

Broadening appraisal to incorporate consideration of gender impacts



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Organisation for Economic Co-operation and Development
International Transport Forum

RT - Broadening the Scope of Transport Appraisal to
Capture the Full Impact of Investments – ITF-OECD

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co-director

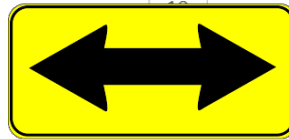
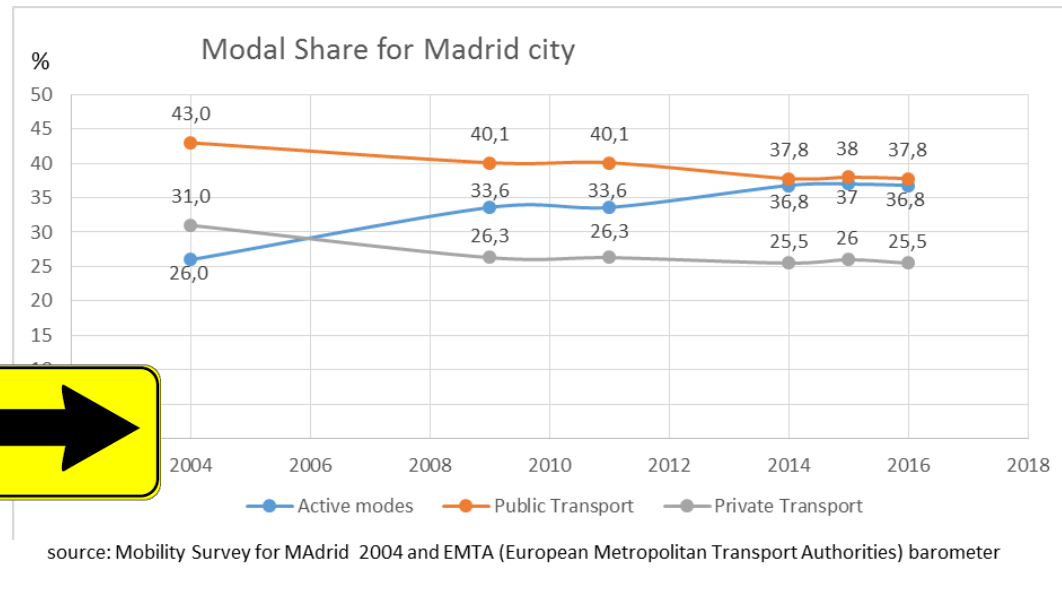
cambiaMO | changing MObility
Research and Innovation for changing MObility

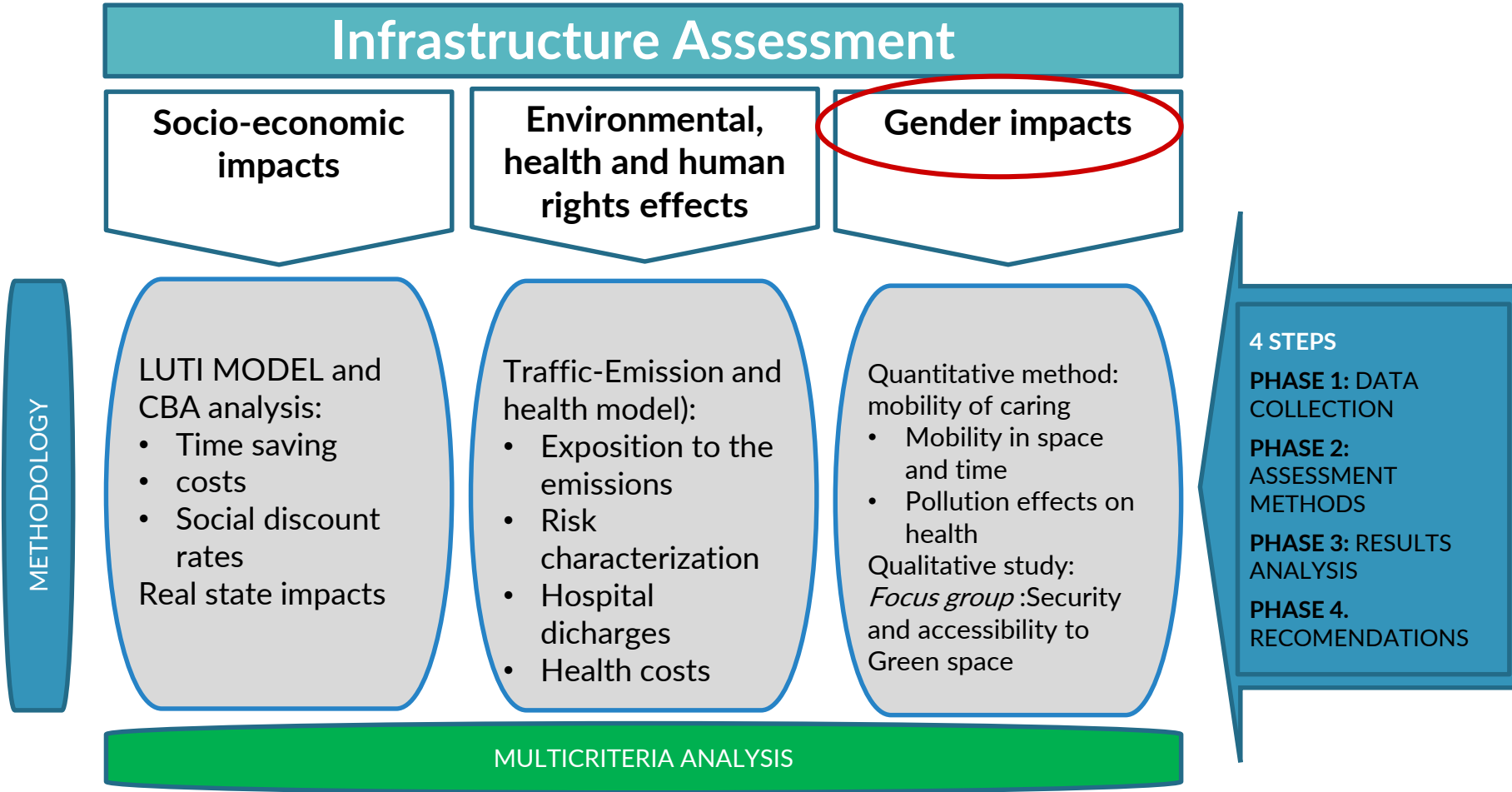
Remodeling of infrastructure: looking for balancing

Infrastructures share

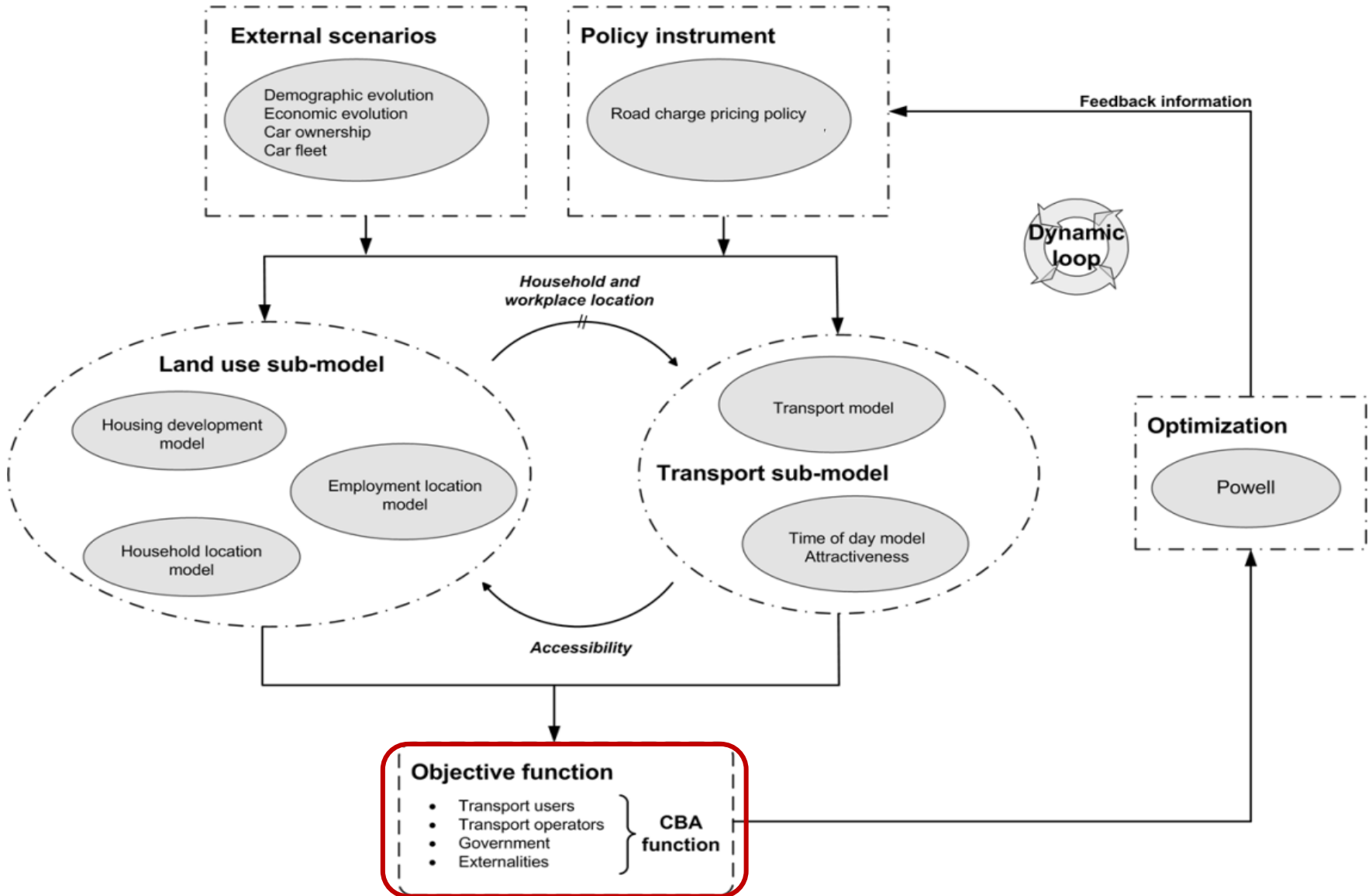
- 80% cars infrastructure
- 75% expenditure for urban highways
- Strongly regressive infrastructure: 0.6 costs for upper income people in respect to low-income people

Modal share





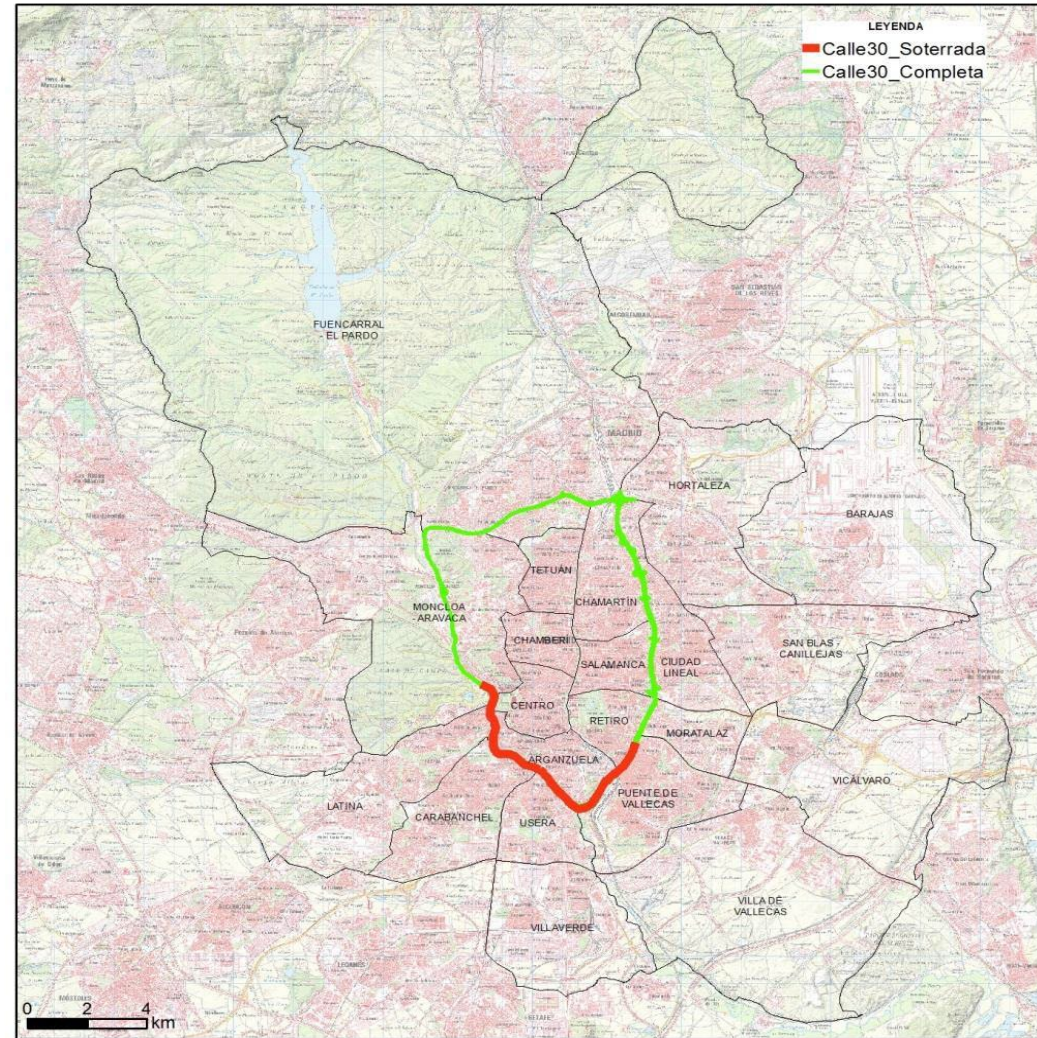
Land Use and Transport Interaction Model



The case of Madrid: M-30 covering location

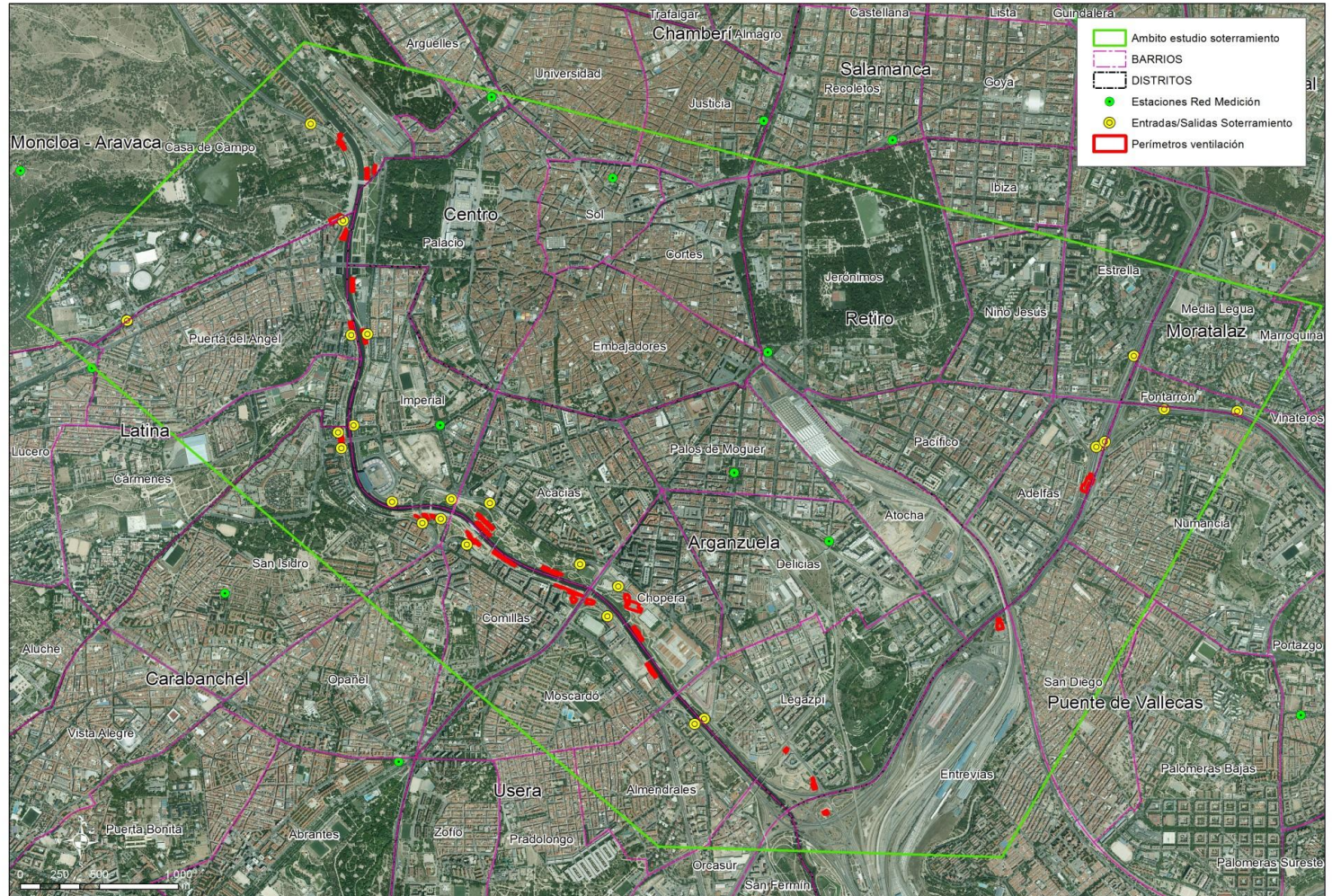
Periods of assessment

- 2003. Before the beginning of the works.
- 2007. During works phase.
- 2011. Madrid Riogreen park works phase.
- 2015. End of the period of analysis
- Behind 2017. Trend checking

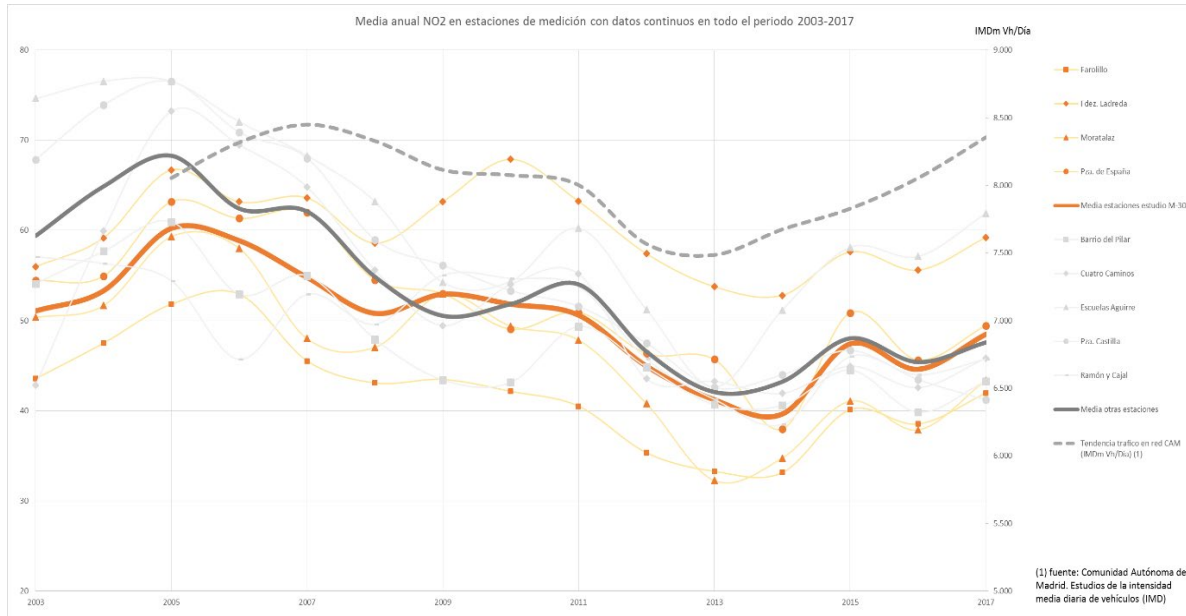


Source: Own elaboration from IGN and Madrid City Council data

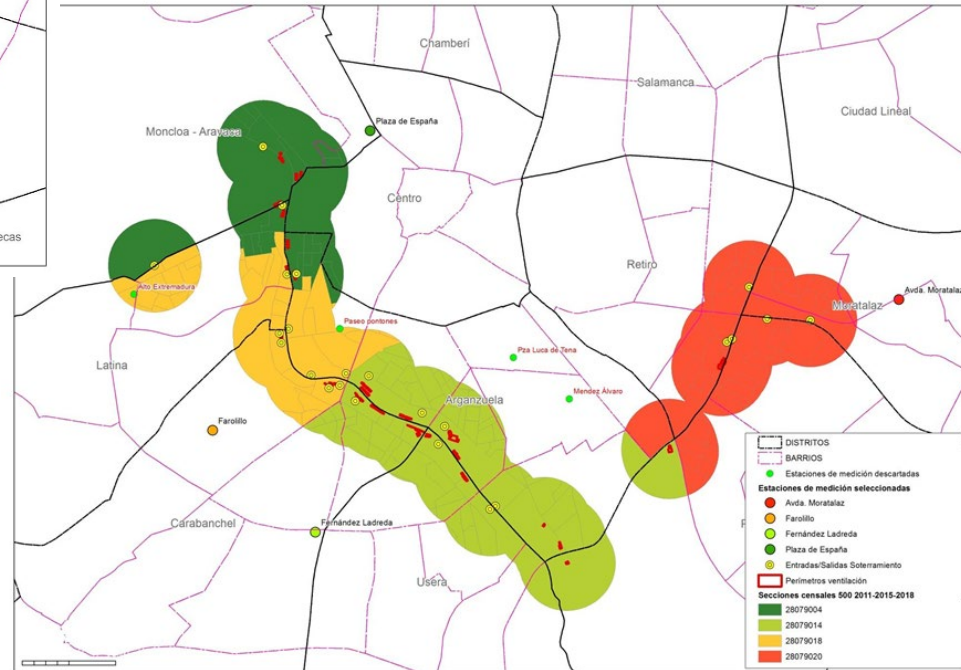
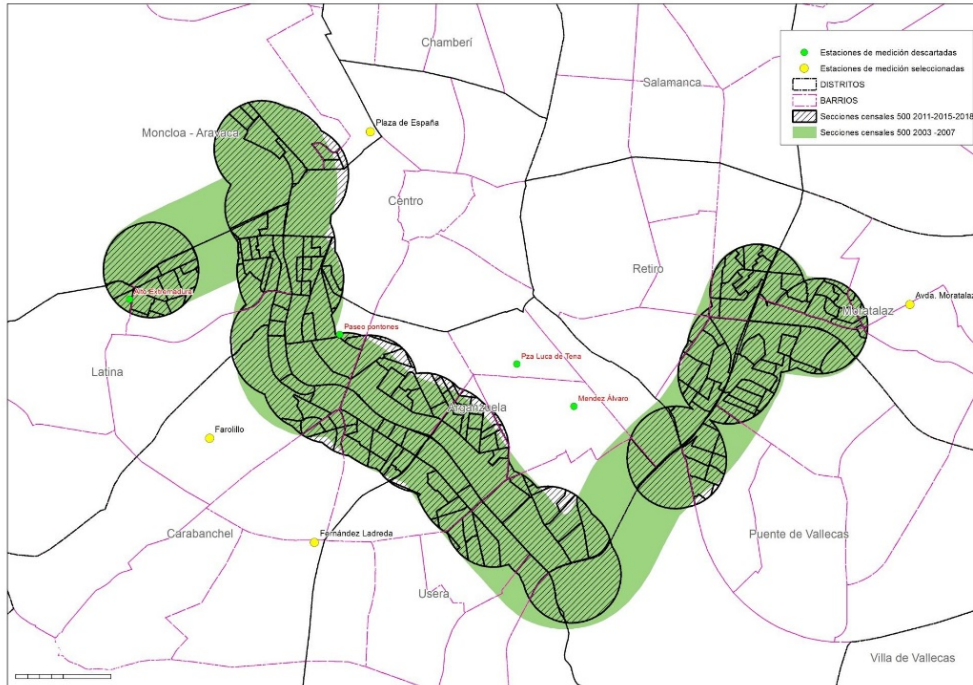
Location of entrances and exits of M-30 underground tunnel of ventilation perimeters and emission measurement stations



Trends of NO₂ emissions and noise in the city and traffic data

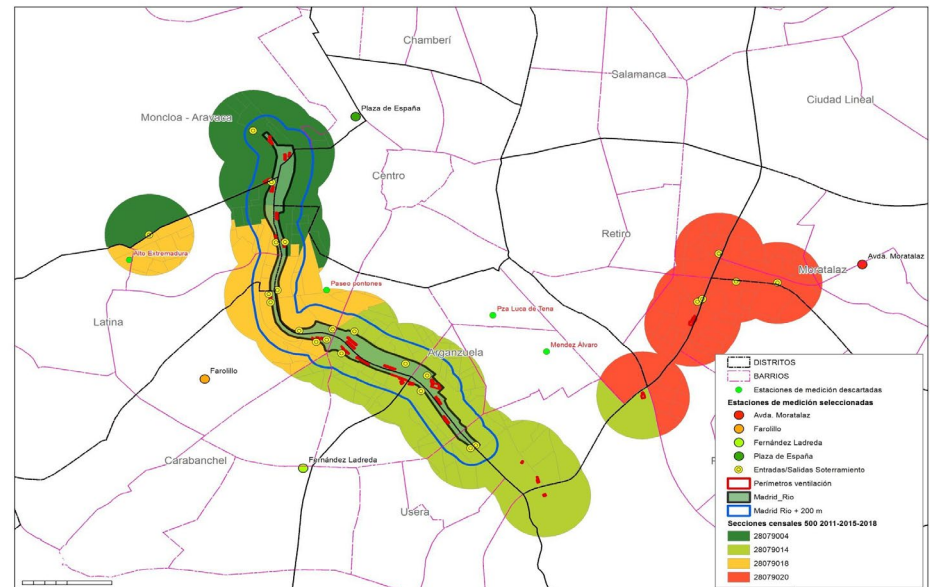


Superposition of both cutting areas of the census sections with 500 m buffer with respect to the emission focuses



Project	1. Users of infrastructures	2. Benefited by Green space (i.e. residents farway from emissions perimeters)	3. Benefited by Madrid Rio, but not by the infrastructure (e.g. do not use by car)	4. Non-users of the M-30 and affected by emissions and noise
M-30 Tunnel and road capacity increasing	Benefited	Neutral	Affected	Affected
Madrid Rio - Green Park	Neutral	Benefited	Beneficiados/as	Neutral

Source: Own Elaboration



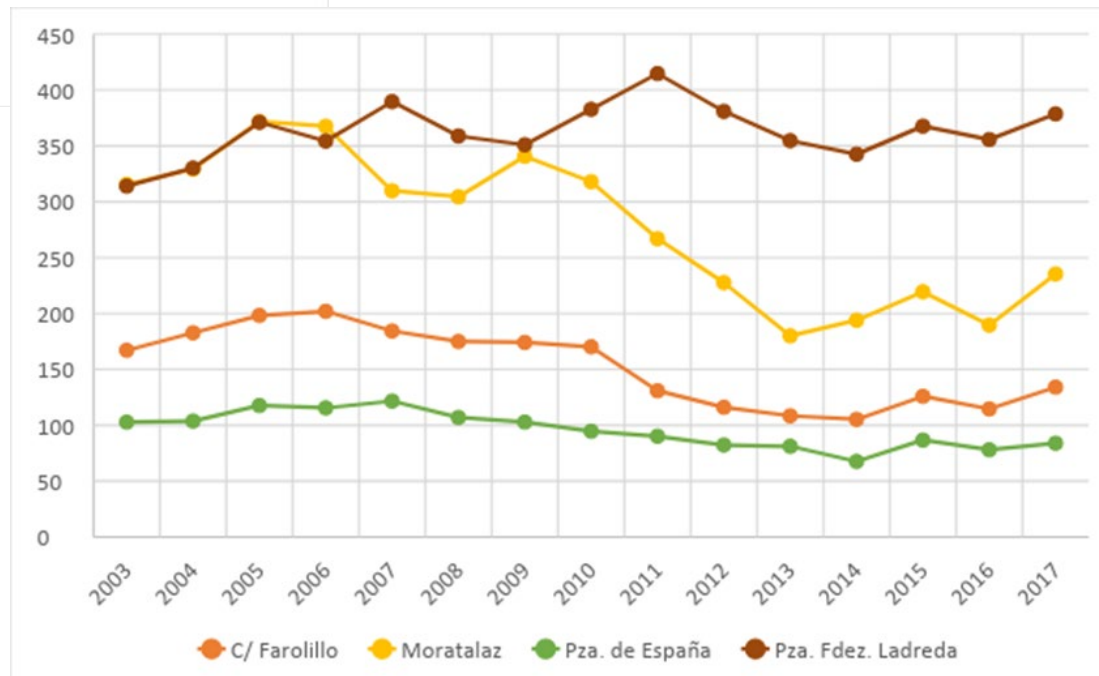
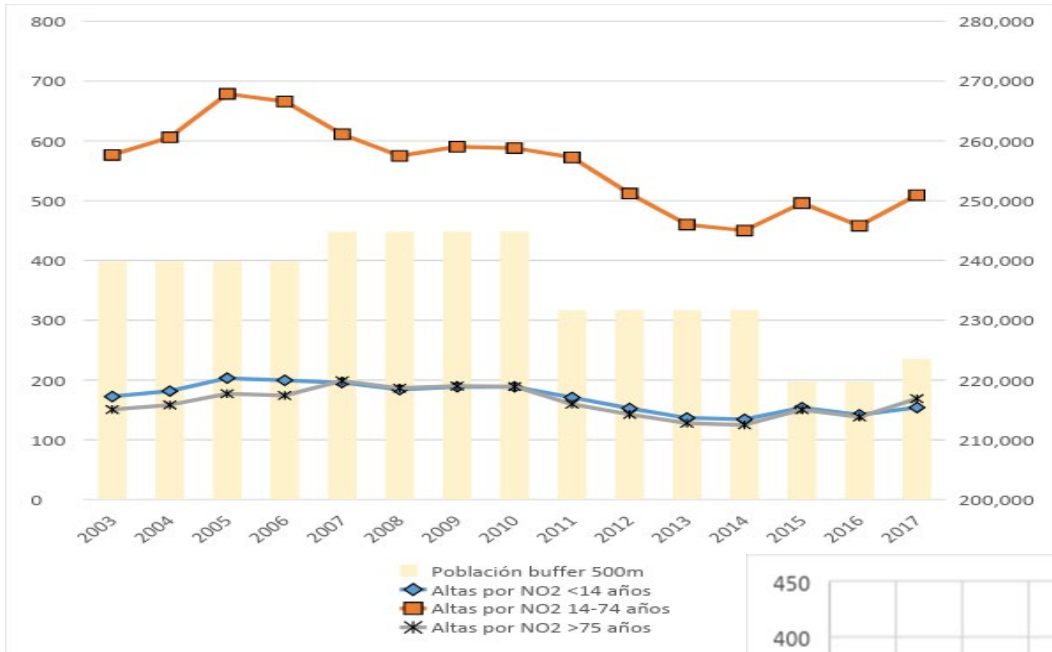
Costs/benefits related to the income levels

$$WF = \sum_{t=0}^n \sum_{ijm} \left[(1/(1+r_l)^t) \cdot \Delta CS_{ijm}^l(t) + (1/(1+r_a)^t) \cdot \Delta CS_{ijm}^a(t) + (1/(1+r_h)^t) \cdot \Delta CS_{ijm}^h(t) + (1/(1+r_o)^t) \cdot \Delta O_{ijm}(t) + (1/(1+r_g)^t) \cdot \Delta G_{ijm}(t) + (1/(1+r_s)^t) \cdot \Delta E_{ijm}(t) \right] (1)$$

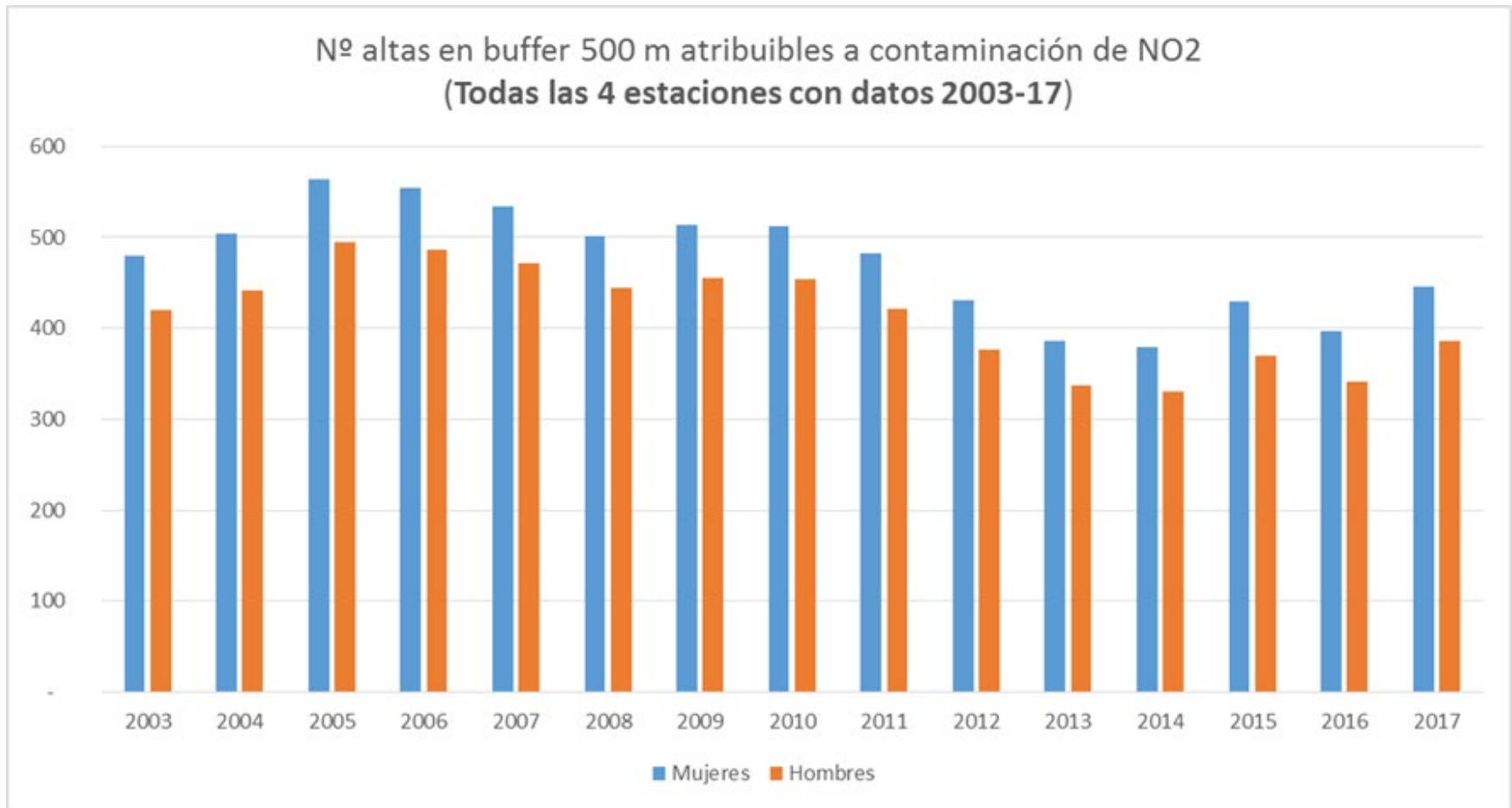
Indicator	Ratio	Scenario 1	Scenario 2	Scenario 3
Time saving per capita	$\frac{X_{\text{high income}}}{X_{\text{low income}}}$	1.69	2.24	2.11
	$\frac{X_{\text{high income}}}{X_{\text{medium income}}}$	1.31	1.54	1.48

Indicator	Ratio	Scenario 1	Scenario 2	Scenario 3
Cost per capita / income	$\frac{X_{\text{high income}}}{X_{\text{low income}}}$	0.61	0.55	0.51
	$\frac{X_{\text{high income}}}{X_{\text{medium income}}}$	0.62	0.53	0.51

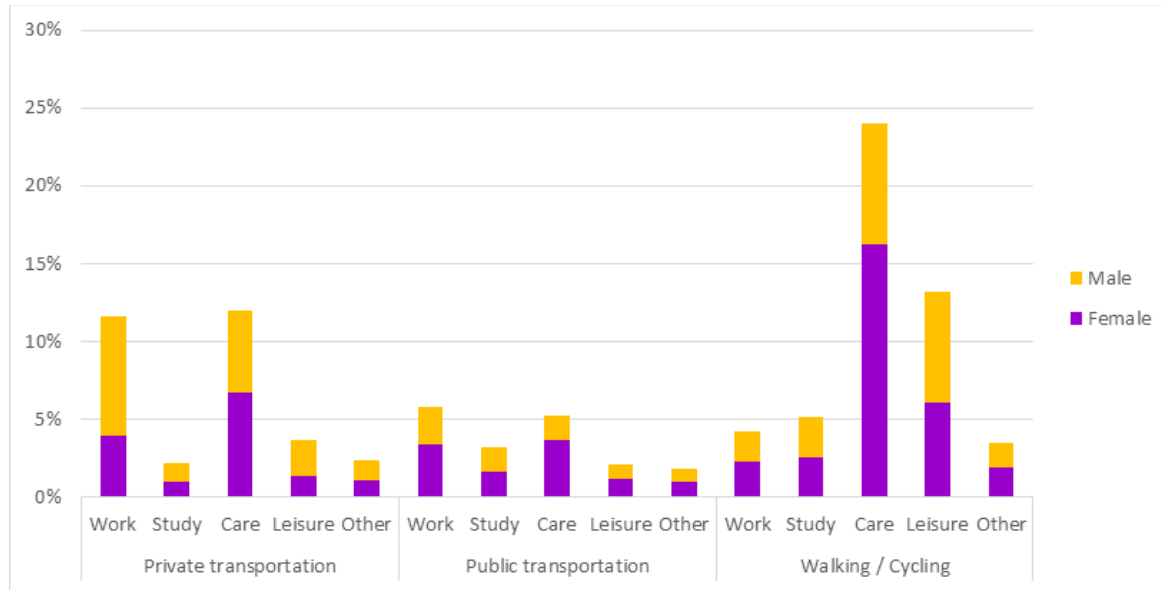
Hospital admissions for lung diseases and asthma



More women than men affected by pollution



VALUES



<https://cambiamo.net/publicaciones/mainstreaming-gender-data-collection/>

We mainly move for caring

Spanish Metropolitan Area

Trip purpose (one way)	Gender		
	Female	Male	
Work	9.5%	12.1%	21.6%
Study	5.2%	5.2%	10.5%
Care	26.6%	14.7%	41.3%
Leisure	8.6%	10.4%	19.0%
Other	4.0%	3.7%	7.7%
Total	53.9%	46.1%	100.0%

Ohio

Trip purpose (one way)	Gender		
	Female	Male	
Work	9.3%	12.6%	21.9%
Study	1.8%	1.5%	3.3%
Care	23.3%	18.0%	41.3%
Leisure	11.8%	11.3%	23.1%
Other	5.5%	4.9%	10.4%
Total	51.7%	48.3%	100.0%

- ...walking and in public transport
- Lower Satisfaction Index

We basically move for caring

- **Mobility of care-giving**
trips to carry out errands, daily shopping (food, medicines, etc.) and visits to health centers, as well as accompanying dependent persons (minors, elderly and/or disabled)
- **Caring mobility**
40% of daily trips, but during the COVID19 this percentage enormously increased at **60%**, for **work 20% out of COVID time** and the rest of trips includes study, leisure and personal management
- ...but transport planning is mostly related with commuting



A young woman walks through the city. She is very aware of her appearance and the reaction (supposed or real) she provokes in the people she encounters. She walks through a group of construction workers eating their meals, lined up on the sidewalk. Her stomach stirs in terror; her face tightens under self-control and inattention; her way of walking and carrying becomes rigid and dehumanized. No matter what they tell him, he will be unbearable. She knows that she will not be physically assaulted or hurt. They will only do it metaphorically. What they are going to do is invade her. They are going to use their body with their eyes. They will evaluate your market price. They will comment on your shortcomings or compare them with those of other passers-by. They will involve you in their fantasies without asking you if you are willing to do so. They will make you feel ridiculous, grotesquely sexual, or horribly ugly. Above all, they're going to make it feel like a thing.

Tax Meredith, 1970, *The Woman and Her Mind*



We found:

- Women indicate they are less willing to share and more wary of unproven technology.
- But in reality, even though women's usage of ride-hailing services is slightly less than men overall, **their level of sharing is 1.5 times greater!**
- Women express a lower level of willingness/interest to ride or buy autonomous vehicles and share rides in an AV ride-hailing setting. **Is the presence of a human driver important/reassuring?**

We recommend:

- Develop safety protocols and targeted campaigns for enhancing women's experience with shared and automated transport services.
- Special services such as female-only services may enhance shared/automated mobility adoption among women.
- More research to untangle stated intentions versus actual behaviors

- **The notion of needs** related to the notion of benefit: estimating the benefits of a population means measuring how much the needs are covered.
- **Current benefit-based** methodologies do not always succeed in highlighting unmet needs (i.e. CBA).
- **Making needs visible** is essential for identifying mobility activities (Measuring transport equity, 2019, Di Ciommo et al.).

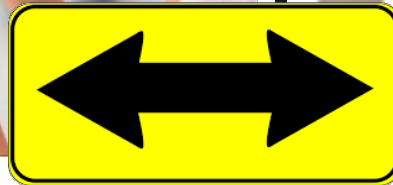


How reorienting transport planning for needs?

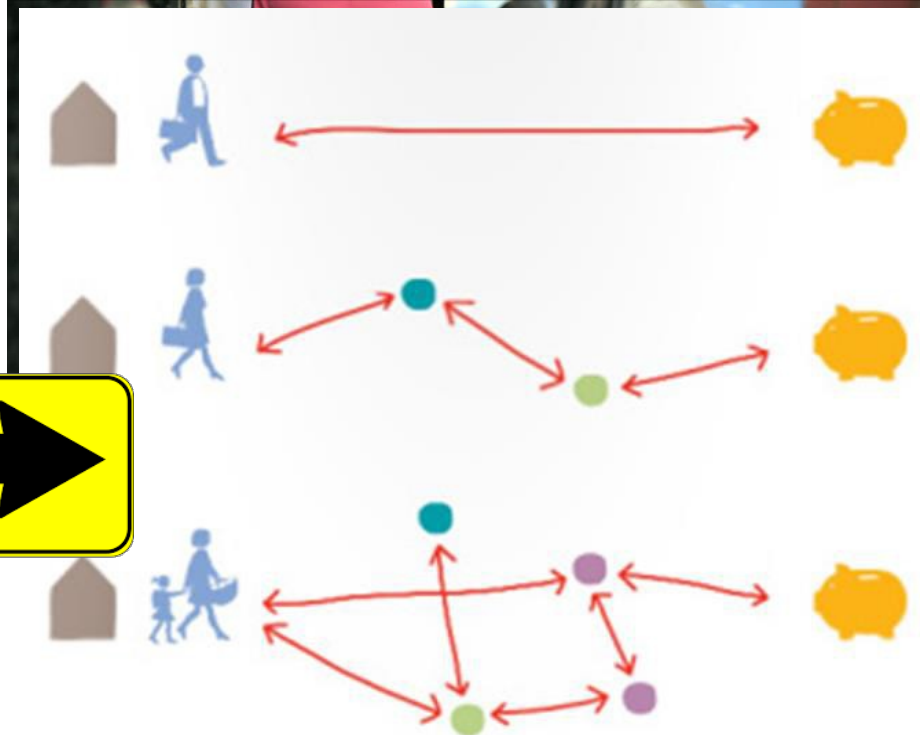
- **Next step:** to reorient the transport system to trips of care-giving.
- **Transport planning:** between the supply of transport systems mainly built for work and the unmet mobility needs for care-giving purposes.
- **Mobility for care-giving** purposes needs for improvements at the local scale, more than to optimising high-capacity road infrastructure.



Women workers in Transport



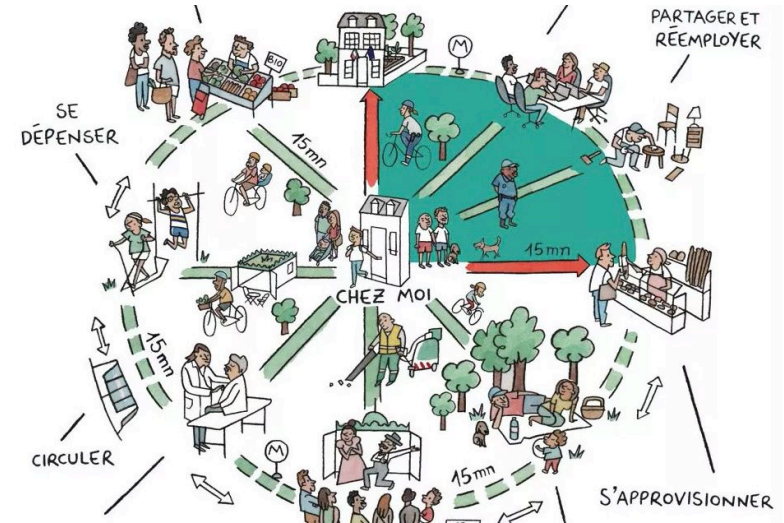
Women consumers of transport



- Personal errands
- Care: Accompanying children/elders
- Care: Daily shopping
- Home
- ↔ Connecting streets
- Paid job



- Encouraging innovations in planning developments with concepts such as the '15-minute city' being championed by the Mayor of Paris.
- Operational and technological innovations for caregivers with the increasing in frequency of bus services in Valladolid during the pandemic.



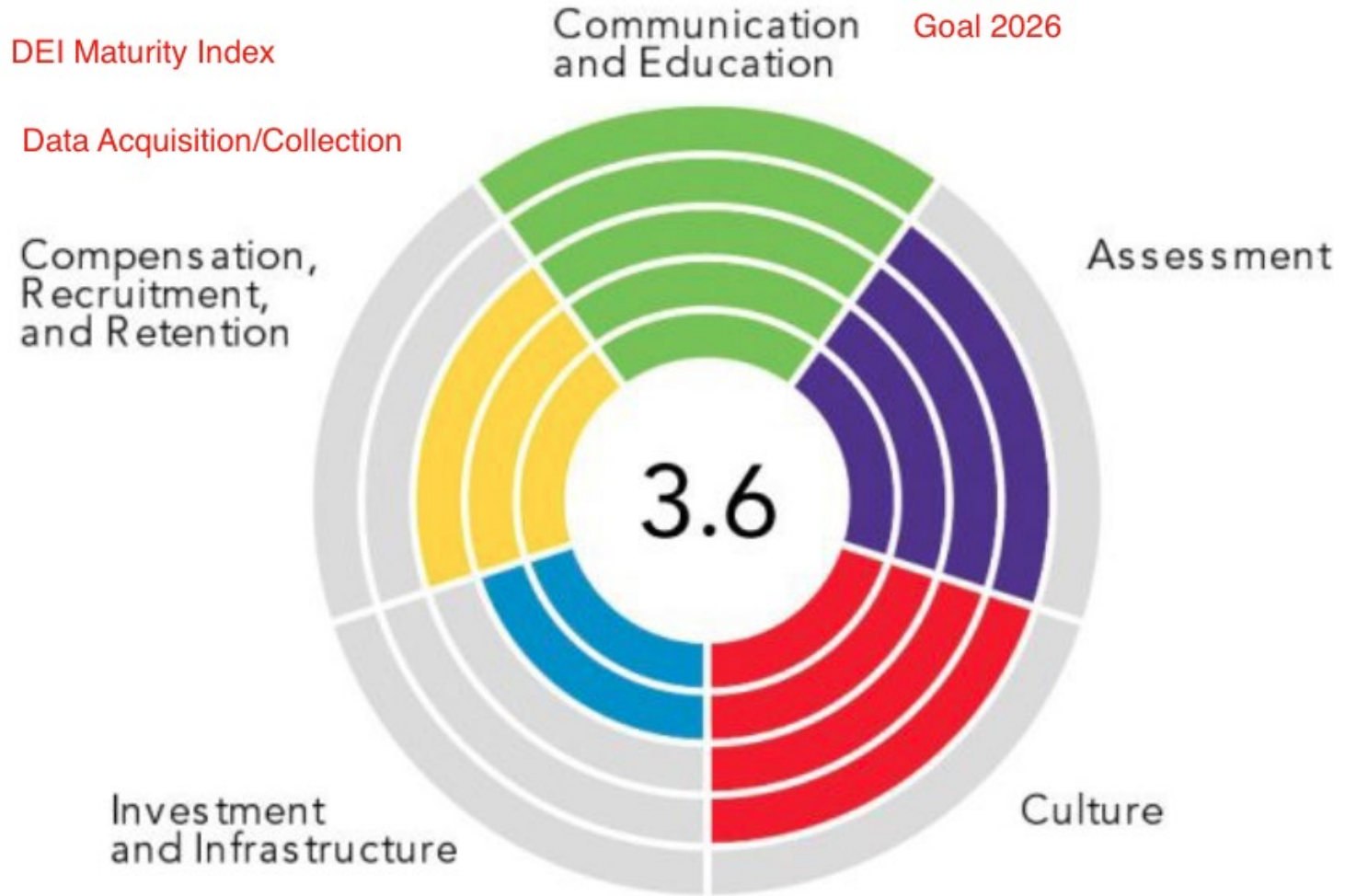
- City of Ha Noi has specific provisions to increase the employment status of women in the sector of metro rail
- More women in the decision places, more services alignment with the mobility care-giving needs



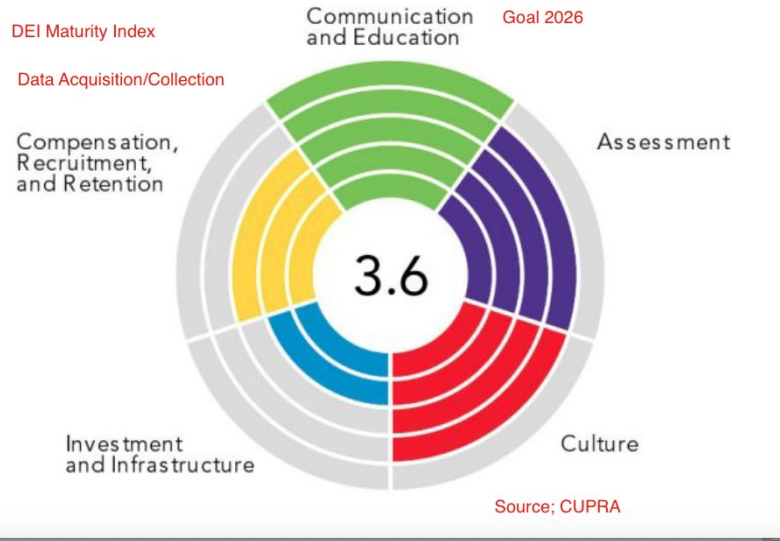
It is more crucial than ever to have evaluation tools and Researchers embrace diversity and for that, we need a method who champion it.

- The Diversity, Equity and Inclusive (DEI) method will address critical gaps in research and creating a level playing field for **Women**, including
 - ethnic minorities,
 - low-income,
 - women with functional diversity,
 - genders minorities





Source; CUPRA

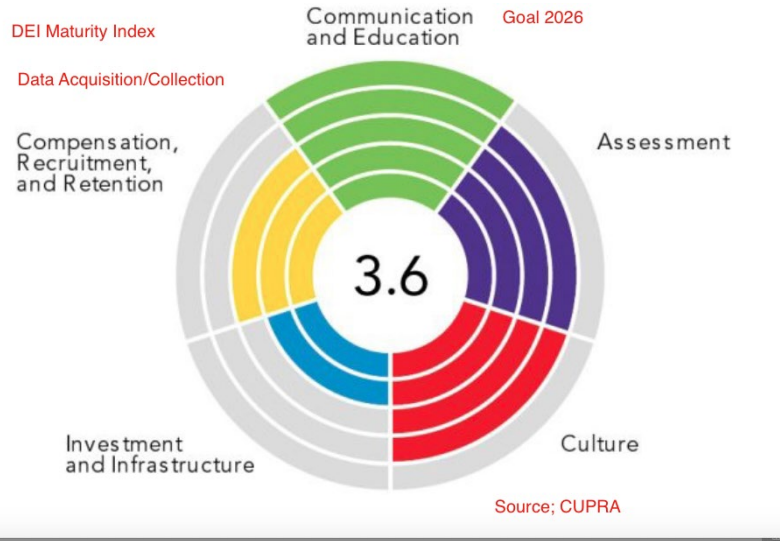


COMMUNICATION

- Incorporation of DEI into mission and strategic priorities
- Use of inclusive language in communication
- Education of new and existing members

ASSESSMENT

- Collection of data, type of data, and how it's used
- Assessments and reviews of current gender policies in transport DEI efforts/goals
- Accountability to DEI goals in all activities taken by the diversity ambassador team



CULTURE

- Efforts to welcome diversity
- Engagement of senior and young women leaders
- Diverse representation in leadership
- Address workplace discrimination

INFRASTRUCTURE

- Dedicated staff for DEI
- Dedicated resources for DEI
- Recruitment of women, Gender Minorities
- Recruitment of Women with Disabilities

...to be able to transform it
from an universal point of view

- Assessing before acting
- Rethinking planning including gender and DEI impacts
- Rethink the organization of services
- Rethinking the design of public space





Thanks

contact

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cambiaMO | *changing MObility*

Research and Innovation for changing mobility