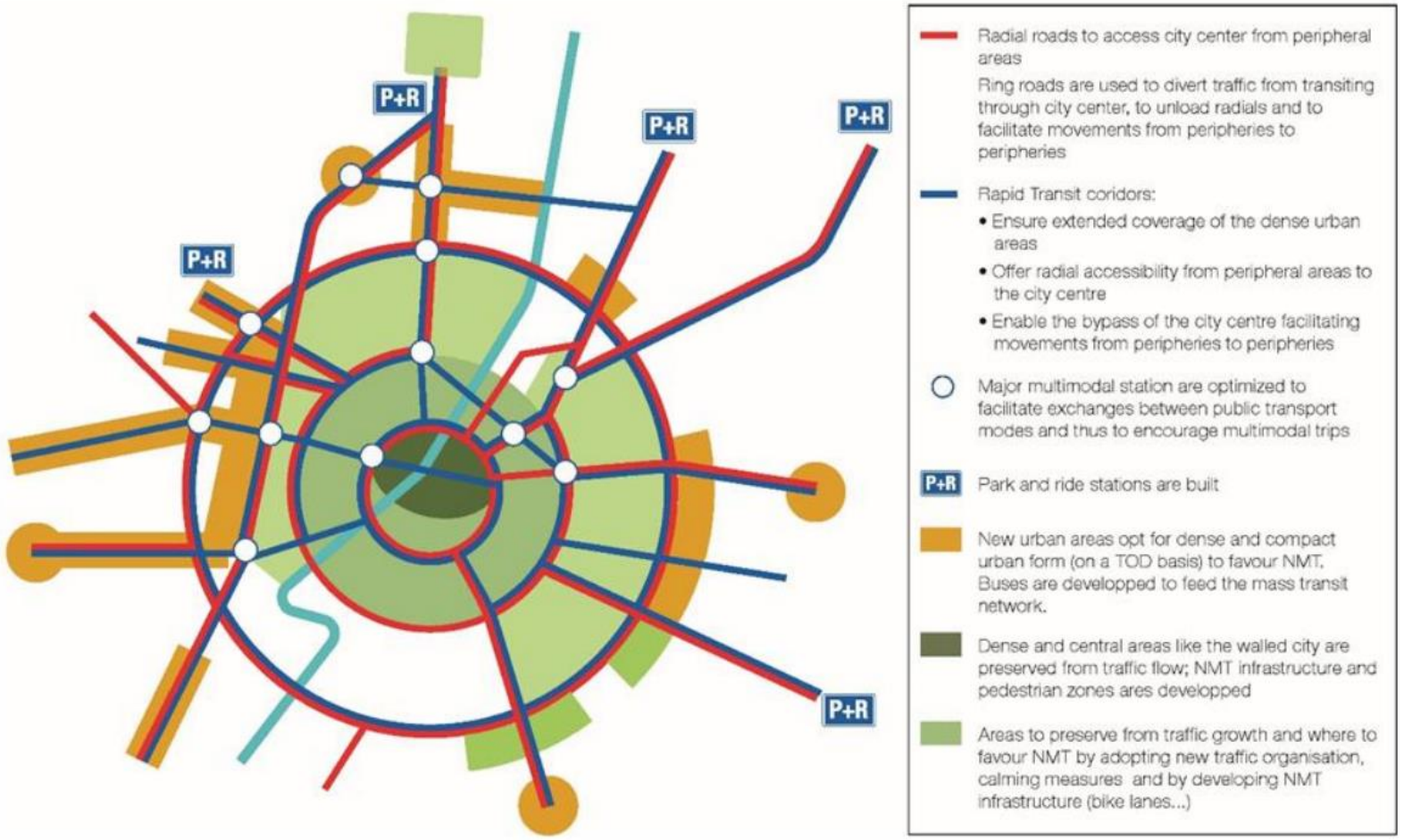
Various forms of deploying tools are possible. The objective is to remain coherent with urban strategic plans, when they exist.

Case 2 : Ahmedabad strategic concept (SUMP)



The city has had some success with TOD implementation along rail-based public transport services. Several programmes to be used on BRT lines are also proposed.

Furthermore, the concept of complete streets stresses the importance of adequately distributing available space between modes. Street design will enact objectives of prioritising public transport and non-motorised modes.

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15-minute cities

The 15-minute city principle is that the entire city is accessible are can be joined within 15-minute with the soft mobility modes (bikes and walk).

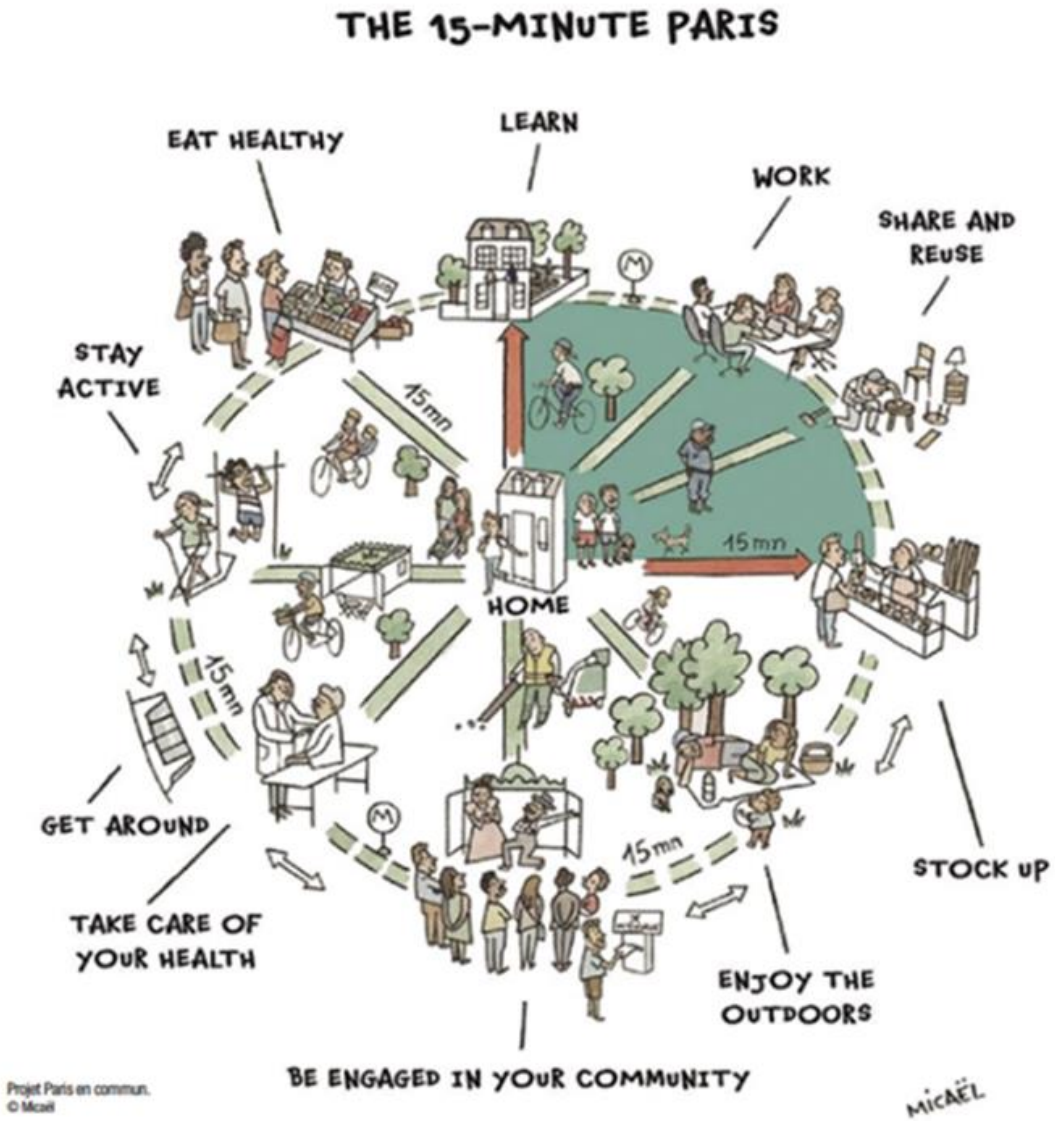
This implies that cities' structures need to be based on a network of neighbourhoods that provide all necessary amenities.

Ecology
Sustainable city with green spaces

Proximity
Reduced distances to activities

Solidarity
Links between inhabitants

Participation
Bottom-up approach to planning



General 15-minute city representation

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20-minute neighbourhoods

The 20-minute neighborhood principle is that the main range of urban amenities (health, school, markets, …) can be joined within 20-minute by walking, such has the larger public options.

The 20-minute neighbourhood is all about 'living locally' – giving people the ability to meet most of their everyday needs within a 20-minute walk, cycle or local public transport trip of their home.

Plan Melbourne 2017-2050

General 20-minute neighbourhood representation

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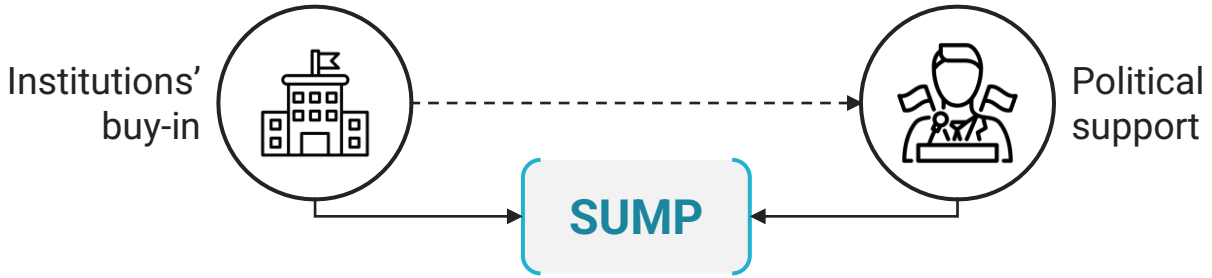
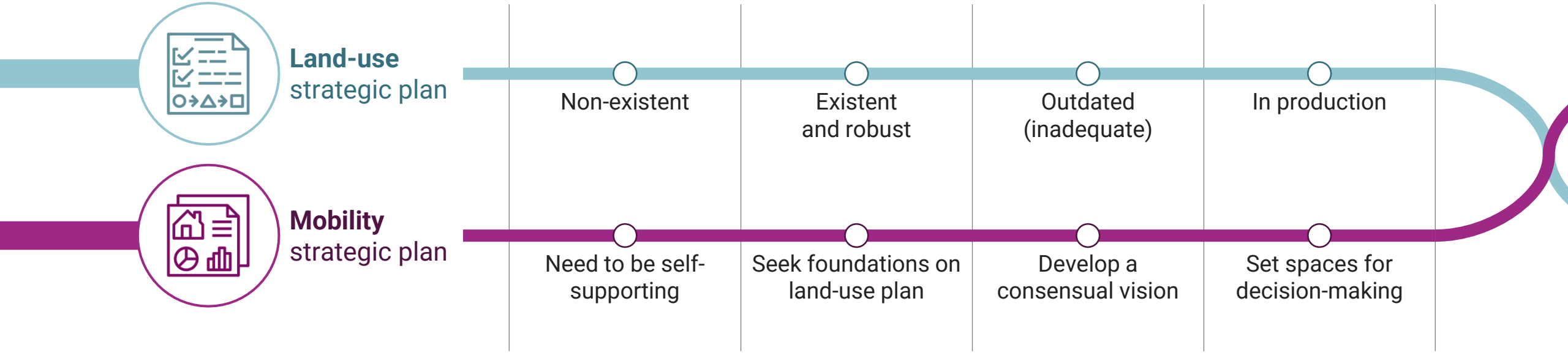
Linking documents and times

The integration approach during a SUMP process



SUMPs are a key tool when seeking to shape the development of existing or future cities.



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