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# TOD in Municipal Masterplan:

*A guide to include Transit-Oriented  
Development in urban planning*

SPEAKER:

HENRIQUE EVERS



## Introduction

TOD as an integrated strategy for urban and transport planning

1. Why TOD

2. TOD as urban planning strategy

3. How to incorporate TOD into Masterplan



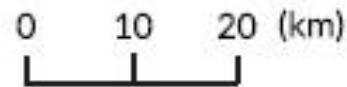
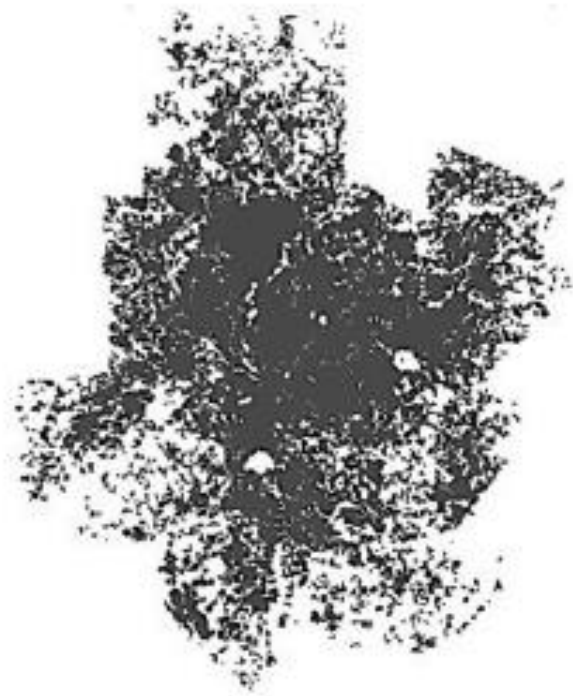
Available for download in  
Portuguese:

<http://wricidades.org/research/publication/dots-nos-planos-diretores>

# WHY TOD?

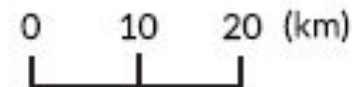
- Urban form matters

POPULATION: **5.25 MILLION**  
URBAN AREA: **4,280 KM<sup>2</sup>**  
TRANSPORT  
CARBON EMISSIONS: **7.5**  
TONNES CO<sub>2</sub> PER PERSON  
(PUBLIC + PRIVATE  
TRANSPORT)



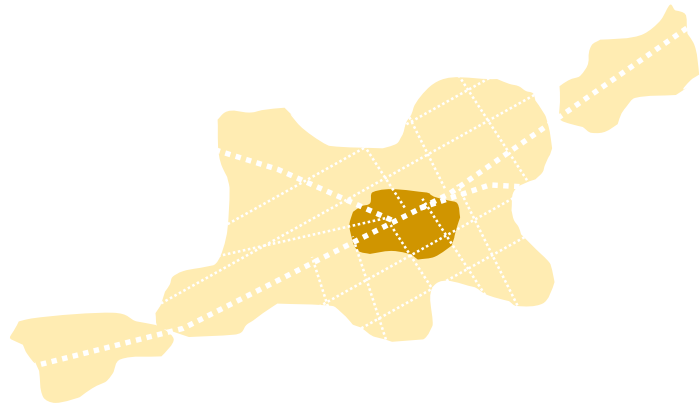
ATLANTA

POPULATION: **5.33 MILLION**  
URBAN AREA: **162 KM<sup>2</sup>**  
TRANSPORT  
CARBON EMISSIONS: **0.7**  
TONNES CO<sub>2</sub> PER PERSON  
(PUBLIC + PRIVATE  
TRANSPORT)



BARCELONA

# WHY TOD?



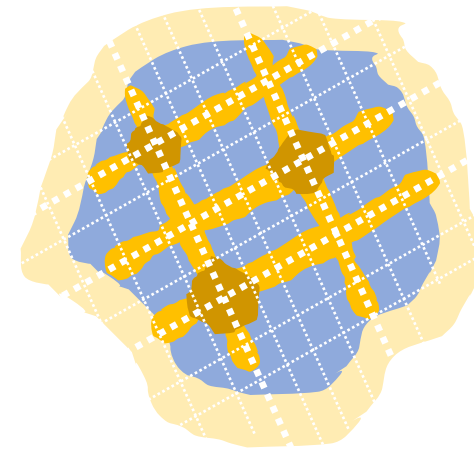
**3D CITY**

## **3D City**

distant | disperse | disconnected  
Inefficiency, congestion, low productivity  
(without TOD)



**TOD  
strategy**



**3C CITY**

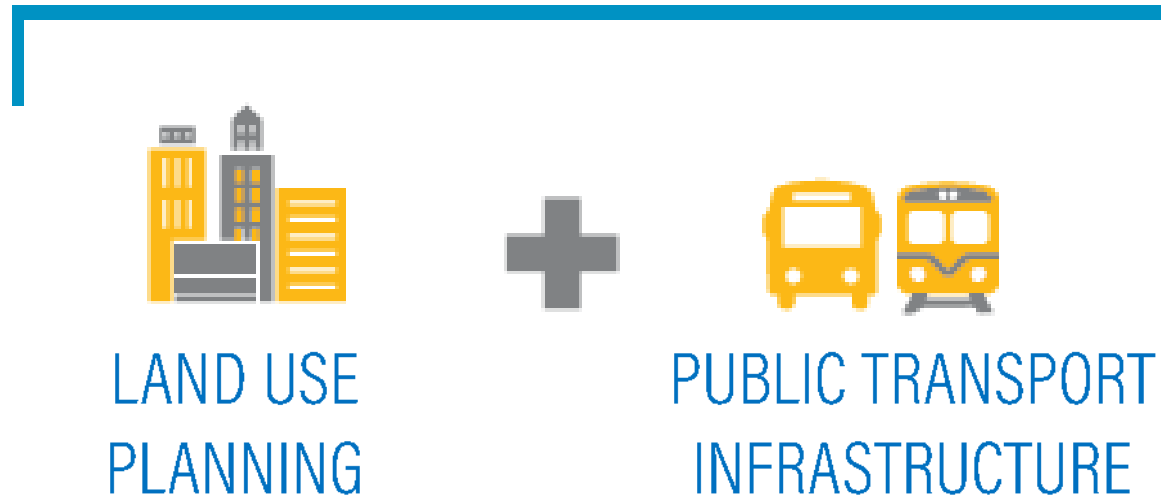
## **3C City**

compact | connected | coordinated  
Efficiency, public transport, high productivity  
(with TOD)

# TOD – Transit-Oriented Development

Transit-Oriented Development is an integrated **land use and public transportation** planning strategy.

## TOD STRATEGY



# TOD – Transit-Oriented Development

Transit-Oriented Development is an integrated **land use and public transportation** planning strategy.

TOD promotes compact urban areas with appropriate densities to close to transport infrastructure of high or medium capacity. This strategy inactivate social interaction because offers many choices of urban activities and services in walkable distance, such as access to job opportunities, leisure activities, public spaces and housing.

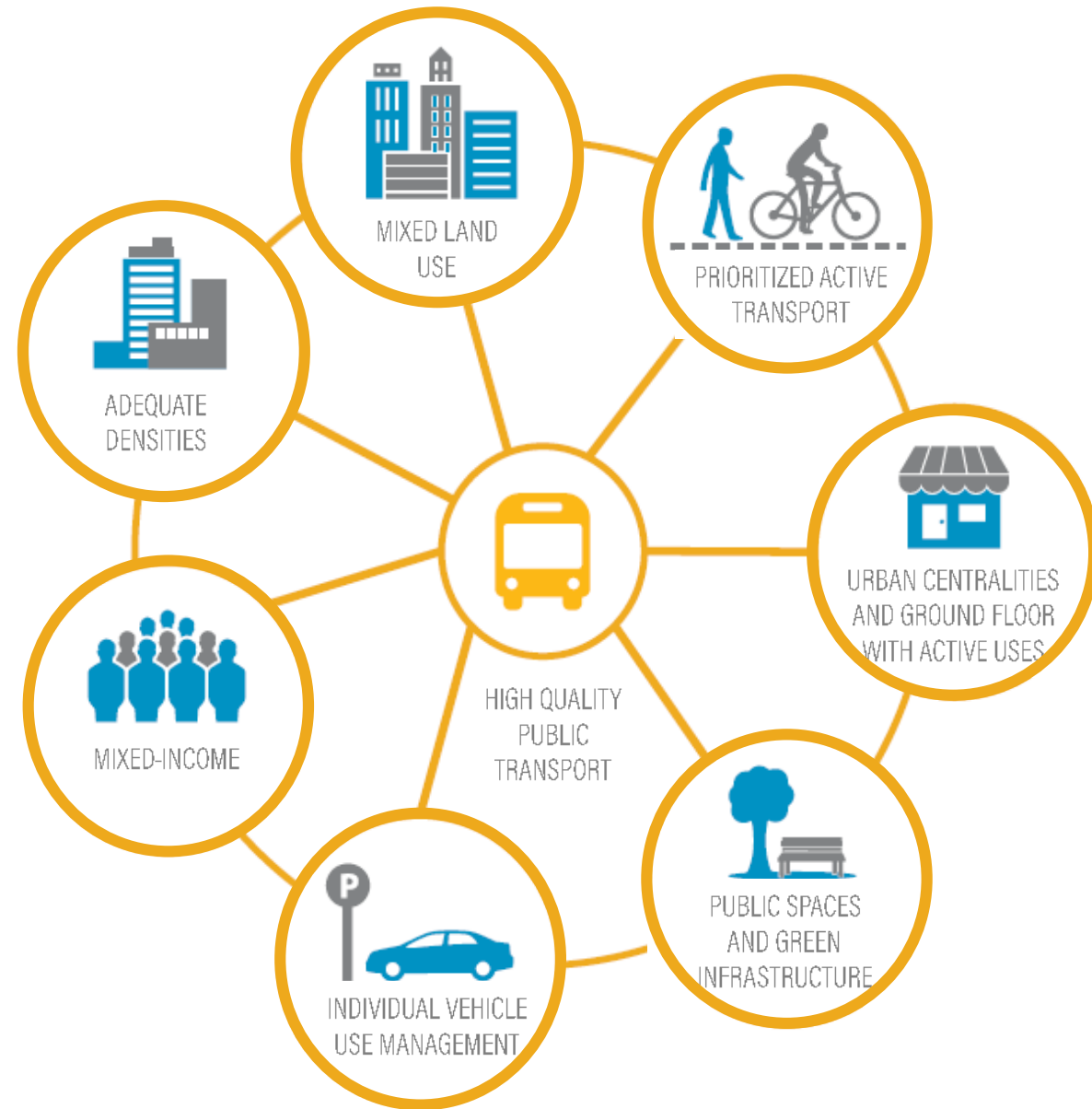
- TOD is a strategy to achieve the 3C City Model – Compact, Connected and Coordinated;
- TOD should be implemented by public and private sector;
- TOD should be executed integrating a diversity of urban agendas being able to deal with a range of usual urban problems.



# TOD ELEMENTS

TOD is defined by eight elements, necessary to promote a more sustainable urban development

The integrated adoption of all the elements is key to guarantee that TOD strategy can achieve the intended benefits.



# ALMOST THERE



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# CORRIDOR



# TOD



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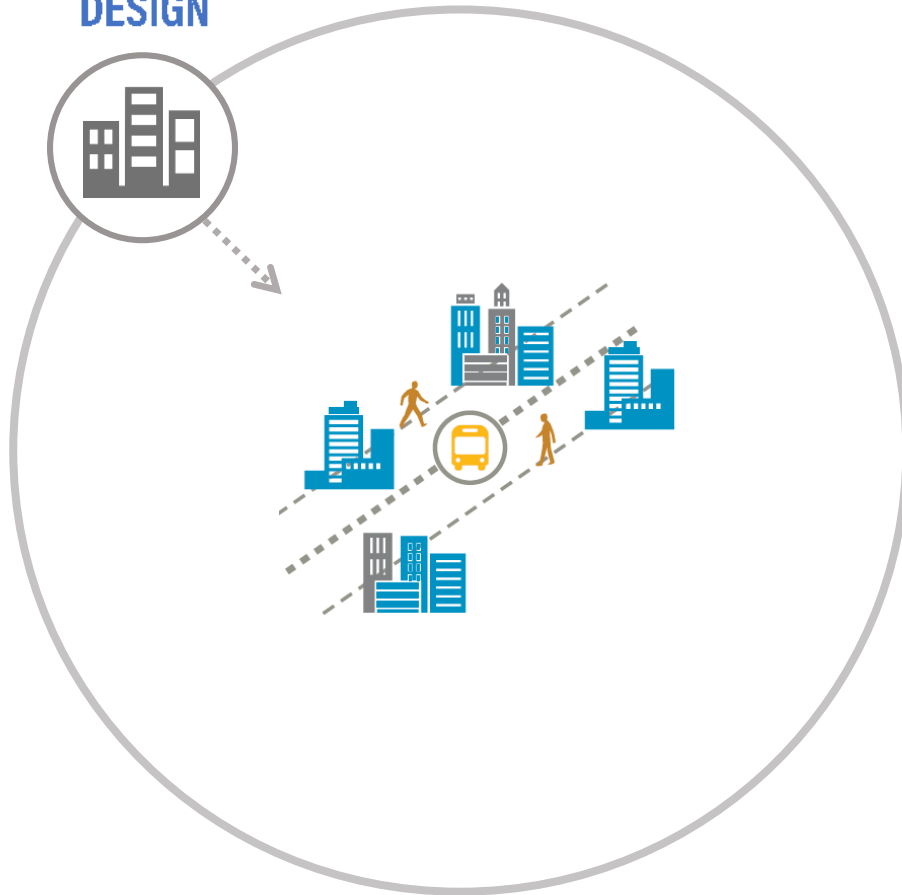
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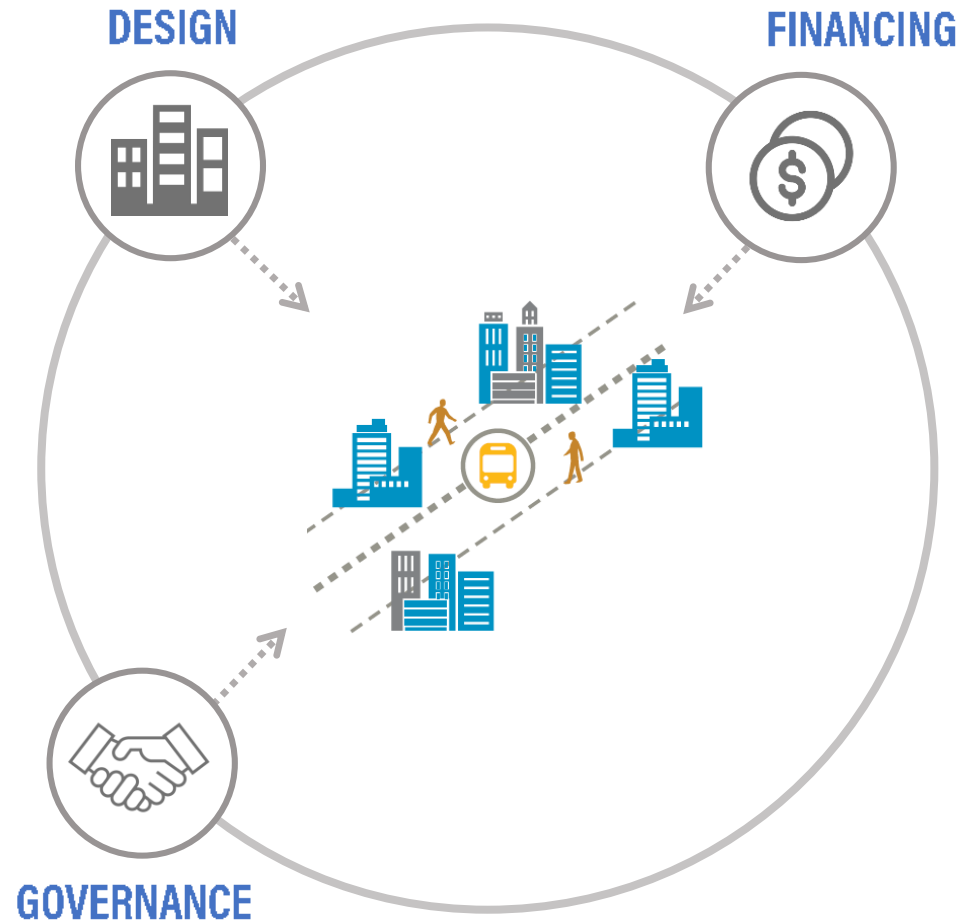
# WHAT IS NOT TOD

- Do not consider TOD:
  - The promotion of density around public transportation;
  - A strategy for financing urban infrastructure;
  - The commercial exploitation of a transport hub area.
  
- If they are implemented separately.

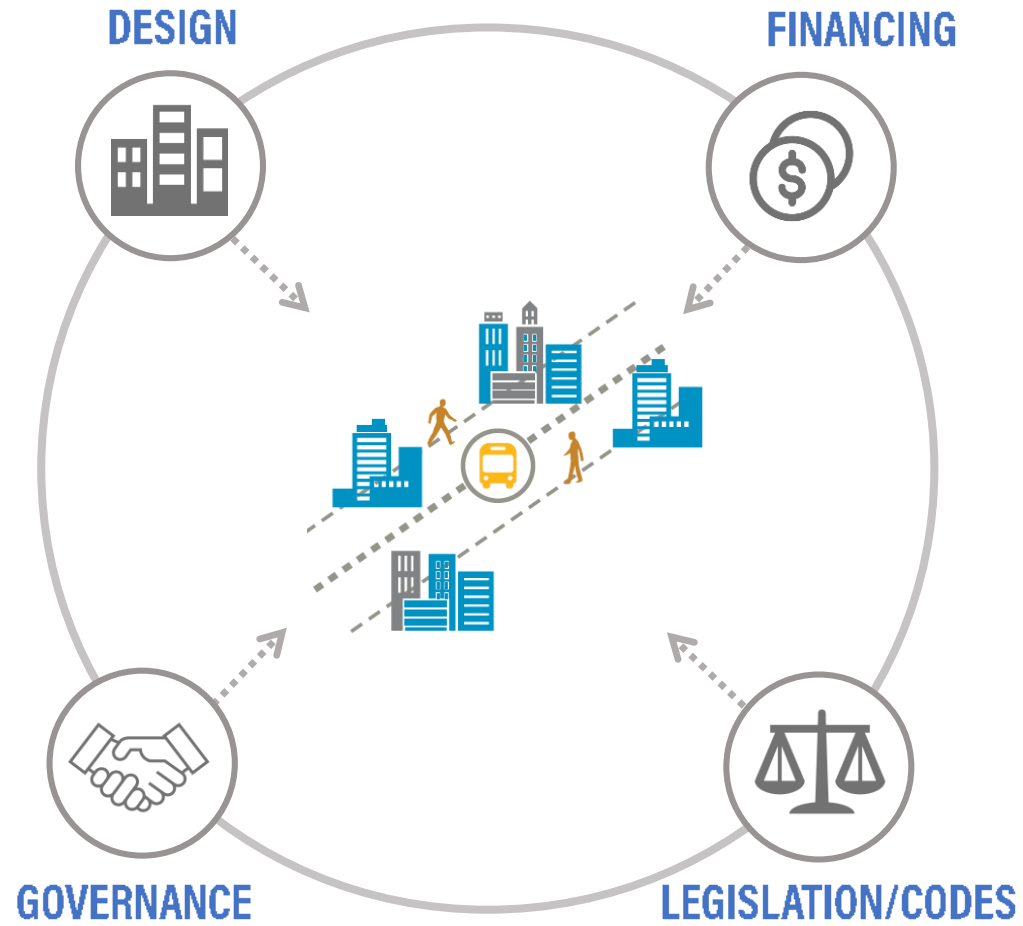
HOW CAN WE TURN THIS STRATEGY INTO A REALITY?

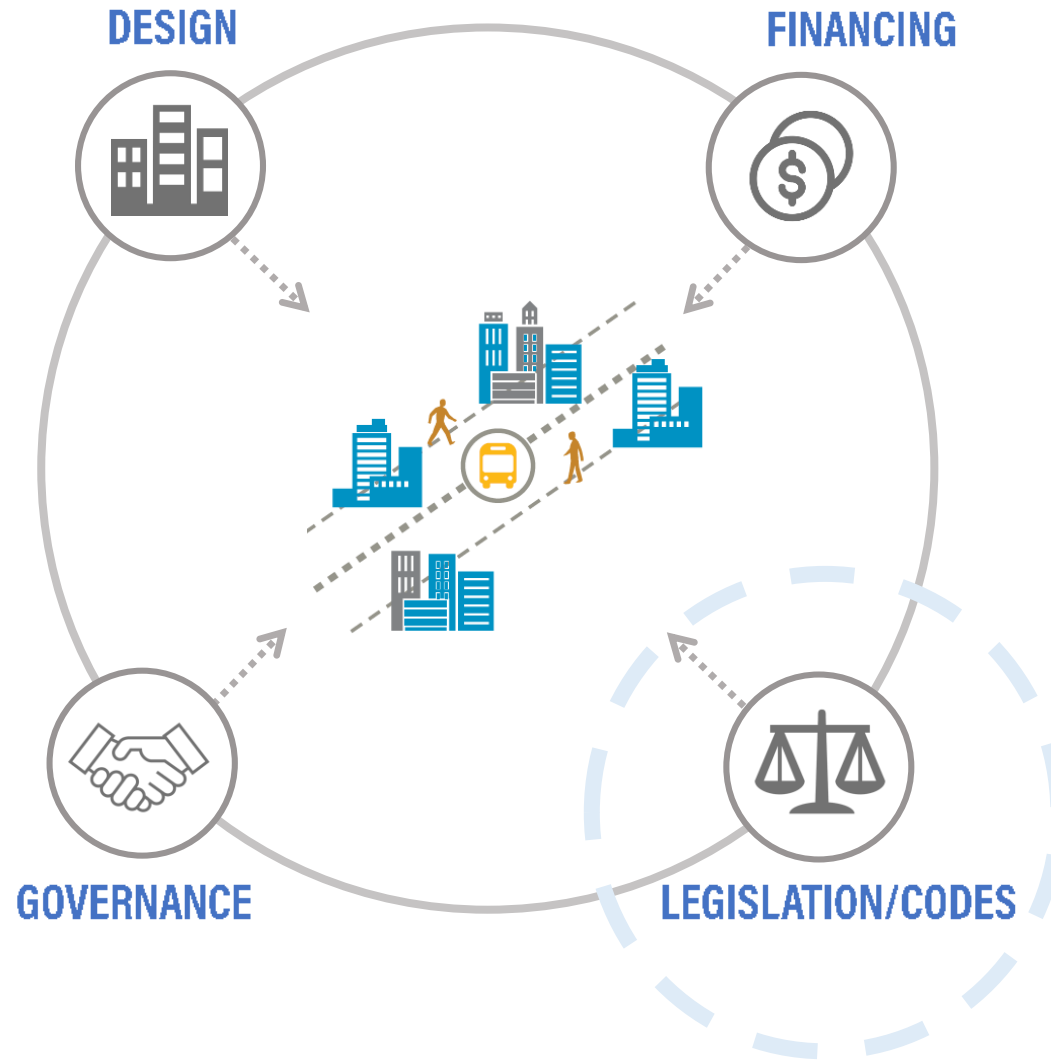
DESIGN











# MUNICIPAL MASTERPLANS ROLES

## Municipal Masterplans



### STRATEGIC ROLE

It establishes principles related to urban sustainability, with guidelines for growth, land-use planning and efficient use of infrastructures. TOD aims to guarantee sustainable urban development.

TOD aims to guarantee sustainable development.

### NORMATIVE ROLE

Regulates the urban perimeter, zoning, road hierarchy and other urban normative principles. Sets the parameters of urban areas such as Floor Area Ratio, occupation rates, and as well as the guidelines for implementation of urban planning instruments.

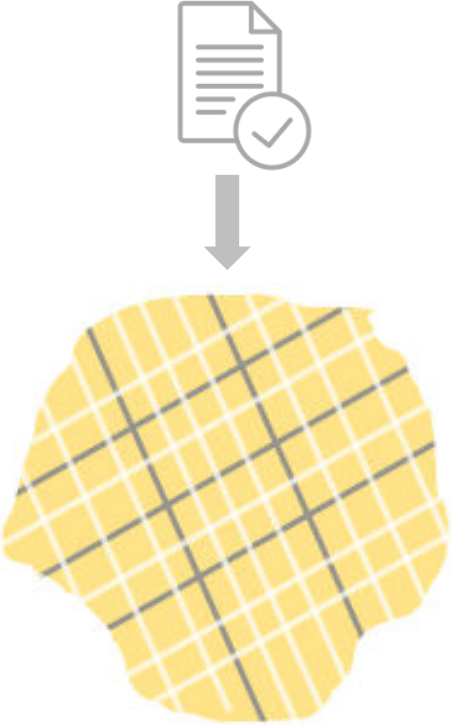
Regulates: urban perimeter, zoning, densities and urban normative principles.



**Municipal masterplans can regulate urban parameters, such as urban vitality**

# HOW TO INCORPORATE TOD INTO MASTERPLANS?

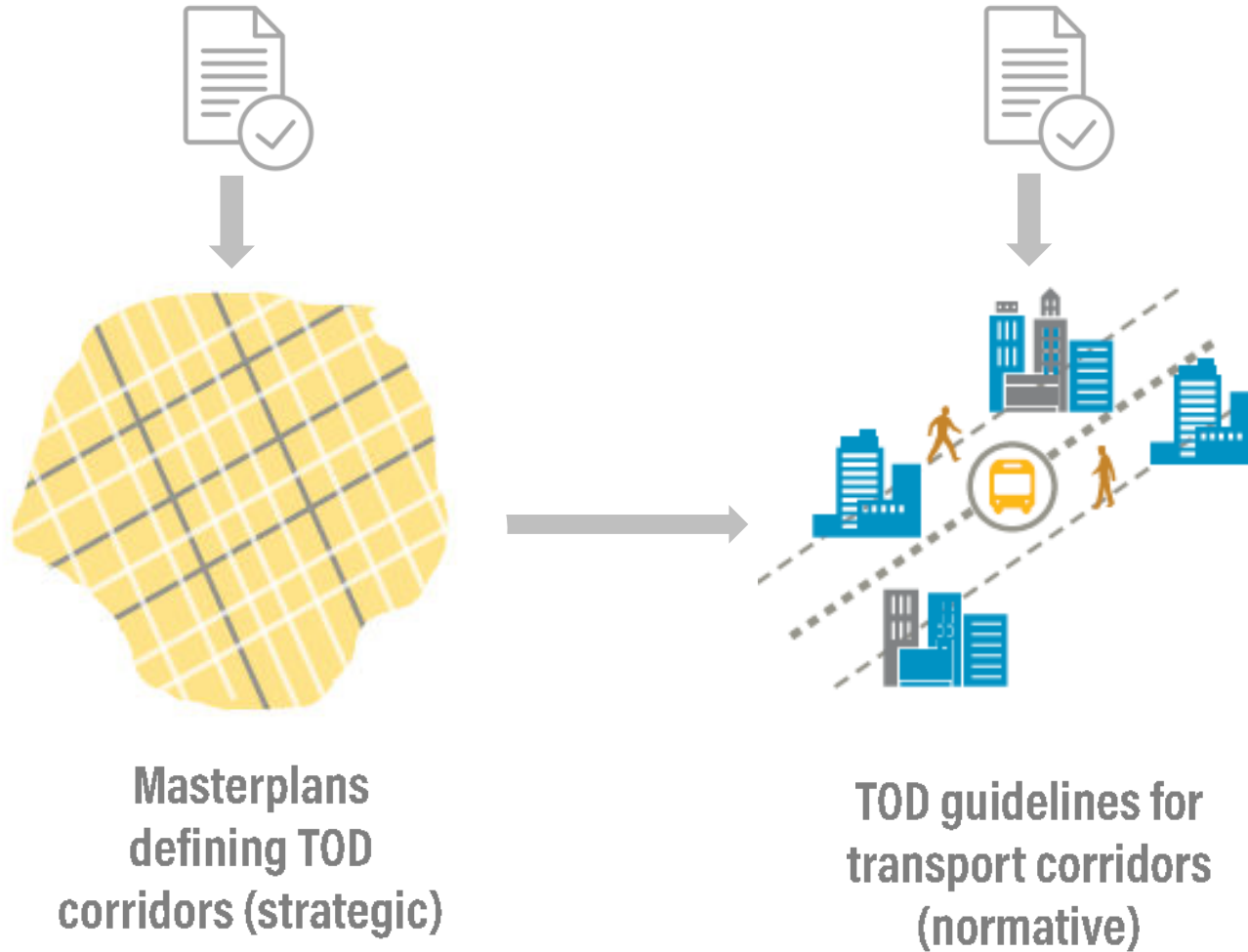
# TOD AS URBAN PLANNING STRATEGY



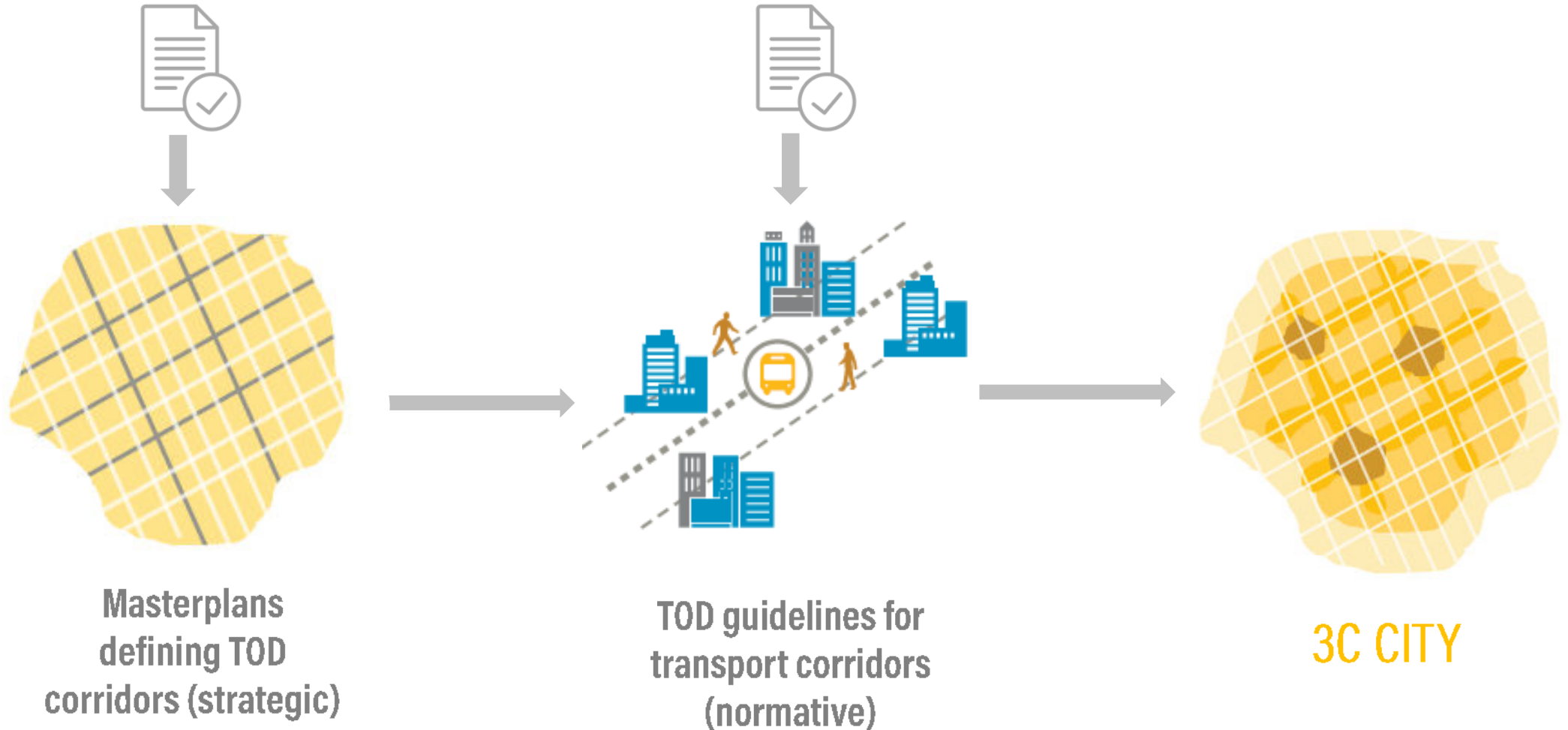
Masterplans  
defining TOD  
corridors (strategic)



# TOD AS URBAN PLANNING STRATEGY



# TOD AS URBAN PLANNING STRATEGY





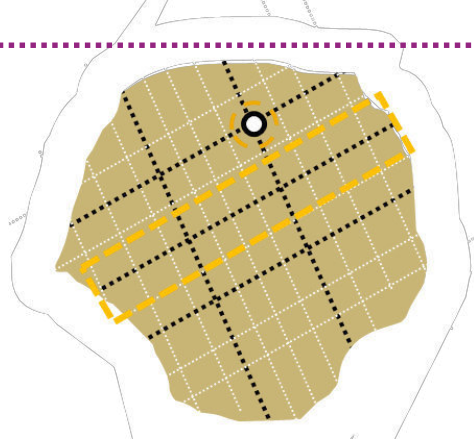
# TOD IN MUNICIPAL MASTERPLANS:

**3** TERRITORIAL PRINCIPLES FOR URBAN DEVELOPMENT

**8** ACTIONS FOR CORRIDOR OR STATIONS SURROUNDING AREAS

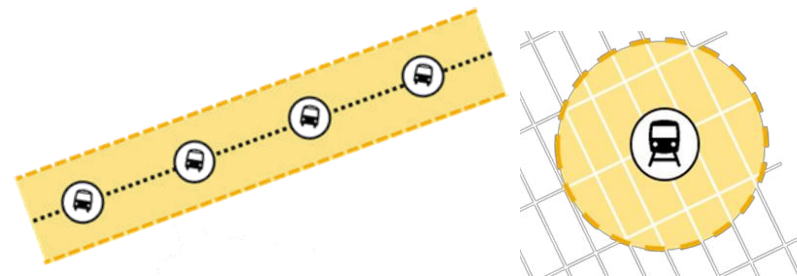
## PRINCIPLES - city scale

Strategic urban perimeter, mixed use zoning, property appreciation management



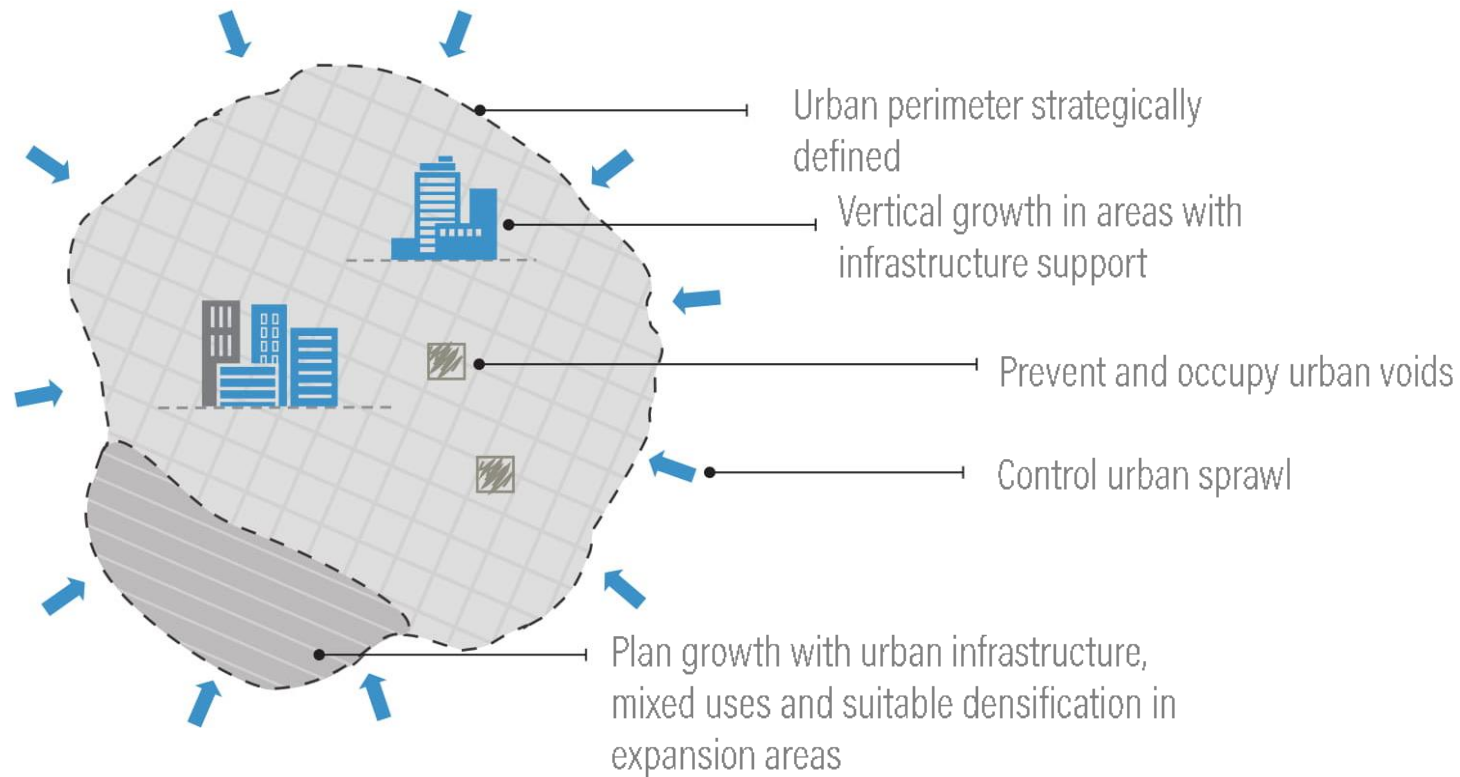
## ACTIONS - corridor or stations

Improvement of corridor area, populational densification, mixed uses, reduction of urban voids, discouragement of private vehicle use, incentives to active transport...



PRINCIPLE **1** COMPACT  
URBAN GROWTH

Control urban sprawl and guarantee smart/sustainable growth

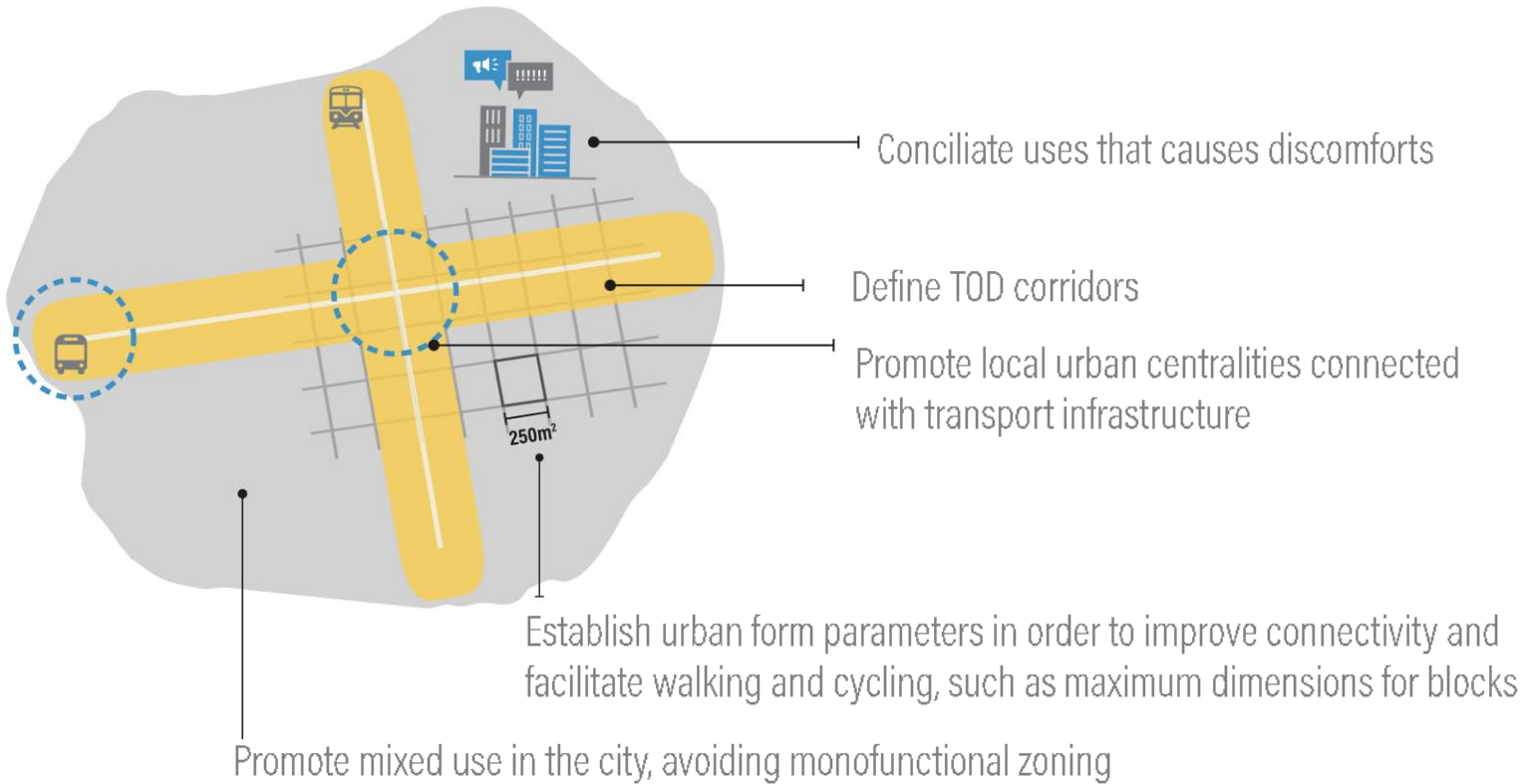


**PERIMETER +  
EXPANSION AREAS**

Municipal Masterplans incorporate urban strategies and legal instruments that can orient compact urban growth with mixed uses and suitable densities in order to avoid urban dispersion. In addition, incentives for urban voids occupation should be prioritized to strength consolidated urban areas.

# PRINCIPLE 2 CONNECTED INFRASTRUCTURE

Optimize use of infrastructure and reduce need for travel



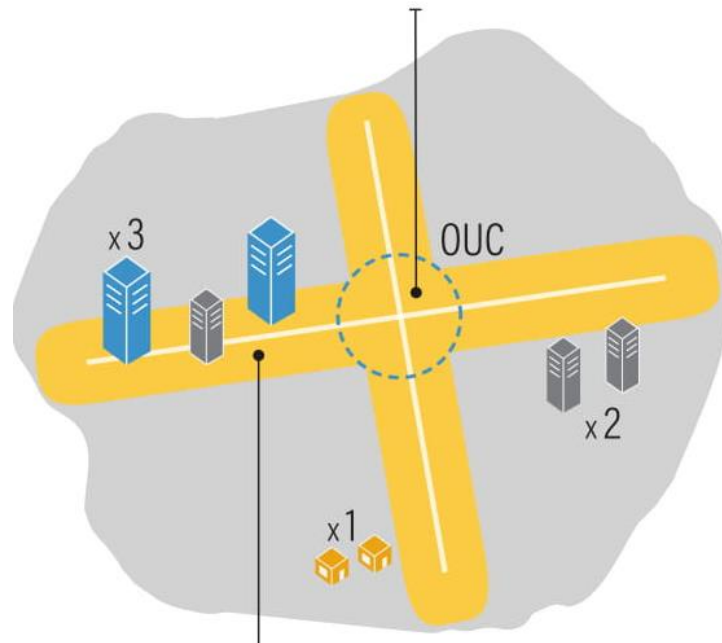
## TOD CORRIDOR + LAND USE ZONING

A Municipal Masterplan should define areas with a diversity of uses and activities around transport corridors and stations in order to create attractive local urban centers and qualify daily commuting. In this sense it is possible to optimize existent urban infrastructure.

# PRINCIPLE 3 COORDINATED MANAGEMENT

Land values management

Zone with high potential for transformation  
(potential urban operations)



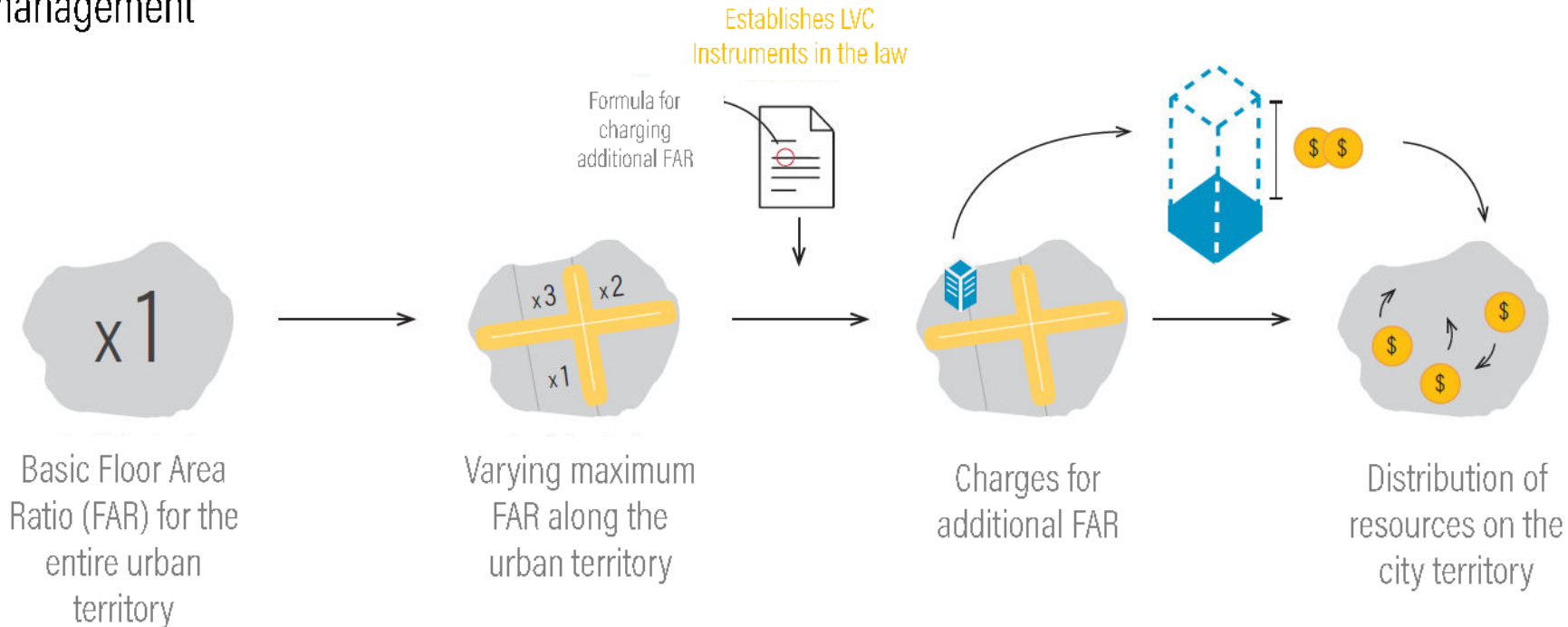
## BASIC FLOOR AREA RATIO STRATEGY + LAND VALUE CAPTURE STRAGIES

Municipal Masterplans should include legal instruments that promote densification at the same time that allows the land value capture. therefore, it is possible to recover public investments in urban areas and raise funds for investments and development.

Priority zone for TOD strategy implementation

# PRINCIPLE 3 COORDINATED MANAGEMENT

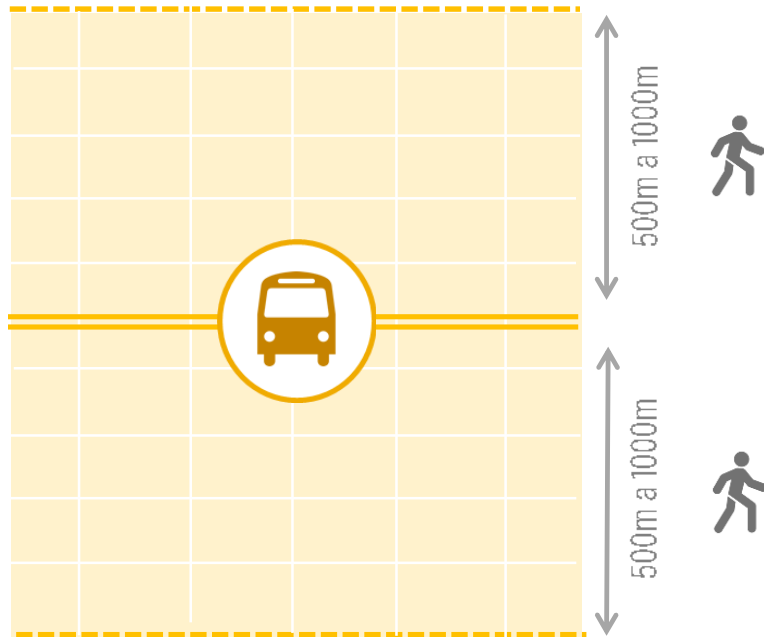
Land values management



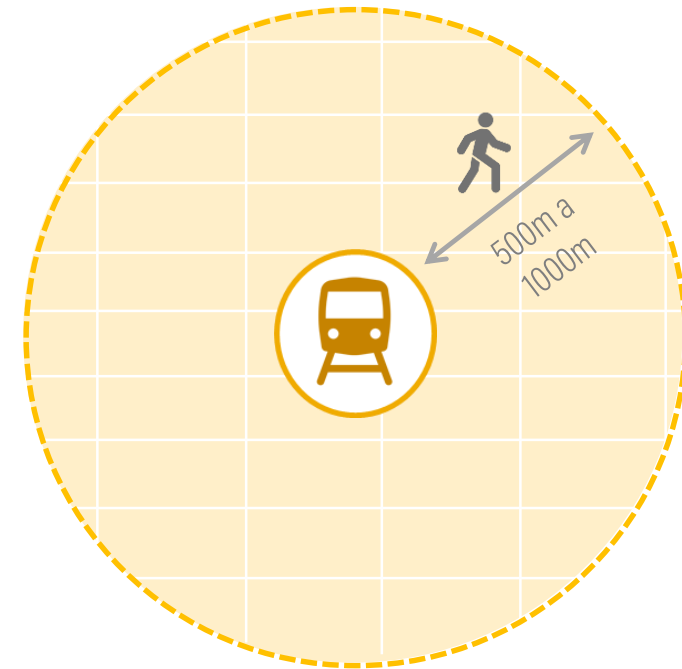
## BASIC FLOOR AREA RATIO STRATEGY + LAND VALUE CAPTURE STRAGIES

# WHERE TO APPLY TOD

TOD AREA OF INFLUENCE FOR PUBLIC TRANSPORT CORRIDORS (BUSES)



TOD AREA OF INFLUENCE FOR PUBLIC TRANSPORT STATIONS (RAIL)





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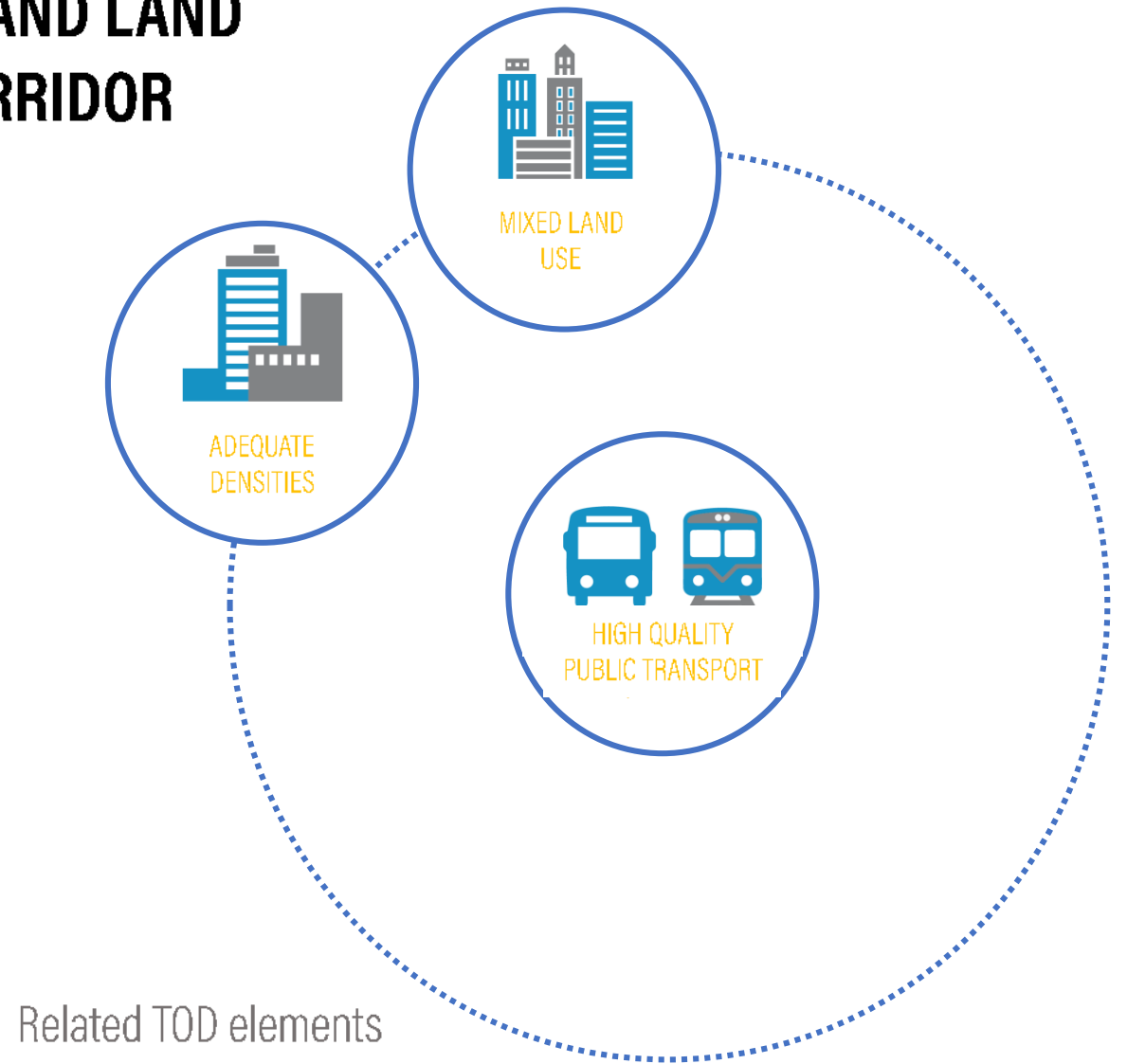
# TOD ELEMENTS



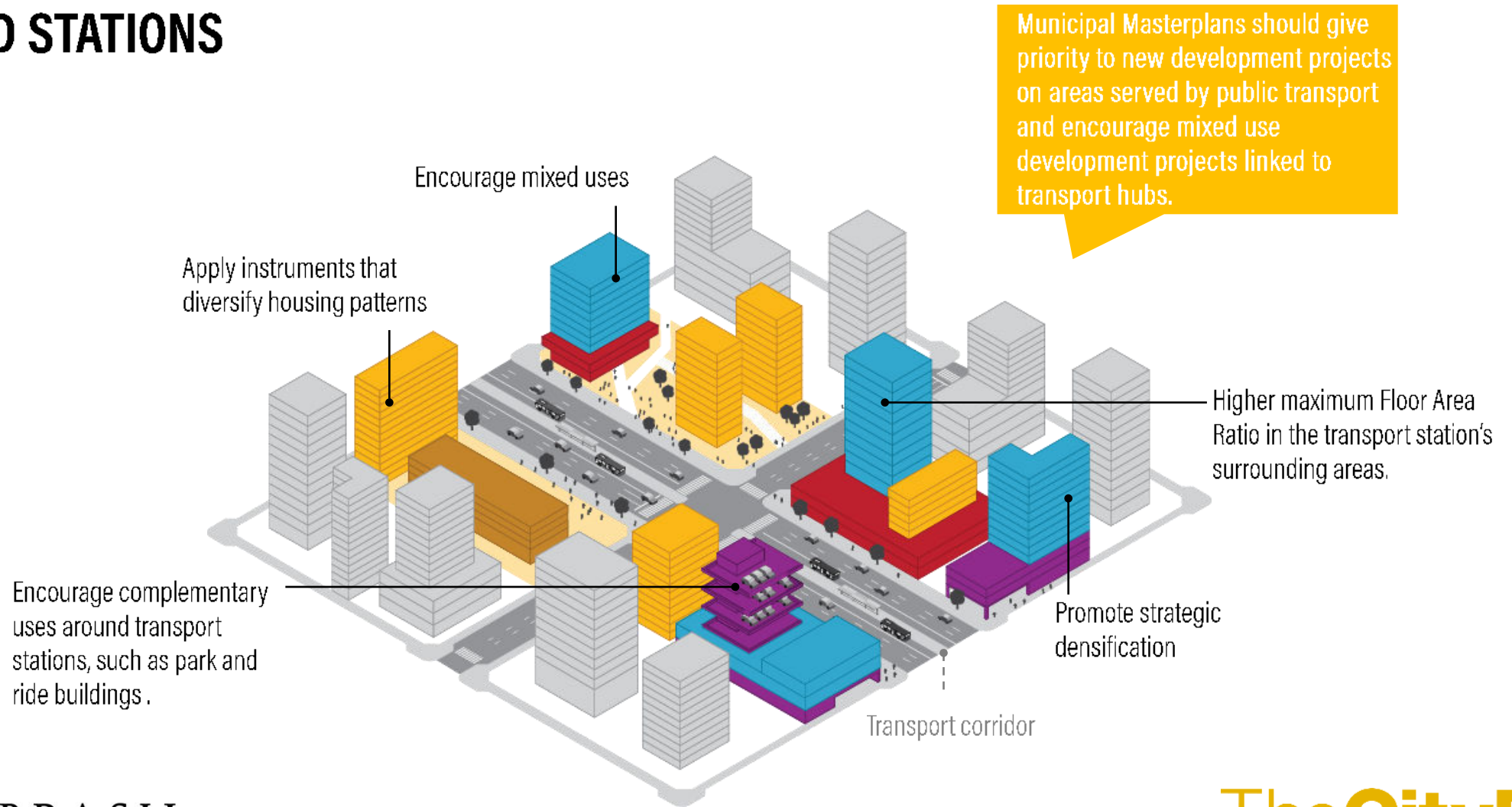


# ACTION 1: INTENSIFY DENSIFICATION AND LAND USE AROUND PUBLIC TRANSPORT CORRIDOR AND STATIONS

Prioritize new investments around public transport and encourage mixed use developments integrated to transport stations.

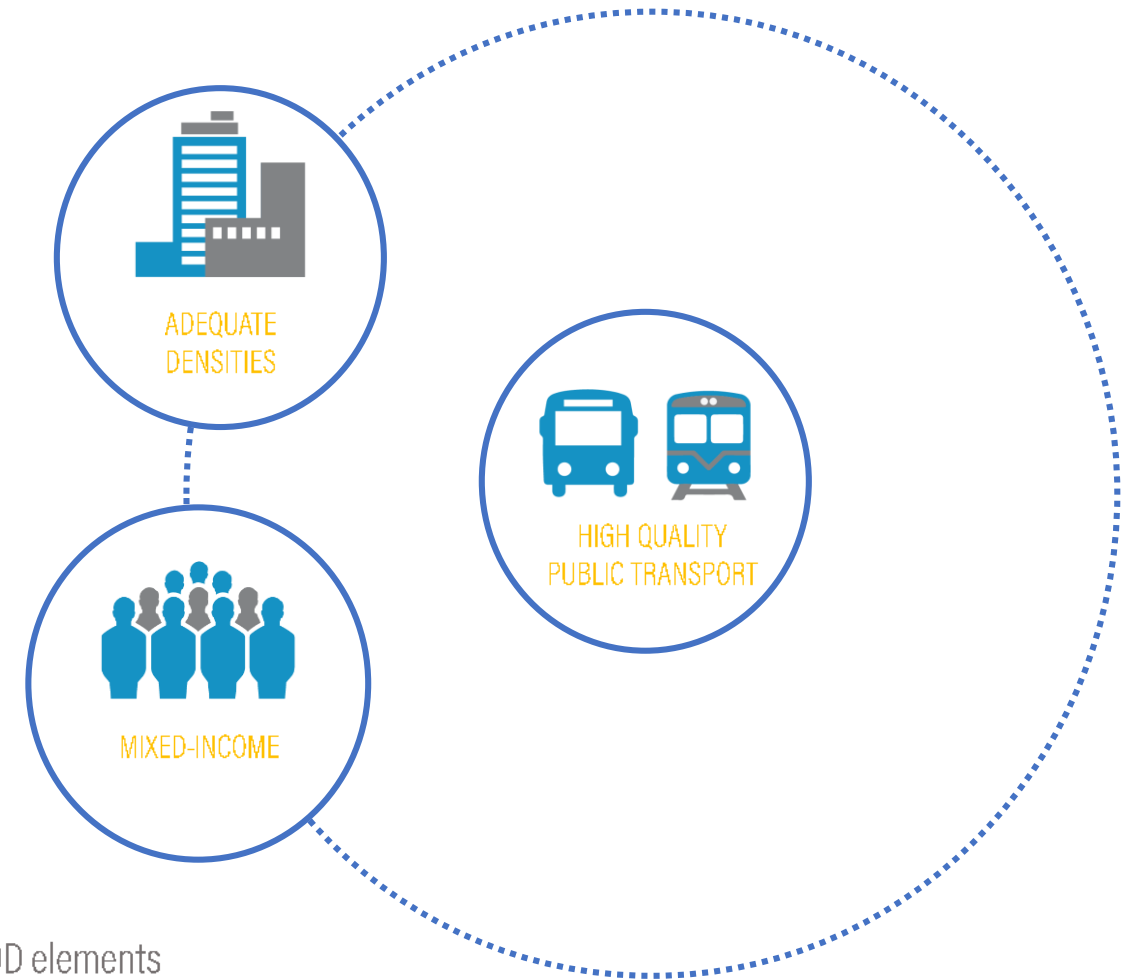


# ACTION 1: INTENSIFY DENSIFICATION AND LAND USE AROUND PUBLIC TRANSPORT CORRIDOR AND STATIONS



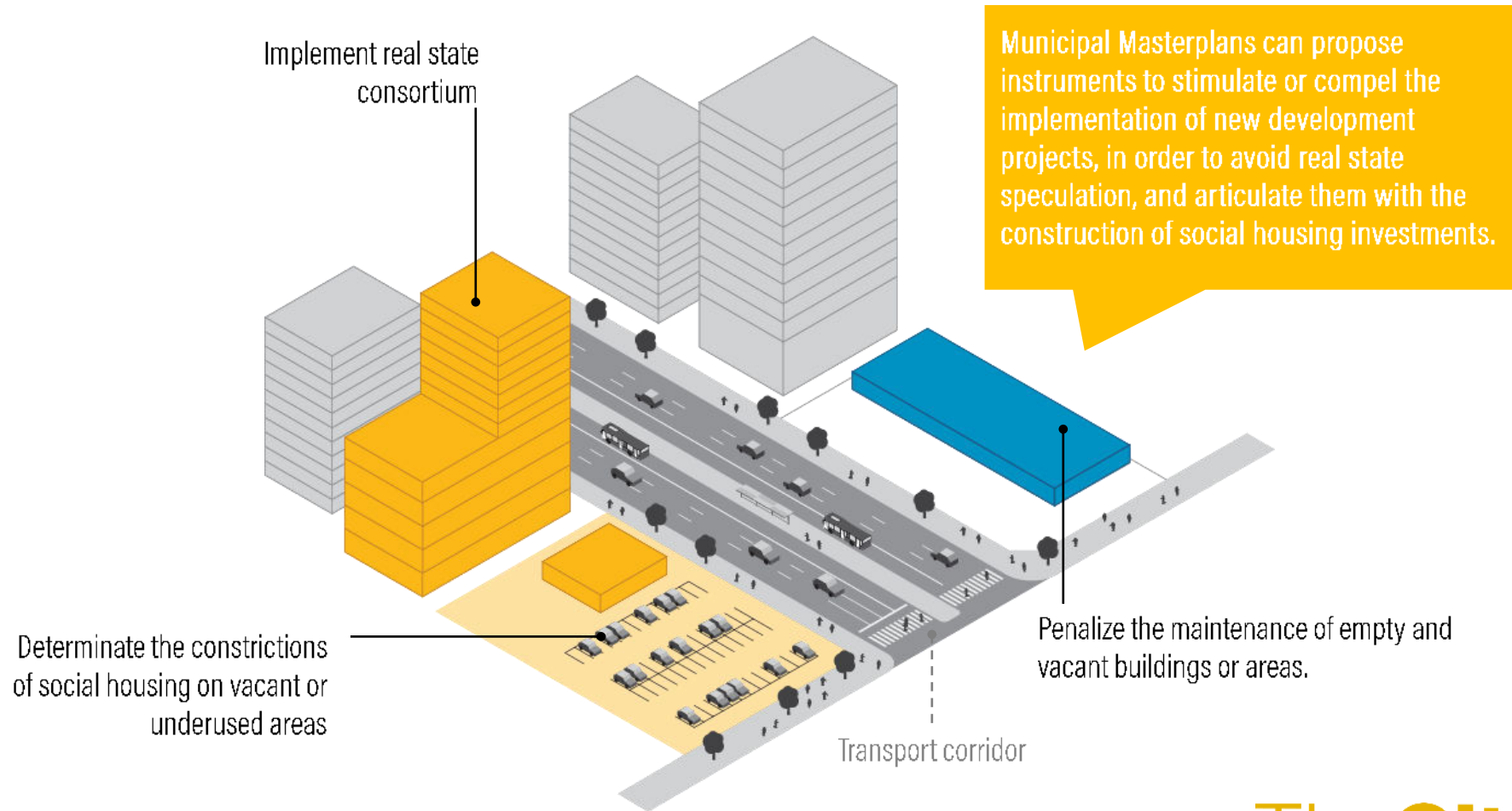
## ACTION 2: DISCOURAGE UNDER-UTILIZED LAND IN AREAS SERVED BY HIGH QUALITY PUBLIC TRANSPORT

Promote the development of vacant areas using property taxes and compulsory construction. Articulate those instruments to social housing strategies.



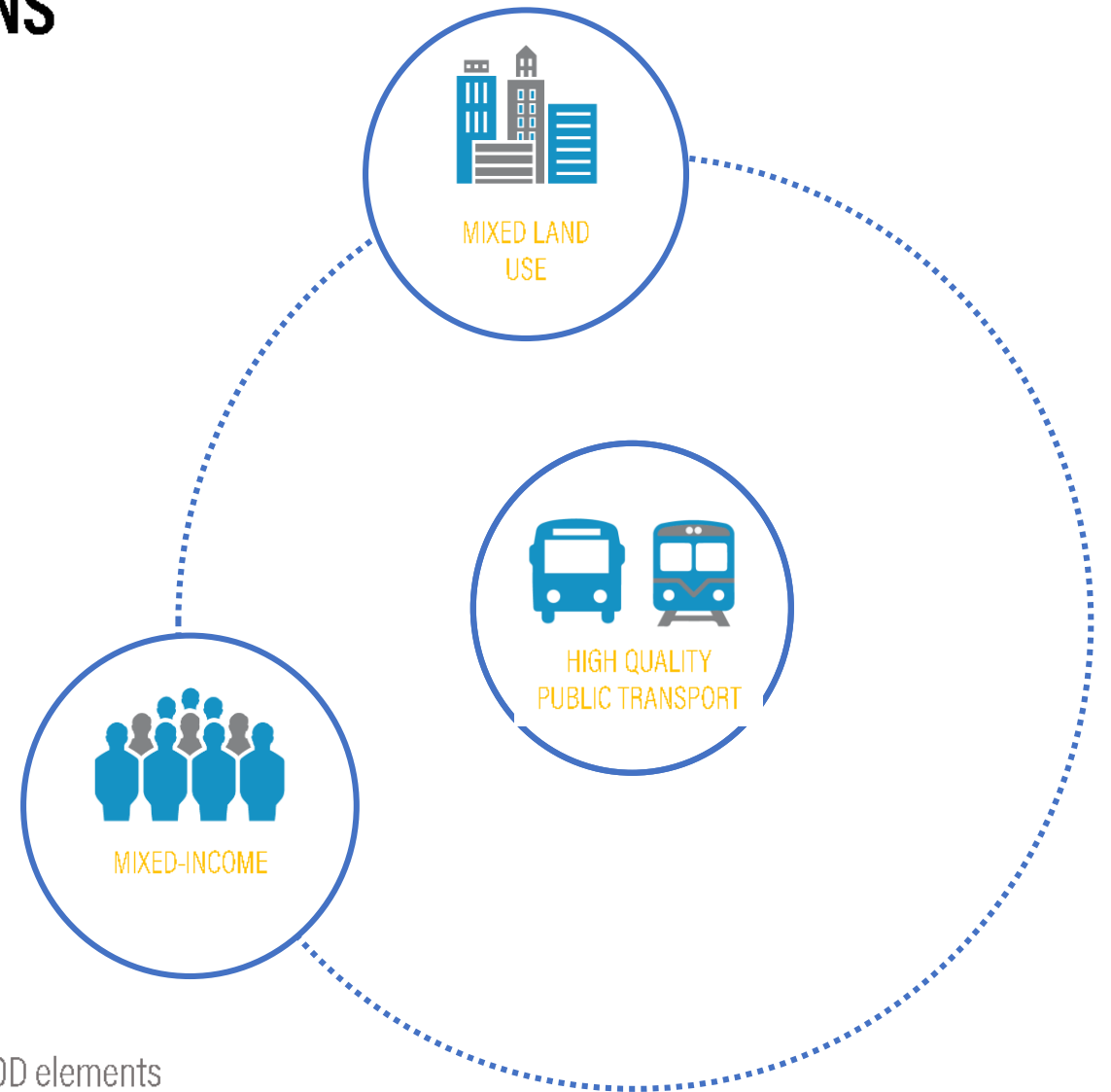
Related TOD elements

## ACTION 2: DISCOURAGE UNDER-UTILIZED LAND IN AREAS SERVED BY HIGH QUALITY PUBLIC TRANSPORT



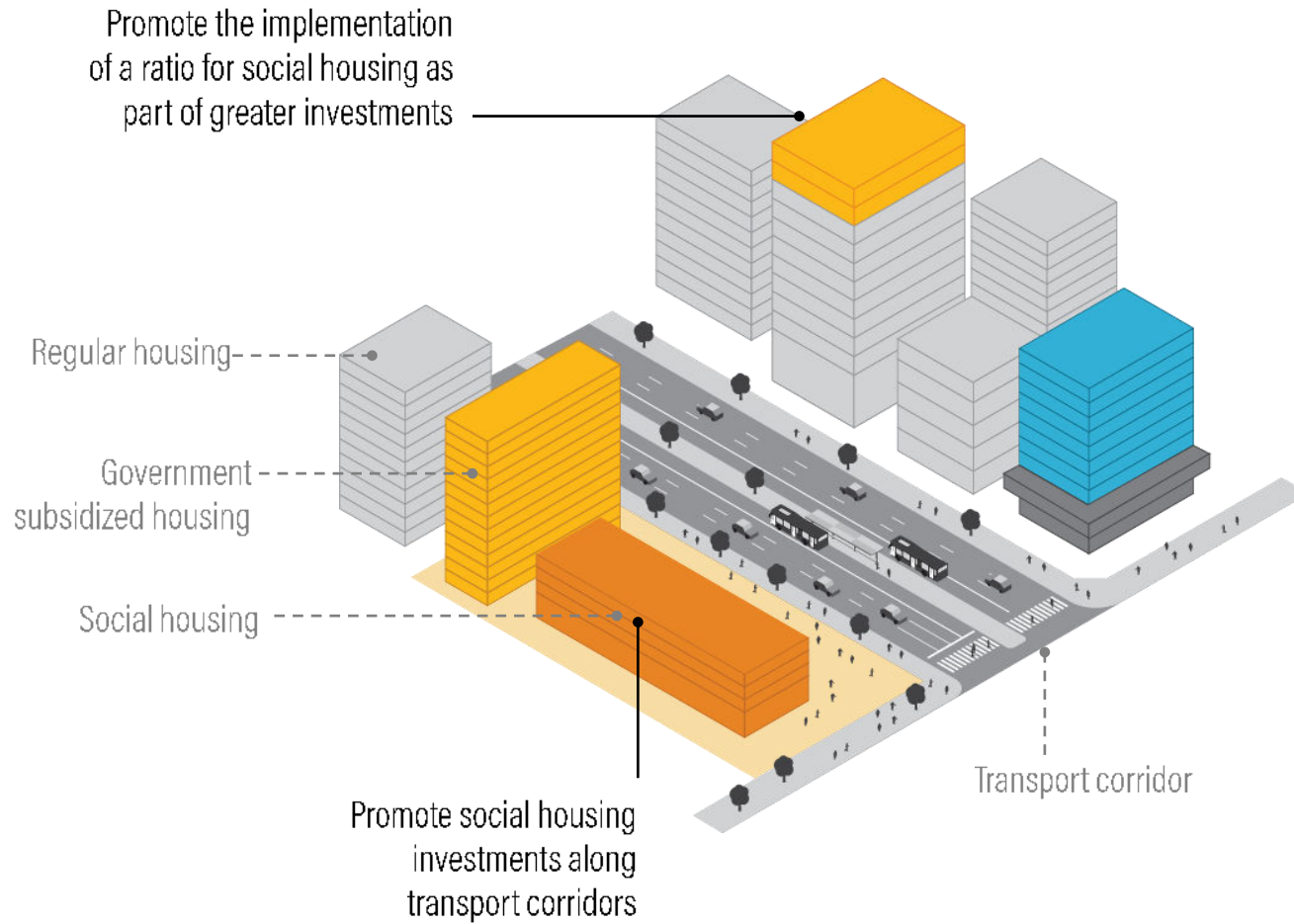
## ACTION 3: DIVERSIFY HOUSING PATTERNS

Promote social housing along transport corridors in order to guarantee social mix. Require social increment in great development projects.



Related TOD elements

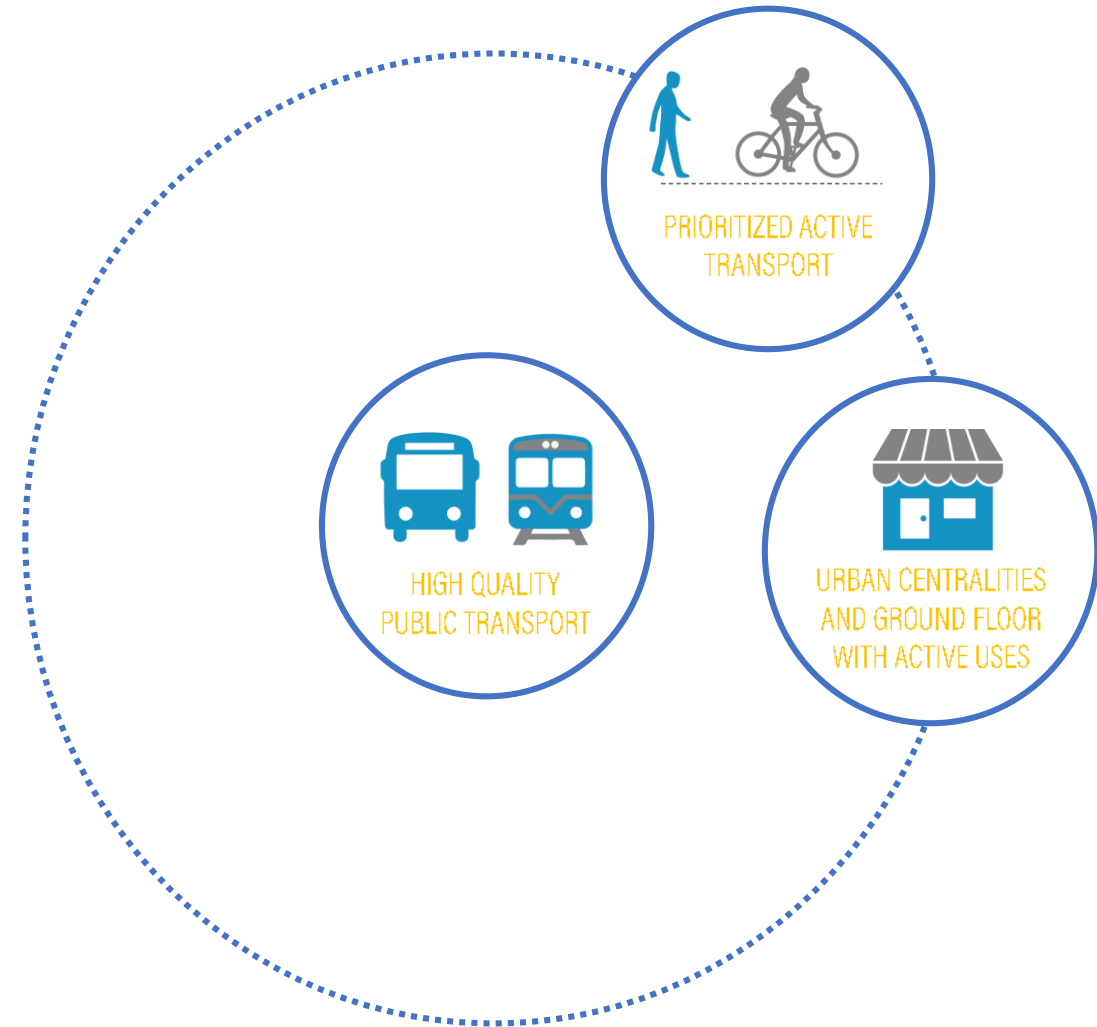
# ACTION 3: DIVERSIFY HOUSING PATTERNS



Municipal Masterplans should define areas for Social Housing in the transport influenced zone. Therefore, it is possible to guarantee greater diversity of social patterns. In addition, development projects with high impacts are able to use the construction of social housing as a compensation.

## ACTION 4: INTEGRATE PRIVATE AND PUBLIC SPACES IN FAVOR OF PEDESTRIANS

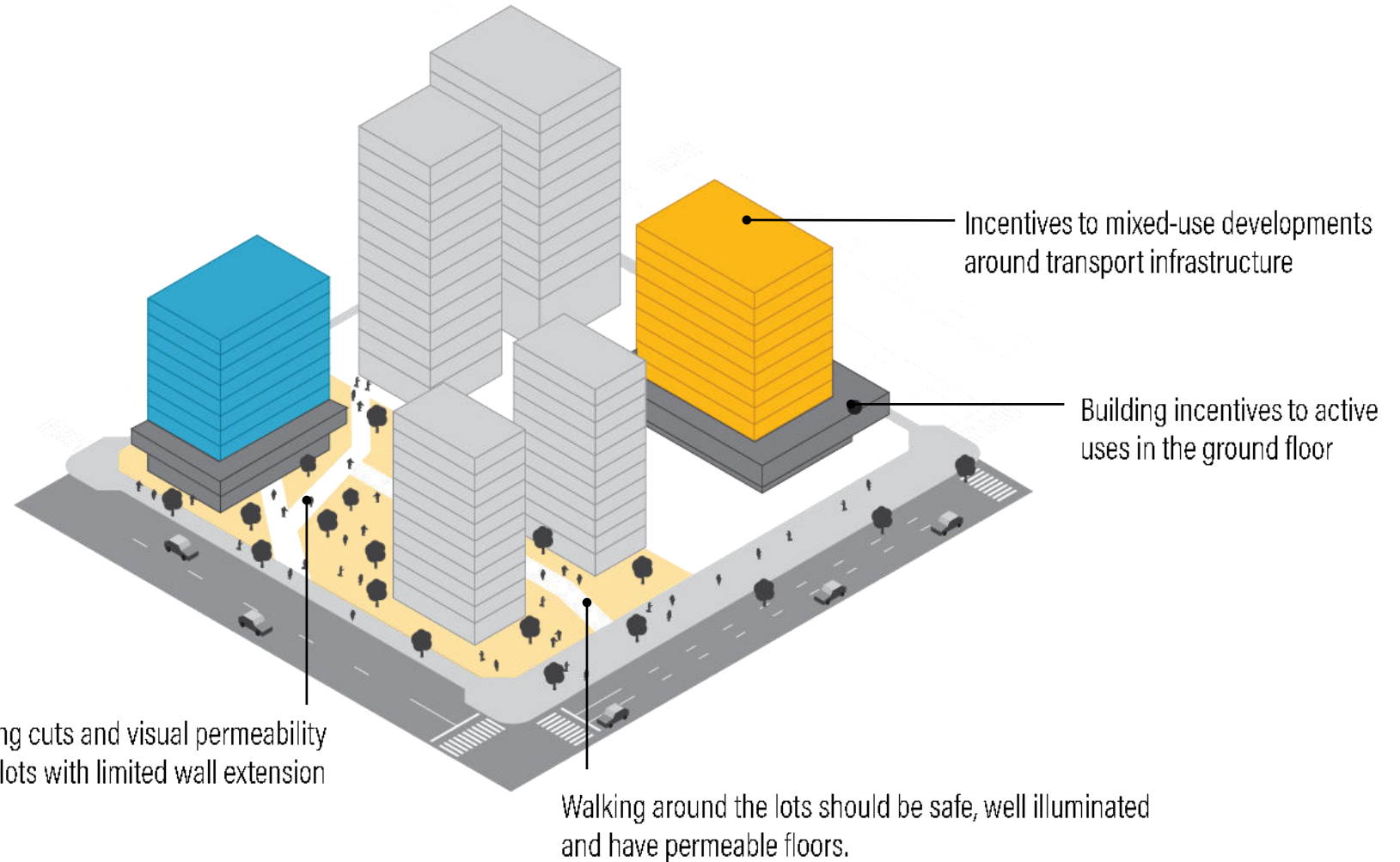
Incentivize new buildings with active uses on the ground floor, connectivity with public areas, and compulsory improvements for sidewalks.



Related TOD elements

## ACTION 4: INTEGRATE PRIVATE AND PUBLIC SPACES IN FAVOR OF PEDESTRIANS

Municipal Masterplans should include incentives to private investments to make active uses of the ground floor and semi public areas, such as crossing corridors, associated to good quality side walks.

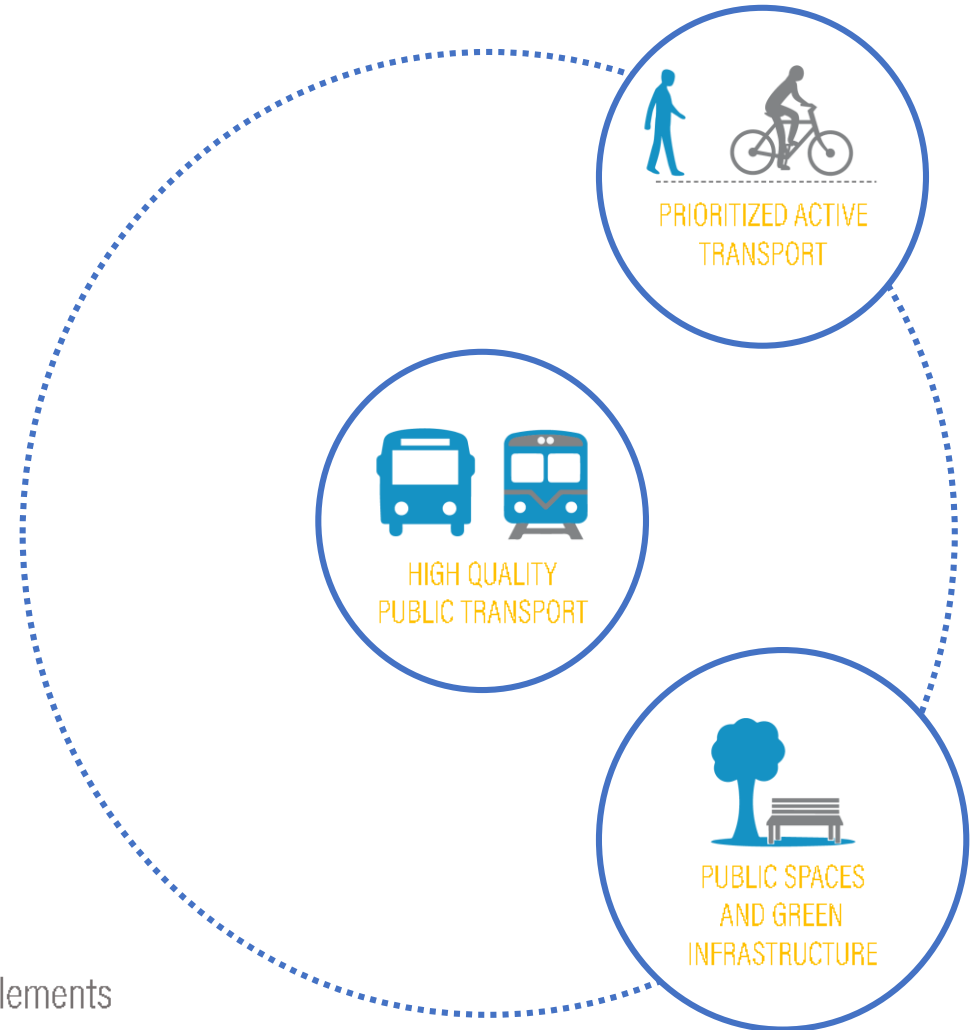




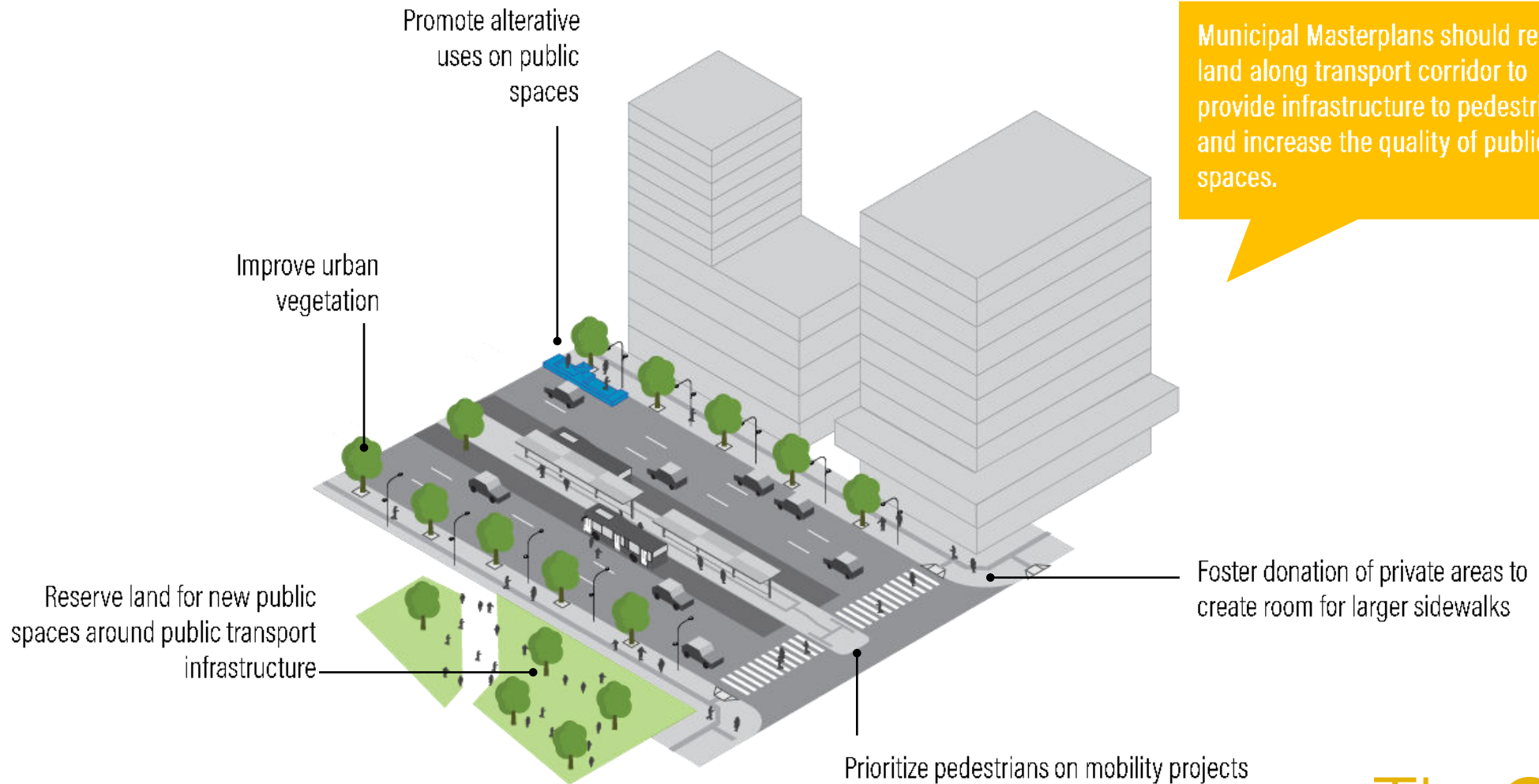
## ACTION 5: PROMOTE GOOD QUALITY PUBLIC SPACES AND STRATEGIC GREEN AREAS

Promote comfortable, accessible and large sidewalks, in order to guarantee good quality of walking travel.

Related TOD elements



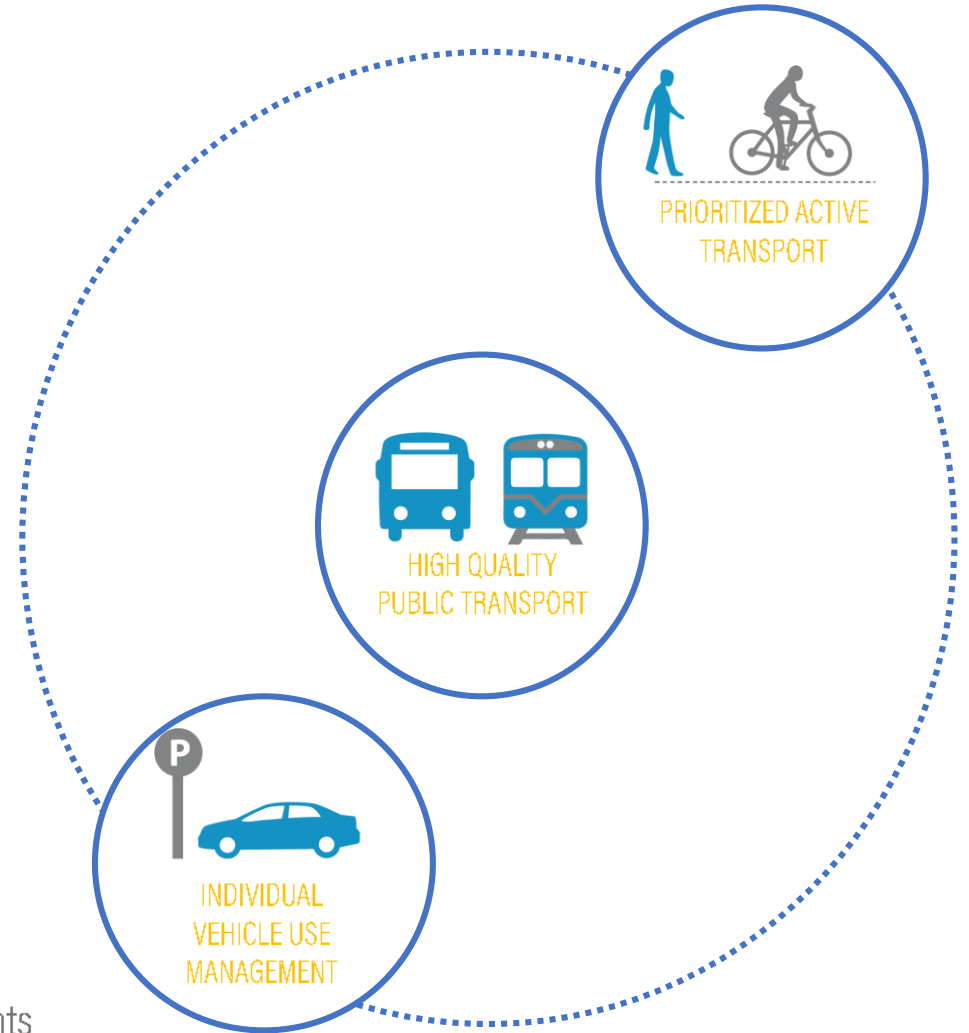
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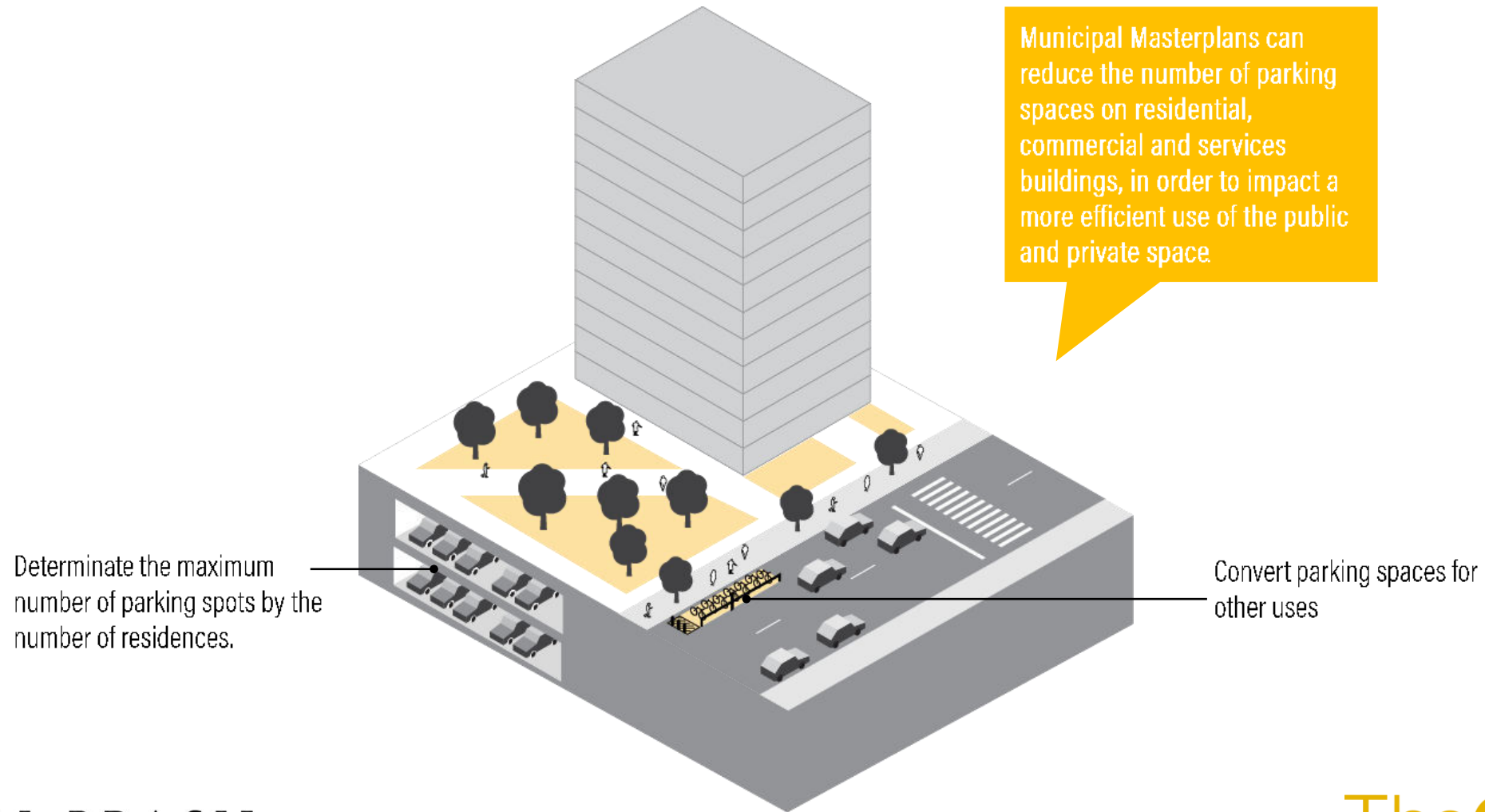
## ACTION 6: DISCOURAGE THE USE OF PRIVATE VEHICLE ALONG PUBLIC TRANSPORT

Reduce parking spaces in residential buildings and create the infrastructure for shared mobility vehicles.

Related TOD elements

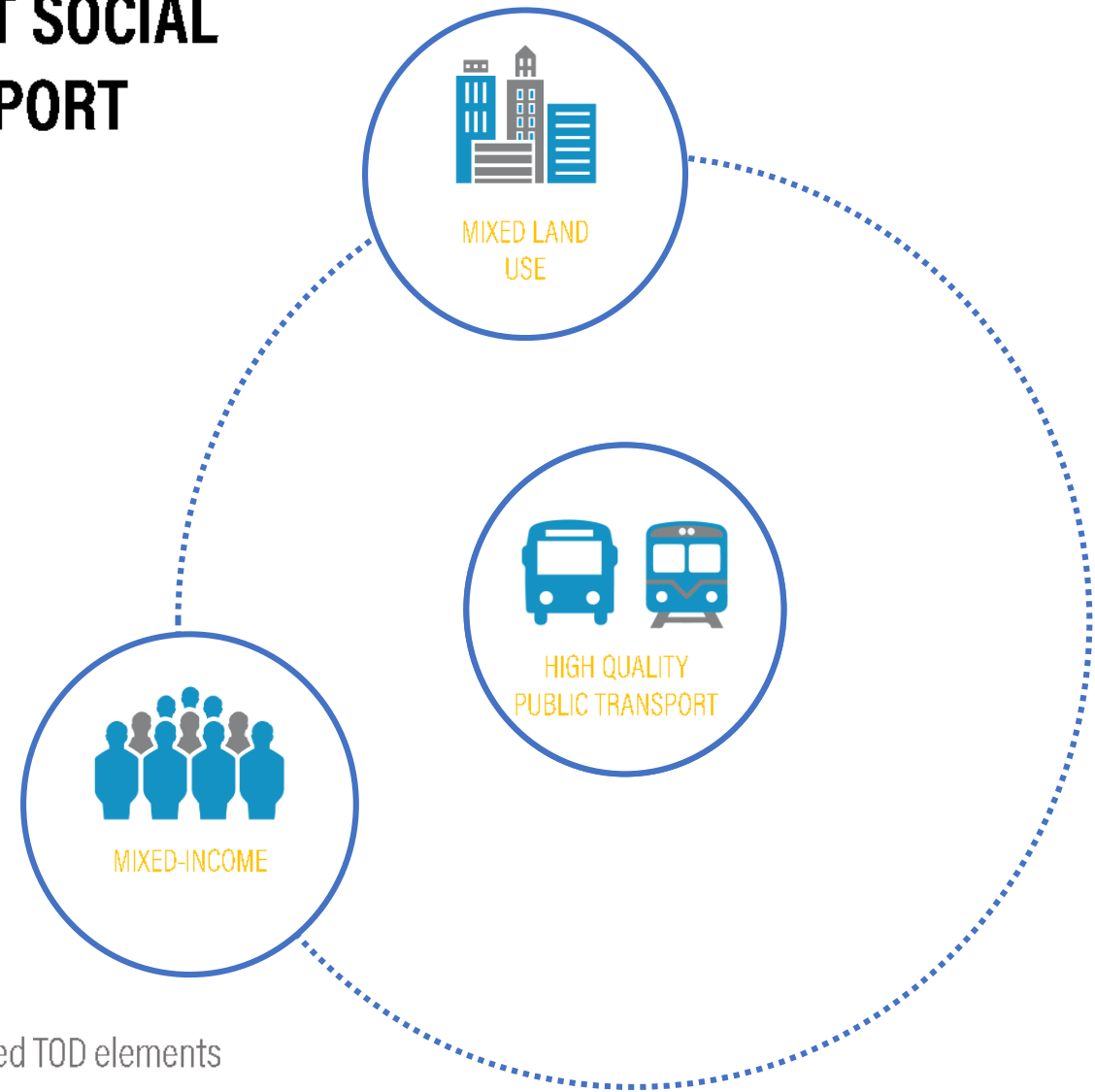


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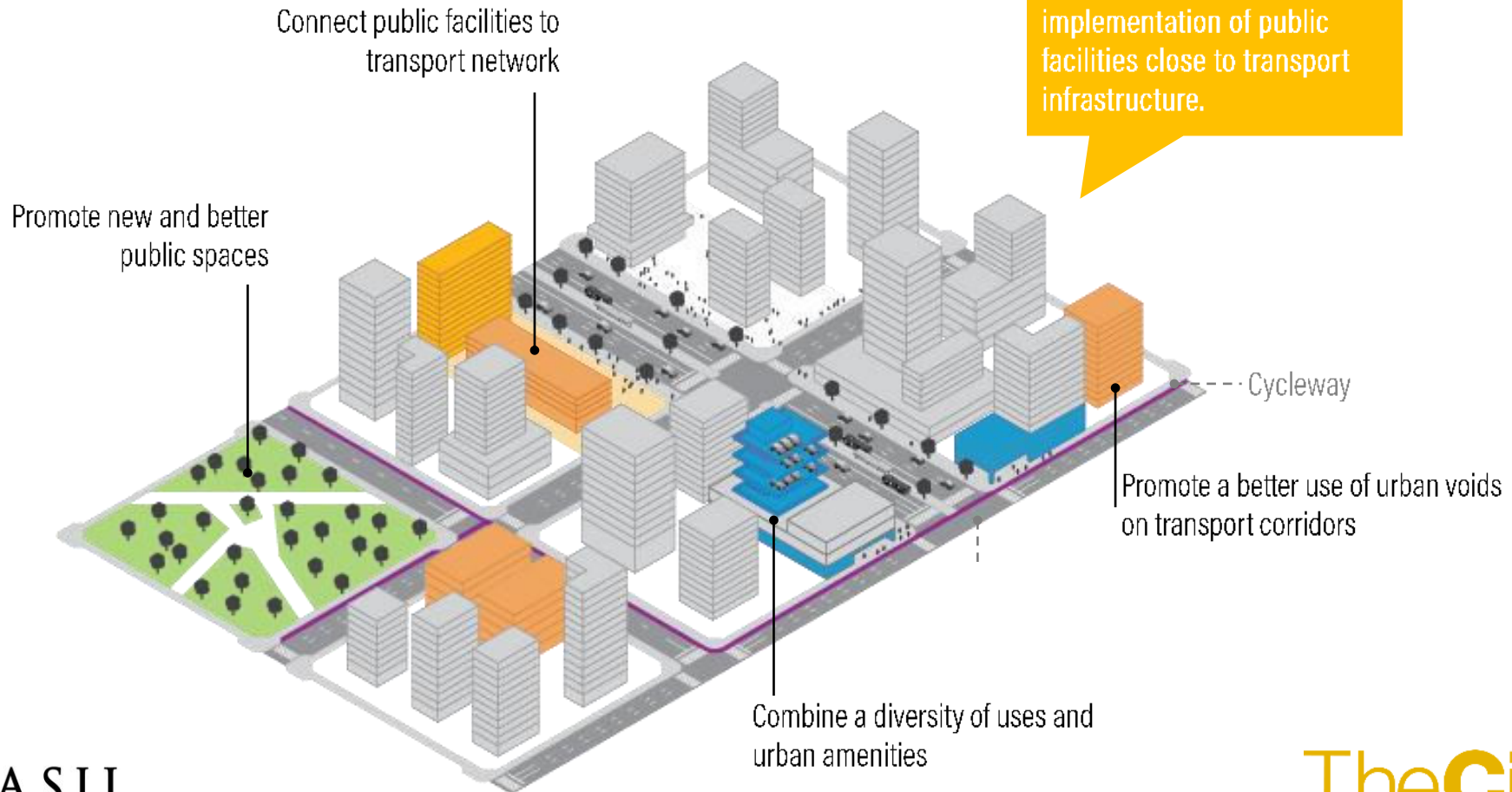


# ACTION 7: ARTICULATE AND CONNECT SOCIAL INFRASTRUCTURE TO PUBLIC TRANSPORT NETWORK

Pre select areas for implementation of social infrastructure on areas surrounding transport corridors



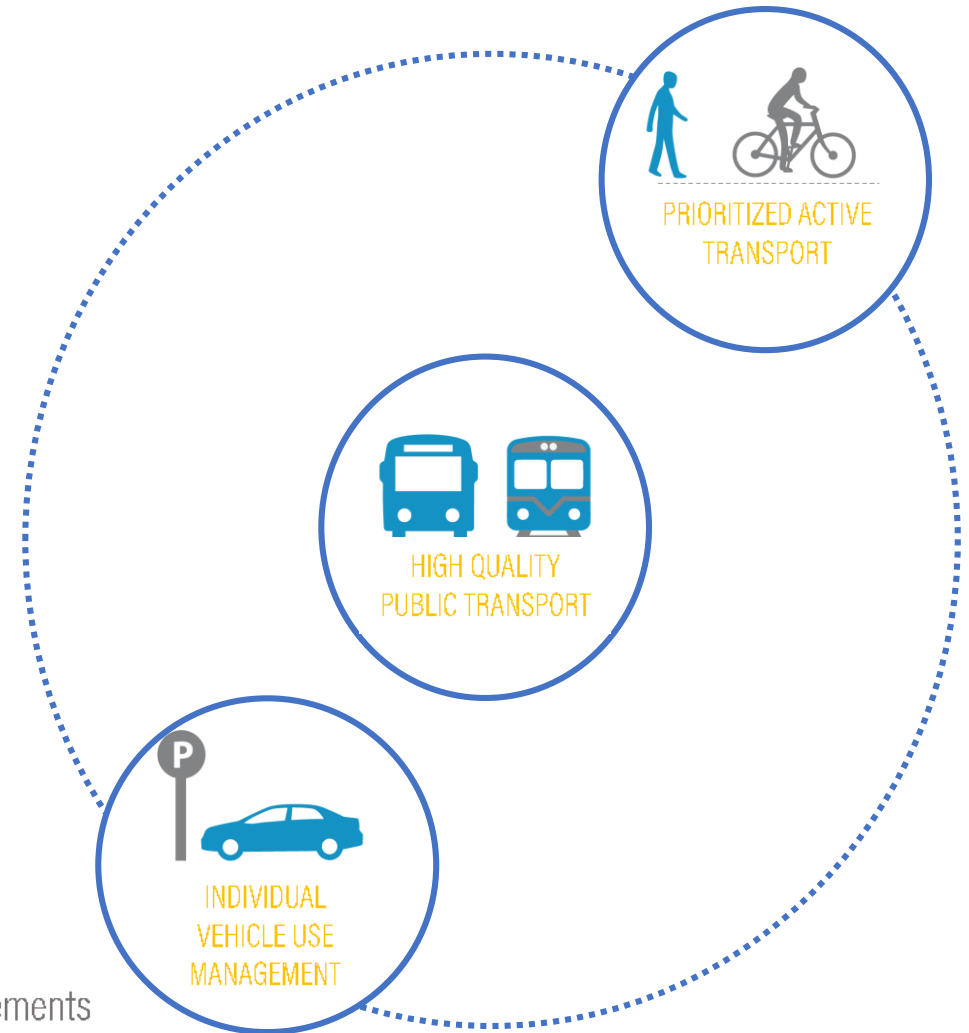
# ACTION 7: ARTICULATE AND CONNECT SOCIAL INFRASTRUCTURE TO PUBLIC TRANSPORT NETWORK



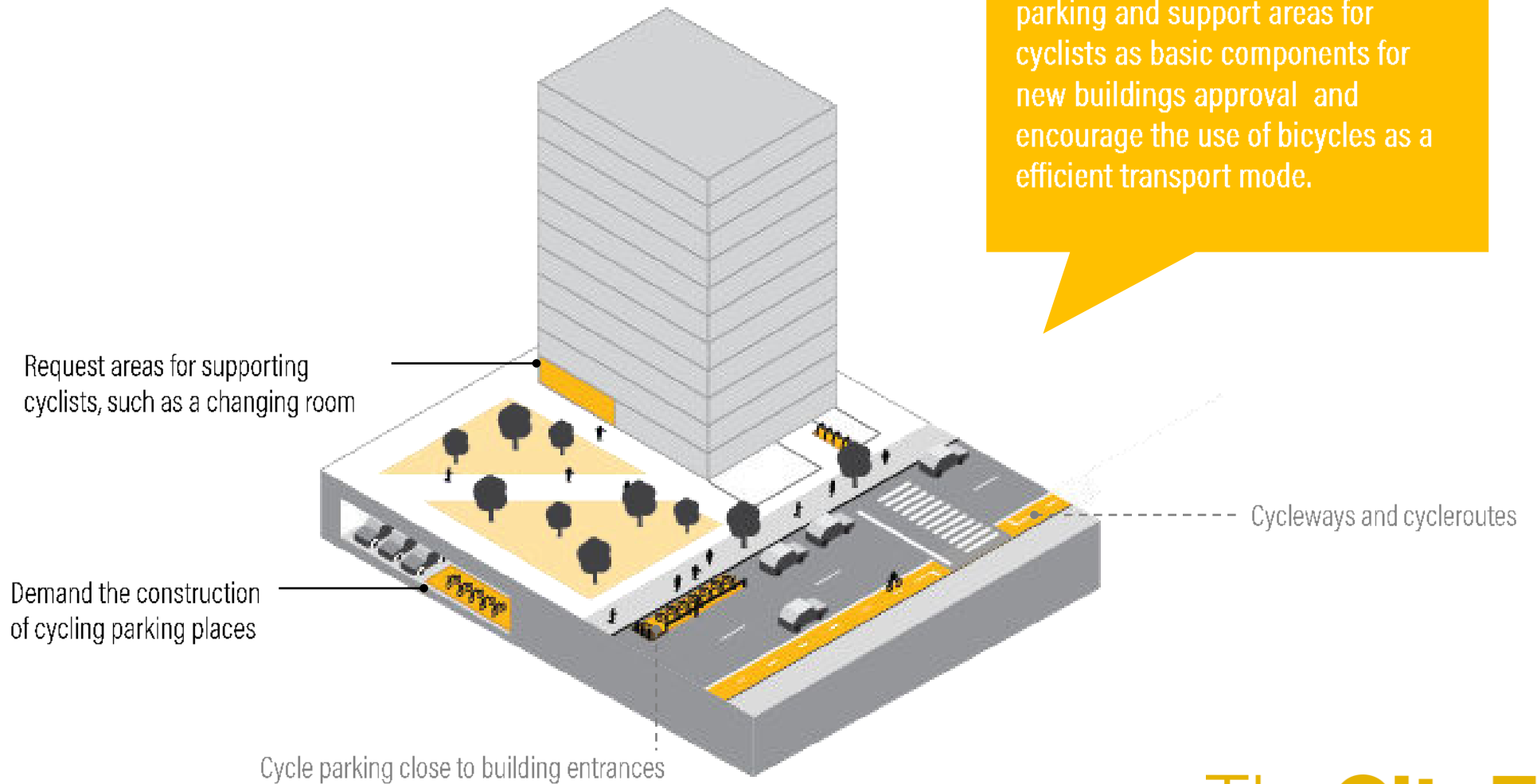
## ACTION 8: ENCOURAGE THE IMPLEMENTATION OF CYCLING INFRASTRUCTURE

Demand parking places for bicycles and support infrastructure for cyclists as basic components for new buildings approval.

Related TOD elements



## ACTION 8: ENCOURAGE THE IMPLEMENTATION OF CYCLING INFRASTRUCTURE





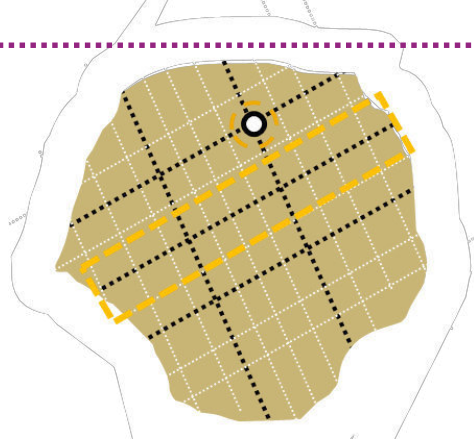
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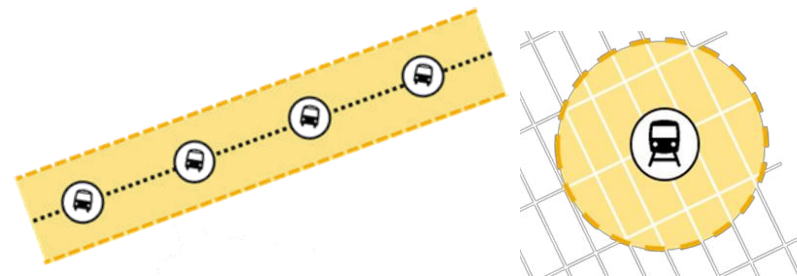
## PRINCIPLES - city scale

Strategic urban perimeter, mixed use zoning, property appreciation management



## ACTIONS - corridor or stations

Improvement of corridor area, populational densification, mixed uses, reduction of urban voids, discouragement of private vehicle use, incentives to active transport...

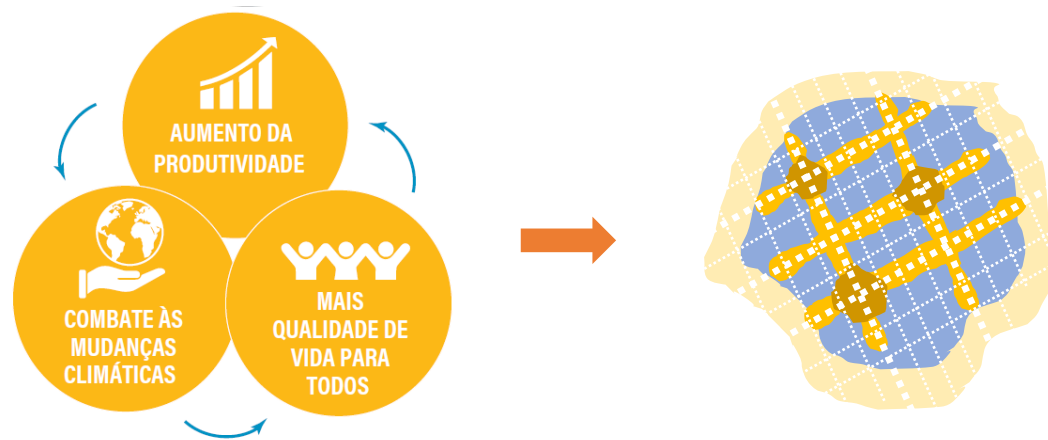


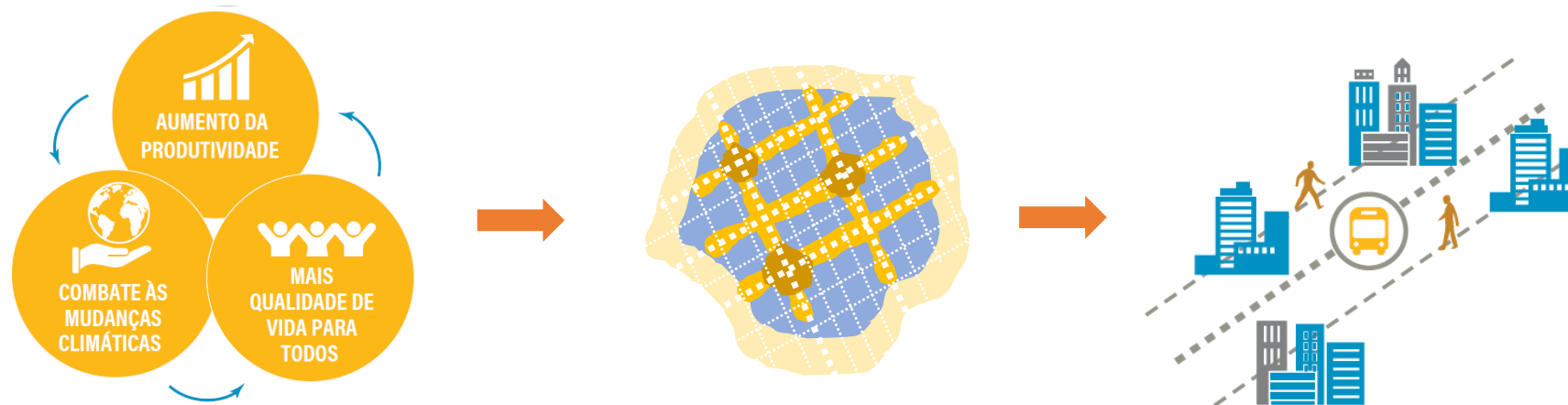
# THE PATH WE TRAVELLED

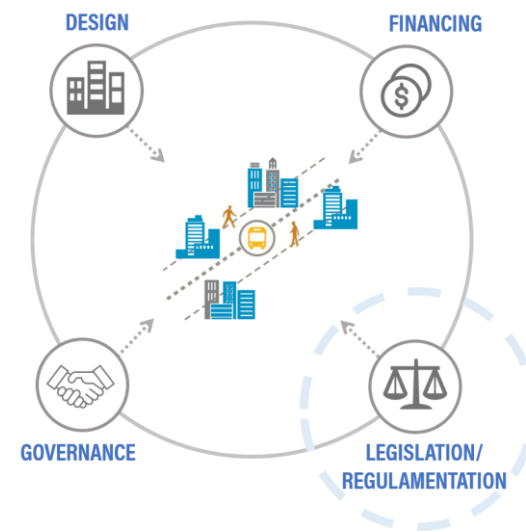
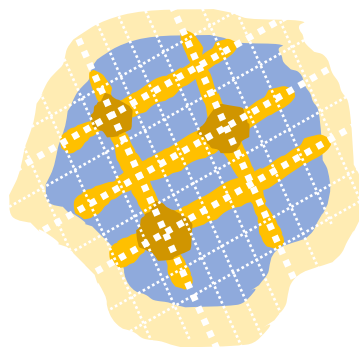


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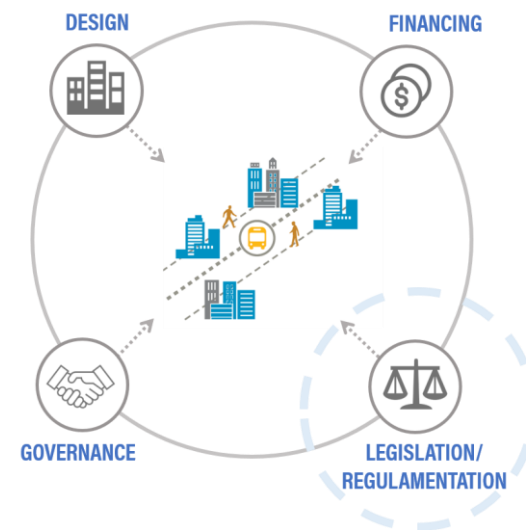
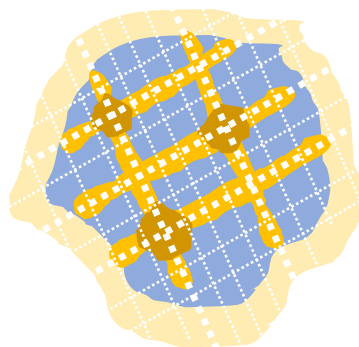






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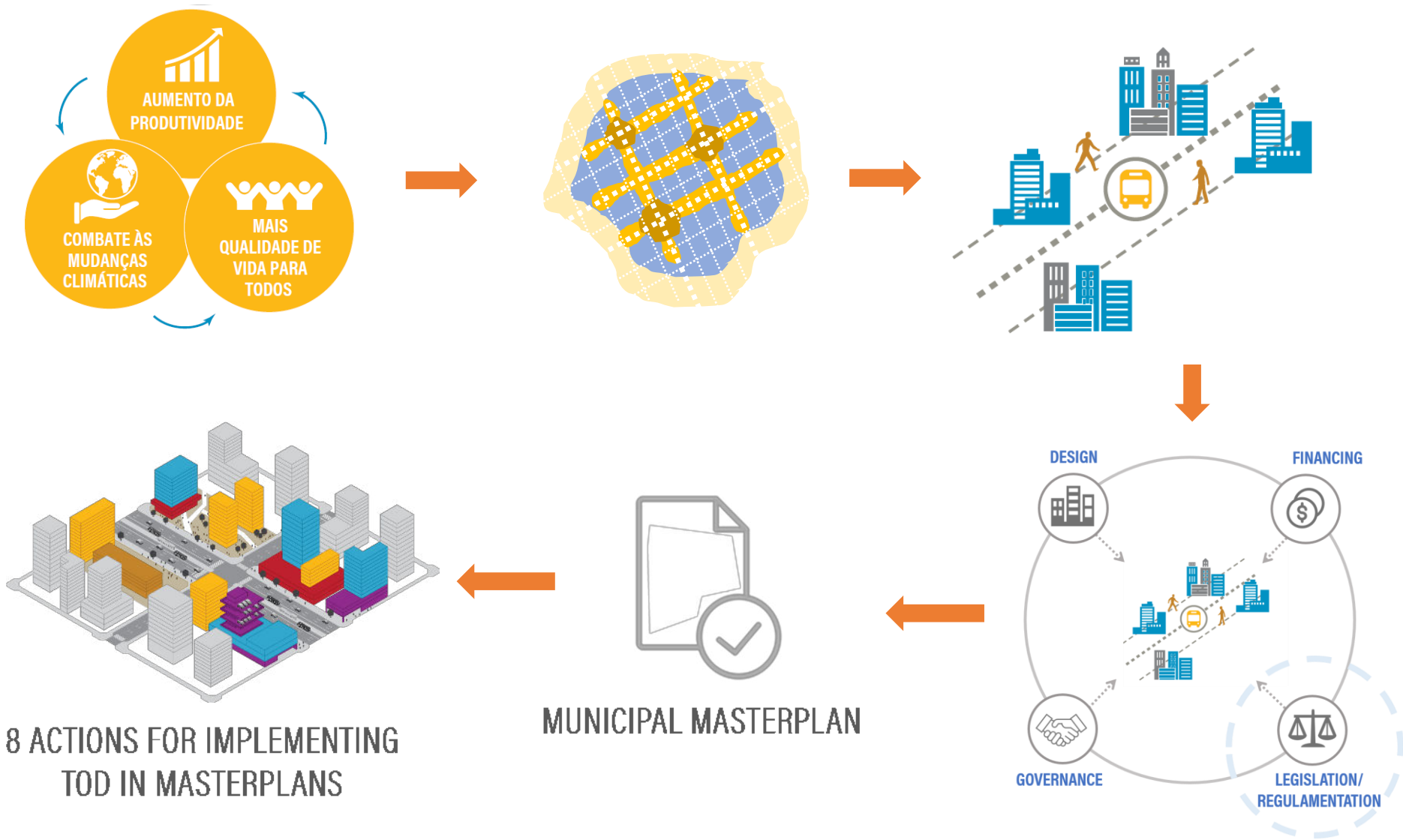


MUNICIPAL MASTERPLAN



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# THANK YOU FOR WATCHING

**DOUBTS OR COMMENTS:**

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[luisa.peixoto@wri.org](mailto:luisa.peixoto@wri.org)



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