

TAVOLA ROTONDA

L'integrazione tra mobilità attiva e infrastrutture verdi/blu per una migliore qualità dell'aria

ROUND TABLE

Integration between active mobility and green/blue infrastructure for better air quality

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Car accidents, air and noise pollution, traffic jam, loss of public spaces, soil sealing, sedentarity, loss of socialisation, are among the major consequences of unsustainable urbanization

Need to include **active mobility** into sustainable urban planning. In urban planning pedestrian mobility needs must be fulfilled with biking and public transport, favouring integration with green/blue public spaces .

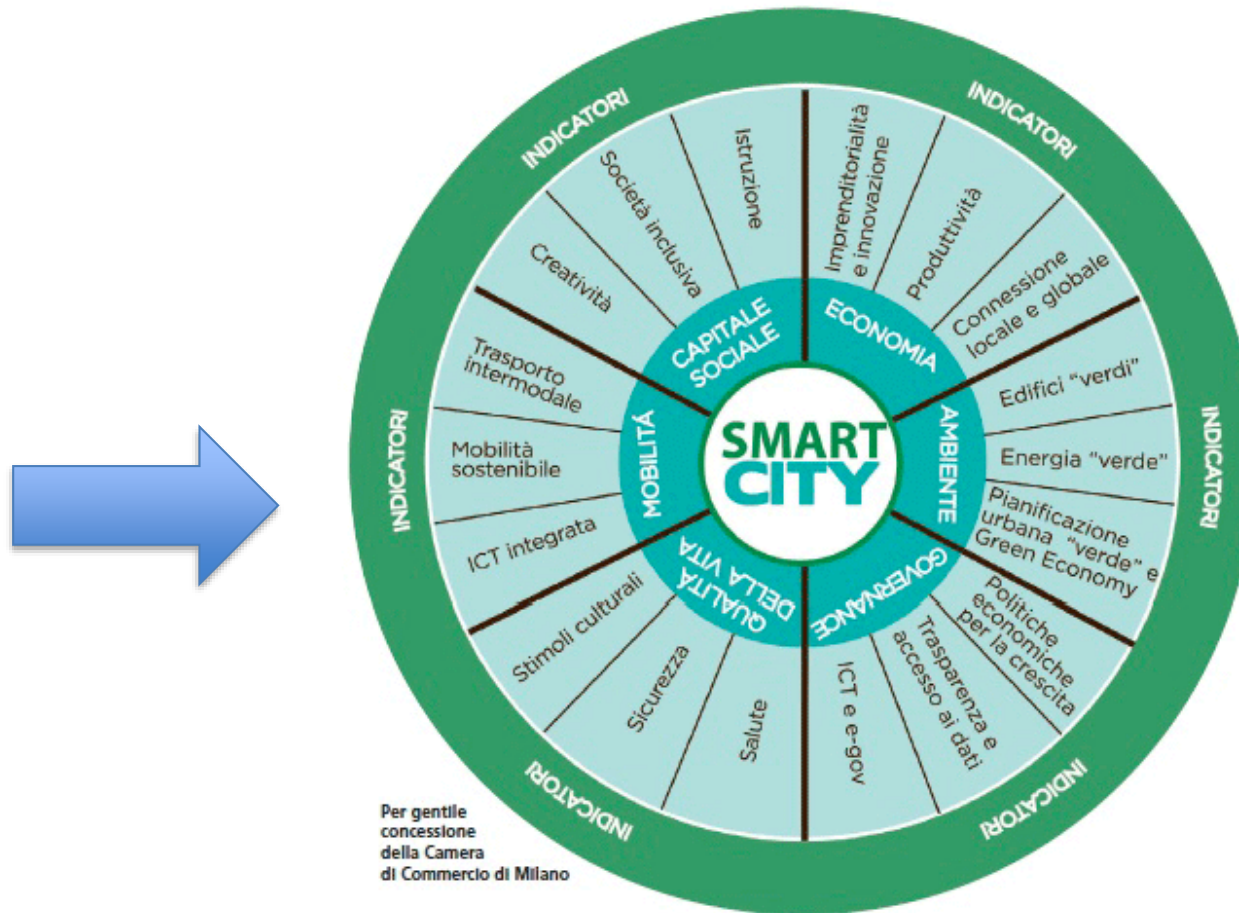


Private cars, responsible of high accident density and air pollution, have to be banned from urban centers allowing citizens to enjoy roads and squares.

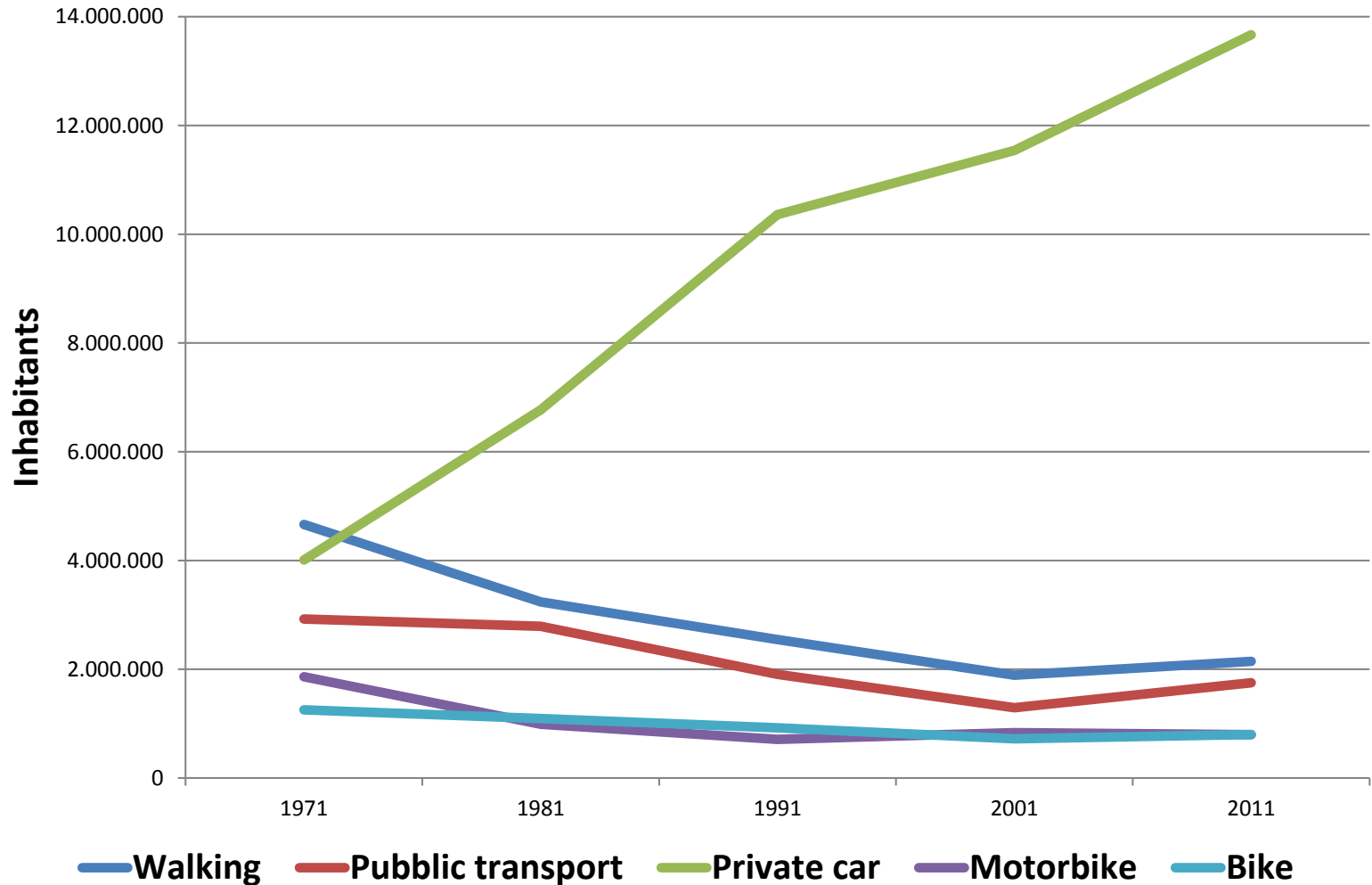
In residential suburbs introduce “30 or 20 zones” and Limited Traffic Zones.

Filling the gap?

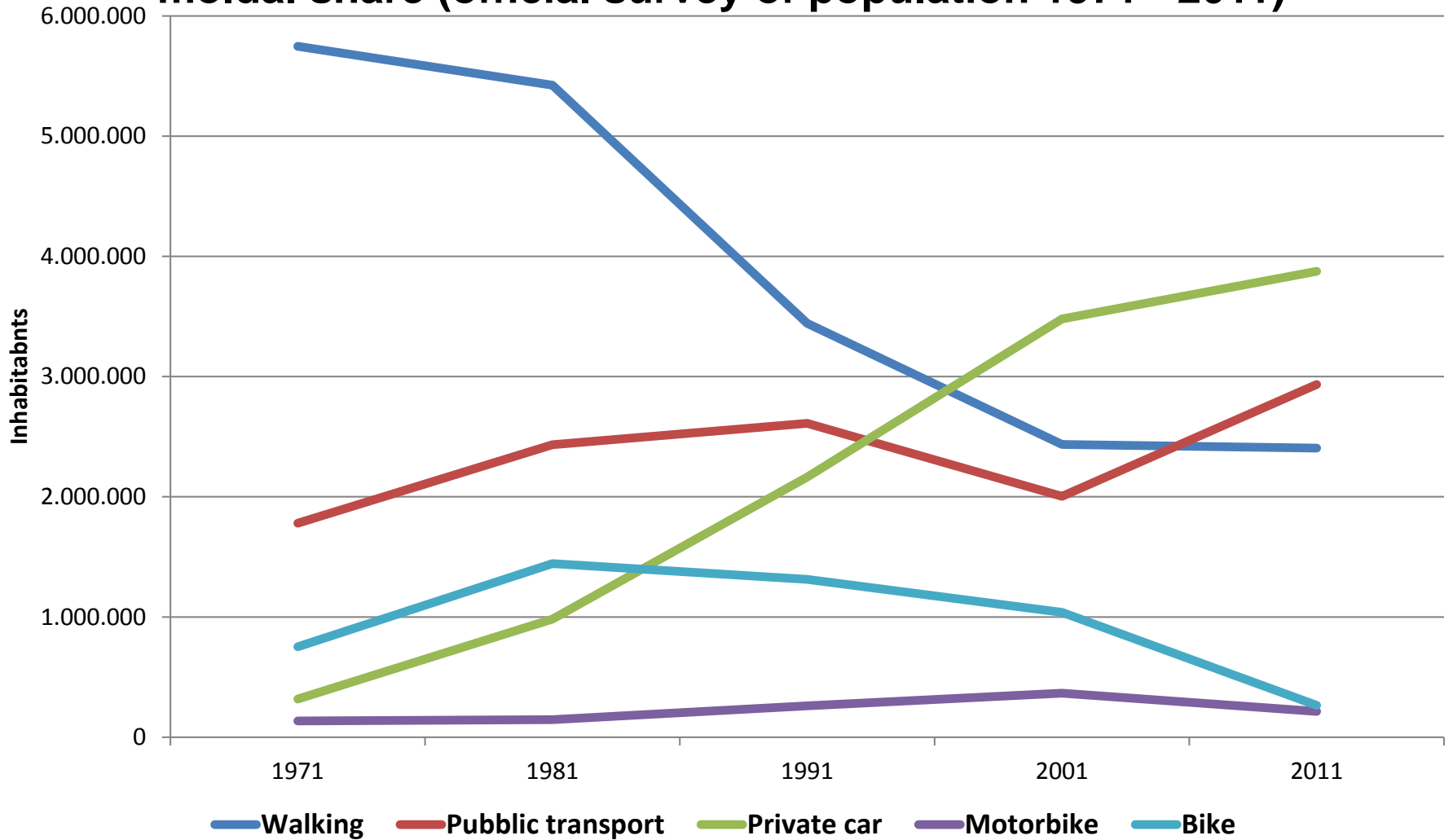
Effective choices, SMART policies, integration and win-win solutions



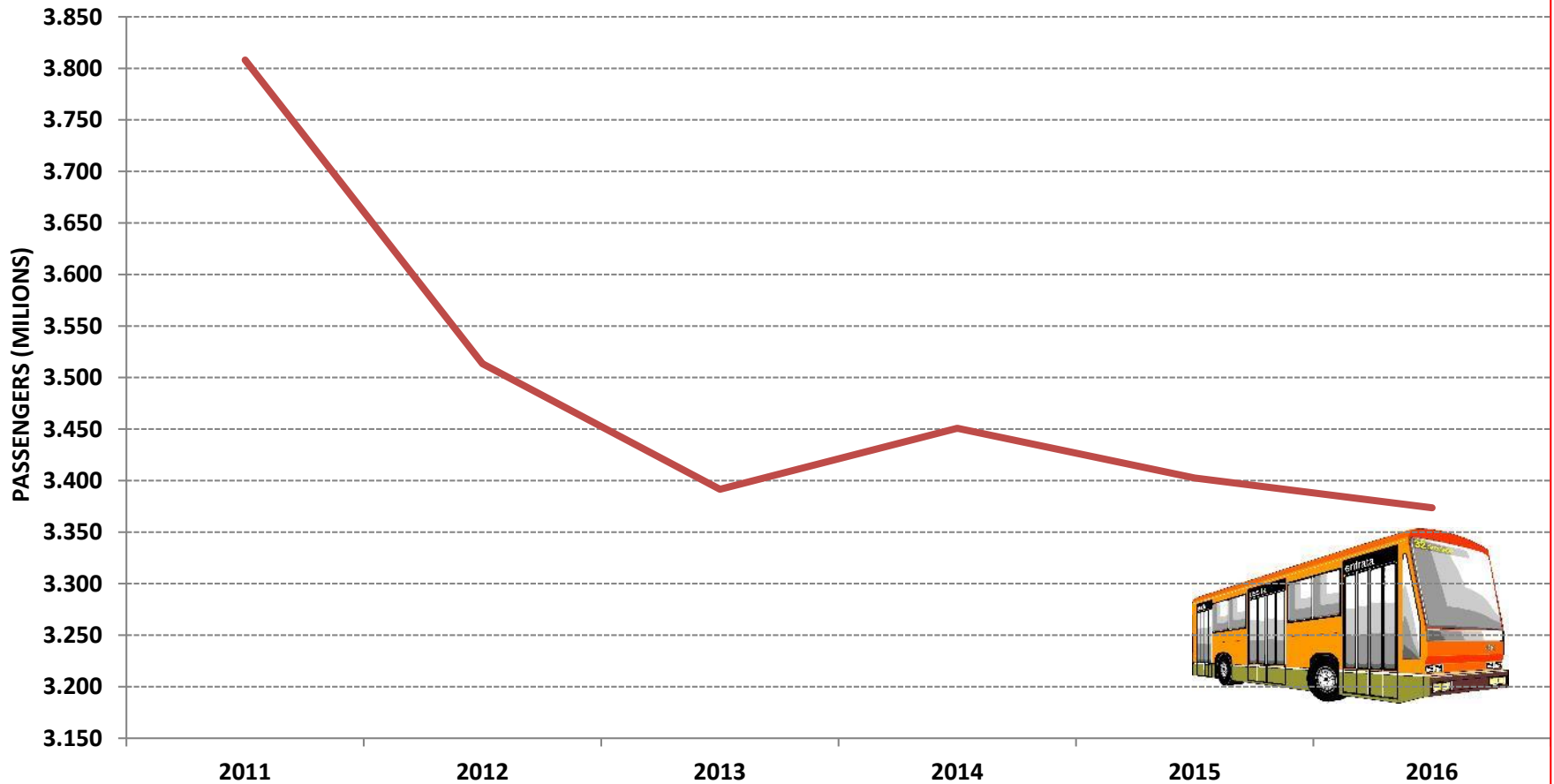
The ways people reach **working place**, modal split (official survey of population 1971 - 2011)



The ways people move for **studying reasons**, modal share (official survey of population 1971 - 2011)



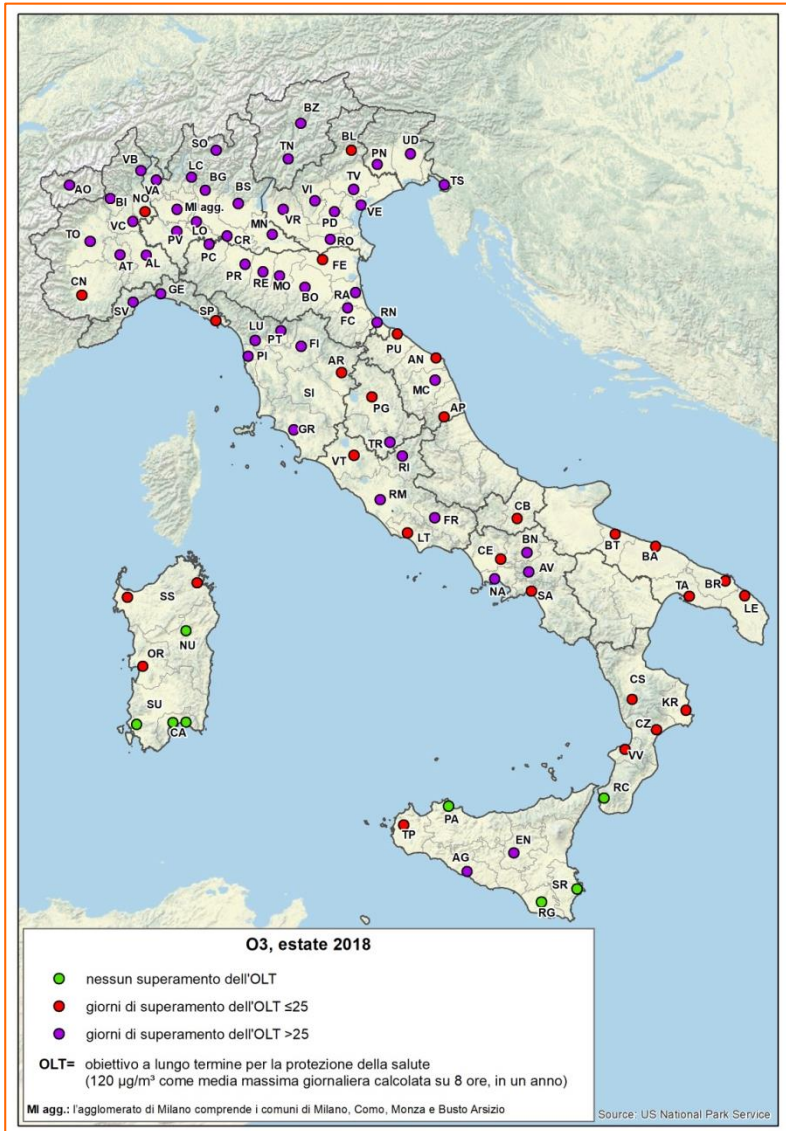
LPT demand for 116 Italian municipalities. Years 2011-2016



EMISSIONS AND AIR QUALITY

Road transport is the main source of NO_x emissions, precursors of secondary PM₁₀, and represents almost 20% of primary PM₁₀ emissions.

The reduction in PM₁₀ and NO₂ levels in Italy, consistent with what has been observed in Europe over the last decade, is the result of the combined reduction in emissions of primary particulate matter and of the main precursors of secondary particulate matter. However, exceedances of the PM₁₀ daily limit value continue to occur in many urban areas and, as far as NO₂ is concerned, in the annual limit, in monitoring stations located near important road arteries characterized by intense vehicular traffic.



AIR QUALITY

PM10, 2017

35 urban areas exceed the daily limit value for PM10

PM10, up to 30 september 2018 (PRELIMINARY DATA)

7 urban areas exceed the daily limit value for PM10 in the first nine month of 2018 while in 35 urban areas the number of days where the limit value of 50 µg/m³, has been exceeded is from 10 to 35.

OZONO, 2017

OLT has been exceeded in 80/91 urban areas.
in 66 urban areas (especially in the North) the number of days where the OLT has been exceeded is > 25

Summer OZONO, 2018

OLT has been exceeded in 81/89 urban areas.
in 53 urban areas the number of days exceeding OLT is > 25.

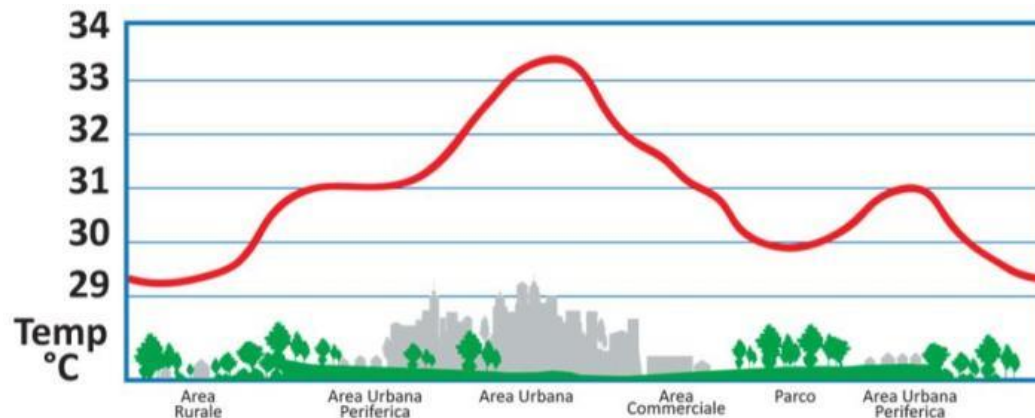
Green and blue infrastructures in our cities play a fundamental role for the quality of life and resilience of most urbanized areas, creating social and environmental benefits



The integration between green/blue infrastructures into active mobility measures can help to improve more sustainable commuting modes, such as walking or biking.



Reducing urban heat island: mitigating extreme temperatures and making the path more "practicable" even in the hottest hours

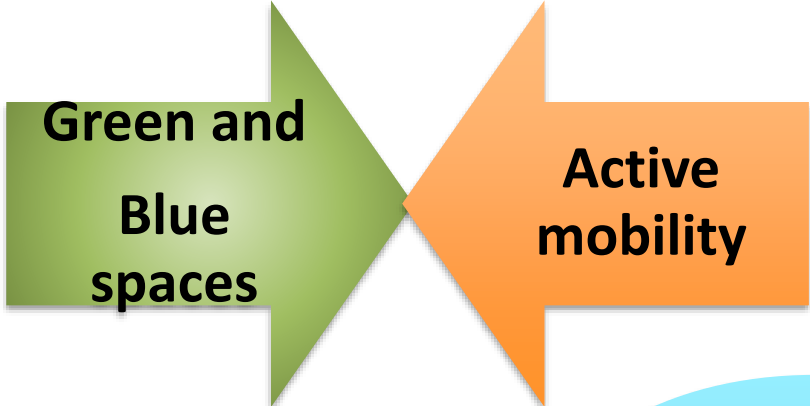


A recent WHO review on the health-related benefits of green and blue infrastructure provides large scientific evidence of its many beneficial environmental and social (mental health, physical activity, ecc) effects

Walking or biking promote physical activity as the basis for a correct and healthy lifestyle (according to WHO guidances).

Physical activity must occur in safe, quiet and attractive environments so that people are encouraged to try and experience them on a regular basis. Blue and green spaces, properly designed and managed, are comfortable environments where to practice actives mobility modes





environment improvement

Reduction of private car use

T mitigation, More fresh air, PM capture, Noise decrease

Active mobility more appealing

**More physical activity
Less sedentarity
Healthy lifestyle**

**Social activities
Territory control**

Less private cars

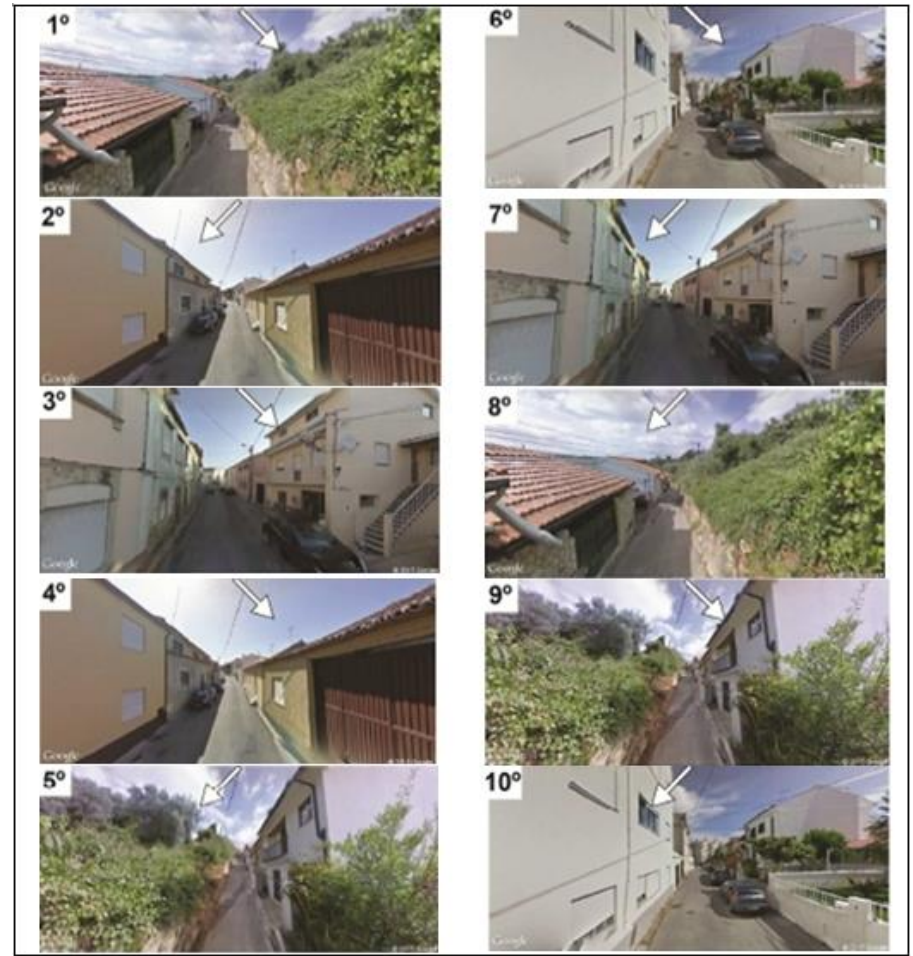
**Less air pollution
Less noise**

WALKABILITY INDEX

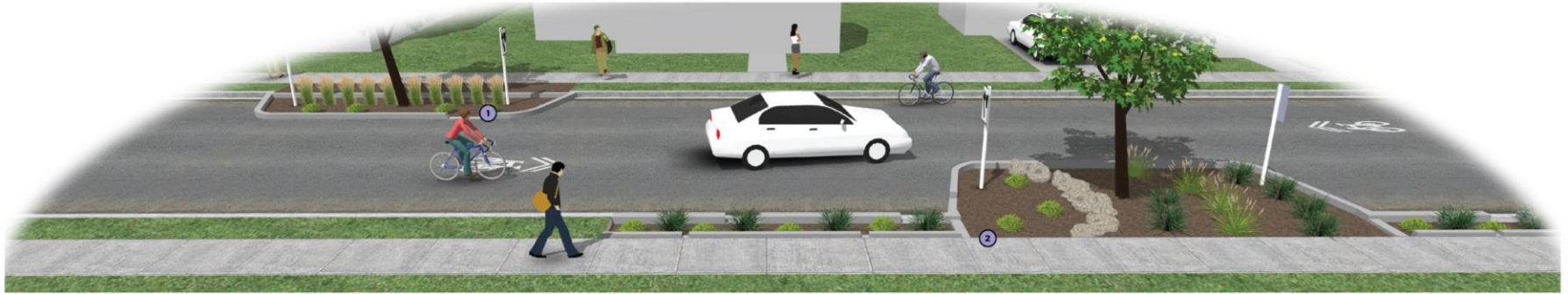
Several studies on integrating green/blue infrastructures with pedestrian mobility. Luis Neto (2015): *Walkability Index*

Favourite paths are lined with trees or blue elements

Amongst the 46 indicators of this approach, the presence of green or blue infrastructures was more relevant compared with others elements.



Immagini di Google Street View dei 10 percorsi migliori



Required Features

- 1 Plantings shall not impede sightlines or block signs or other traffic control devices.

Optional Features

- 2 Neighborhood associations or community groups may assist with maintenance.

Recommended Features

- 3 Basins should drain within 30 hours.
- 4 Basins should be located in areas...



Chicane BERKELEY, CA



Neighborhood Traffic Circle TUCSON, AZ



Curb Extension Bioswale Retrofit PORTLAND, OR



Diagonal Diverter PORTLAND, OR



Key role of green and blue infrastructures in improving urban comfort and the perceived quality of infrastructures for pedestrian mobility

Need for a better integration between green and grey infrastructures into sustainable mobility plans.

Streetscape elements, weather conditions, aesthetics and greenery and surface water elements may have great influence on peoples decisions to walk or not; these factors are perceived as essential for creating a pedestrian friendly environment

Many examples exist at European level of policy guidelines and technical reports of integrating green/blue infrastructure for health and livable urban environment (Swiss guidelines for pedestrian network, Energy research Centre of the *Netherlands*, Walkable London ecc)

In Italy? More effort is needed to better integrate urban/green infrastructure into urban sustainable mobility plans and strengthen their mutual beneficial role on urban healthy living within a long-term strategic vision of mobility and transport for the cities of tomorrow