

# Historical Evolution and Current Trends in Sustainable Urban Transportation in Brazil: Salvador City as case study



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# Introduction

- The history of many cities is linked to the history of the forms of transportation.
- Cities have been born, developed and prosper or decay with the evolution of transportation .

# Waterways

- When the subject is transport, the waterways are always pointed as alternative of lesser cost and environment impact.
- In the Brazilian context the option of integrating the waterways with other means of transport, has raised many questions.

# Railway

- Brazil like other countries this phenomenon was of great importance, leading to the creation of cultural regions with common characteristics that continue until today .
- It was instrumental in the development of a industrial economy
- Main factor in the formation of post industrial metropolitan regions
- Even after they had lost their importance in the geopolitics and the administrative interest of governments
- Today the railroad grid of Brazil is 28 thousand km which is one third of the total grid of Canada.
- The transport of passengers to long distances is practically non-existent.

# Highways

- The major form of transportation in Brazil today are highways.
- The transition in the form of transportation in Brazil happened in the 1930's.
- The major reasons was political process, private economic interest and exterior influence.
- Between 1928 and 1955 the railroad grid grew 20% and the highways around 400%.

# Transamazônica Highway

- October 10, 1970 is the beginning of the construction of Transamazônica with the purpose to link the North to the rest of the country.
- More than thirty five years later of its beginning, is far of being finished.

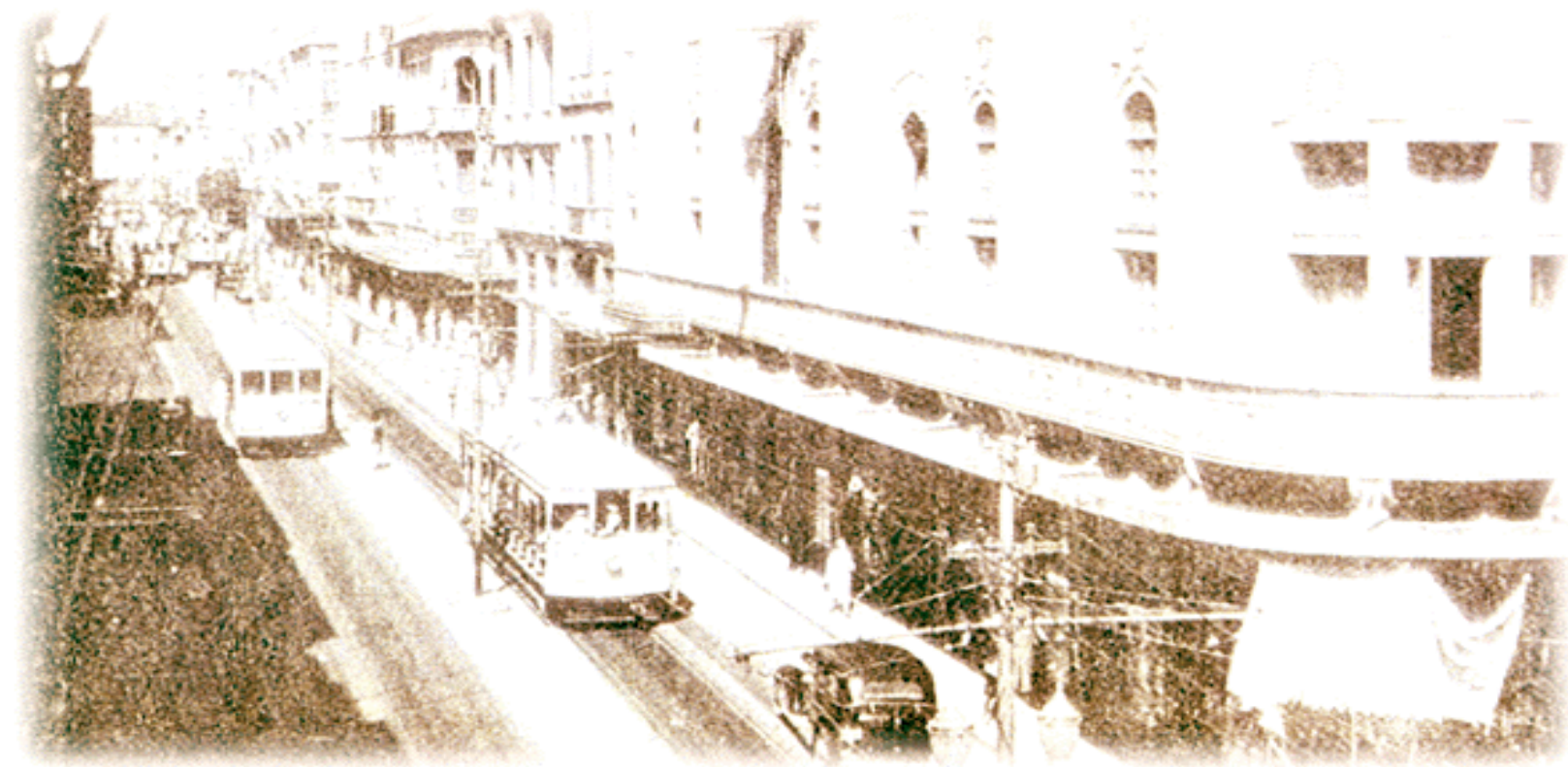


# Salvador Bahia

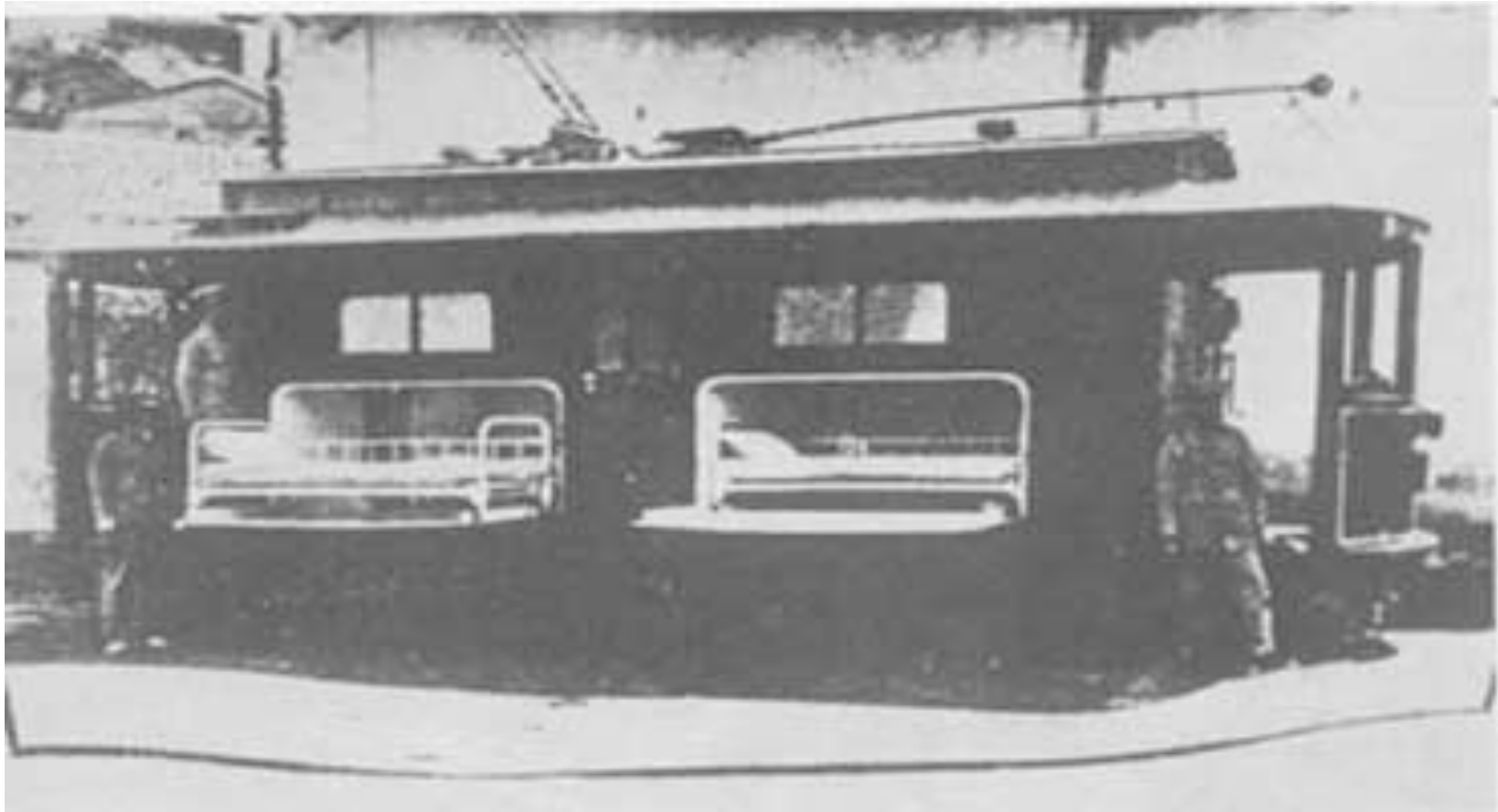
# Gôndolas nicknamed “Maxambombas”



# Bonde-Salão



# Bonde-Ambulance



# Lacerda Elevators





# Tróleybuses



# Standard Buses



# 1971

- With the expansion of the bus system and the regulation of the collective transportation system, a series of studies, plans and projects were developed for the city.

# 1981

- the construction of the Station of the Lapa was initiated, and in August of same year, riot occurred, leading to the death of three people and ten of wounded and 600 buses damaged. In November, the Secretariat of Urban Transport Urban - STU is established and the one fare price system for buses was created.

# 1984

- In the system was implanted trunk-feeder of closed integration in Terminal EVA that was substituted per the New Station Hope in 1986. In this year the Project was launched Modern Tram.

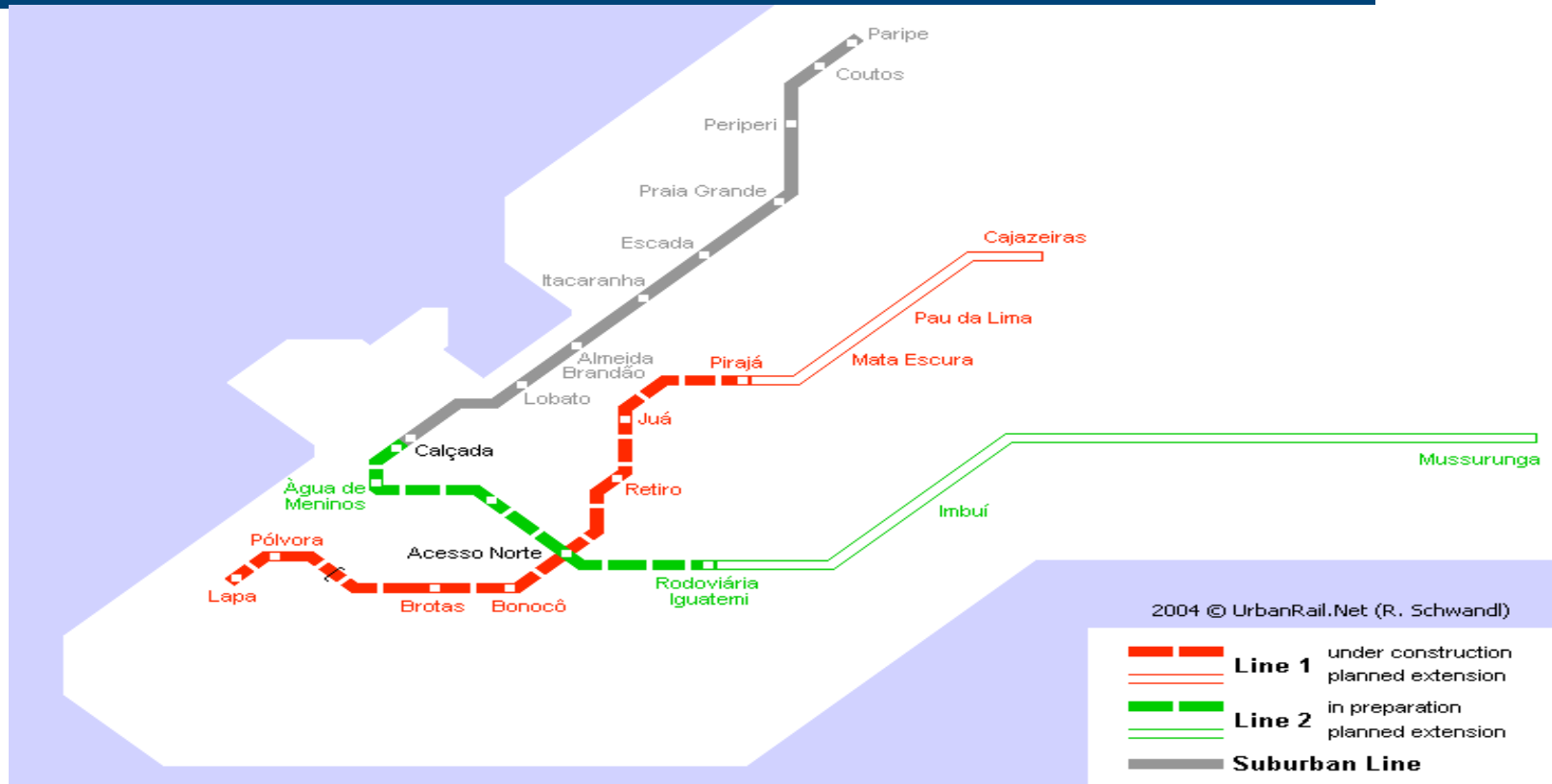
## 1992 - 1995

- Bus system of transport for bus passed for an intense renewal of fleet, with the acquisition of new and modern vehicles.
- Pirajá Station was constructed and reformulated the system trunk-feeder in the region of the Cajazeiras.

## 1996 - 1999

- Initiate the process of electronic tickets, implanting the Smart Card system.
- Subsystem of complementary transport operated by vans was implanted.
- Public bid for the construction of the Subway of Salvador was carried through.

# Salvador Subway System

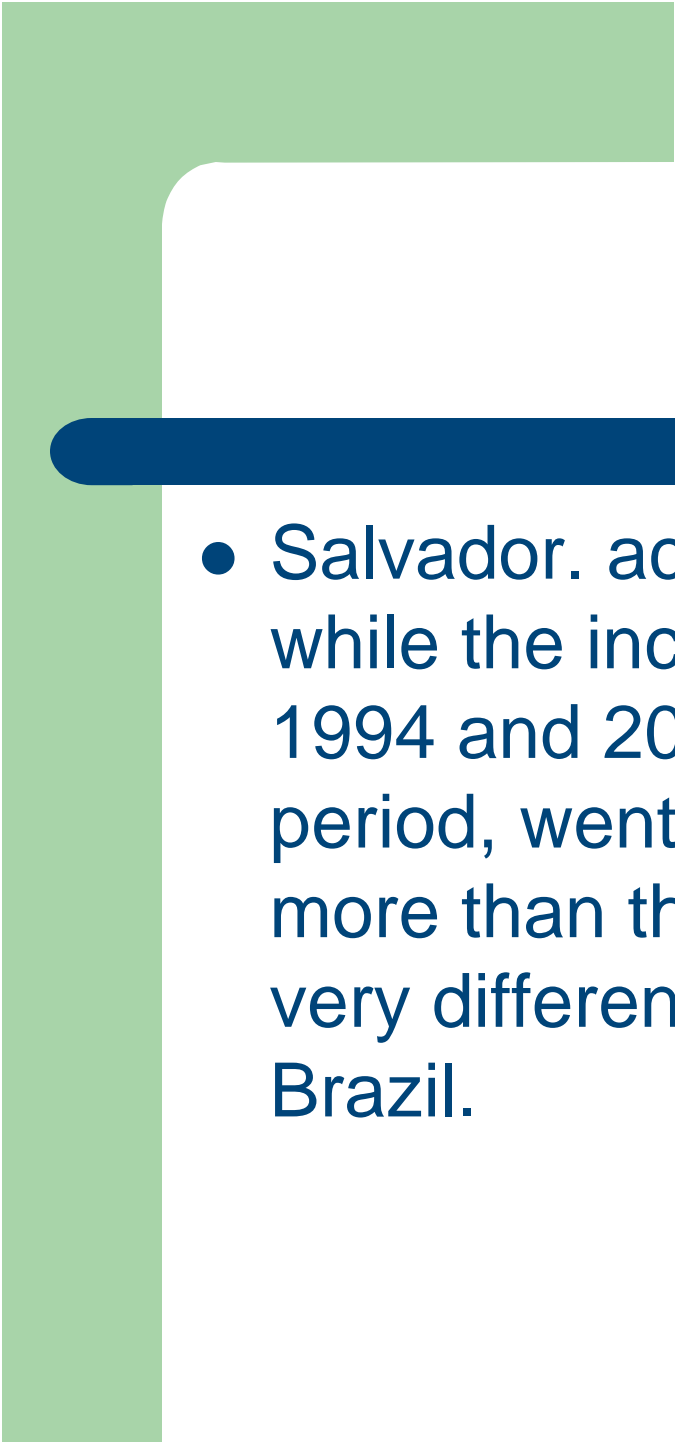



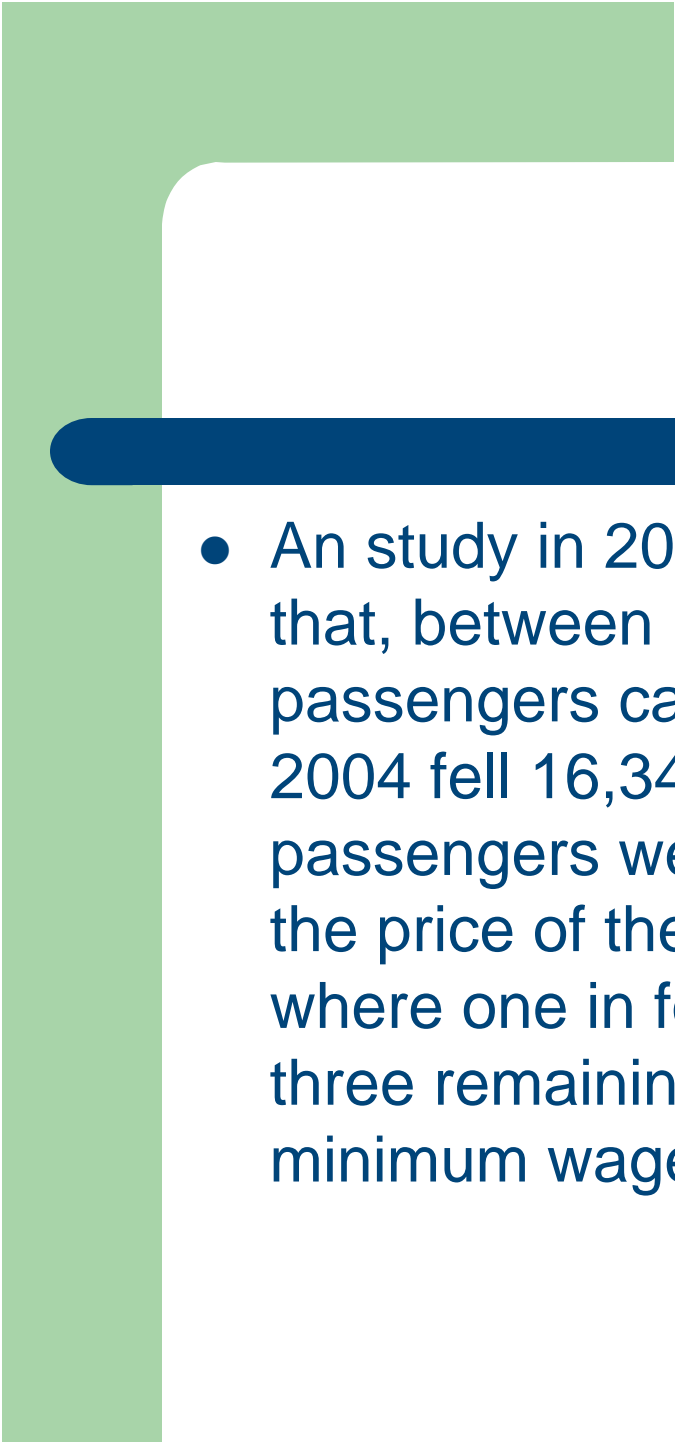

# Salvador Subway System



## 2000 - Present

- The growth of the service of transport for bus also had it the increase of the demand and to the its operational malleability, leading to rapid transformations in the Brazilian cities, in special Salvador.

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- Salvador. according to Ministry of the Cities, while the income went up 150.4% between 1994 and 2003, the bus ticket,, in the same period, went up 328,6%. the tickets went up more than the inflation. The situation is not very different of the other capital cities in Brazil.

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- An study in 2004 by the City hall of Salvador indicate that, between 1995 and 2004, the number of passengers carried by buses between 1995 and 2004 fell 16,34%. This shows that less 87.181.190 passengers were carried in 2004 that in 1995, and the price of the tariff is the major factor in a city where one in four inhabitants is unemployed, and the three remaining, only one earns more than two minimum wage per month .

# Class and Visibility of the Crises

- A crisis in the functioning of the ways of transport directly affects those that most depend of it. In the case of the air transportation, middle and upper class the main clientele it has been growing stead.
- In the case of the urban transports, the middle and the poor it develops all day under our sights without nobody give account - in specially the media.

# Challenges

- One of the main challenges of the cities, in any part of the world, is the organization of the transport system.
- The majority of the development politics and the proper national and regional investments, still focussed in automobiles and trucks
- Isolated cases only show attempts to prioritize the collective transport in Brazil,

# Challenges

- Brazil is producing as never. It is leader world-wide in soy, maize, sugar, coffee, beef and poultry.
- But, to transport this products to the ports, the country faces serious problems with the inefficiency of the transport systems

# Challenges

- Urban transportation system is responsibility of the municipal public sphere. But great urban centres, go beyond the municipality borders, going to metropolitan region porpotion, the institutional diversity and politics between municipalities are treated in isolation, according to the peculiarity of each region.

# Conclusion

- Brazil in the area of transportation still a new territory. It gives the opportunity to explore new ideas.
- Perhaps the last possibility of building a sustainable urban transportation system, based on the principles of a city for all.
- The incorporation of a integration plan for all public transports, the modernization of the railroad grid exploring the possibility of surface subway.
- Creation of systems that facilitate the public participation in the decision making process of the metropolitan development, managing cities, with the dialogue of its residents and decision makers