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Urban Transportation, Land Use, and the Environment in Latin America:
A Case Study Approach

14 March, 2002

Lecture 6 Part 1:

The Mexico City Metropolitan Area

The Mexico City Metropolitan Area (MCMA)

MCMA Topography and Meteorology

- Elevated basin – 2240 m above sea level
  - 5000 km^2 plateau surrounded on E, S, W by mountain ridges (approx. 800-1000 m above basin)
- Altitude effects
  - Greater chance of incomplete combustion, higher emissions
  - Thinner air requires deeper breathing, more pollutants inhaled
- Subtropical latitude
  - Combined with the altitude, conducive to year-round ozone production, but particularly during dry winter months (including through thermal inversion)

Thermal Inversion

Evolution of the MCMA

- Population
  - 1950: 3 million
  - 2000: >18 million, 2nd largest city in world
- Urban Area
  - 1940: 118 km^2
  - 1995: 1,500 km^2
- Jurisdictions in the MCMA
  - Distrito Federal (DF), 16 *delegaciones*
  - State of Mexico (EM), 38 urbanized *municipios*
- The "Megalopolis" and the Región Centro
  - "Crown of cities" – Puebla, Tlaxcala, Cuernavaca, Cuautla, Pachuca, Toluca (75-150 kms from city center)
  - States of Hidalgo, Morelos, Puebla, Querétaro, Tlaxcala

MCMA Population Evolution
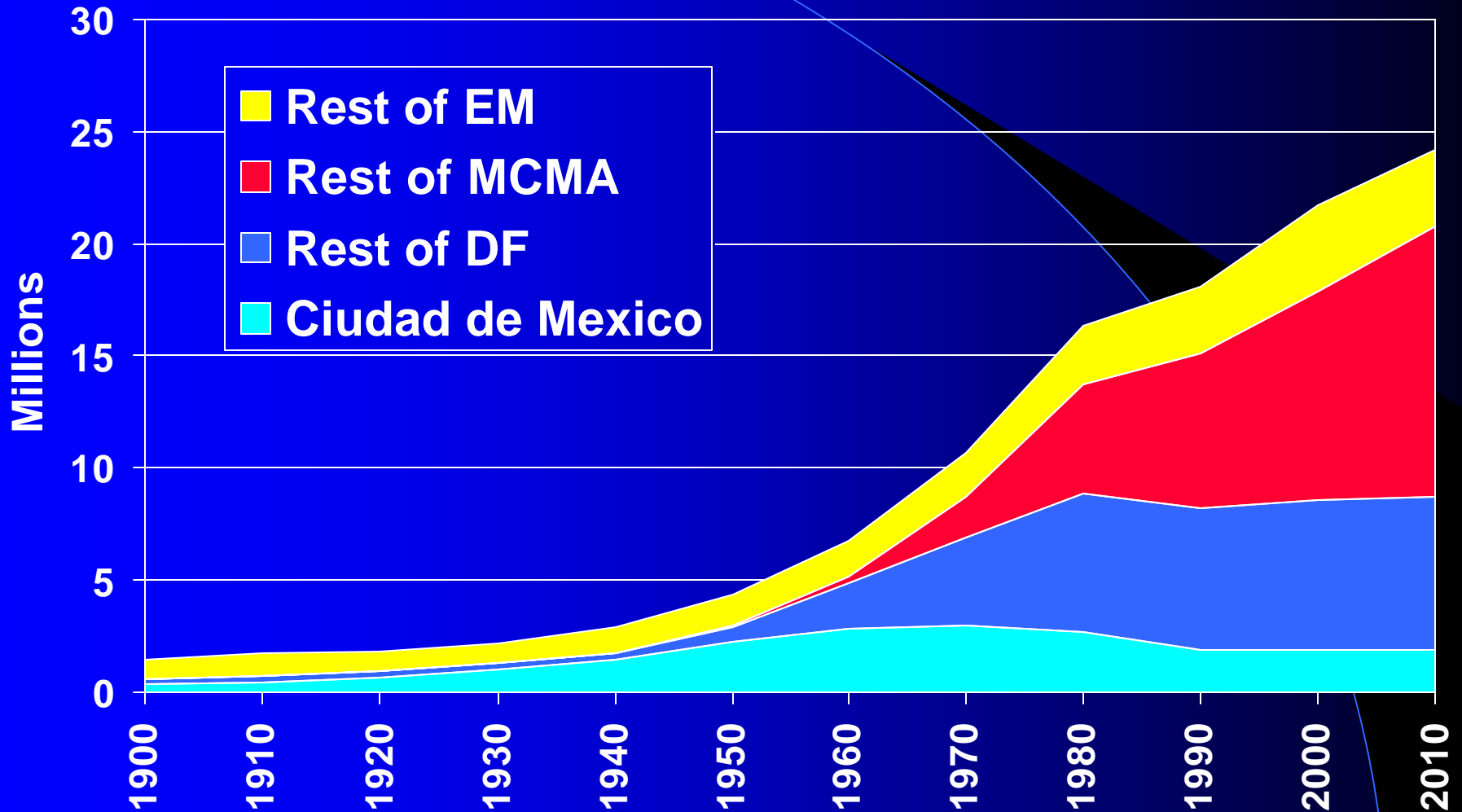
# MCMA, Central Region, and National Population
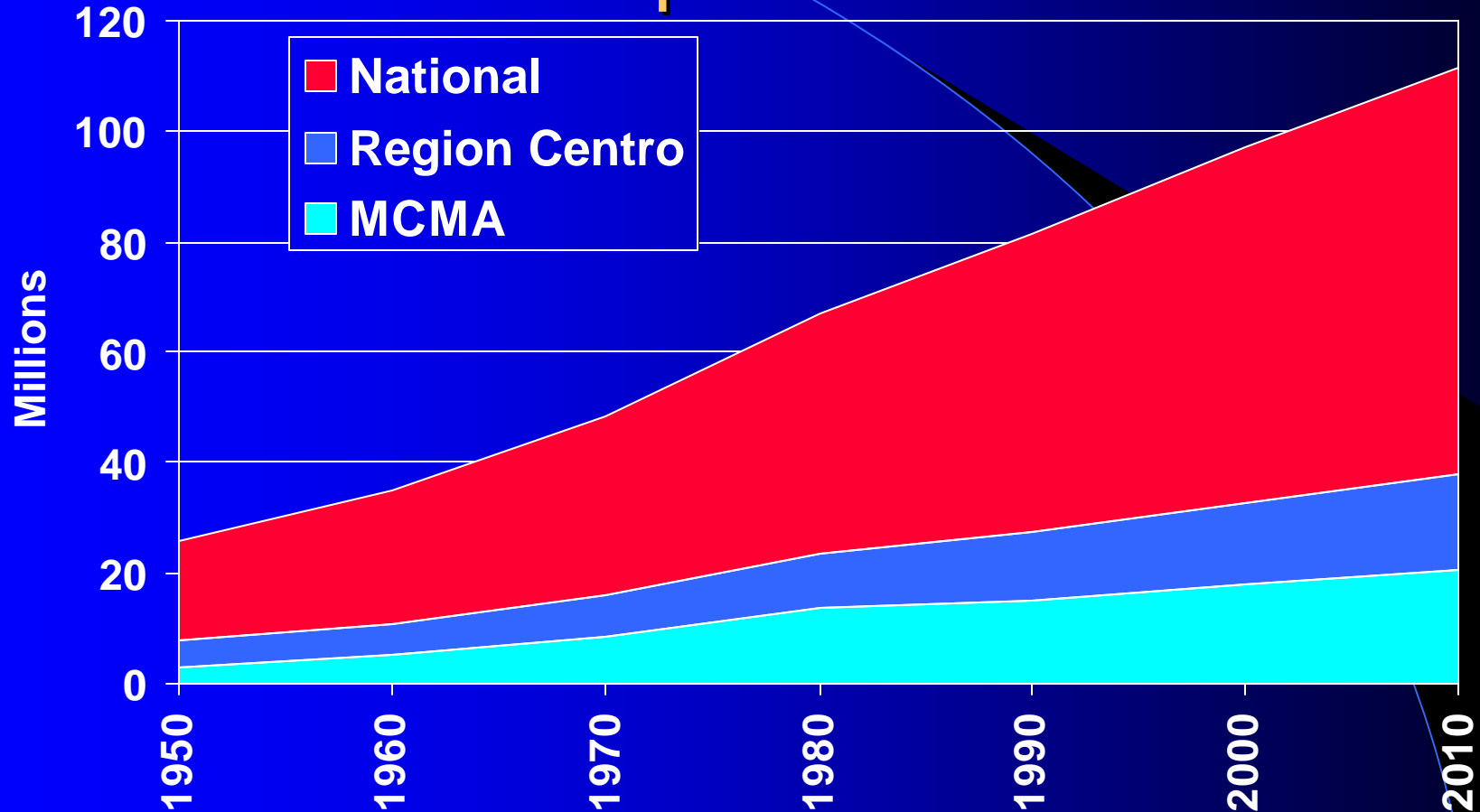
1950: MCMA 38% of Región Centro; 2000: 54%

1950: RC 30% of National; 2000: 34%

Population Growth & Demographics

- Historical patterns influenced by migration
  - City as major national economic generator
  - Migrants to fringe communities
- In general, incomes decline from city center; with west/southwestern parts concentrating most wealth
  - A few *delegaciones* (in SW) have some degree of socio-economic integration
- Projected Future Growth to 2020
  - 1.5% to 2.0% annual
  - Primarily in State of Mexico
  - 26 million (or more?) by 2020; ~35 million, including "megalopolis"

Socioeconomic Distribution

Income Group: High | Upper-Mid | Middle | Lower-Mid | Low | V. Low | No-Info
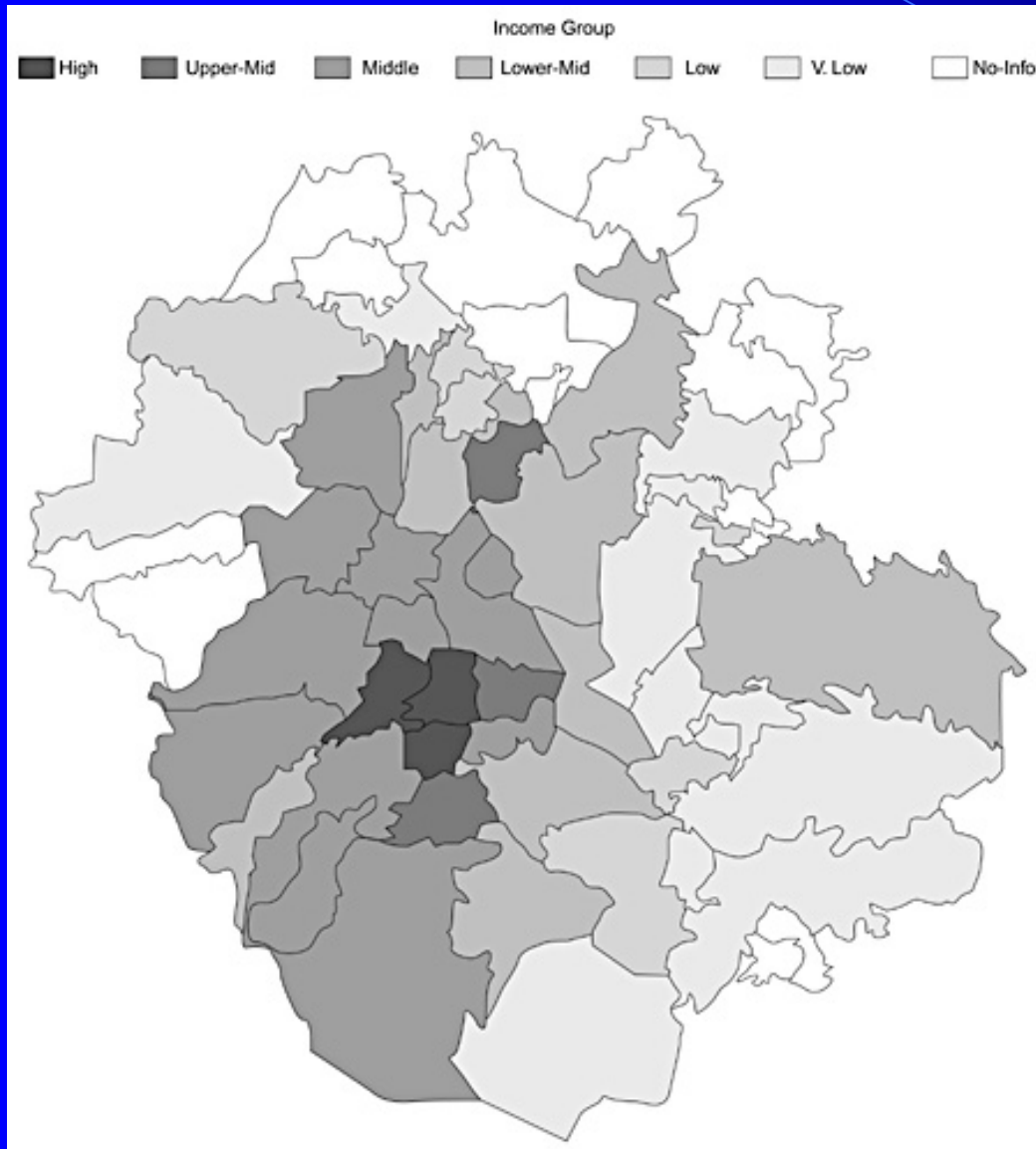
- In MCMA 10% of wealthiest have 20 times more income than the 10% poorest (nationally 24 times higher)

- 50% of the population has just 19% of the wealth (same as national)

- 10% of population has 40% of wealth (roughly same as national)

- Gini Coefficient in 1995: .43 (national .46)

Age Distribution
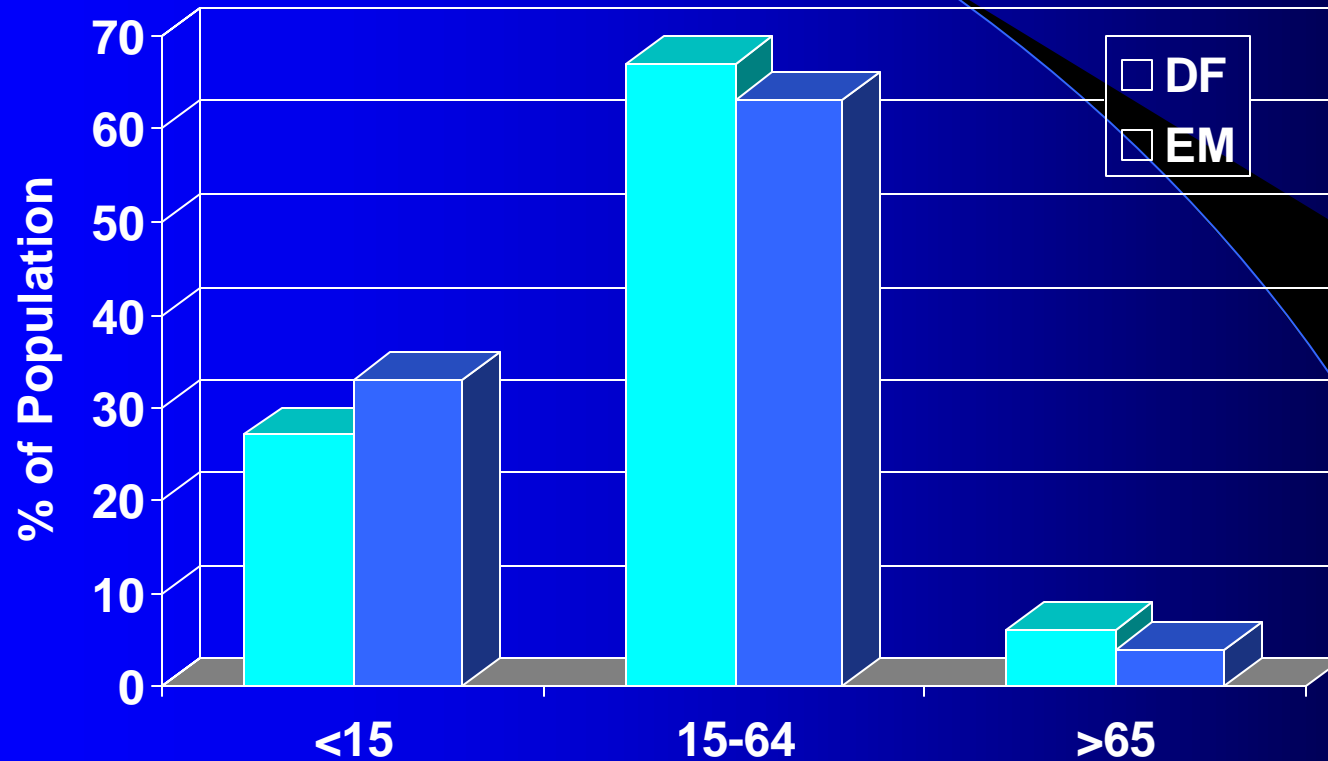
Declining fertility rates in recent years

Urban Expansion – Influencing Factors

- Population growth
- Irregular settlements of poor & Real estate projects for higher income groups
  - Both have invaded natural areas
- Irregular settlements
  - House roughly 62% of MCMA population
  - occupy almost 50% of the urbanized area
- "Crown Cities" expansion and the merging of the "megalopolis"

Urban Expansion – the MCMA
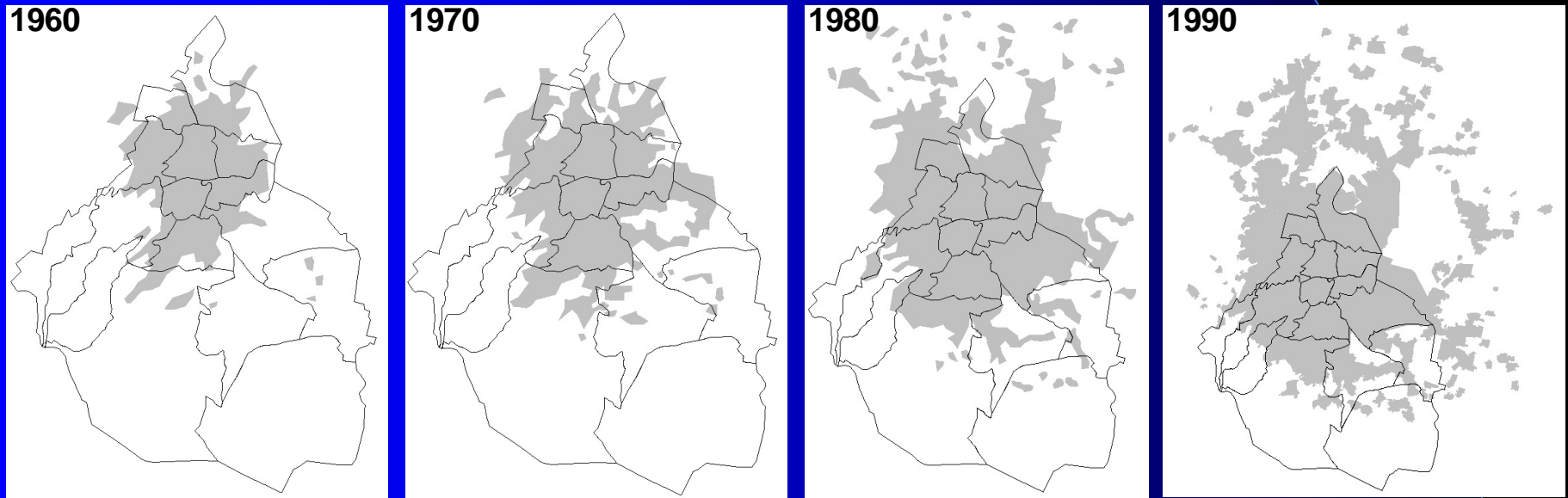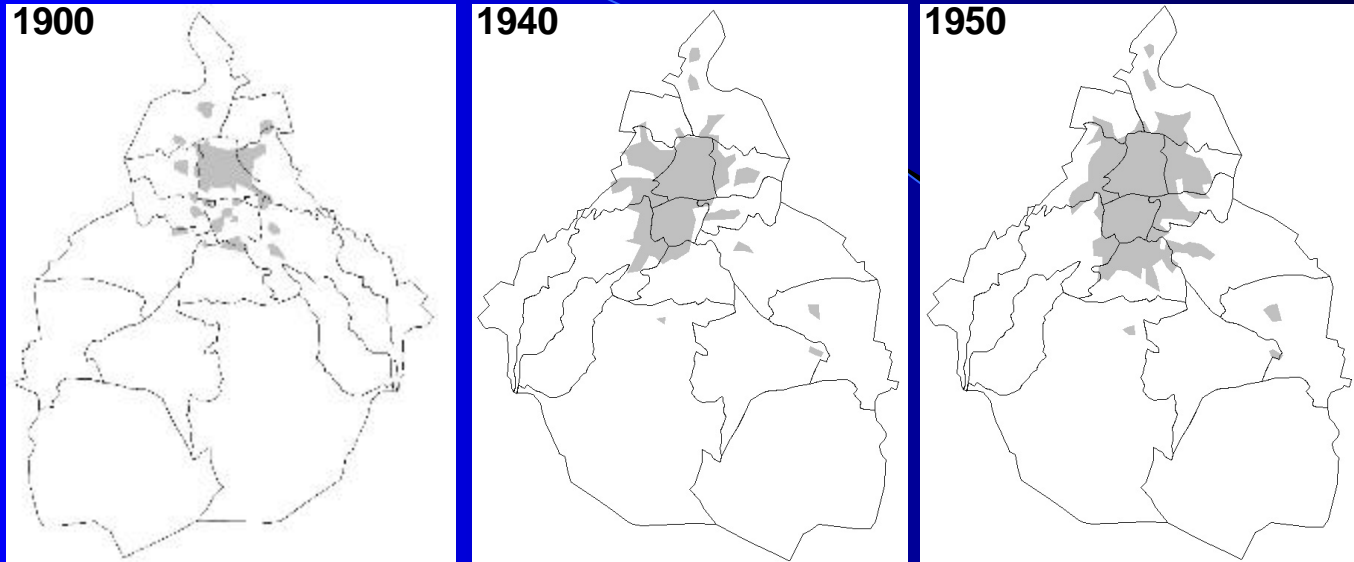
MCMA Jurisdictions

16
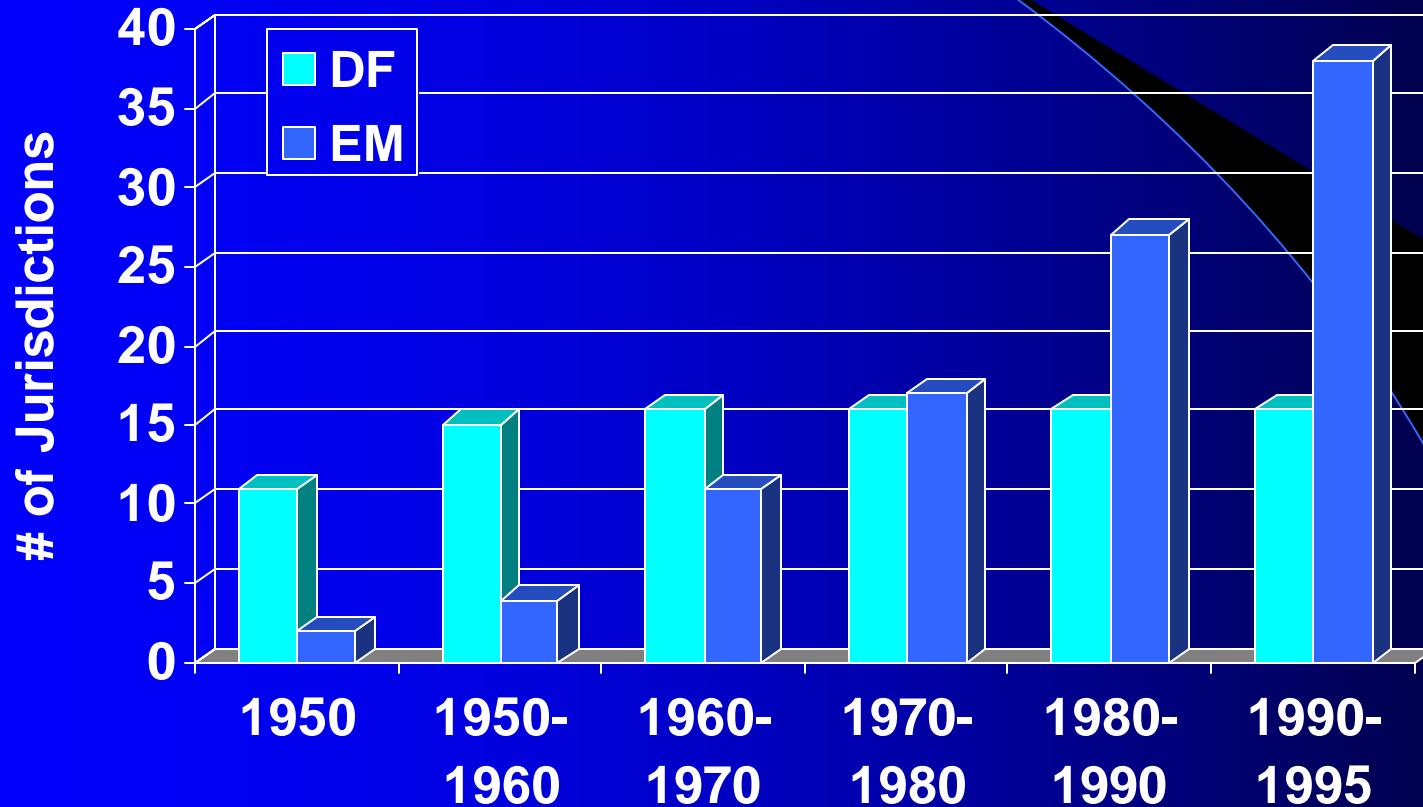
Population Densities

- Average MCMA-wide: ~12,000 km^2
  - Population per apparent urbanized area
- In comparison
  - New York City: 9,100; NY Metro Area: 2,000
  - Los Angeles (city): 2,900; LA Metro: 2,000
  - Boston (city): 4,400; Boston Metro: 1,162
  - San Francisco (city): 6,000; SF Metro: 1,500
- MCMA influencing factors
  - "illegal settlements", varying efforts of government control (especially in the EM)

Population Densities in DF
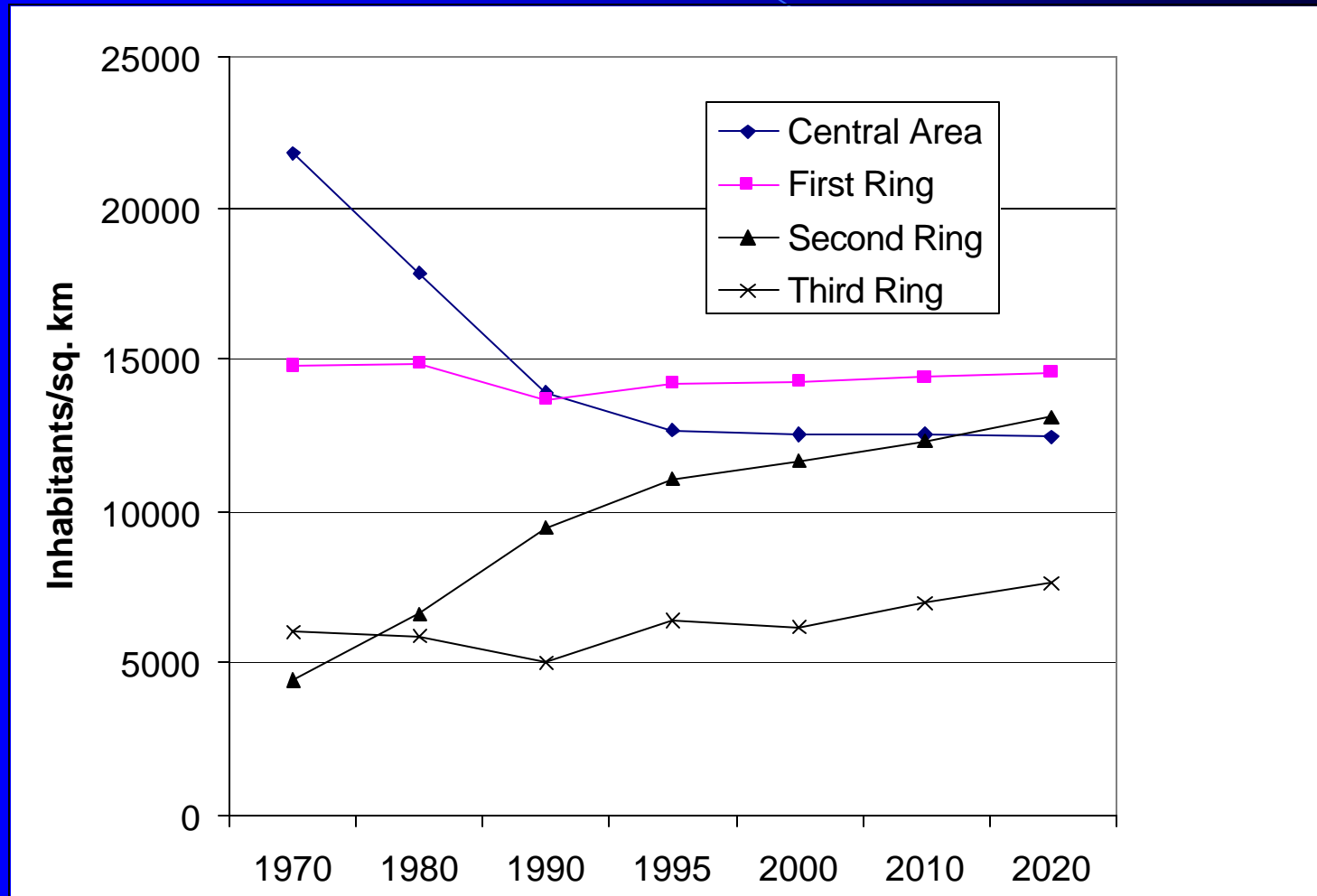
Land Uses

Noteworthy Traits (87-97)

- Alarming loss of "open space" in EM: -72%; DF has double the open space per capita
- Net decline in industrial lands (especially in DF)
- Large growth in "facilities" (public buildings, etc.) in EM
- DF totals 60% of space dedicated to economic activities

Influencing Factors

- Industrial sites in DF limited by regulations; promoted through subsidies for location in "technology parks" in EM
- Social segregation, service quality – "Tiebout sorting"

19
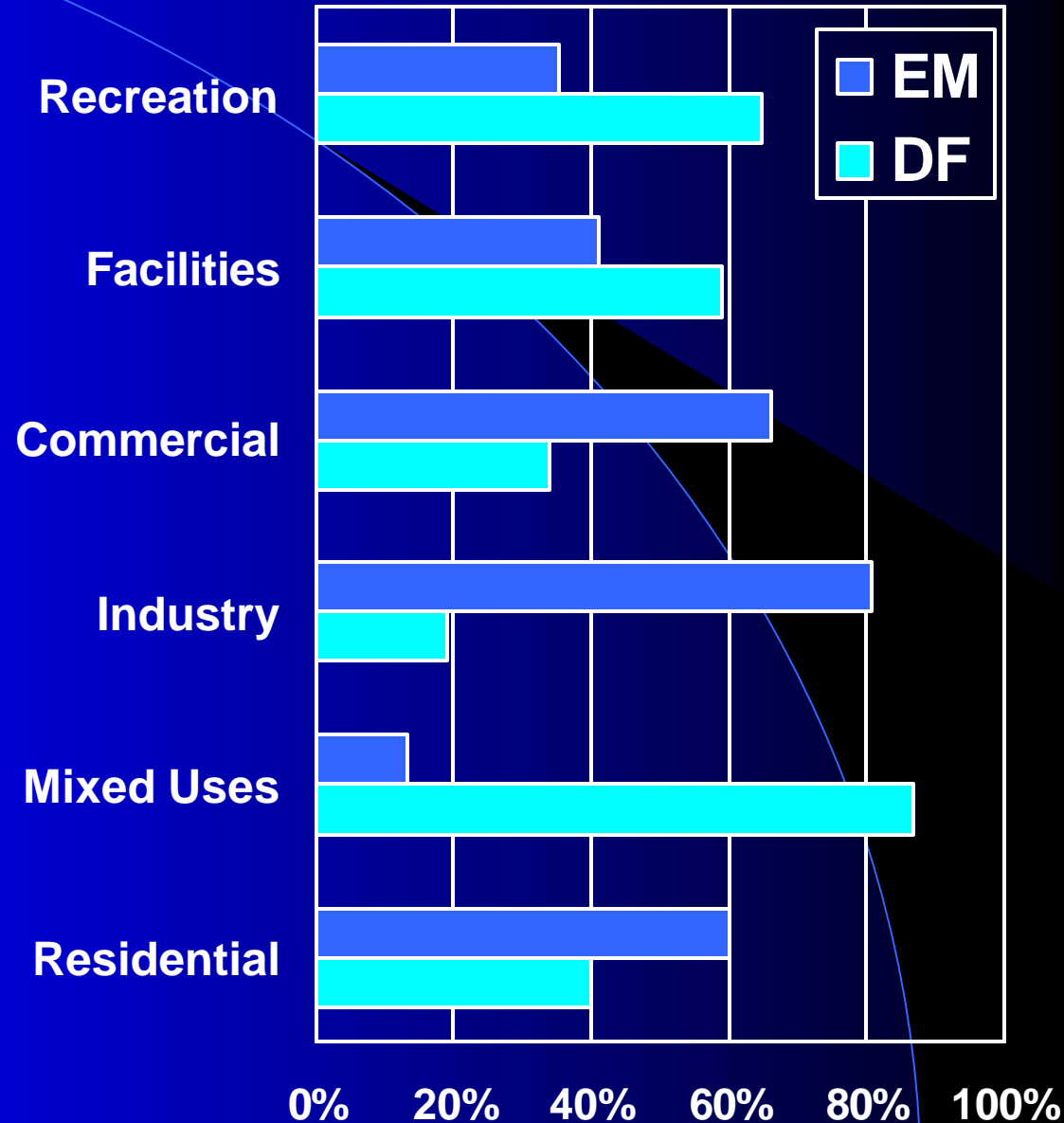
Land Uses (1997)

Observations

- Spatially decentralized commercial areas
- Wealthier areas have access to significant open spaces & modern commercial services, isolated from industry
- "Commerce/Service" corridors (Paseo de la Reforma y Av. Insurgentes) that both end in large shopping centers – oriented towards wealthier West/Southwest
- Industry on important corridors
- In the (poorer) North and East, less general services, more industry and *mercados populares* (like La Merced)