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Bogotá's TransMilenio: going back to the future ?

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- I. Evolutions of the urban structuration generated by the mobility systems during the 20th century

- II. Impacts on the urban structure
 - Transport system
 - Land uses system

- III. Conclusions



I) Evolutions of the urban structuration generated by the systems of mobility during the 20th century

< 1900: **densification** of a Bogota colonial and concentric (+Chapinero); walk

1900 – 1930: Tramway; **linear expansion**

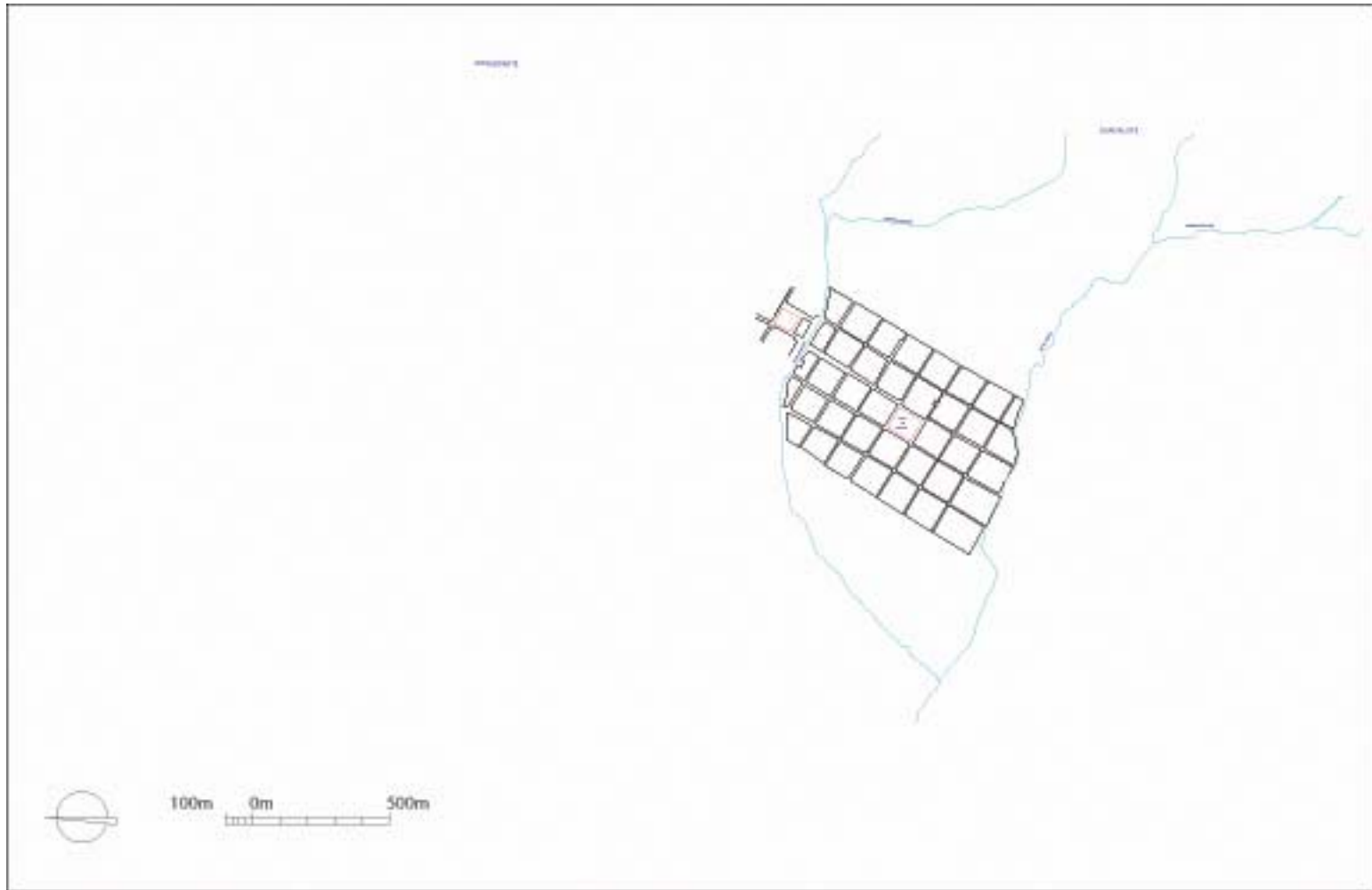
1930 – 1970: bus and car; huge demographic growth; **expansion, atomisation and polarisation**

1970 – 1999: congestion; **condensation**

2001: TransMilenio;



1539



Fuente: consultoría Plan Centro, IDOM-CORPORACION UNIVERSIDADES DEL CENTRO-DAPD

1784



Fuente: consultoría Plan Centro, IDOM-CORPORACION UNIVERSIDADES DEL CENTRO-DAPD

1791



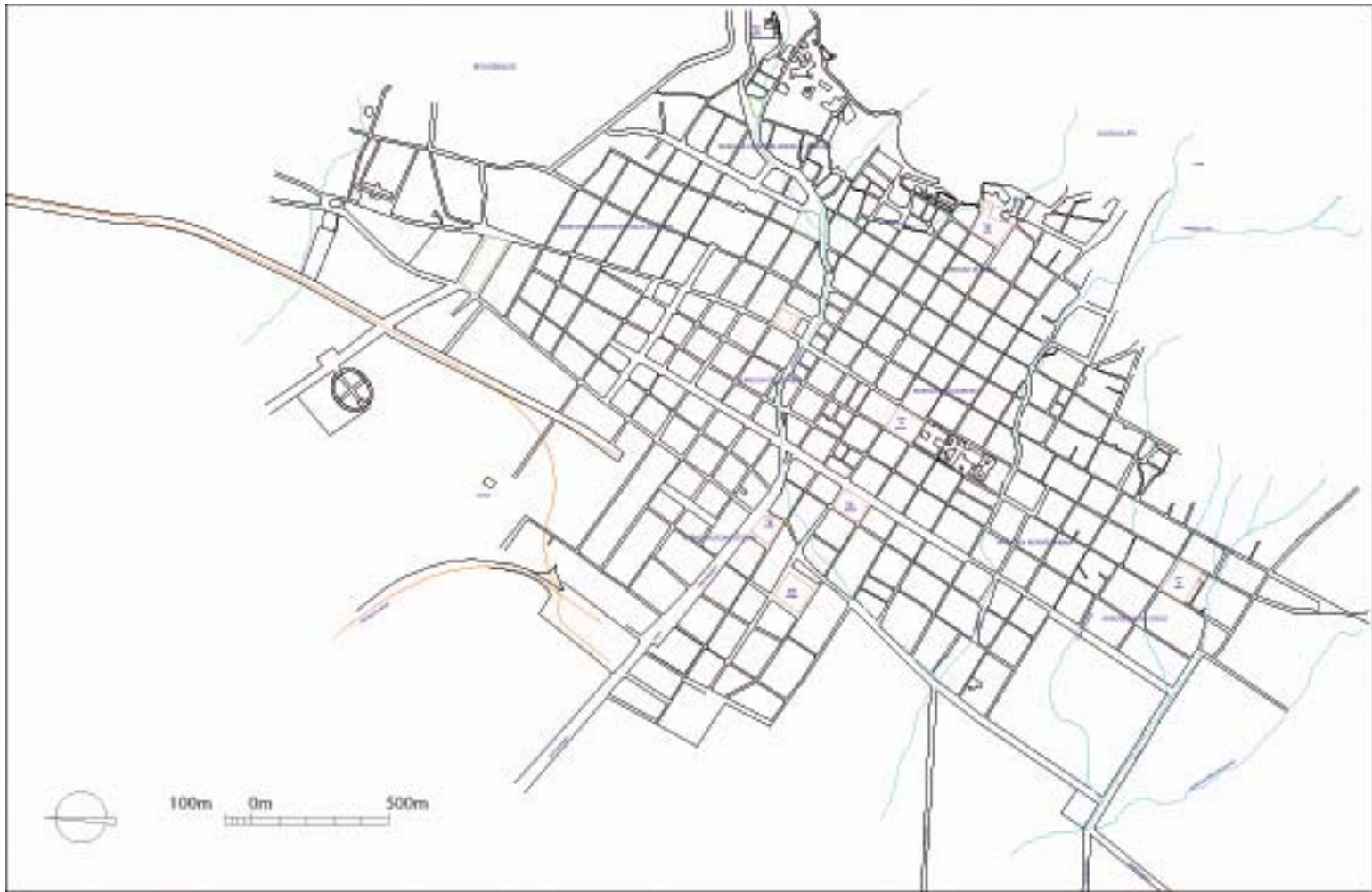
Fuente: consultoría Plan Centro, IDOM-CORPORACION UNIVERSIDADES DEL CENTRO-DAPD

1852



Fuente: consultoría Plan Centro, IDOM-CORPORACION UNIVERSIDADES DEL CENTRO-DAPD

1894

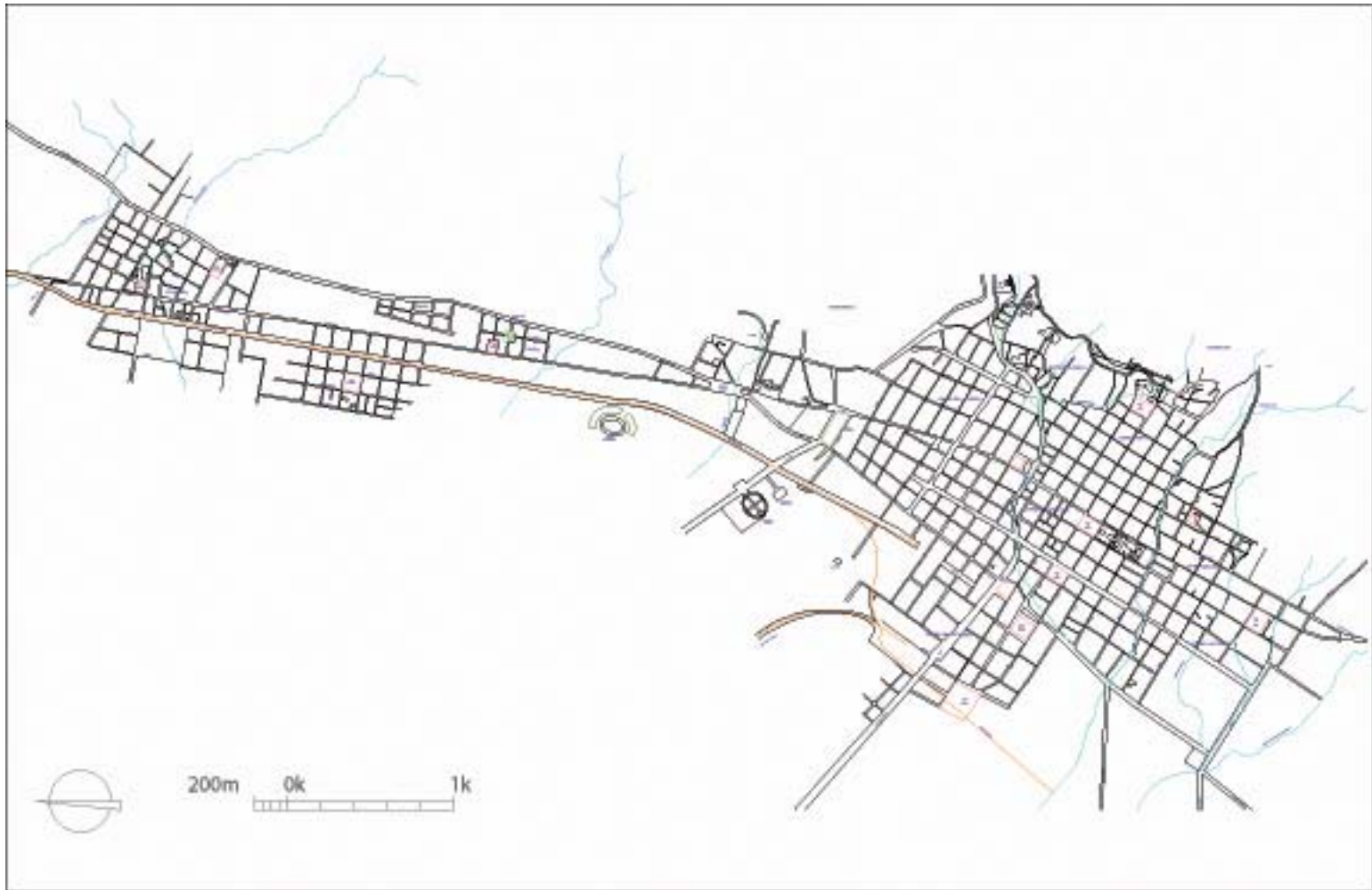


1900



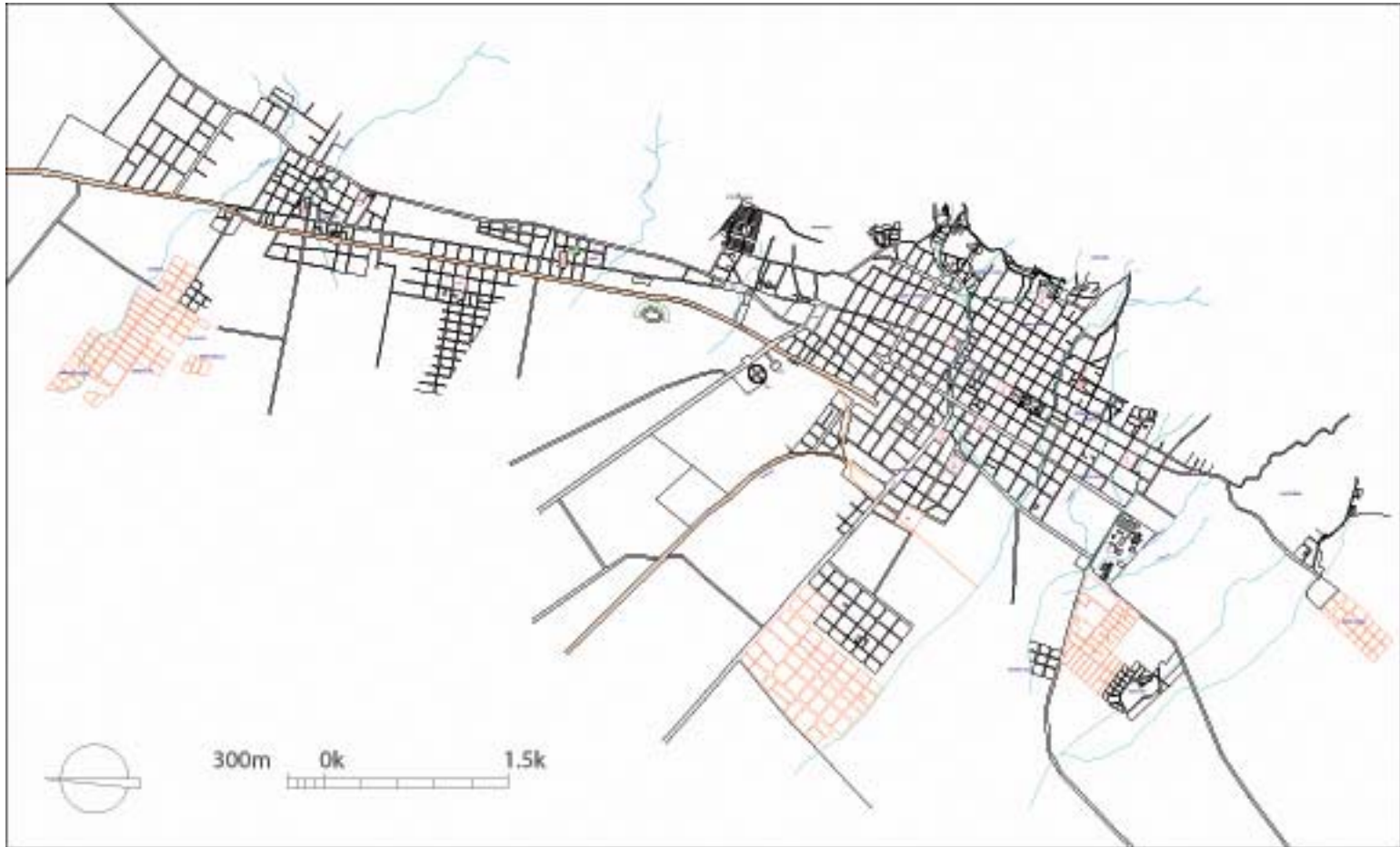
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1911



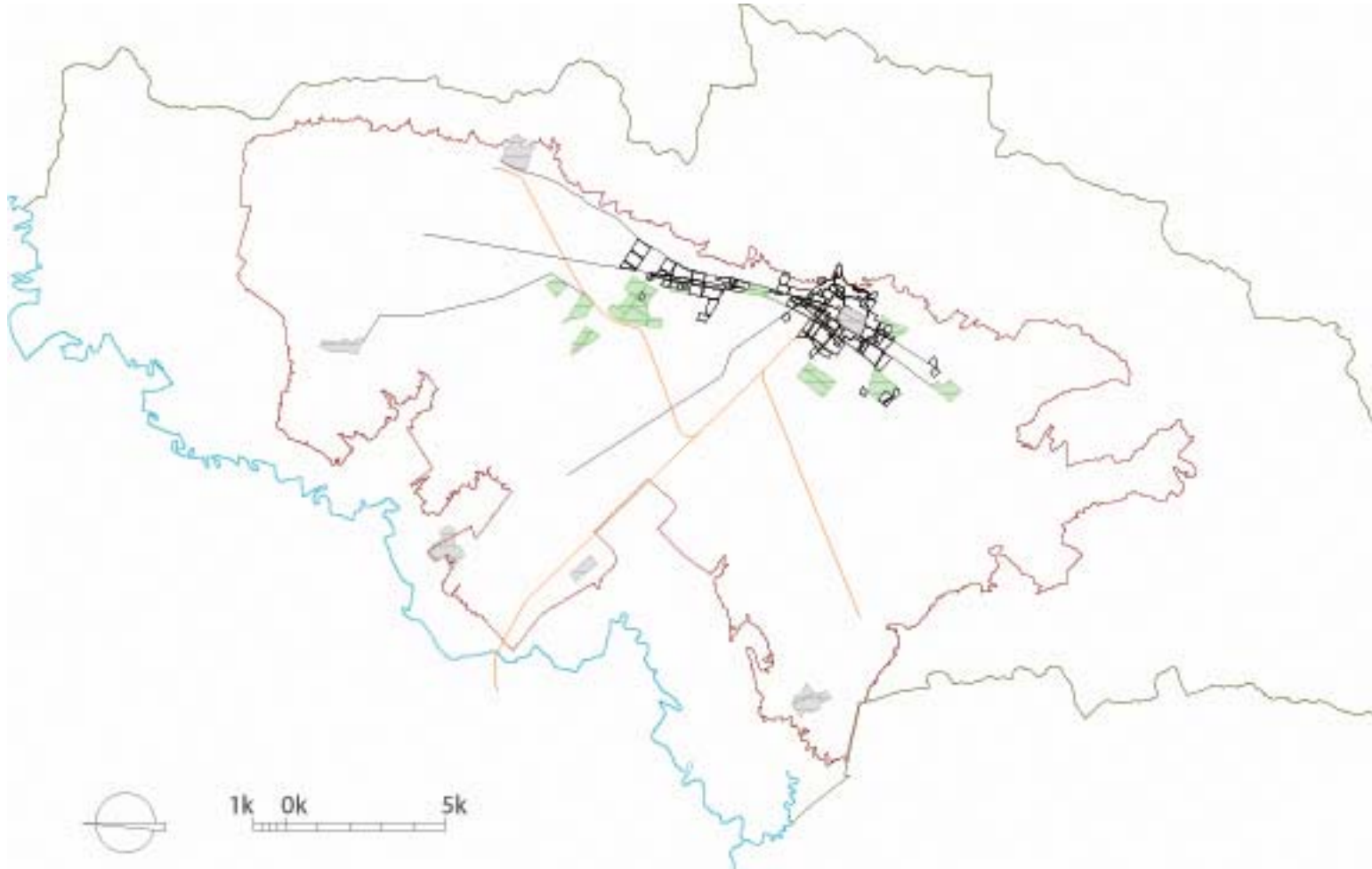
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1923



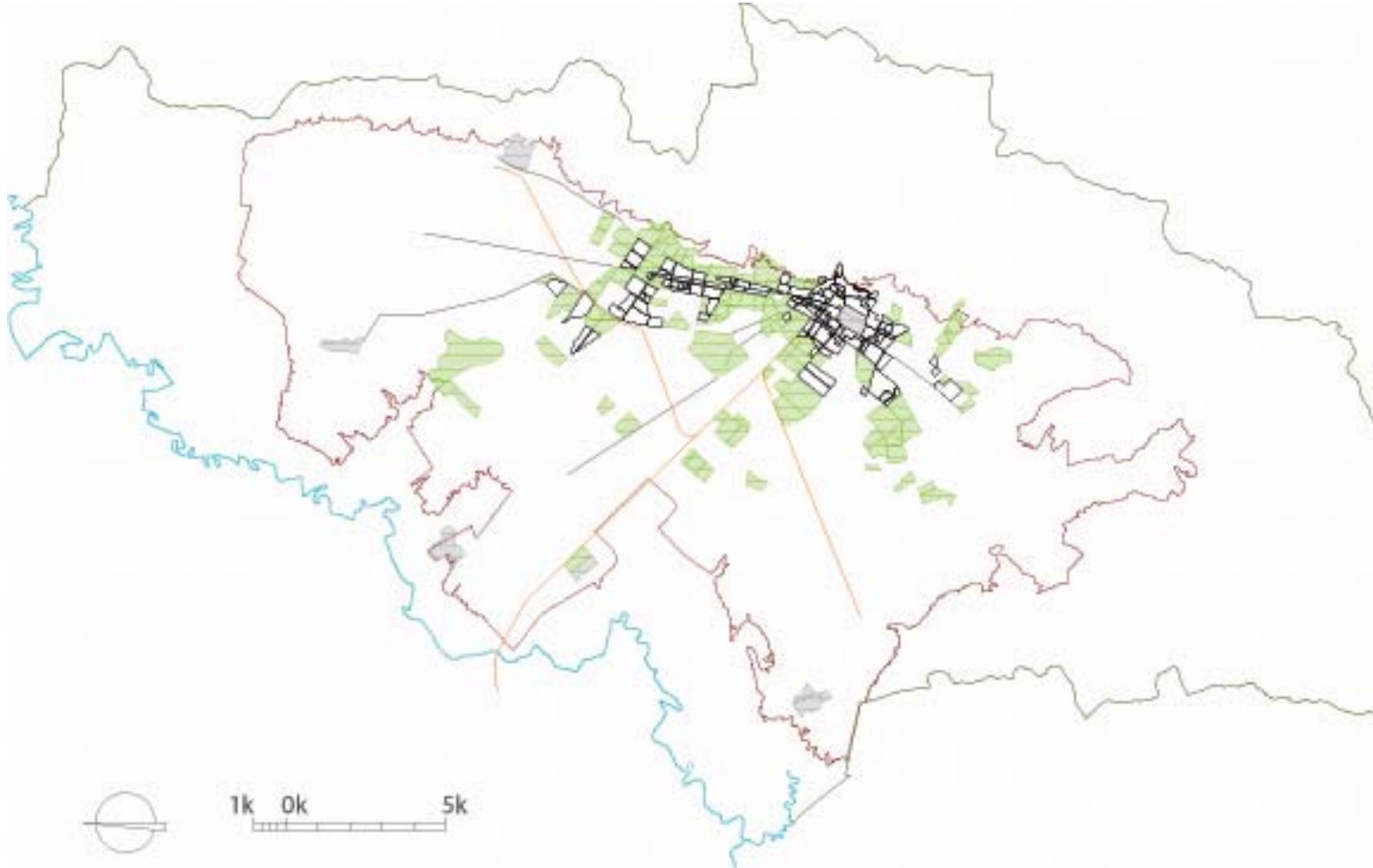
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1930



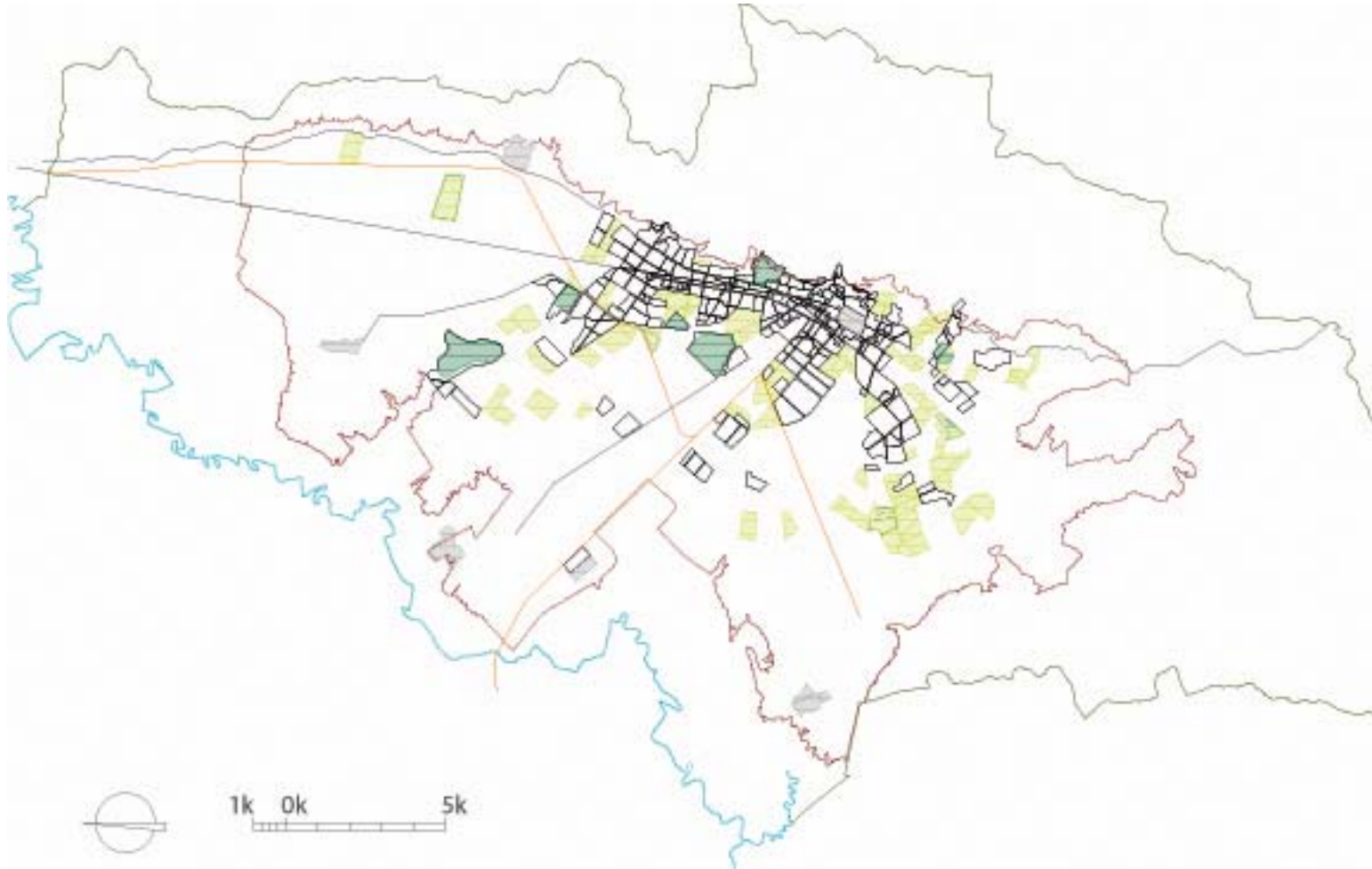
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1940



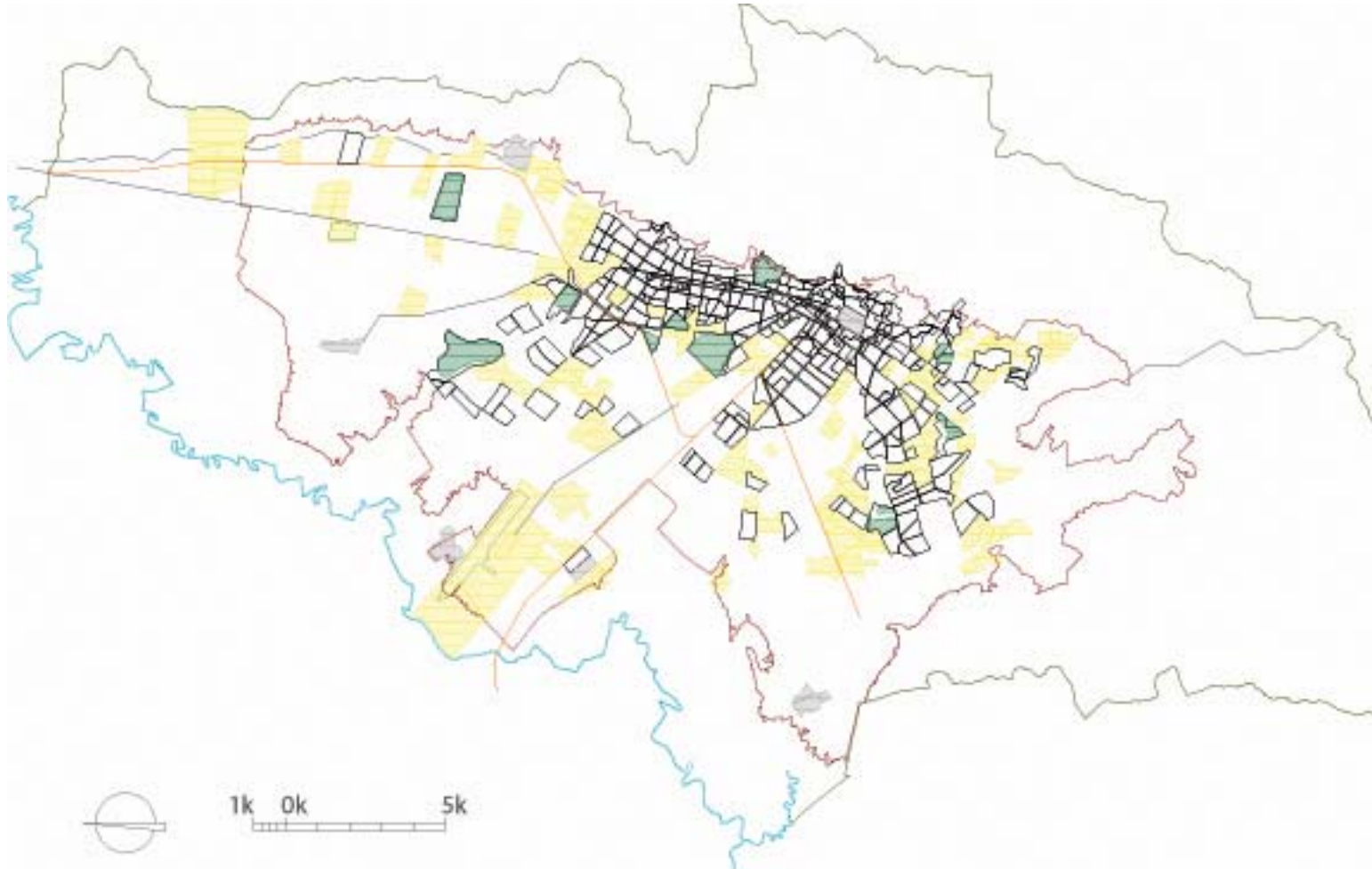
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1950



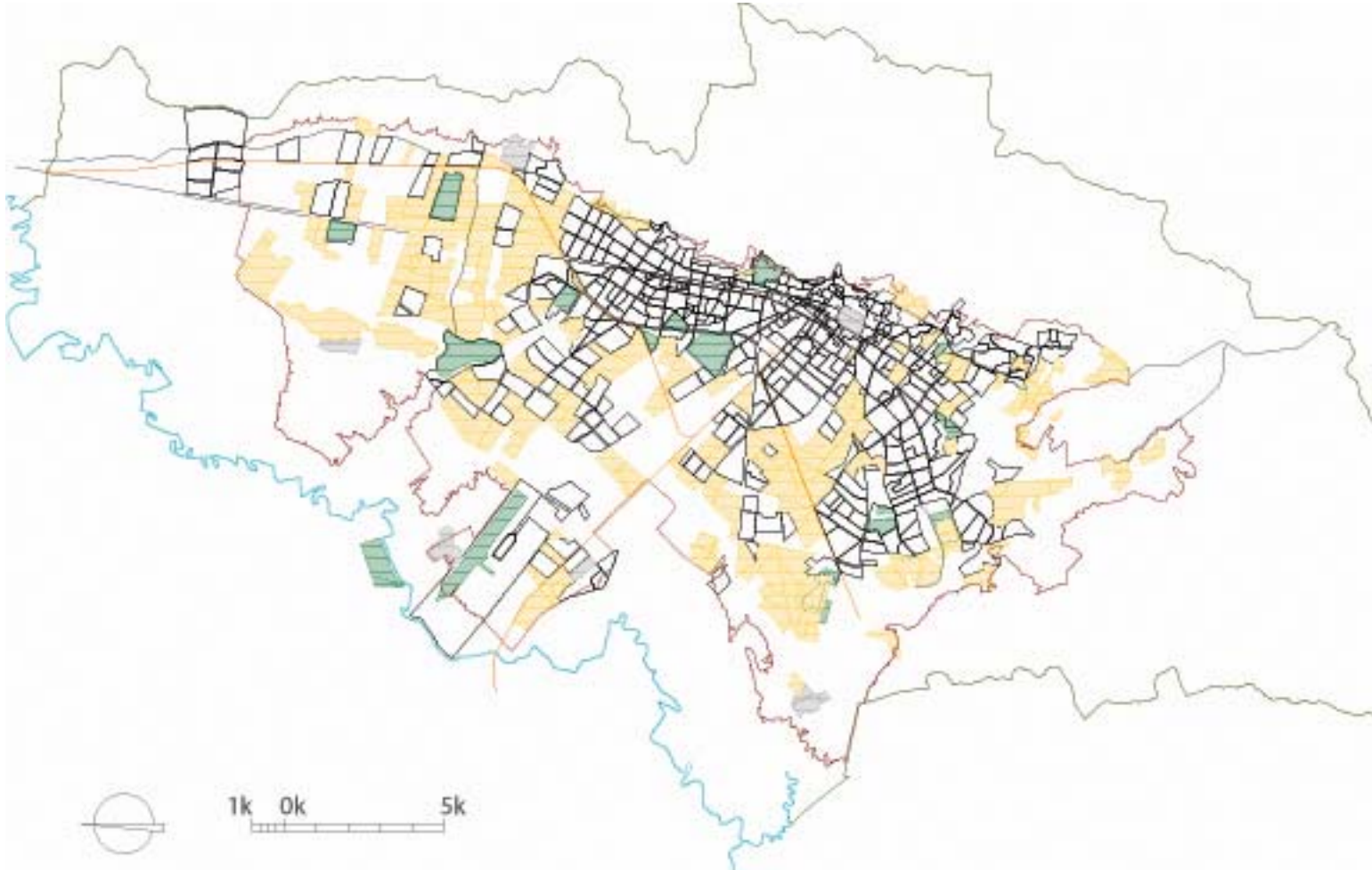
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1960



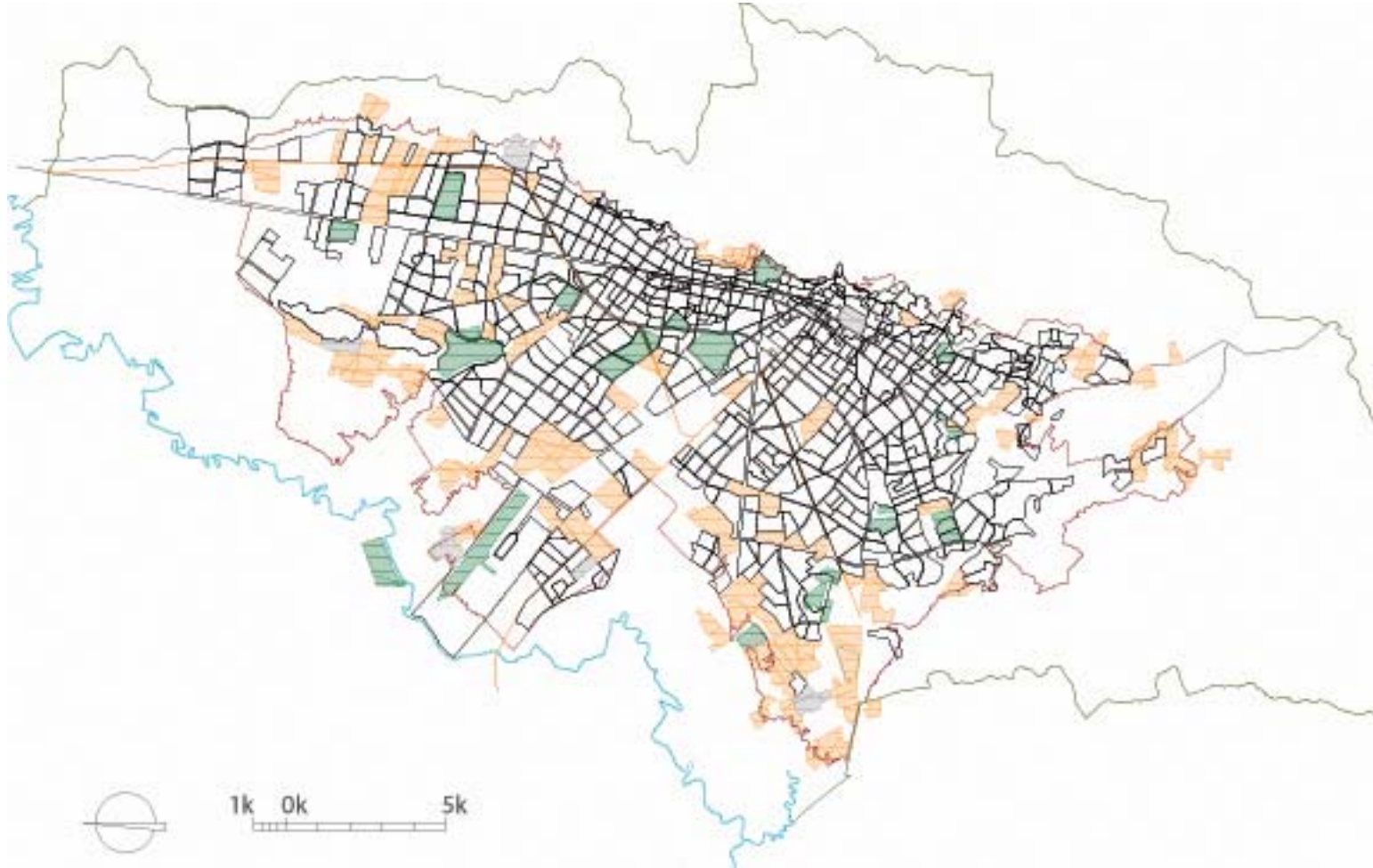
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1970



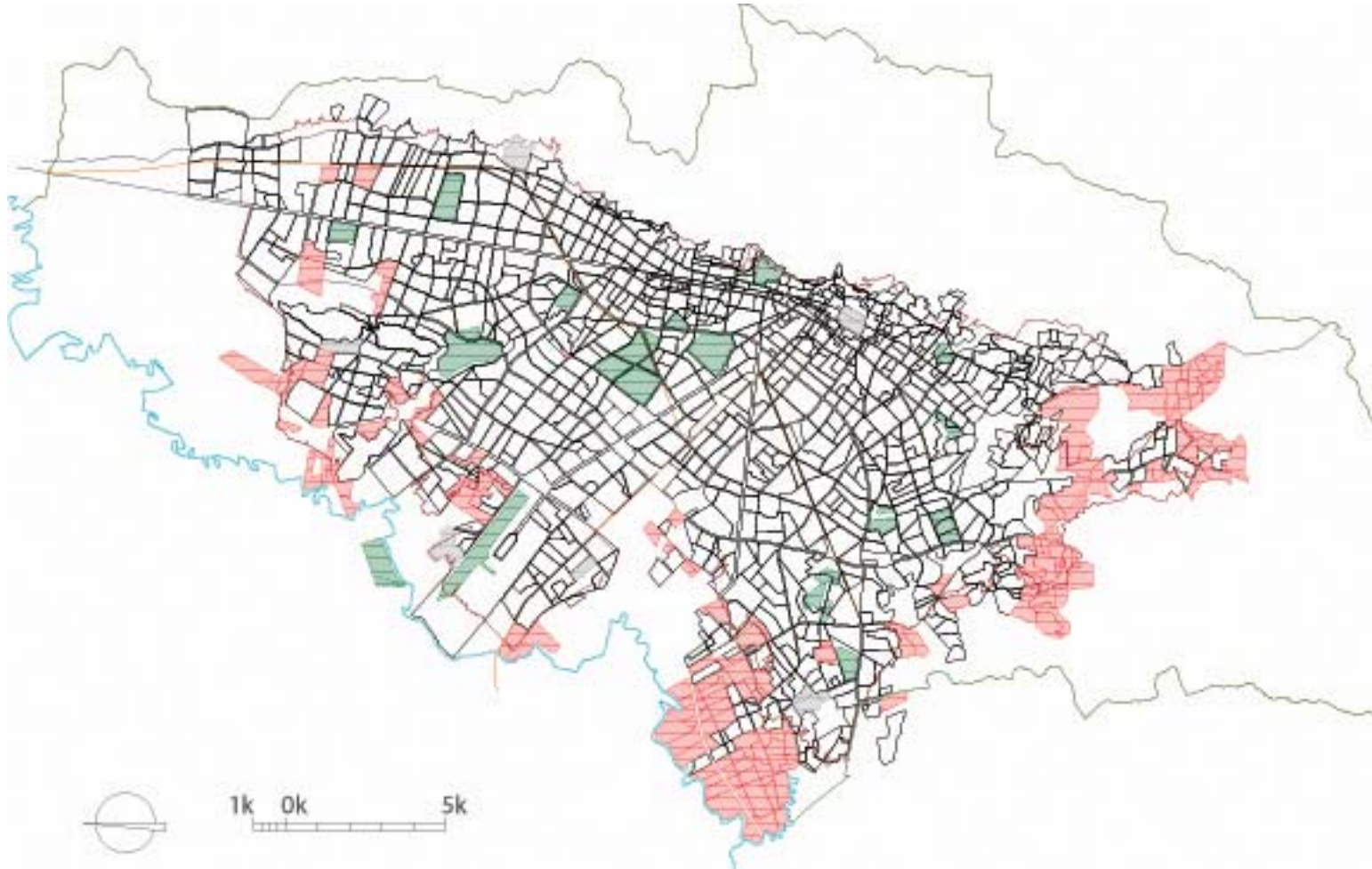
Fuente: consultoría Plan Centro, IDOM-CORPORACION UNIVERSIDADES DEL CENTRO-DAPD

1980



Fuente: consultoría Plan Centro, IDOM-CORPORACION UNIVERSIDADES DEL CENTRO-DAPD

2000



Fuente: consultoría Plan Centro, IDOM-CORPORACION UNIVERSIDADES DEL CENTRO-DAPD

- ❖ Strong demographic growth
- ❖ Beside the gradual and continuous expansion of the city through the orthogonal road network:

urbanization in physical discontinuity

- ❖ **Strategic alliance** between the urban developers and the companies of bus
- ❖ **Tramway**: unable to expand its network → lost of capacity to direct the space expansions
- ❖ **Bus**: organization and management flexibility + network adaptable to the accelerated urbanization → Bus became an essential element in the process of urban expansion
- ❖ Increasing urban space → need of mobility

→ urban expansion



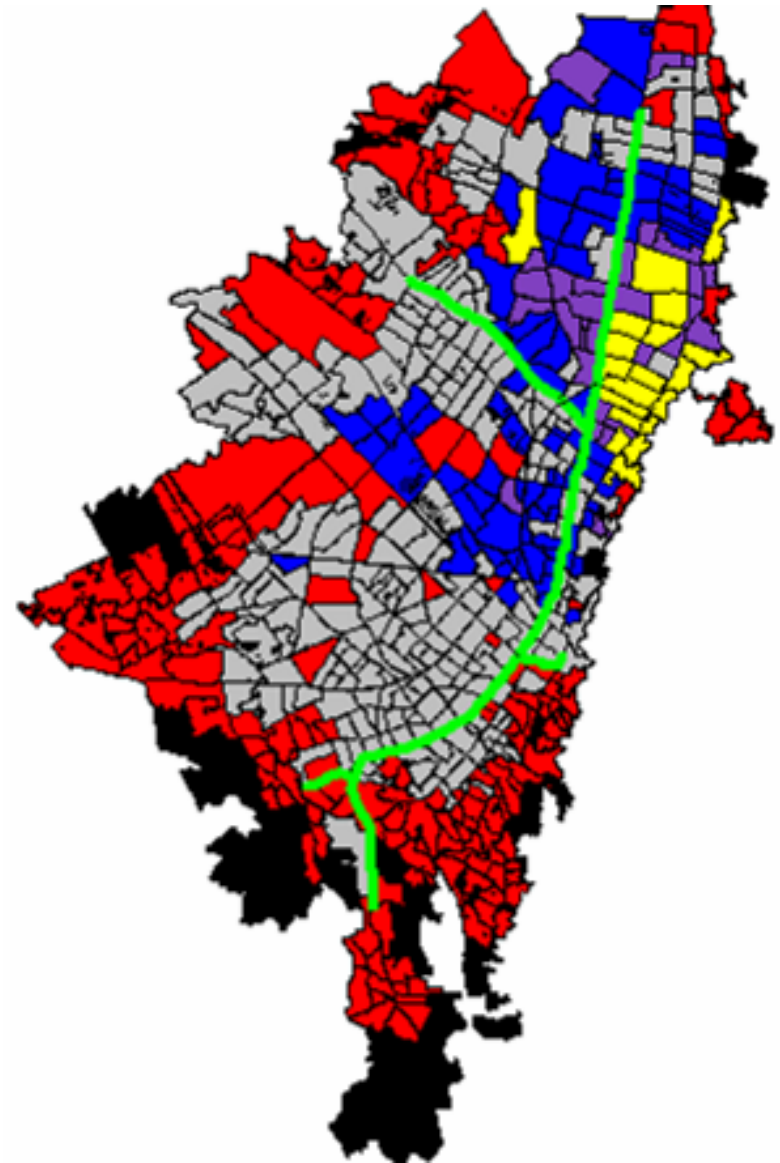
New dynamics of expansion and space structuring:

-double dichotomy:

- central city / new periphery of expansion;
- “residential districts” / “working districts”

-Gradually, **bipolarity north/South.**

Macro-segregation accentuated by the linear shape of the city.



Dual model

- system for the rich population based on the private car
- system of public transport (bus) badly organized.

The situation worsened by 4 factors

- atomization of the park, supply excess, heterogeneity and stratification of the service, concentration of the routes
 - 1985-1993: bus park 6%/year / pop 3,3%
 - 1970-1996: number of buses X 5 / number of place X 3
- vehicle ownership increased
- unequalled spatial distribution
 - On the 19 municipalities, 4 concentrate 52% of the vehicles
- tax difficulties prevented a growth proportional of the road network /deferred the construction of massive transport systems

→ acute problems of congestion.



5 factors explain deep changes in the pattern of urbanization:

- strong congestion
- persistence of a high demographic growth: 1973-1985 = 3,35% / year, 1985-1993 = 3,31%
- construction of ring-road which supported new urbanizations.
- liberalization of the procedures of planning and control.
- important reform of the financial branch of the real estate sector
1973, the capitalist promoters 15% of the legal residences; in 1985, 73%

Deep changes in the pattern of urbanization:

- Transformation of the rich and middle classes logic of localisation :
continuous peripherisation → tendency to return
- Capitalist promoters launched gated communities (houses and apartments)
→ microsegregation
- The size of these operations allowed a social rewriting of the urban territory
- The diagram of macro-segregation began to crack
- A global result was densification.



2001 = TransMilenio

By that time, the capital city

- had broken the trends of fast expansion, atomization and de-densification of the period between 1930 and 1970.
- had become more compact and had known a process of internal recombining and re-densification since 1980

The macro-segregation North/South became more complex.



III): impact on the urban structure

a) Transport System

- Problems for Bogota's future:
 - Saturation, «TransmiLLENO»
 - Chatarization: 2,7 bus trad / bus TM
 - BUT → new routes and peripheral routes
 - D induced: +41.000 trips/day in public Tt
 - →W: poors +15000, middle +13000
 - Increase of average distance
 - Zahavi law
 - Relocalisation of traditionnal bus routes
 - Increase the distance to take TM: distance time



III): impact on the urban structure

a) Transport System



III): impact on the urban structure

a) Transport System

- «TransmiLLENO»



III): impact on the urban structure

a) Transport System



III): impact on the urban structure

a) Land Uses System

- Bogota : urban development closely related to the means of transports successively dominating. Since 1930'S road = structuring element
 - BRT corridors construction didn't need to break the urban tissue
 - TransMilenio catalyse the urban development towards certain zones :
 - Consolidation of the axial centralities in the already consolidated zones
 - Huge urbanization in the peripheral zones not consolidated.
 - Increasing the mobility, TM allows
 - a diffusion of the primal centrality
 - an expansion of the urban area, generating a return to 1930-70 trends of macro-segregation
- TransMilenio does not revolutionize the urban tissue but reverses the urban structuration trends observed since the end of 1980's.



III): impact on the urban structure a) Land Uses System

New urban structuration trends:

2000- : 2 parallel process, same origin :
mobility improved:

1) Today dominant, on the central city =

Integration of the different zones

→ diffusion of the primal axial centrality

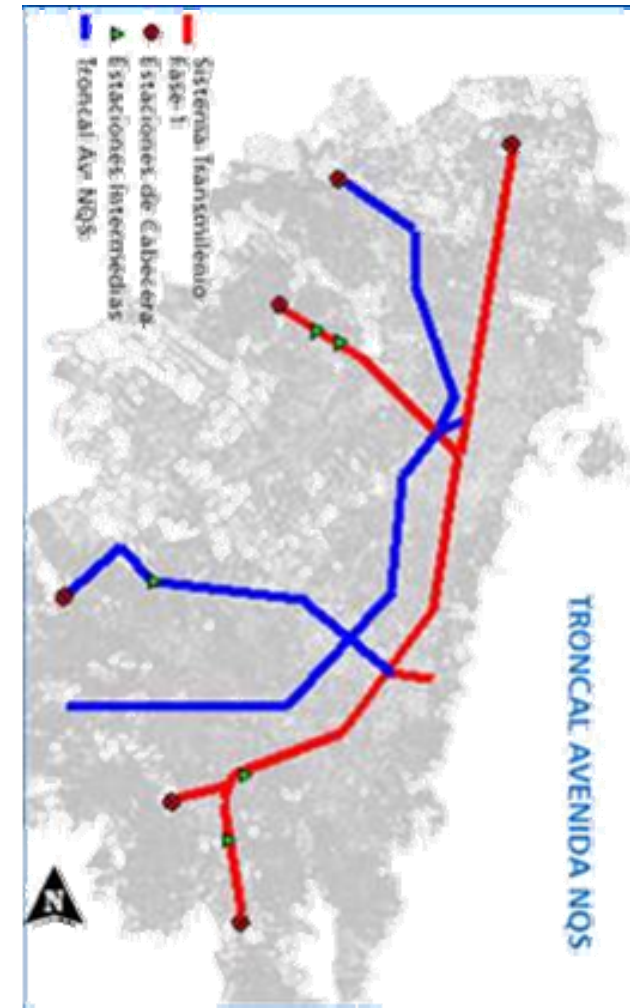
→ consolidation of the axial centralities along

BRT corridors and densification in the

Influence area of TM.

2) On the whole agglomeration:

Extension of the functional urban area due to
the integration of the outlying municipalities.



→ The functional area of Bogotá increases and is based on a axial poly-centralities urban structure.



1) 50 years of « non-sustainable » planification = base of a sustainable city project :
«all car» → TransMilenio

2) Actual trends = dangerous. Risk to repeat the period 1930-1980

3) 4 faces of the same coin:

Consolidation – expansion

Mobility – accessibility

Need of an urban planification taking into account the mobility dynamics in order to manage Land Uses – Transport interactions

→ **discussion :**

- The urban political objective: should it be to decrease the mobility and increase the accessibility? Is it possible / How to dissociate mobility and accessibility ?





Gracias!

