

# Public Transport Accessibility in Informal Settlements

## Aeral Cable Cars in Medellín, Colombia

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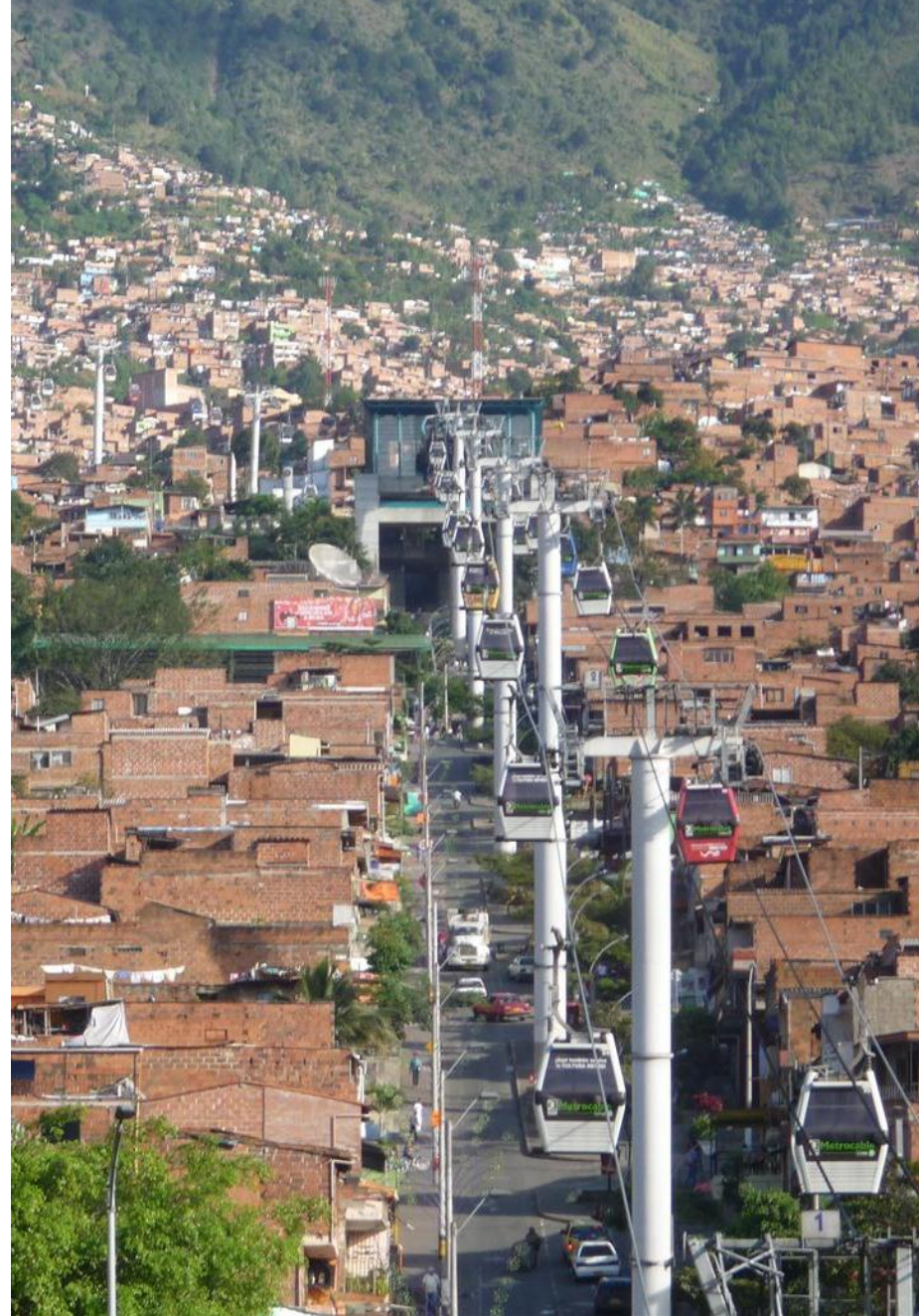


## Context

- Transport interventions in centrally located consolidated informal settlements

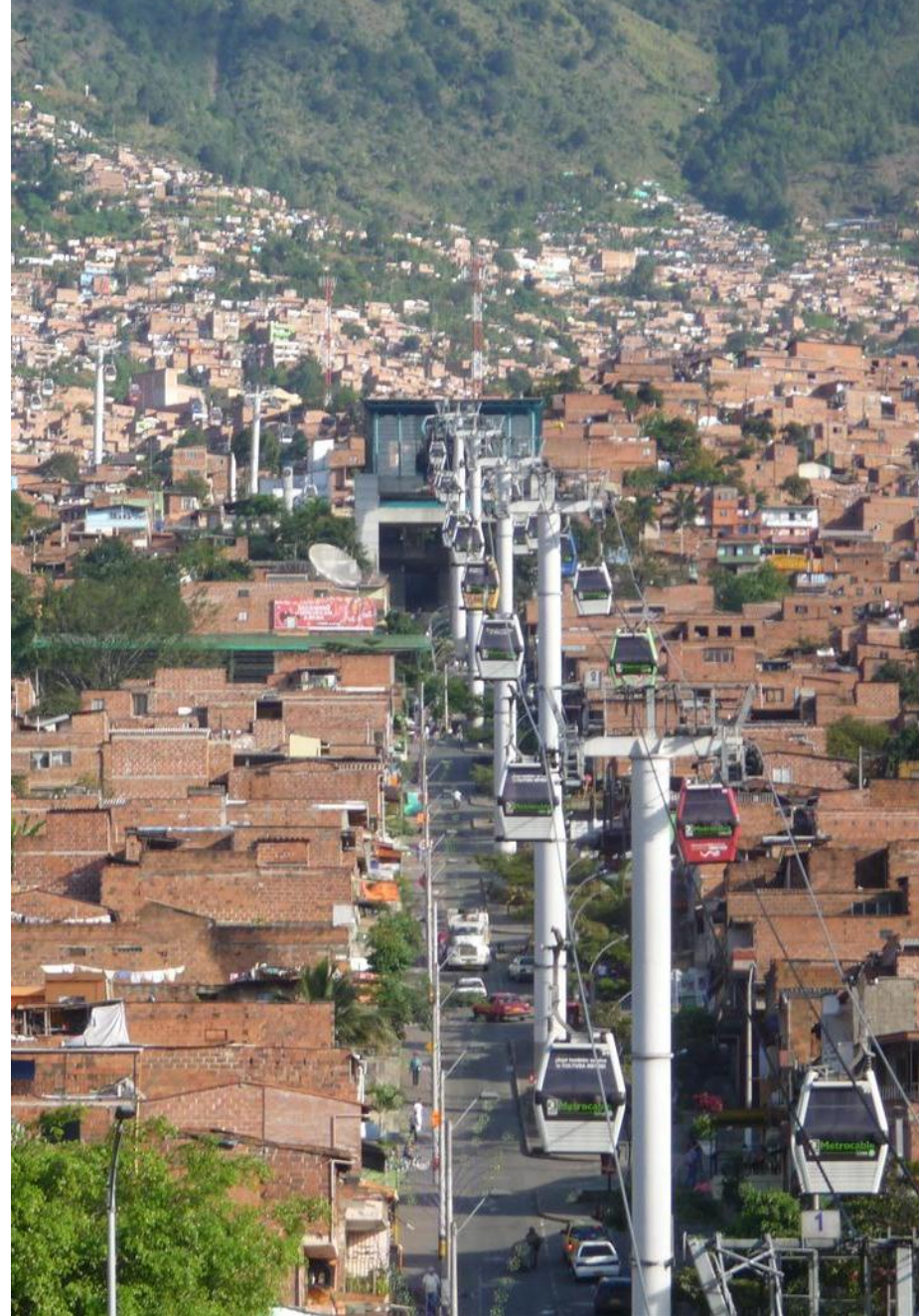
## Question

- How does the Metrocable affect accessibility in the Municipalities Santa Cruz and Popular in Medellín?

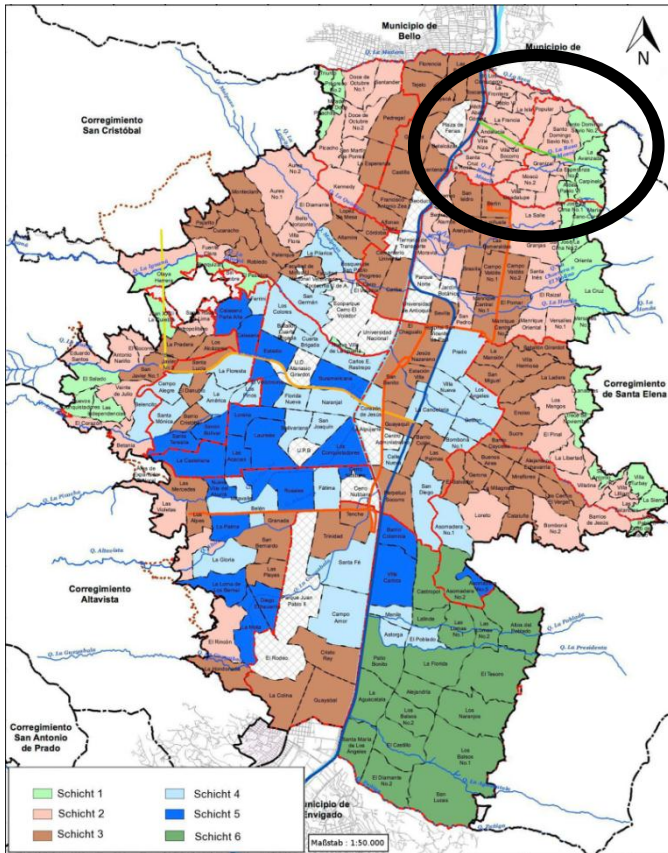


# Structure of presentation

- Study area
- Methodology
- Results
- Discussion



# Santa Cruz and Popular: Location and population



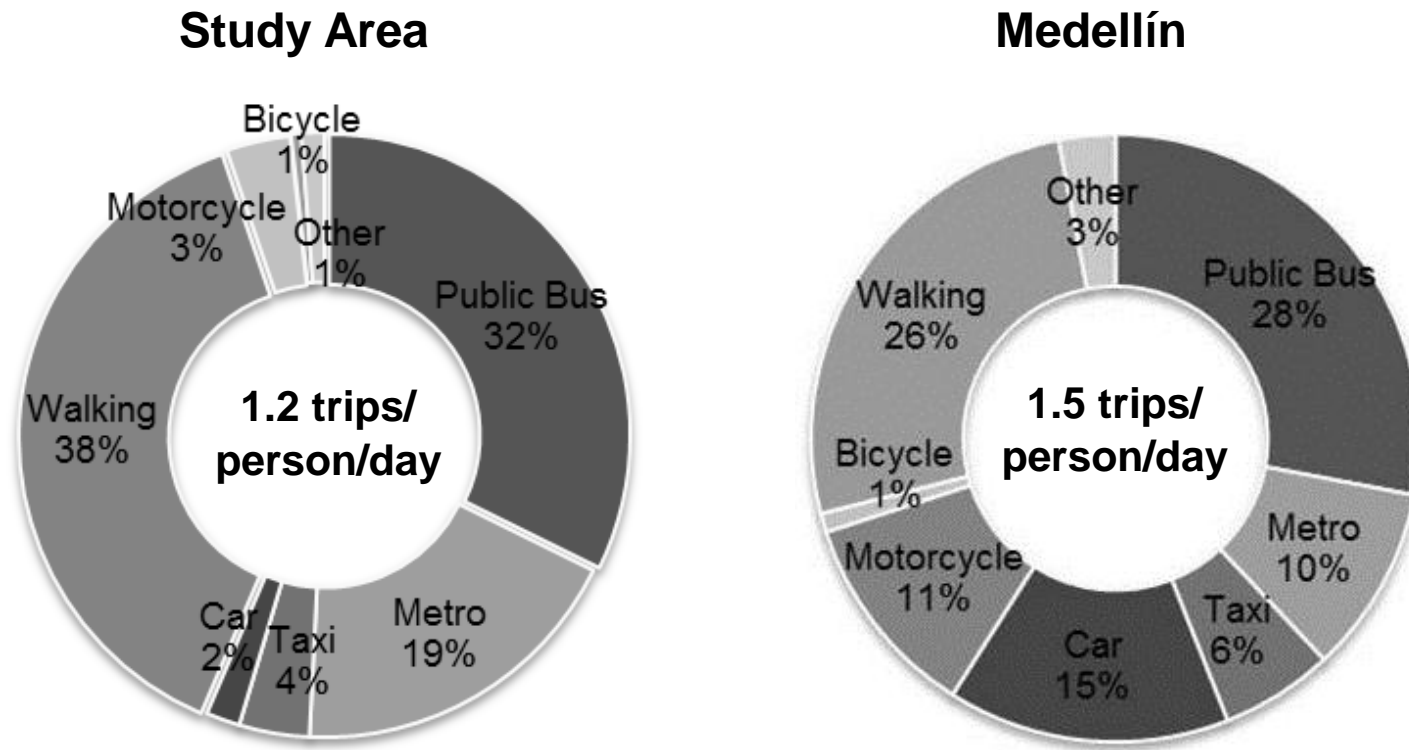
- Populated since 1960s
- High population density
- Low-income households (strata 1 and 2)



Socio-economic composition of Medellín,  
Source: Alcaldia de Medellín 2013



# Mobility of residents in the study area differs from the city average



Source: The authors, based on AMVA 2006



# Transport Options in the Municipalities



- Public Bus (*Transporte Publico Colectivo TPC*)
- Taxi
- Walking infrastructure
- Metrocable



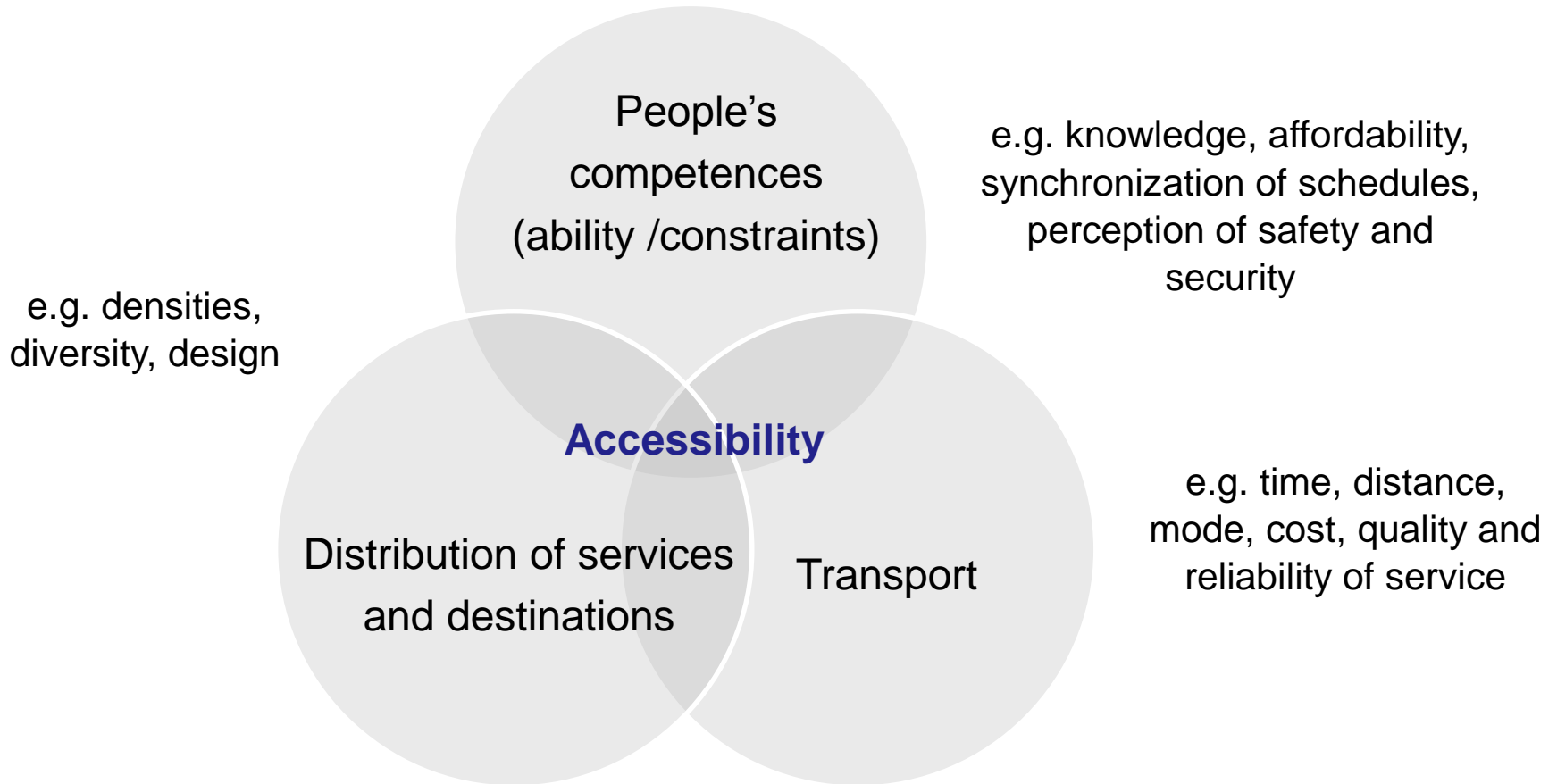
## The MetroCable Line K



- Start of Operation: 2004
- Length: 2,1km, 4 Stations
- Capacity/h: 3.000 persons
- Operator/owner: Metro de Medellín
- Objectives: increase utilization of Metro
- Cost: 1,800 COP (around €0,75), combined tariff with Metro/ Metroplus (prepaid card (*tarjeta cívica*) reduces the single fare by about 200 COP)
- Cost TPC: 1,700 COP (around €0,68) or 2,150 COP (around €0.90) when combined with the metro



# Different concepts define accessibility (the ease of reaching services and destinations)



Cervero and Kockelman 1997, Hägerstrand 1970, Hansen 1959, Kaufmann et al. 2004, Litman 2012



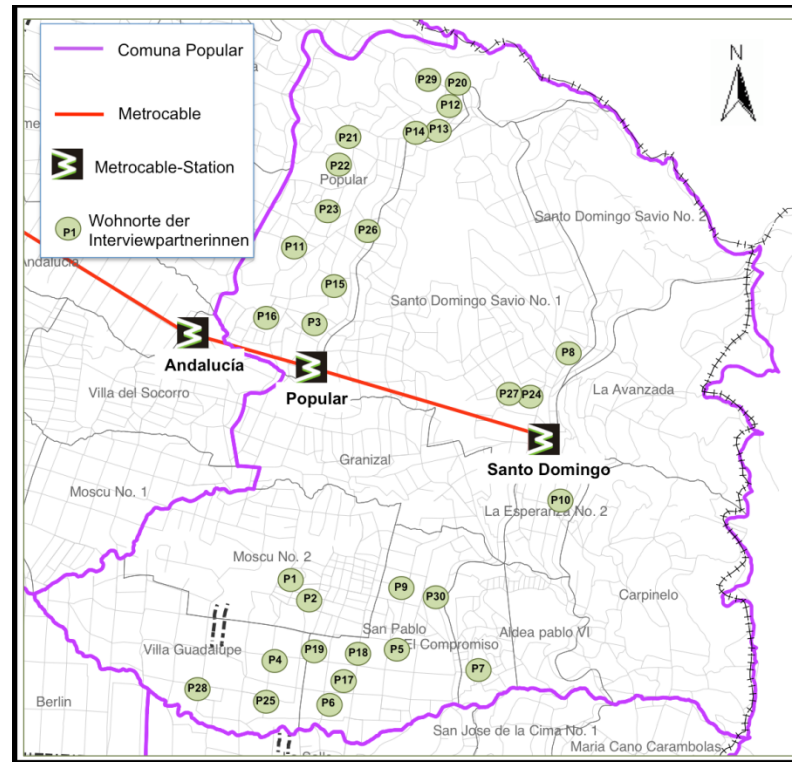


# Comprehensive perspective on accessibility, quantitative and qualitative approach

**Secondary Data Analysis**  
Origin-Destination Surveys  
tariffs, timetables

**Semistructured Interviews**  
Female residents, (N=30)

**Expert Interviews**  
Local Government,  
Transport providers, Civil  
Society / Academia (N=8)



Source: Bernet 2013

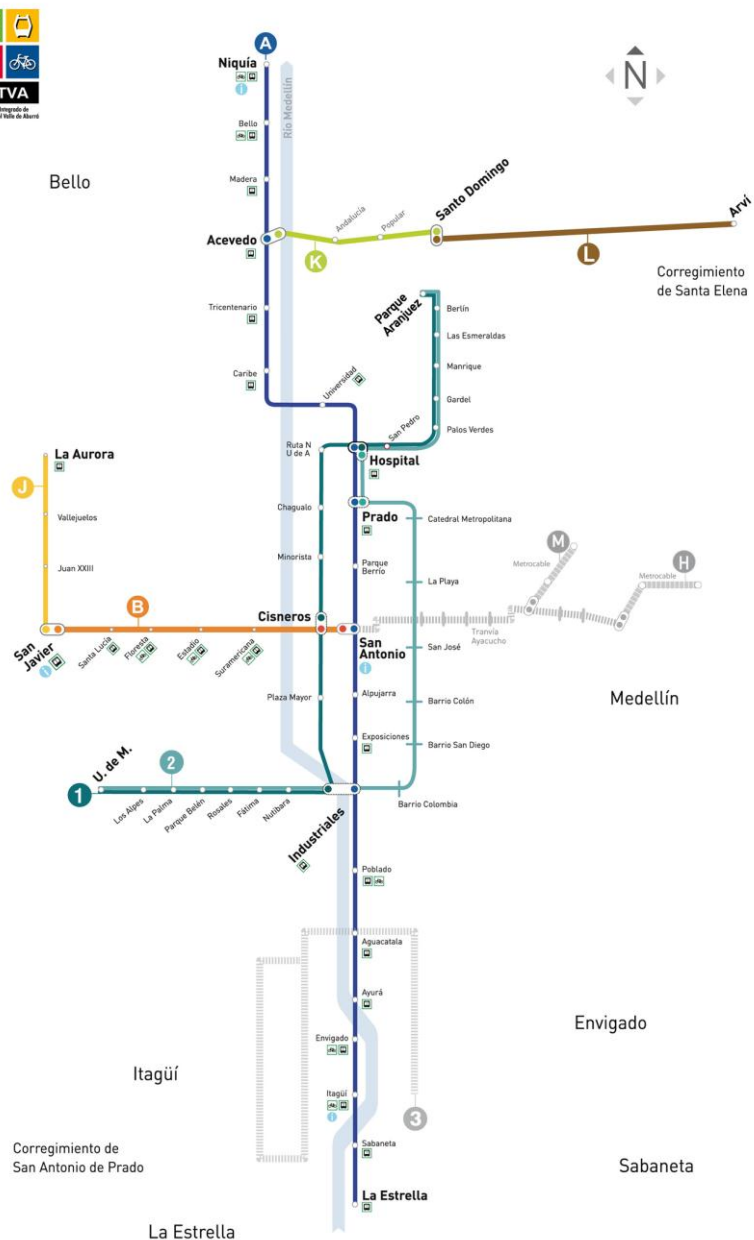
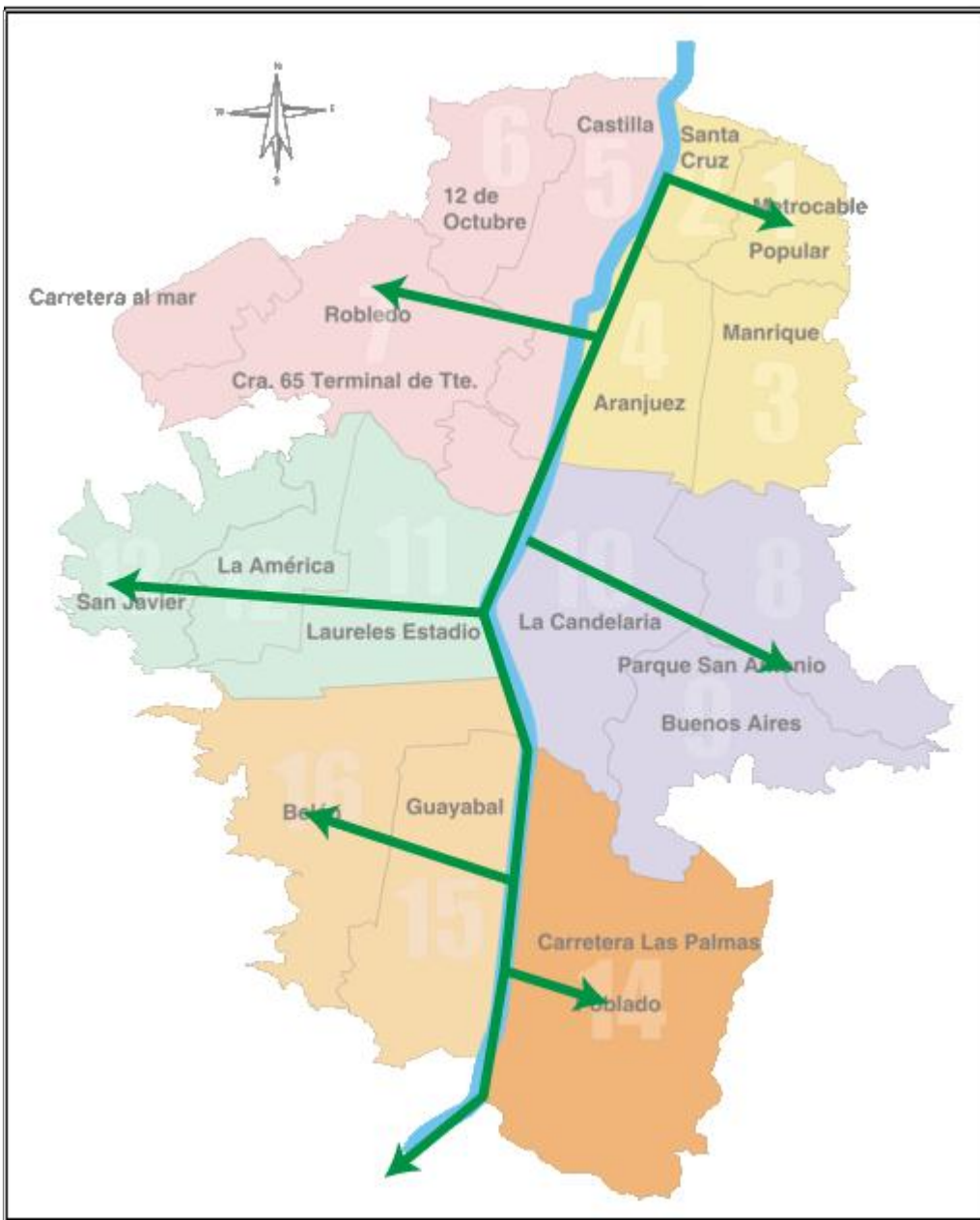


## Results: Cost / affordability

“Well, the financial situation of the women here is very very difficult, isn't it? You don't always have the money to pay the trip, right? (...) because the bus costs 1500 COP, you know? That doesn't sound like a lot, but if we don't have these 1500 COP, you know? Then we have to walk. You see, the mobility of the women is very very difficult. Because there are a lot of buses, but if you cant buy the ride? So there are many people who walk to the center.” (interview partner, 2012)

“There are women who haven't been to the city a whole year! Many families don't see each other (...). Visiting your family in another comuna means not to eat that day, you know? That's why many don't visit each other because of their financial situation.” (interview partner, 2012)





## Results: Safety / Security

safety

security  
(aspect gender)

security  
(aspect violence)



# Results: Safety / Security

Positive impact of the Metrocable on the safety and security in the study area:

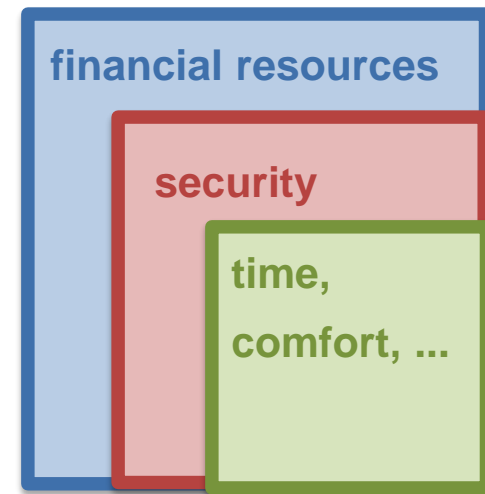
Primary effects

Secondary effects



# Discussion

- clear improvements of accessibility related to the transportation perspective: travel time, reliability, costs when compared to the alternative of bus use
- Improvements in transport supply cannot easily overcome accessibility constraints (in particular affordability)
- role of the rehabilitation of the surrounding public spaces (land use perspective)



# Conclusion

- Comprehensive perspective of accessibility permits a differentiated measurement and evaluation of effects and trade-offs
- Effects appear to vary significantly across different population groups (implications for research: group specific approach)
- Lessons for planning: integrate perspectives, get objectives clear











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