Implementing sustainable mobility solutions

Rogério Carvalho Silva
Architect – President Adviser – BHTRANS
Belo Horizonte, Brazil

The City

- Population of BH

  2.4 million inhabitants

- Population of RMBH

  5.7 million inhabitants

- 6.3 million trips a day

- 2.5 trips / inhabitants / day

Transport System

- Public transport by bus:

293 lines, 3 thousand buses, 1.8 million passangers/day

- Metropolitan train:

28 km, 19 stations, 200 thousand passangers/day

- City car fleet:

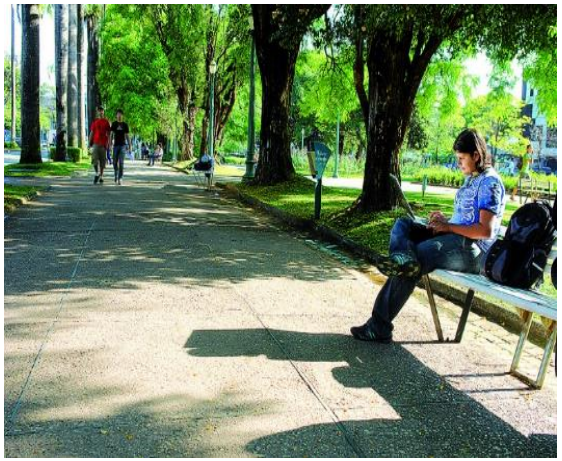
1.5 million cars – BH + 1 million – RMBH

City Strategic Planning

Vision 2030

Belo Horizonte: city of opportunities, sustainable and with quality of life

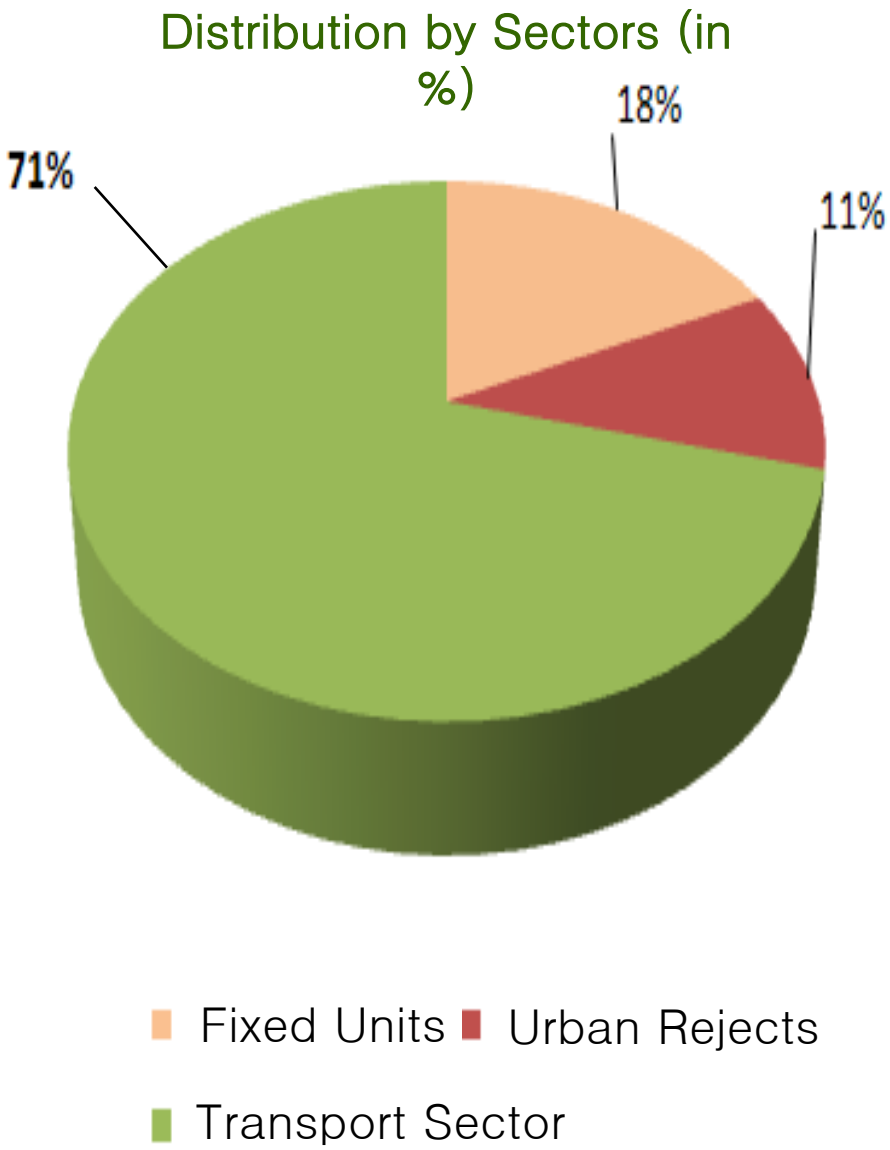
Ensure mobility and accessibility in the urban environment through integrated networks, transport demand management and quality of public transport services



Inventory of greenhouse gases emissions in BH

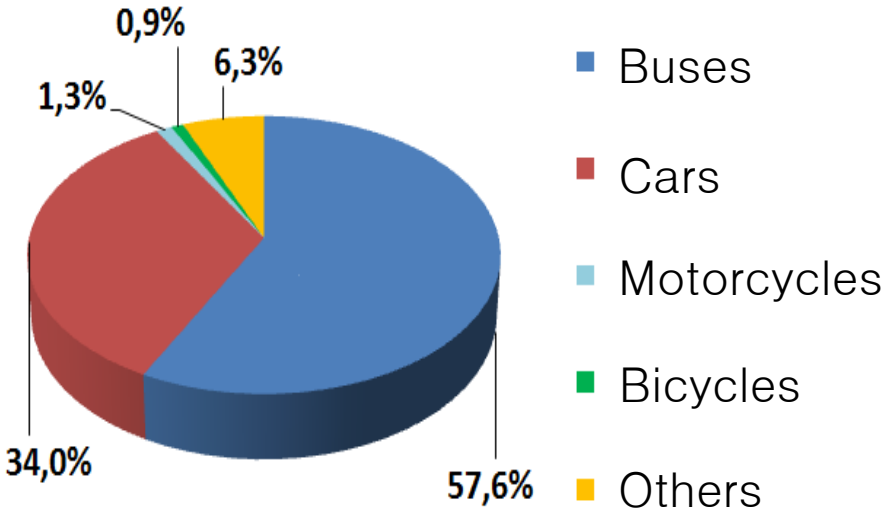
The transportation sector is responsible for about 70% of the total CO_2 emissions

Goal: to reduce the greenhouse gases emissions by 20% until 2030

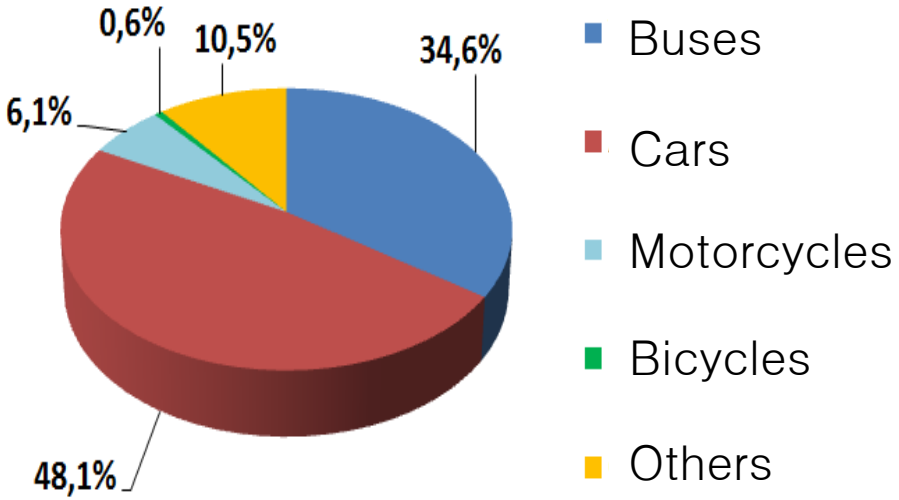


BH 2002/2012: increase in travels and larger participation of the individual modes*

2002: 2,7 millions of tpd



2012: 4,1 millions of tpd

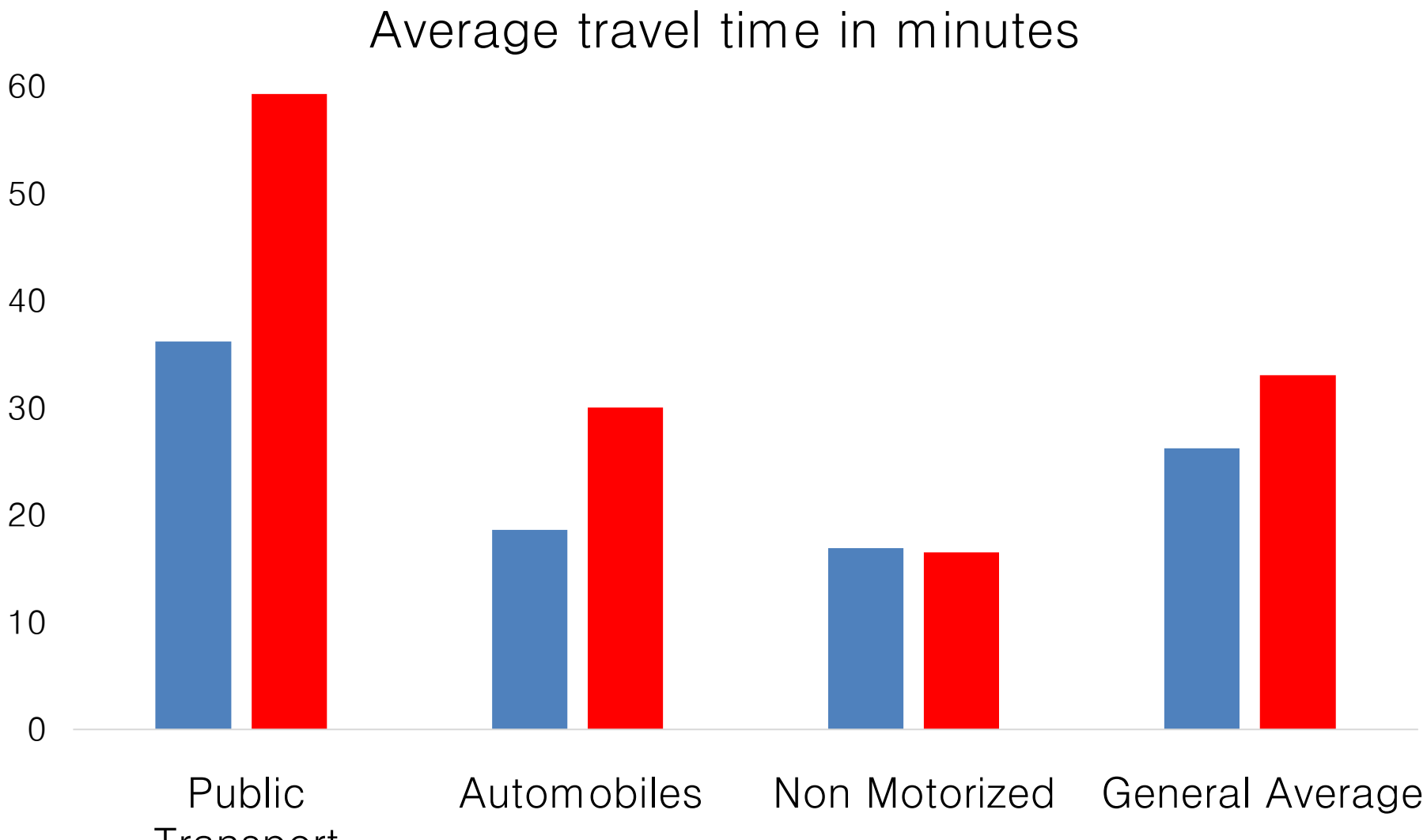


Mode	Change 2002/2012
Buses	- 8%
Cars	+ 116%
Motorcycles	+ 649%
Bicycles	+ 7%
Others	+ 154%
Total	+ 53%

* excluding walking trips

- The public transport had a strong loss over a decade, **falling from a 57.6 % share in 2002 to 34.6% in 2012**
- The participation of **cars rose from about 1/3 to about 50%**, being the most widely used modal in 2012

PlanMobBH – Starting Point
Unsustainable Tendencies



Fundamental Objectives of PlanMobBH

Reduce the Number of Fatalities in Traffic

Reduce the Increased Trend of Greenhouse Gases Emission

Reduce the growth in the use of individual transportation (auto and motorcycle)

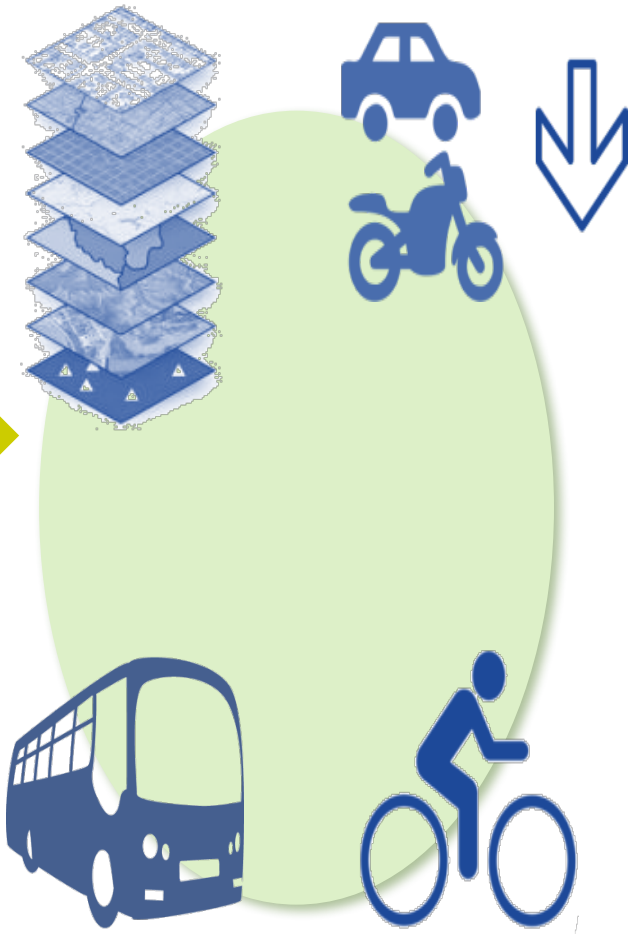
Increase the percentage of trips by foot (emphasis on trips up to 2km)

Increase the percentage of bicycle trips (emphasis on trips up to 8km)

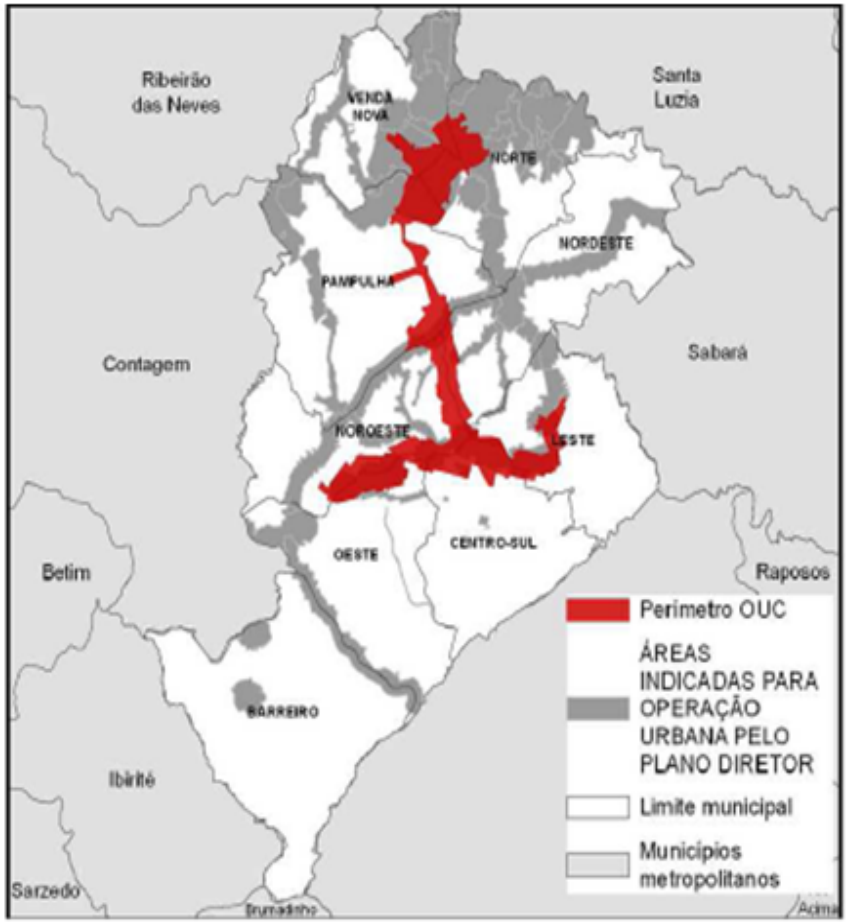
Increase the current number of trips on public transport

The 4 pillars of the City Sustainable Urban Mobility Plan (PlanMobBH)

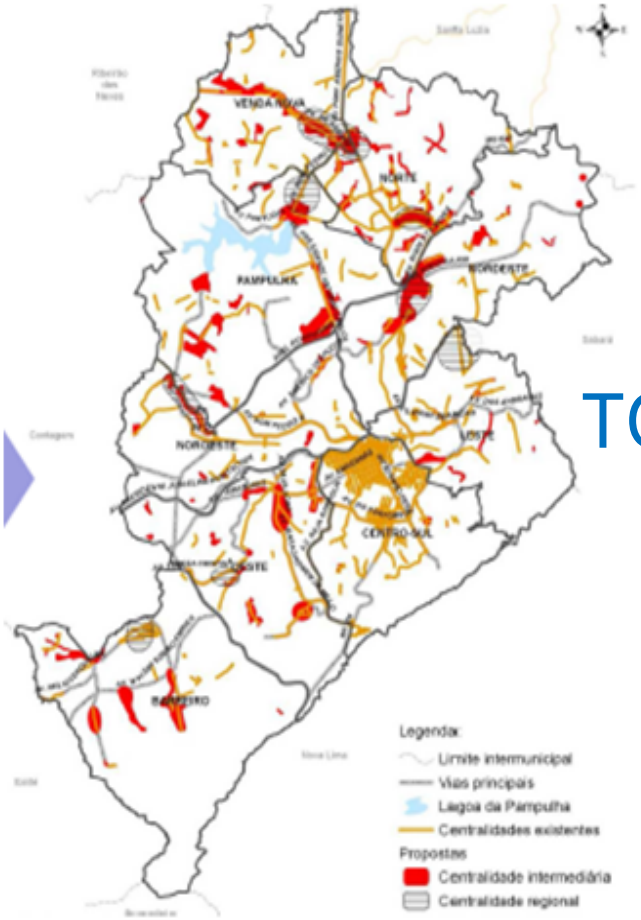
- Integration between Land Use Policy and Transportation
- Priority to public transport and its continuous improvement
- Stimulation of non–motorized modes of transport
- Encouraging a more rational and innovative use of the car



Structuring initiatives for sustainable urban mobility in BH



Urban Operation ACLO



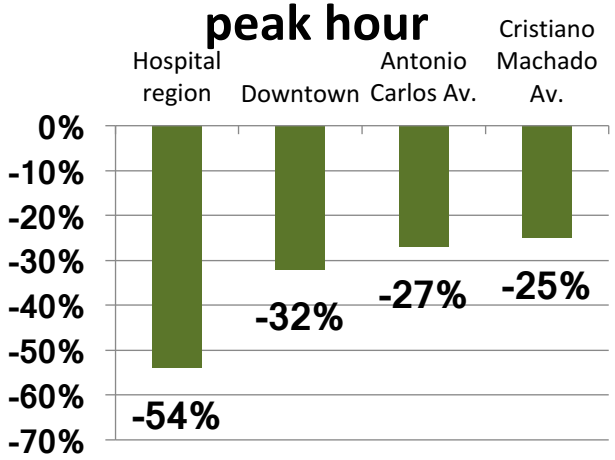
TOD Projects

Regional Plans: New

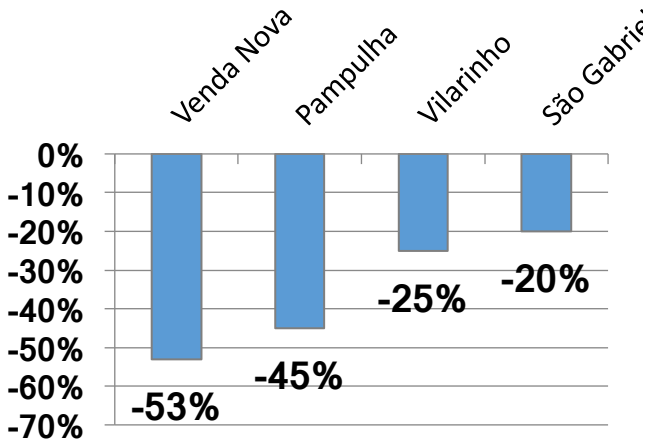
Structuring initiatives: MOVE, the BRT of Belo Horizonte

23 km of exclusive lanes with two-way traffic, 5 integration stations at the edges and 40 transfer station along the corridor, transporting about 500,000 pass./day

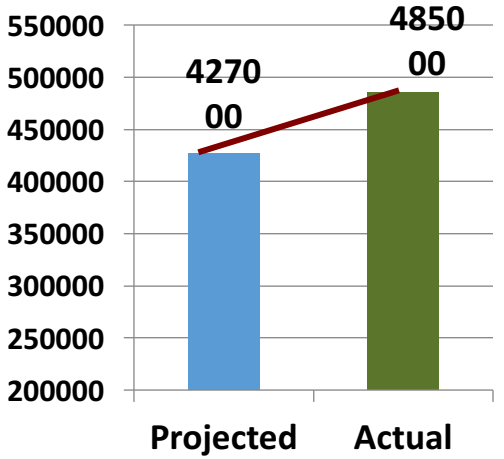
Decrease in the number of bus trips in the morning peak hour



Travel time reduction in the morning peak hour



Number of passengers per business day



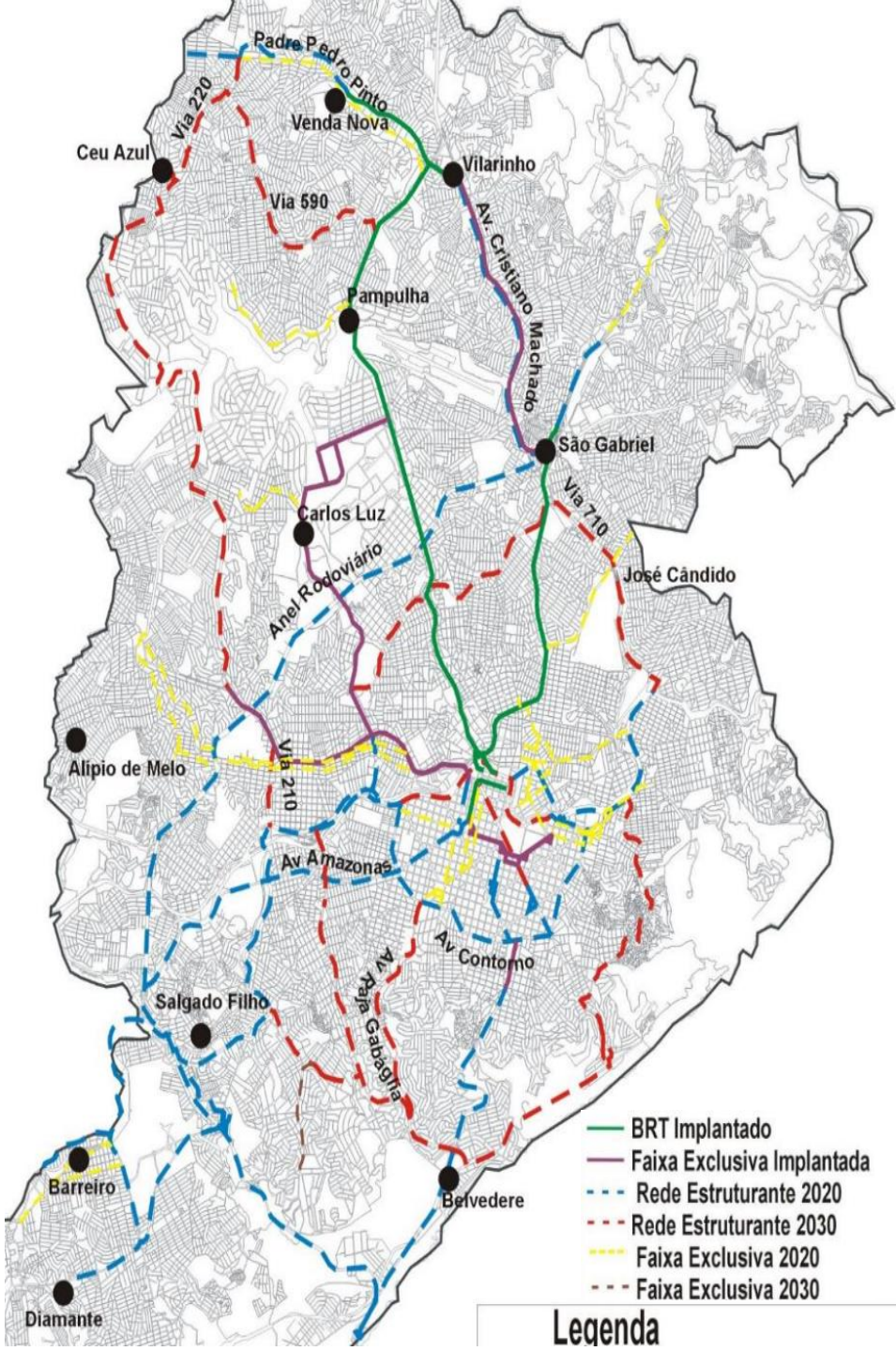
BRT – Bus Rapid Transit and Exclusive lanes for buses

Present status (2017)

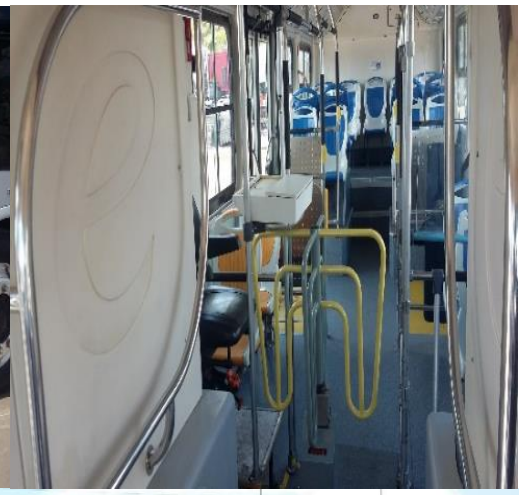
- **23** km BRT;
- **12** km exclusive bus lanes;
- **7** integration stations and **36** transference stations;

Forecast (2030)

- **150** km BRT;
- **54** km exclusive bus lanes
- **11** integration stations.



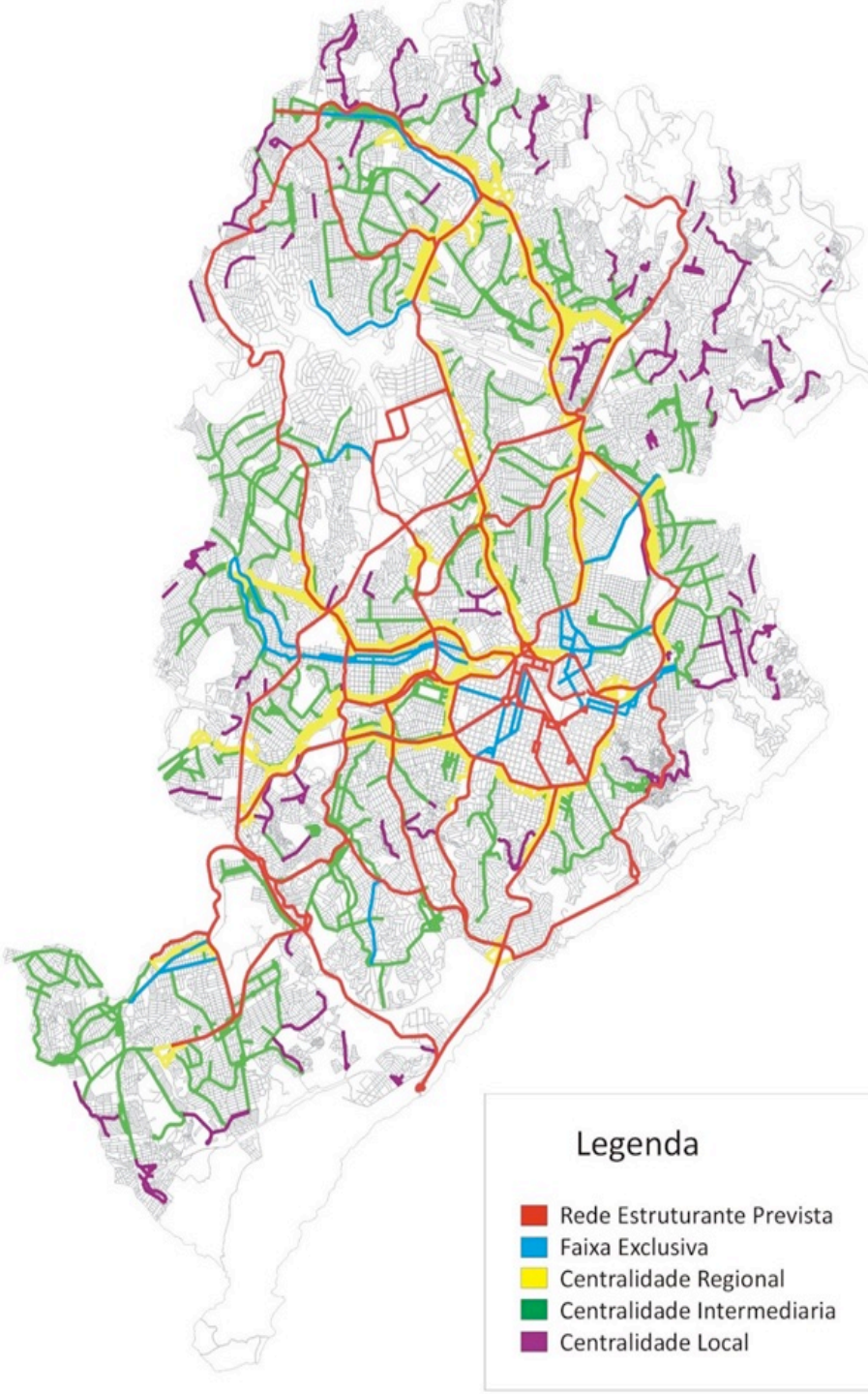
Electric Bus (2018)



- <u>Test</u> of electric buses with a self–sufficiency higher than 250 km (each charge) – 80% of an average urban bus route;
- Performance evaluation.
- Operational costs evaluation.

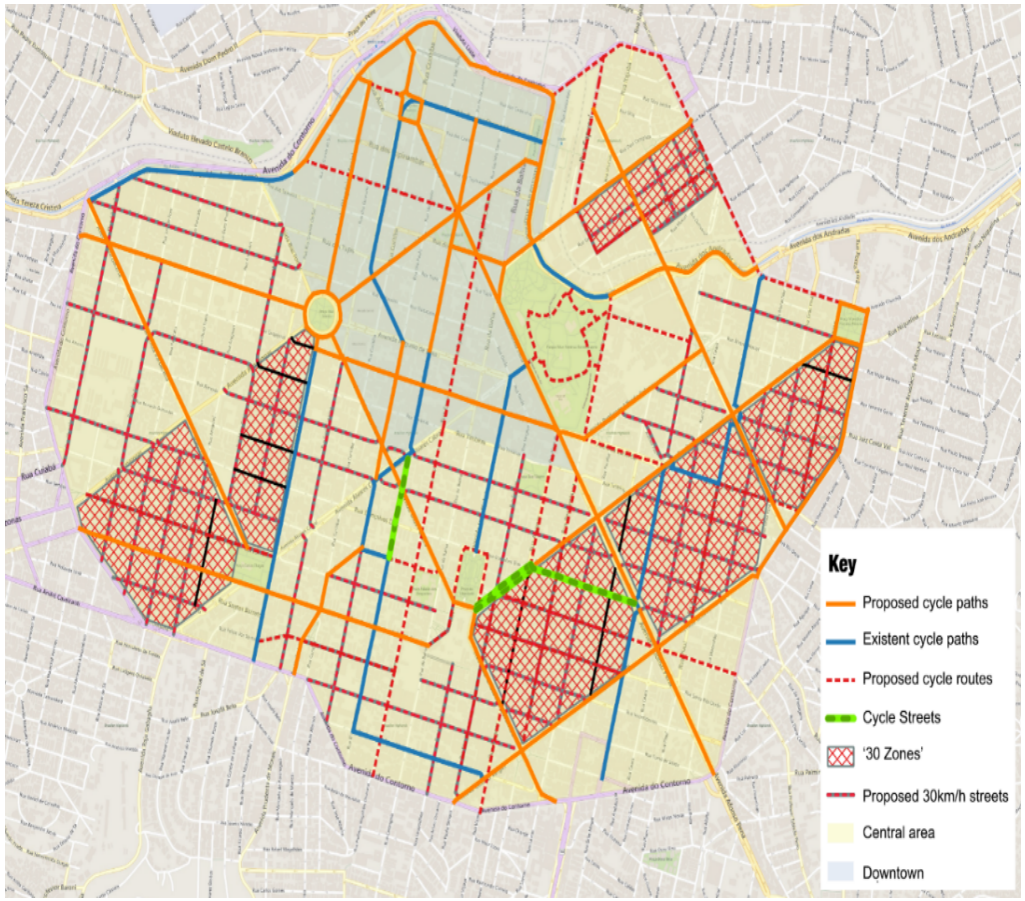
Stimulating non-motorized modes

Build a walking network integrated with the public transport and urban projects that brings improvements for pedestrians



30km/h Zones

Proposal for Downtown Area



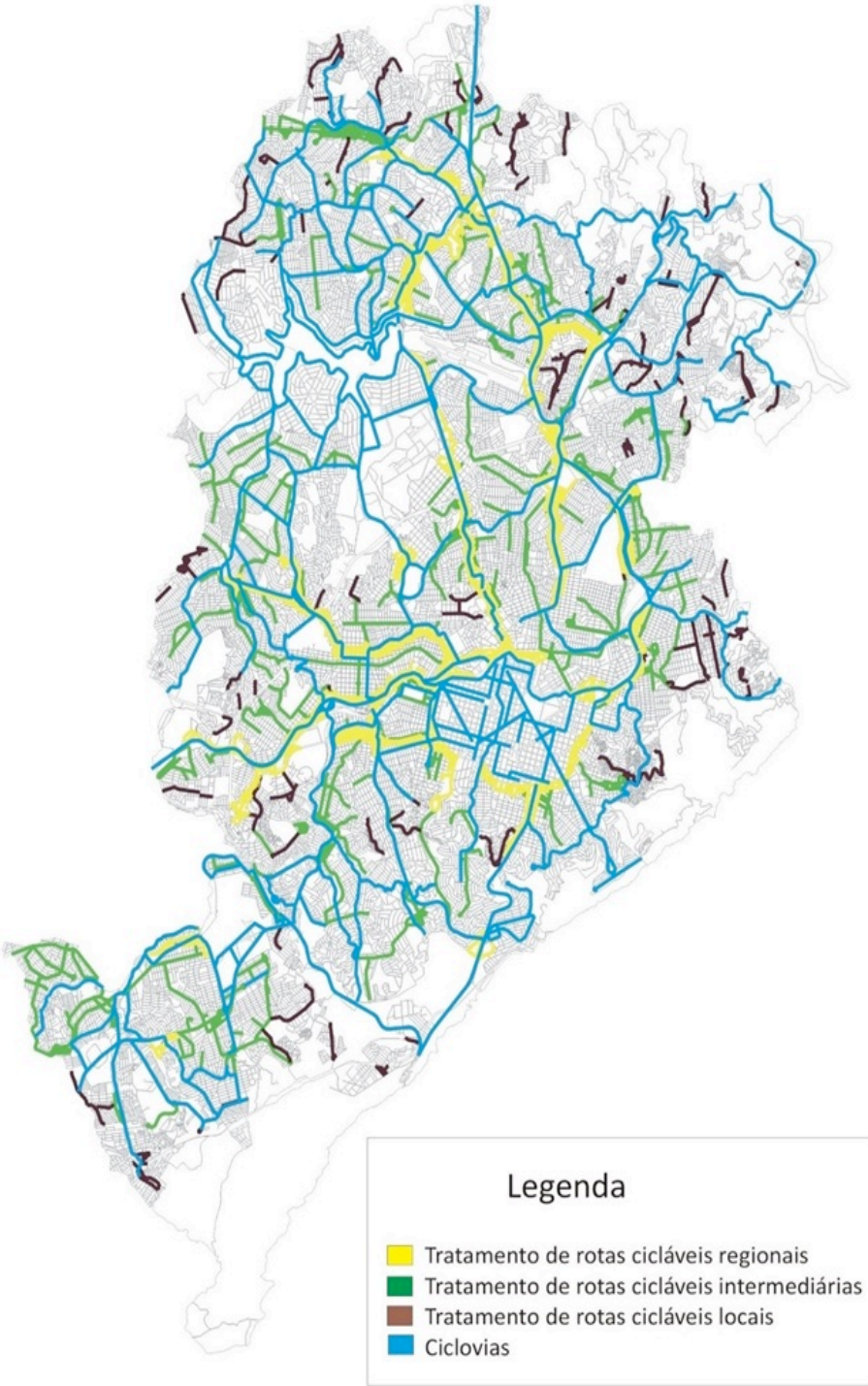
- **Reduction of car speed** in order to guarantee the pedestrians and cyclists safety.

- The red patterned areas indicate the selection of regions where the 30 zones will be implemented

Pedala BH – Bike routes project

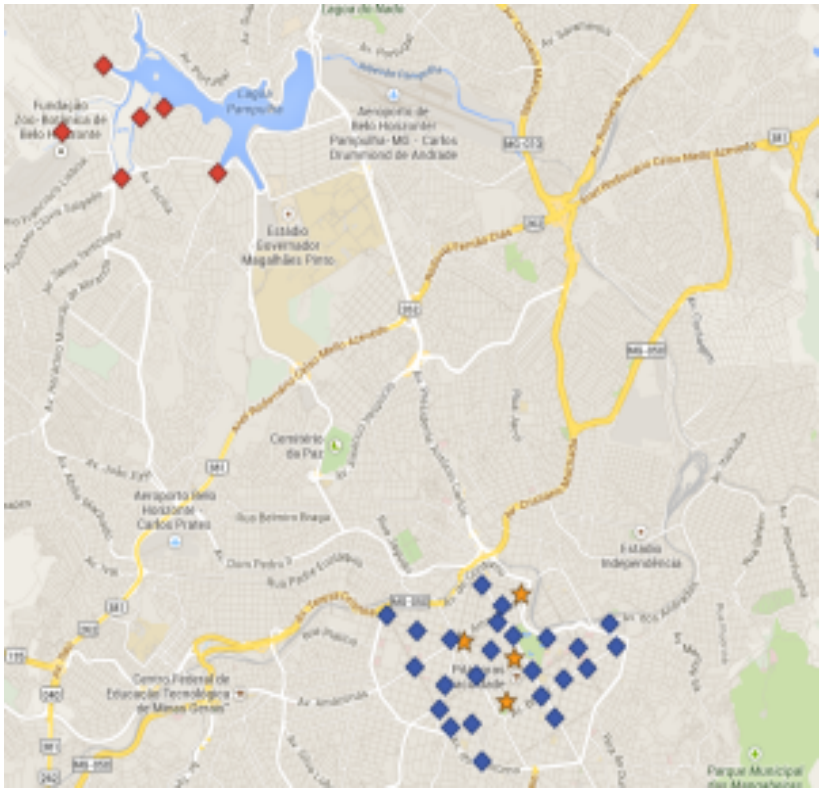
Cycle infrastructure implementation plan:

- (2020): 411 km
- (2030): 1.000 km



Pedala BH – Bike routes project

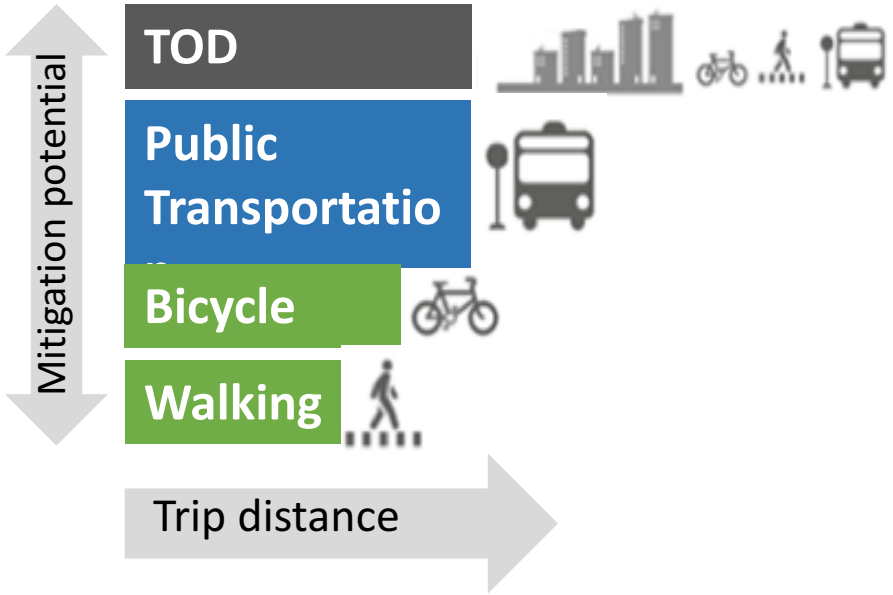
40 bycicle sharing stations in downtown Belo Horizonte and near touristic spots.



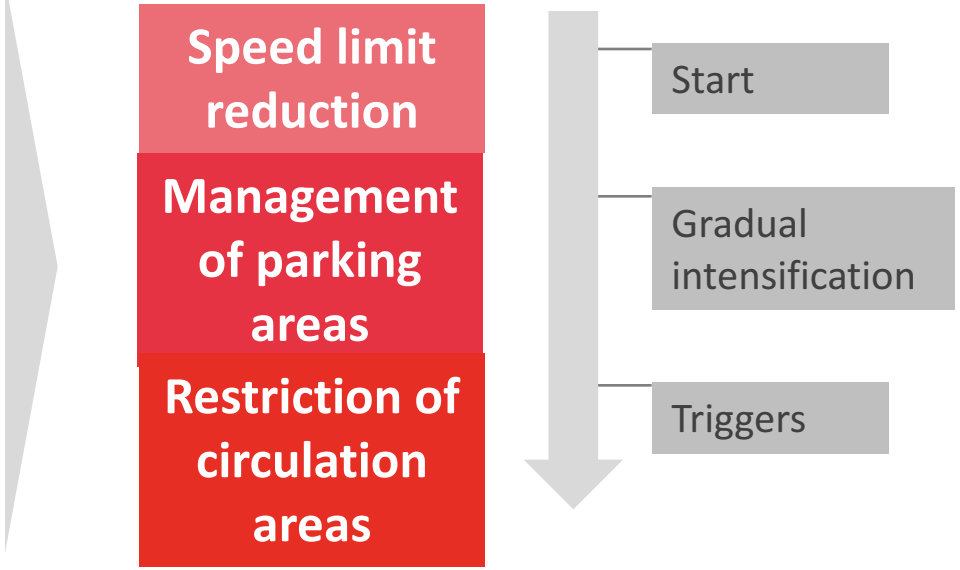
Rational Use of Automobiles

Transportation demand management through coherence and integration of measures and modes of transport, resulting in a change of the predominant culture.

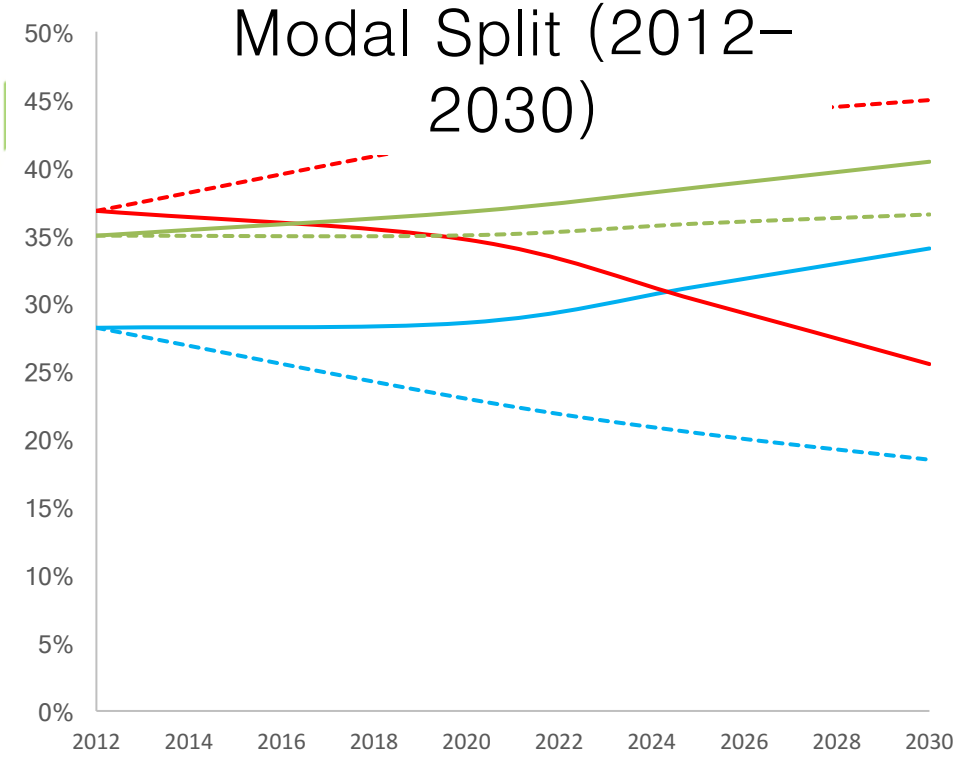
Incentive to transport alternatives

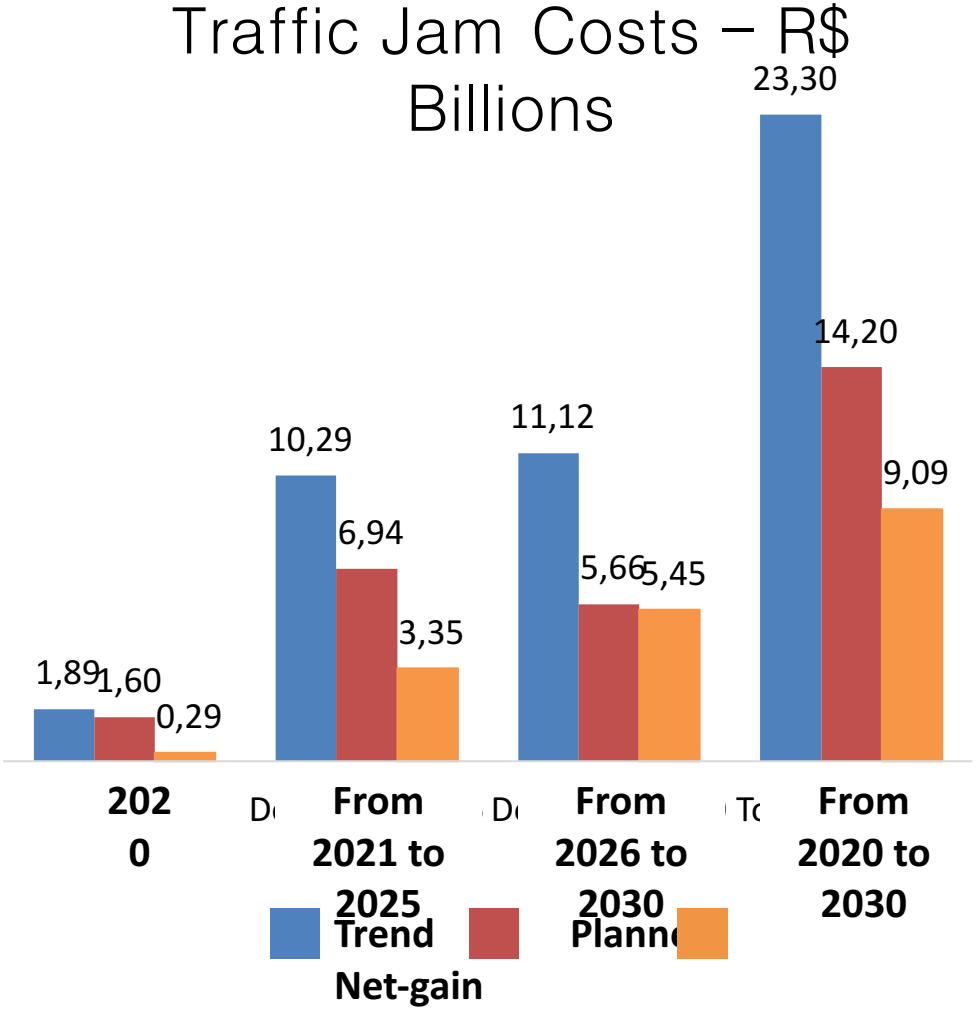


Discouraging the use of private transport



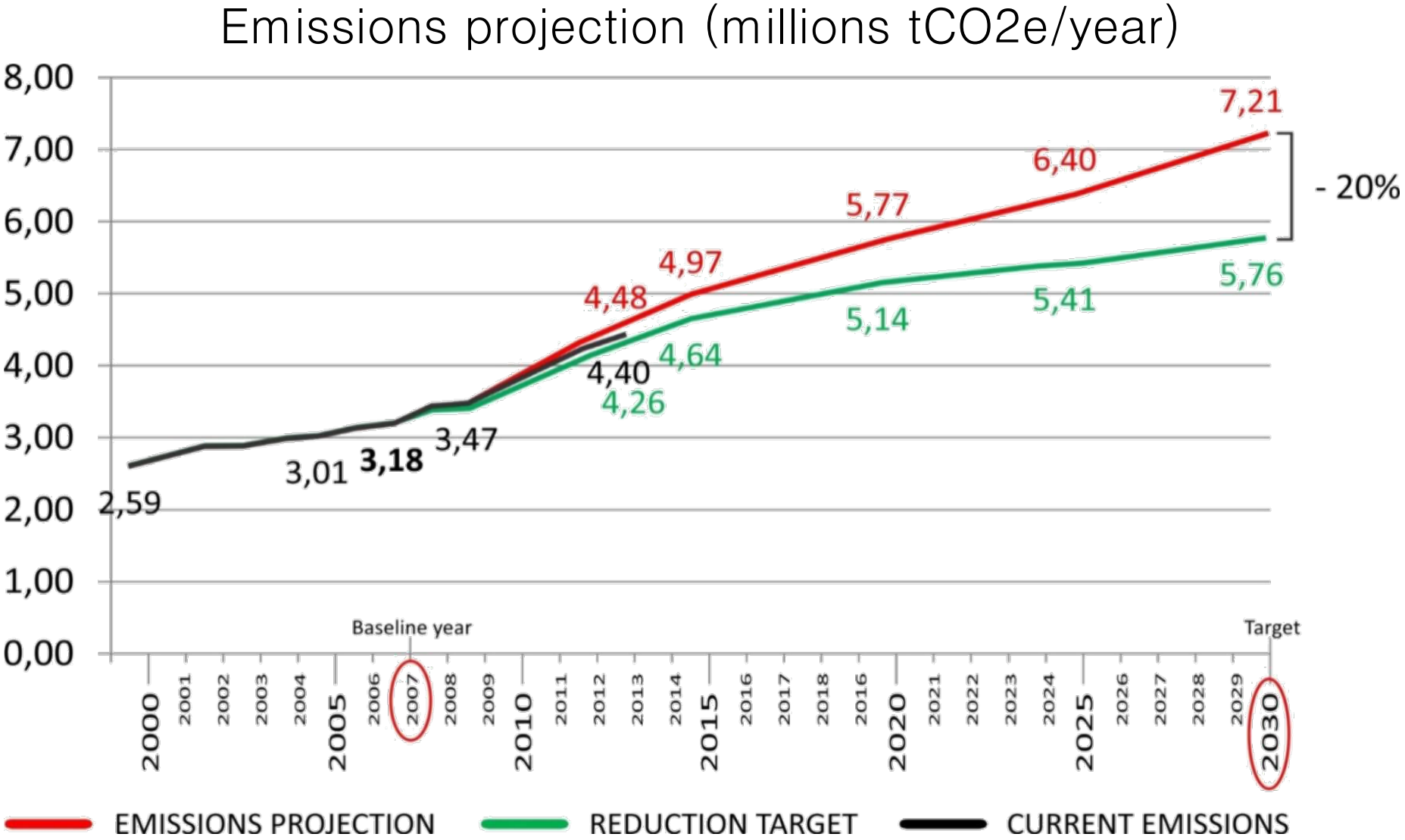
Expected Results





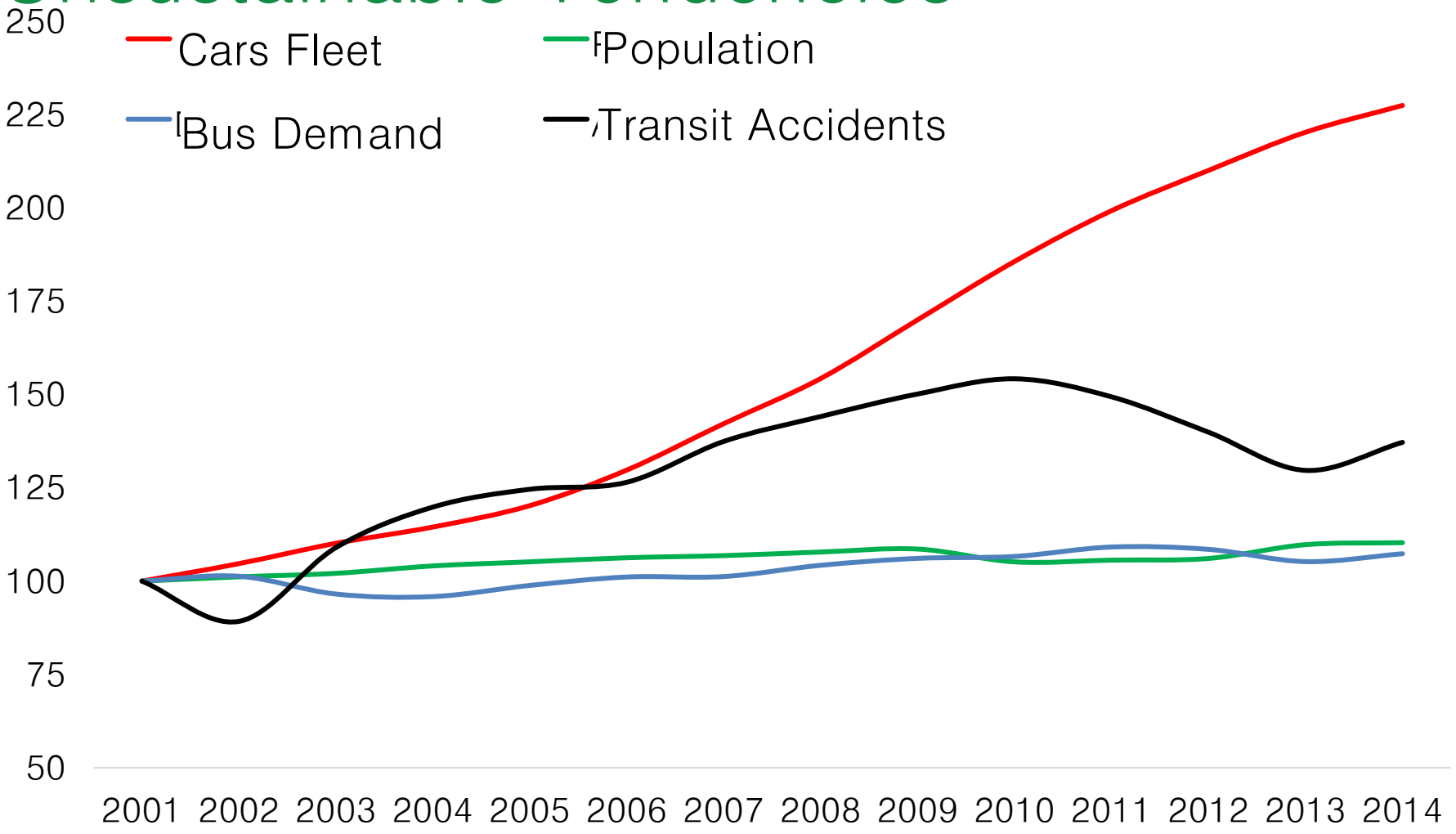

BHTRANS
PREFEITURA
BELO HORIZONTE
GOVERNANDO PARA QUEM PRECISA
Thank
You
Rogério Carvalho
Silva
rogecarv@pbh.go
v.br
www.bhtrans.pbh.g
ov.br

Municipal plan for greenhouse gases emissions reduction – *PREGEE*



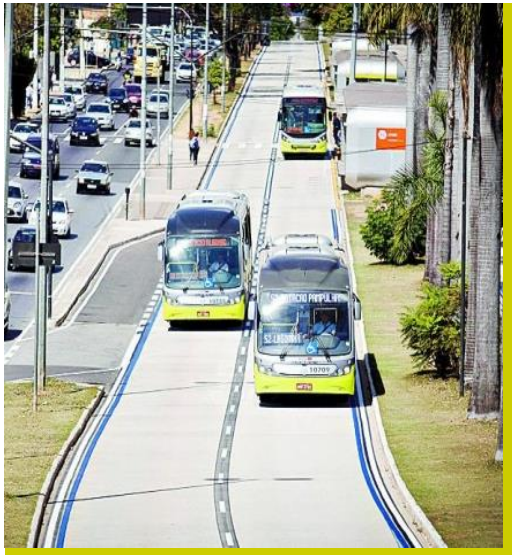
Evolution of some Mobility Indicators

Unsustainable Tendencies



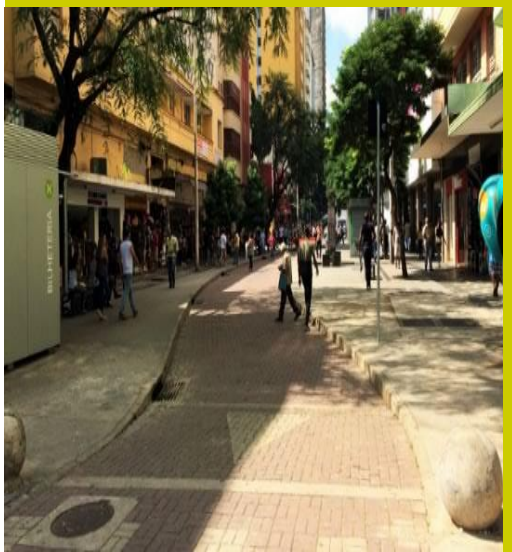
Structuring initiatives for sustainable urban mobility in BH

MOVE: the BRT of BH
23 km + 12 kilometers of exclusive bus lanes



Pedala BH:
80km of bike lanes + 40 shared bike stations

30 km/h zones: attempt to keep road traffic speed down to a safe level



Less street parking areas and more quality space for pedestrians