

# Cycling & gender: stories of empowerment to (re)shape the future



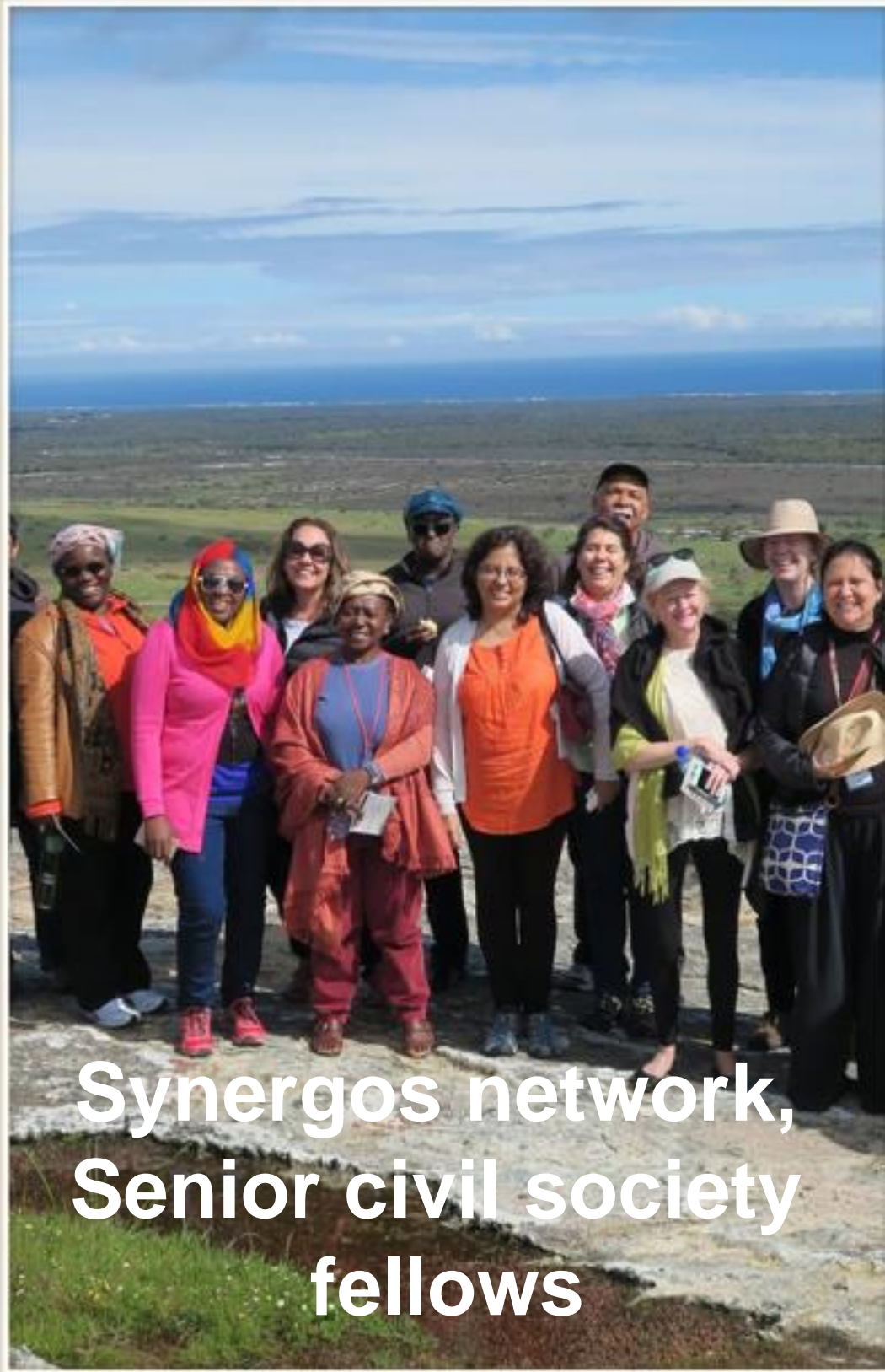
Dr. Lake Sagaris & Dr. Anvita Arora  
Velo-City 15 June 2017



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**with THANKS**





**Synergos network,  
Senior civil society  
fellows**



**Independencia, Tirso de Molina,  
Pergola Santa María**



**World Cycling Alliance**



# GLOBAL COLLABORATION, BASED IN CHILE

- Sede: Depto. de Ingeniería de Transporte y Logística, Pontificia Universidad Católica de Chile
- Instituto Superior Técnico, Lisbon Technical University
- Institute of Transport and Logistics Studies, University of Sydney
- Massachusetts Institute of Technology
- World Resources Institute Centre for Sustainable Transport



ACROSS LATITUDES AND CULTURES  
TRANSPORTE RÁPIDO EN BUSES  
CENTRO DE EXCELENCIA BRT+



# SPECIAL THANKS: INTERFACE FOR CYCLING EXPERTISE, 2000-2010





# FELLOW RESEARCHERS

**Dr. Anvita Arora, India**

Dr. Alex Karner, US

Dr. Stefan Steiniger, Chile

Ignacio Tiznado (PhD candidate), Chile

Tom Godefrooij, I-CE

Heather Allen

Director global study Safe & Sound  
Quito and Buenos Aires research teams, Ella  
se mueve segura

FIA Foundation

CAF, Development Bank of Latin America







# LABORATORY FOR SOCIAL CHANGE: PARTICIPATORY ACTION RESEARCH



ESCUELA MARIO PEREZ  
DE ARCE,  
EL BOSQUE, CHILE  
Octubre 2016



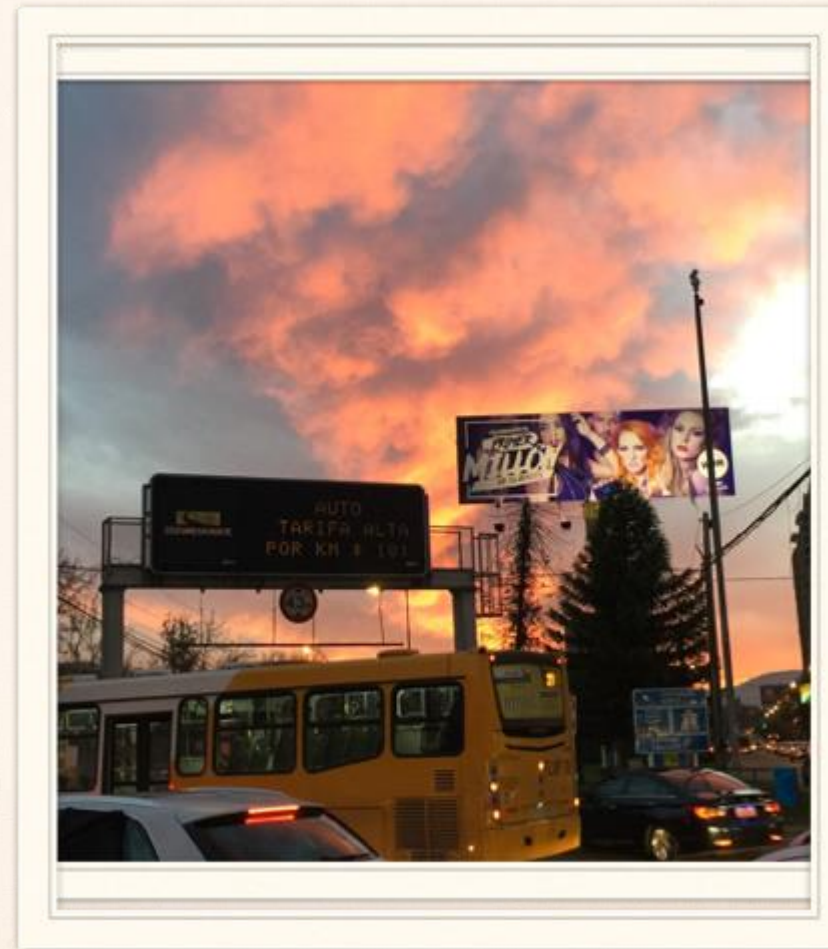
PONTIFICIA  
UNIVERSIDAD  
CATÓLICA  
DE CHILE





# TODAY

- 1. Justice and transport: a very “wicked” problem**
- 2. Ecologies of modes and actors**
- 3. Cycling, social inclusion and gender equity**

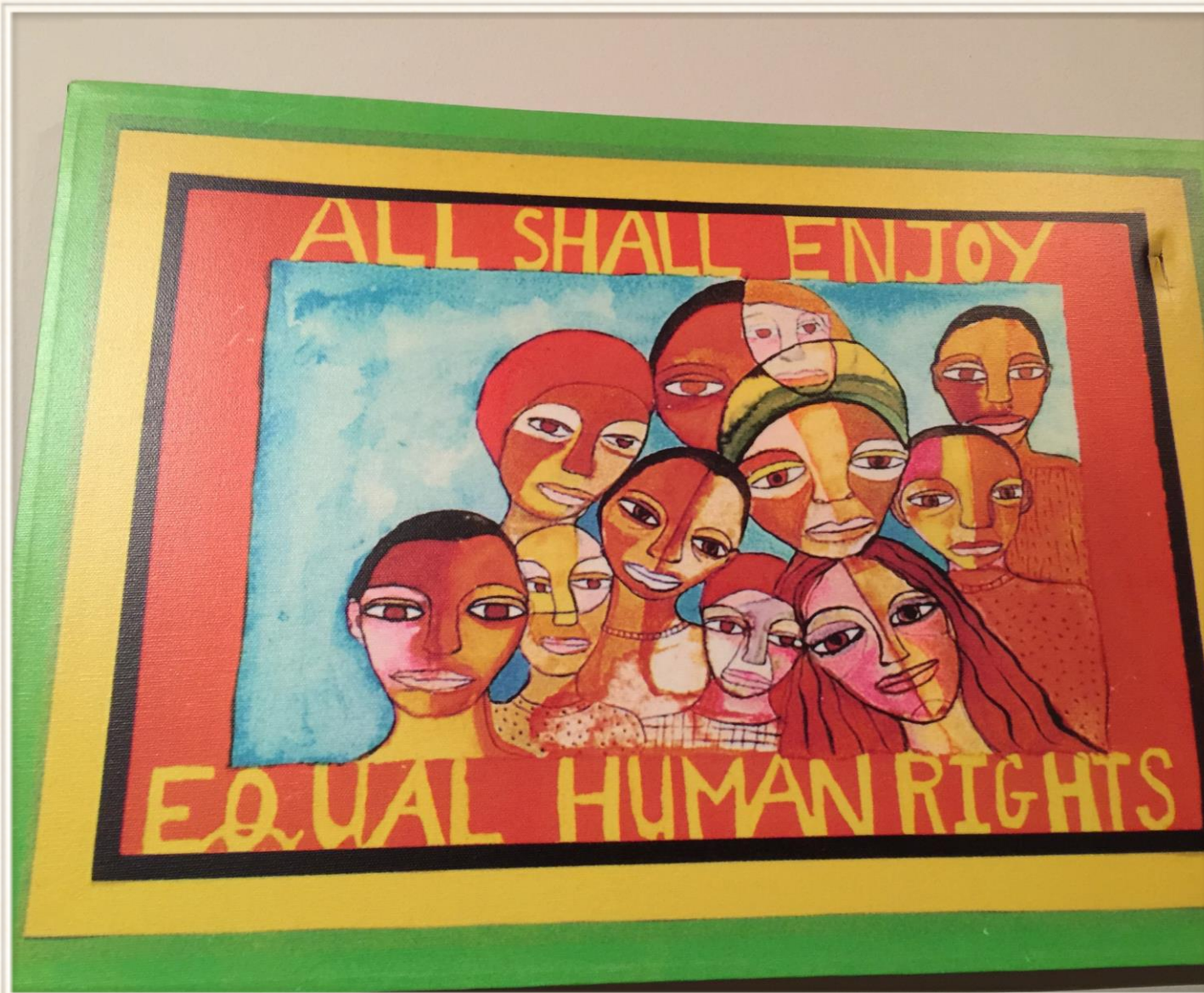




# **1. Justice and transport: a very “wicked” problem**



# INCLUSION, EQUALITY, EQUITY



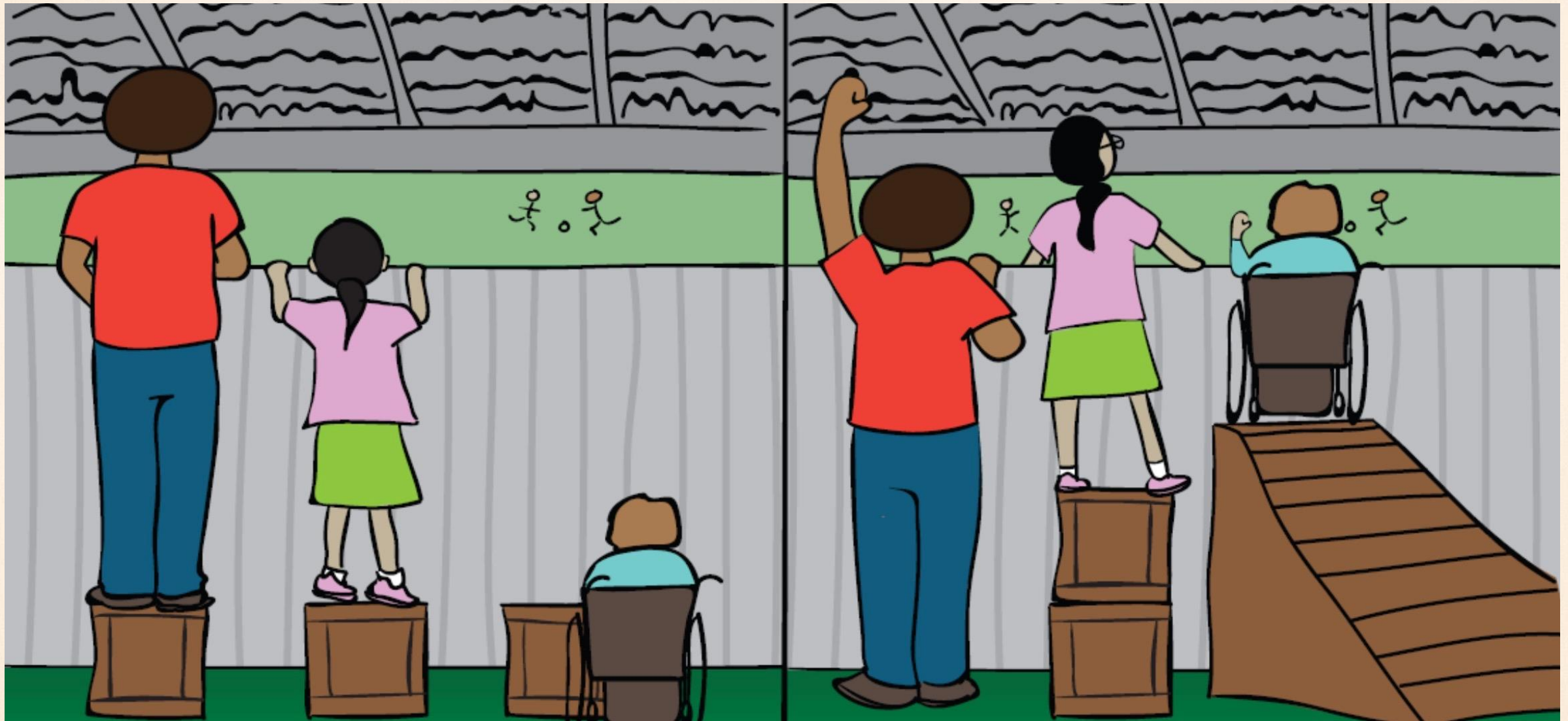
“If we do the same thing for everybody, that’s equality, right?”





Portland, OR, USA.

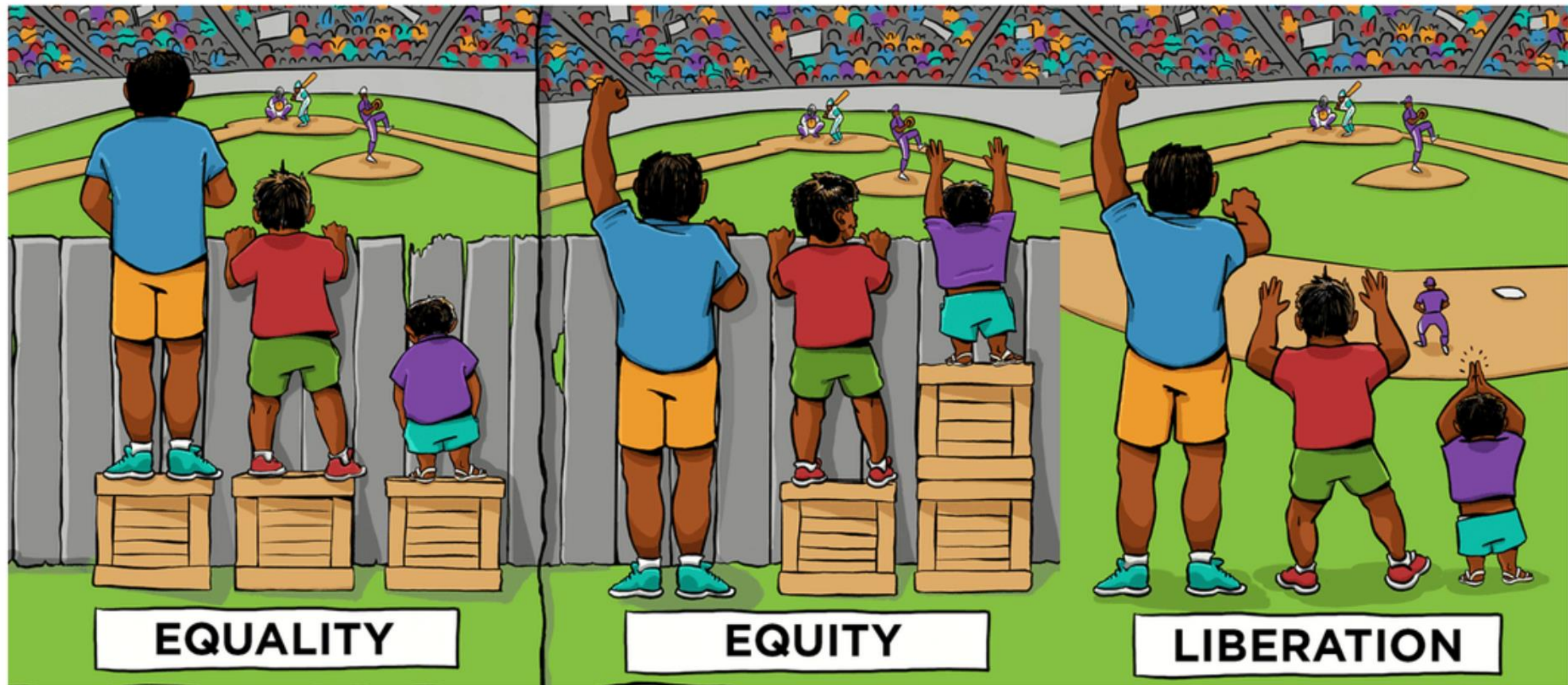




2ndLineBlog



# Change The Story!

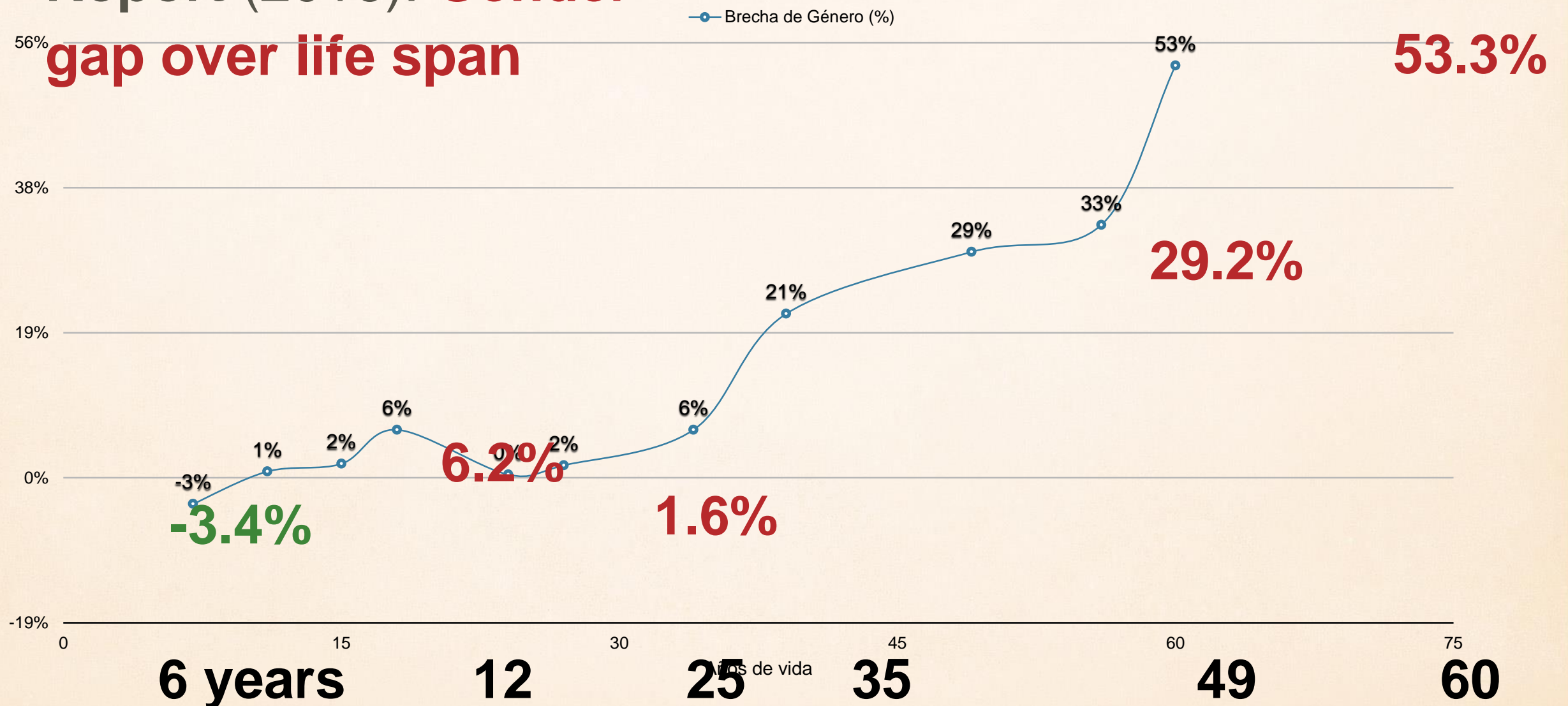


[www.communichi.org](http://www.communichi.org)



# HIGH COST OF DISCRIMINATION & EXCLUSION

◆ **Comunidad Mujer**  
**Report (2016): Gender**  
**gap over life span**





# Género, E(qui)dad, Transporte:

Innovating in “safe” routes to  
school in low-income areas  
of Chile



Daniel Lanfranco y Maya Flores



# DISCRIMINATION, EXCLUSION

Strategic shift: from  
“averages” to “outliers”:  
Women and girls, from eight  
to eighty







# ECOLOGIES OF ACTORS: DIVERSITY IS KEY





# RESULTS

- US\$45 mn for cycling facilities
- Master plan - consensus-building
- Km of cycling facilities quadrupled (2007-2012)
- New standards (2010-2015)
- Cyclists on main routes up 25-30% per year, 2007-2014.
- Modal share doubled (2006-2012)
- Women up from under 10% to almost 1/3 cyclists
- Presidential priority, beyond elections
- 60 km+ open streets every Sunday

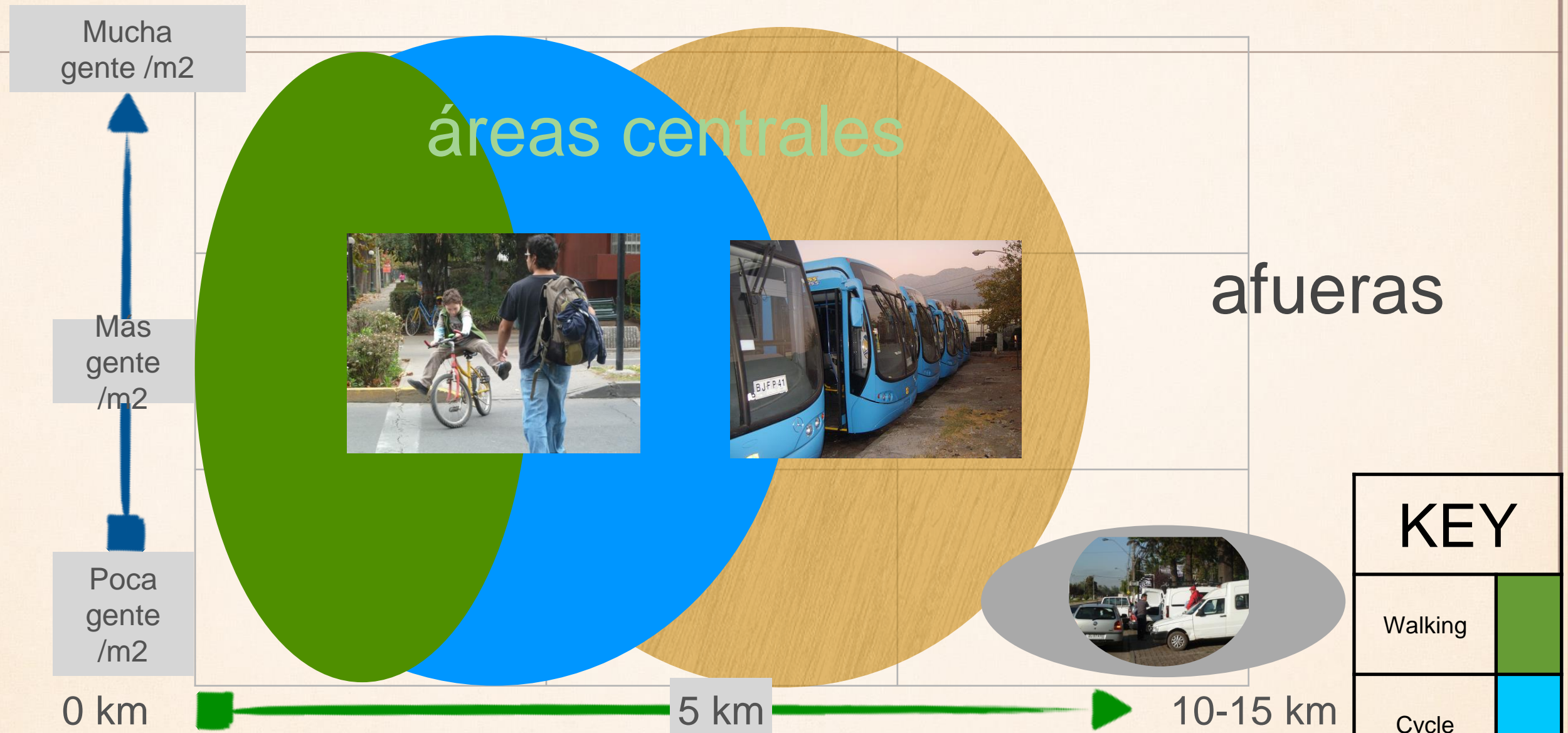




## **2. Ecologies of modes and actors**



# “ECOLOGY” OF MODES



Densidades medianas y altas  
 + viajes cortos (0-10 km), **caminata y ciclos** (bicitaxis, bicicletas públicas)  
 + viajes medianos (5-15 km), **BRT-Metro**  
 Densidades bajas, distancias mayores, Automóvil particular

KEY	
Walking	
Cycle	
Public transport	
Car	



# ECF + WORLD CYCLING ALLIANCE



## CYCLING DELIVERS ON THE GLOBAL GOALS

Shifting towards a better economy, society, and planet for all



## CYCLING DELIVERS ON THE GLOBAL GOALS

The Global Goals, as stipulated in the preamble of the Sustainable Development Goals (SDGs), seek to realize the human rights of all. Cycling is already delivering on these goals worldwide, and this is a good reason to invest more in cycling. Making transportation more sustainable is of critical importance for humanity and the planet. Moreover, active mobility is a human right on all scales - including the right to cycle. Governments at all levels should provide safe access to public space, protect those that walk and cycle, and ensure - through mobility - equal participation in society. Investment in better conditions for cycling - including e-cycling, cargo cycling and public bicycles - will help achieve these Global Goals as cycling is directly linked to the following 11 Global Goals:



### Goal #1: End poverty in all its forms everywhere.

Cycling is an affordable and simple mode of transport enabling access to education, jobs, markets, and community activities in both urban and rural areas. The bicycle is often the only affordable technical means of transport for people and goods, and thus helps individuals to lower the cost of transport for their household. Cycling can more than halve commuting time for those otherwise dependent on walking, giving them access to more job opportunities, schools, markets, and communities. In addition, the potential for economic growth through cycling-related job creation is high. Investments in cycling offer good opportunities for sound national, regional and international poverty-reduction strategies.



### Goal #3: Ensure healthy lives and promote well-being for all at all ages.

Cycling generates healthy and non-air-polluting lifestyles. The physical activity cycling generates reduces heart diseases and other negative impacts of sedentary lifestyles. Air quality and road safety improve when individual motorized transport is replaced by cycling. Creating safe conditions for cyclists contributes to reducing the number of global deaths and injuries from road traffic accidents.



### Goal #2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture.

Cycling plays an important role for many small-scale food producers. It can provide secure and equal access to land, resources and inputs, knowledge centers, financial services, markets and opportunities for non-farm employment. Cycling helps to ensure access, in particular for the poor, to food all-year round. By widening the area accessible to people who do not have an alternative mode of transportation, cycling ensures better access to food markets and communities, increasing nutrition options and ensuring the sustainable transportation of food products.



### Goal #5: Achieve gender equality and empower all women and girls.

Cycling provides access for women and girls to water, schools, markets, and jobs that are otherwise inaccessible through available transportation means or walking. Safe infrastructure for cycling supports gender equality as it increases the number of women and girls that take advantage of cycling.



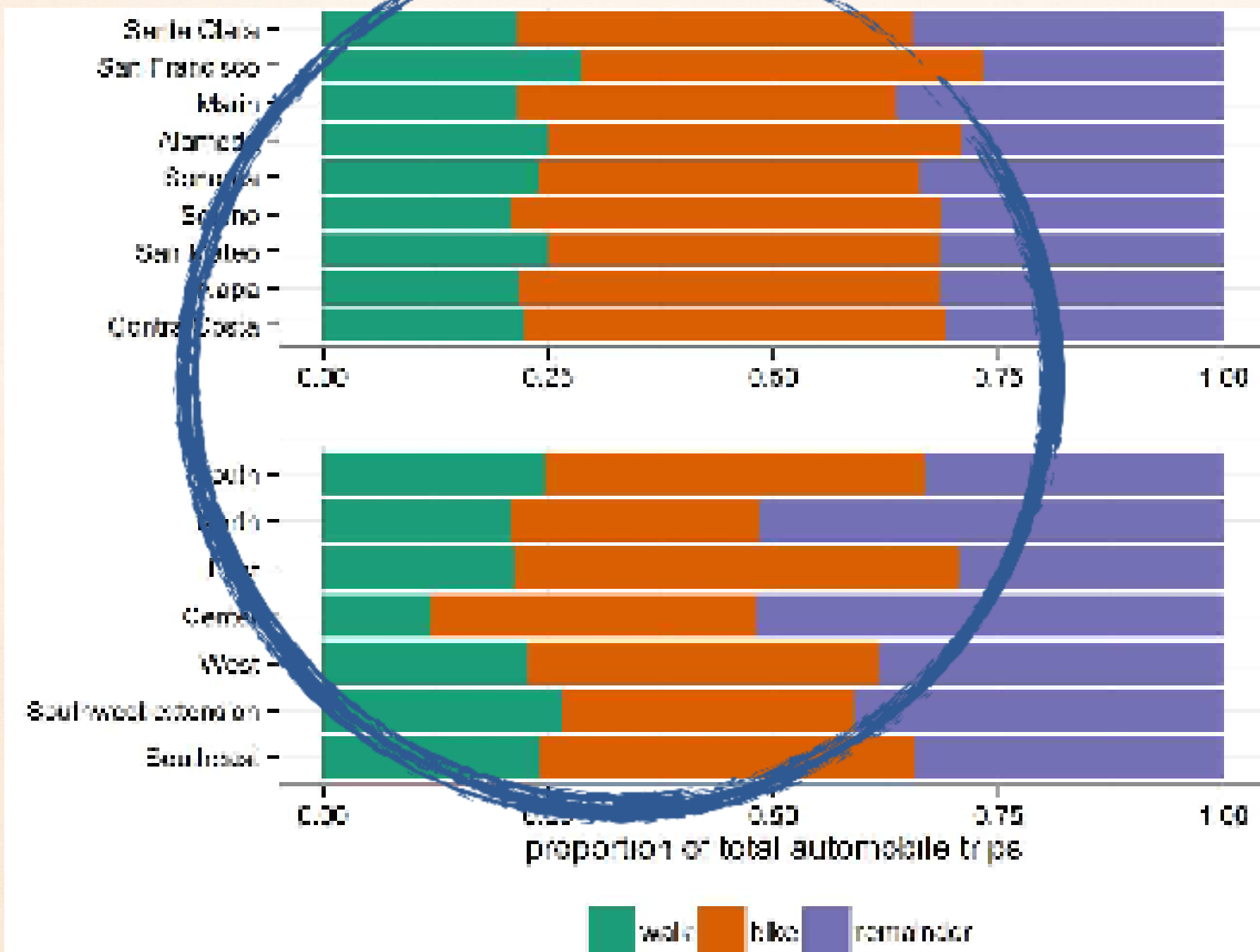
# BASED ON TRIP DISTANCE PURPOSE AND CAPACITY

m	Walk (minutes)			Cycle (minutes)		
	Easy (4.5 km/h)	Moderate (5 km/h)	Fast (5.5 km/h)	Easy (15 km/h)	Moderate (19 km/h)	Fast (24 km/hr)
400	5.3	4.8	4.4	1.6	1.3	1.0
800	11	9.6	8.7	3.2	2.5	2.0
1200	16	14	13	4.8	3.8	3.0
2000	27	24	22	8.0	6.3	5.0
3000	40	36	33	12	9.5	7.5
4000	53	48	44	16	13	10
5000	67	60	55	20	16	13
8000	107	96	87	32	25	20
10000	133	120	109	40	32	25

Note: green = reasonable time for travel to access public transport; yellow = standalone single-mode travel or cycle service trip (bike taxi, bike share, etc.); orange = best served by combination with motorized modes.



# ANALYZE DISTANCES...



Well over half and up to 75% of car trips in the Bay area (above) and Metro Santiago (below) more suited to walking and cycling



# TARGET MODAL SHARE - SANTIAGO

	Current share	Target modal share
WALK	34	47
BIKE	4	27
BUS	29	13
CAR	26	13



# BEYOND DESIGN, COMPLETE STREET AND SIMILAR STRATEGIES: PRIORITIES



	Trip length	Space allocation	Target share of budget
WALK	0-2km	First rate pedestrian network	46%
BIKE	2-8 km	Intermodal bike-bus network	26%
BUS	5+	Priority bus and bike lanes network	13%
CAR	5 k+ low density (rural, suburbs)	Intercity buses, cars, trucks	13%



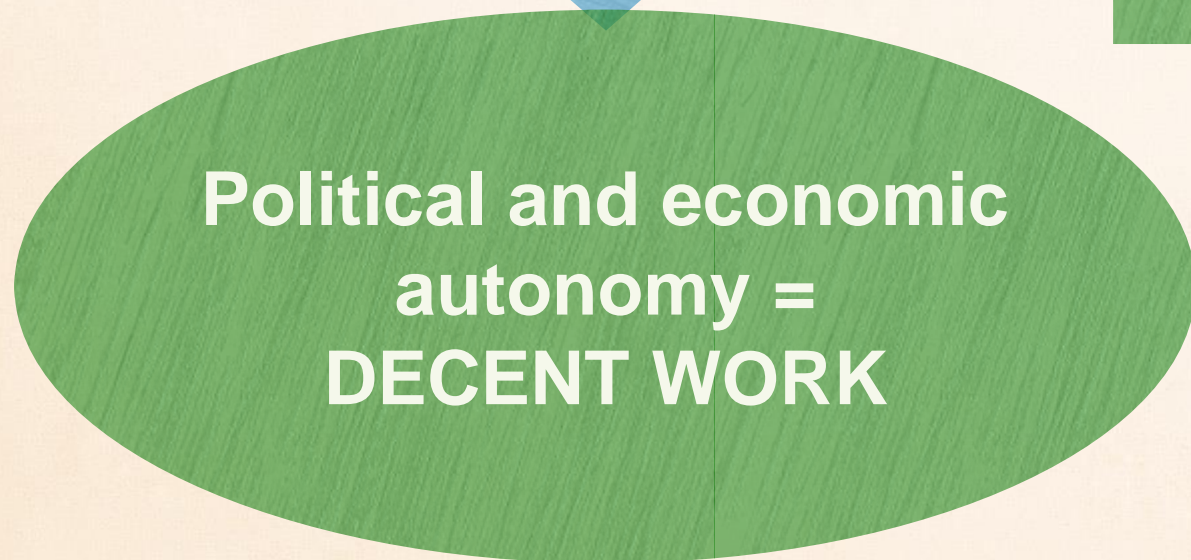
### **3. Cycling, social inclusion and gender equity**



# VIOLENCE AGAINST WOMEN DOESN'T JUST STOP AT THE DOOR...

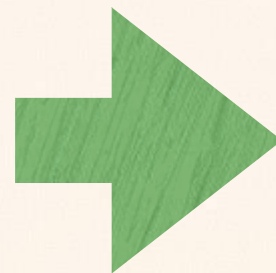
Domestic-family-household

Public space



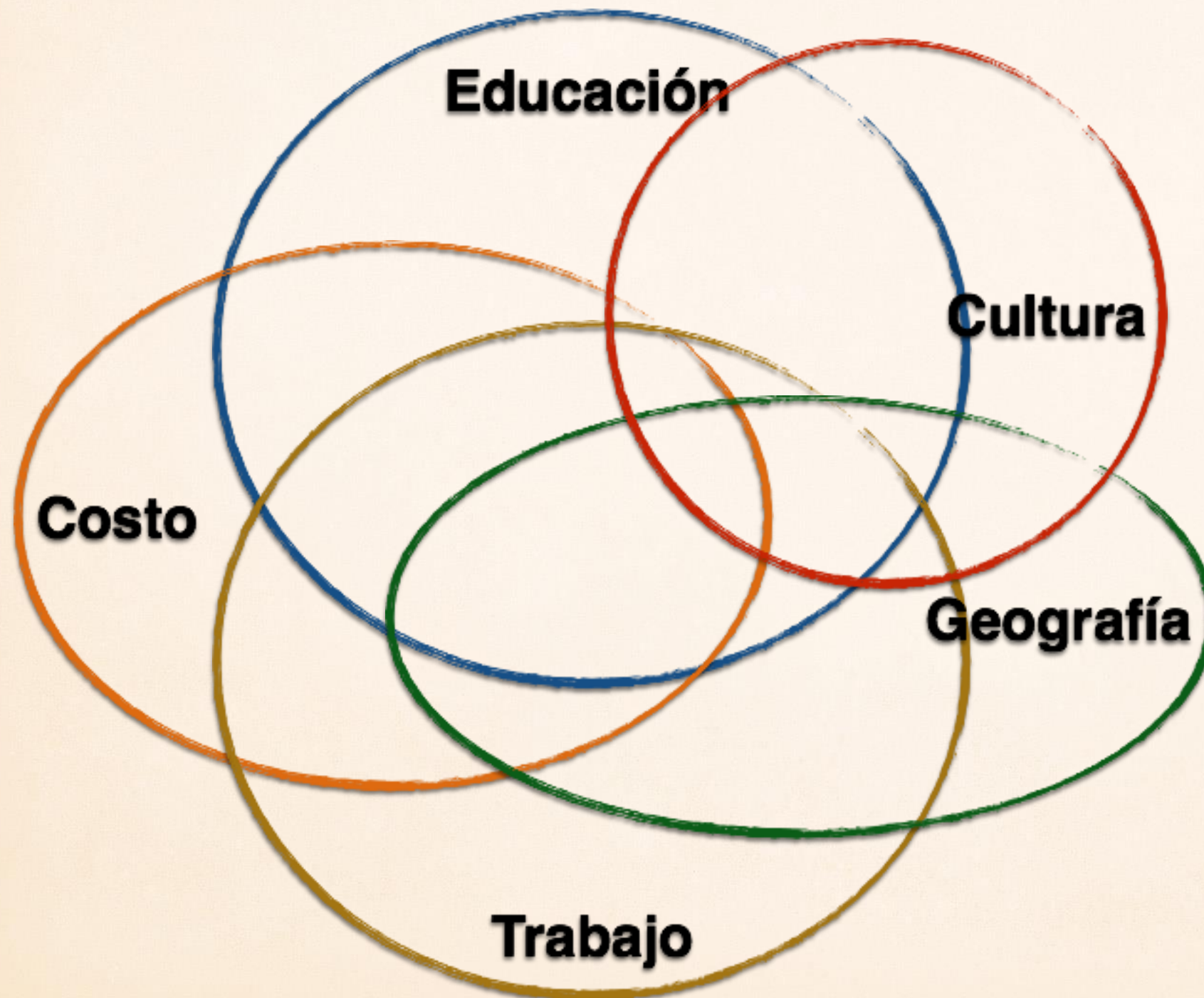
Work for women, planning and operating transport systems

Access to work, education, culture, social networks





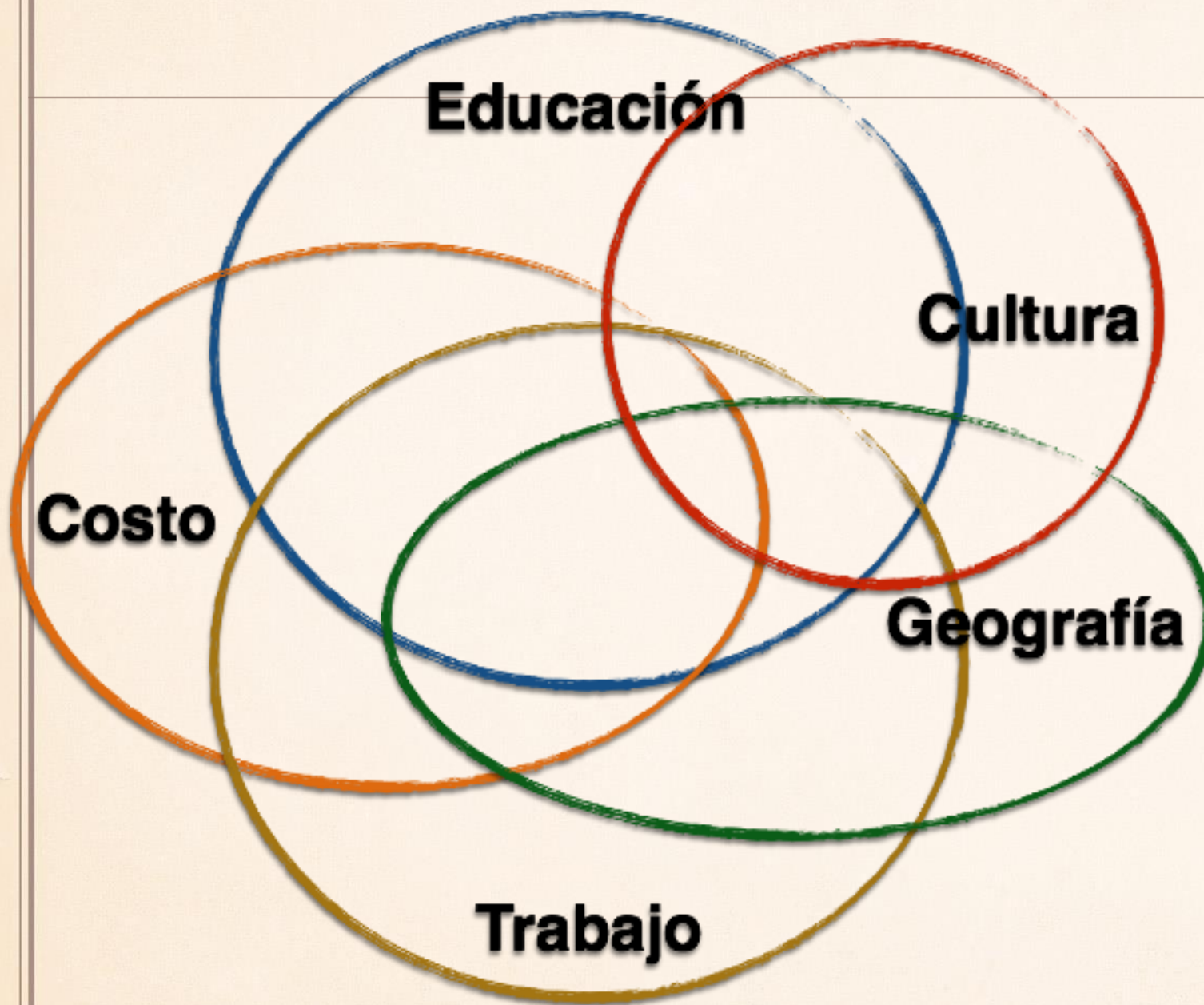
How do we change this? What are the key interactions that can move the system toward greater participation from women?



Factors that interact and influence women's participation in diverse aspects of social life



# BARRIERS



**Las BARRERAs:**  
DISCRIMINACIÓN: SOCIAL  
& INSTITUCIONAL  
Falta de educación  
Costeabilidad  
Falta de trabajo  
Condiciones de trabajo  
Cultura: Valores negativos, y  
los actores que los imponen.  
Geografía: Distancia,  
seguridad vial y social



# FACILITATORS

:



Pares y familia - peers and family  
**Transporte de bajo costo o gratis -**

**flexible, affordable transport**

**Calles seguras - safe streets**

**Rutas seguras - safe routes**

**Lugares seguros - safe places**

Escuelas cercanas

Salud y otros servicios cercanos

Ferias callejeras cercanas

Mecanismos de control y de quejas

**Reglas y procedimientos especiales - special rules  
and procedures**

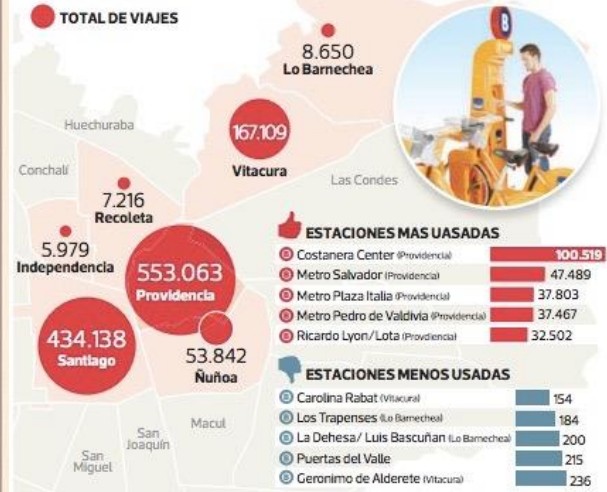
**Instituciones que incluyen a las mujeres en toda fase  
de toma de decisión - women among decision-makers**



# CYCLING: MISSING LINK

## RADIOGRAFIA BIKESANTIAGO

El sistema de arrendo de bicicletas comenzó en 2013 en Vitacura y se extendió a otras comunas de Santiago.



FUENTE: Bikesantiago

LA TERCERA



Estación de arrendo de bicicletas en el sector de Tabancura. FOTO: GRUPO COPESA



**apata**

La manera más **sustentable** y **rápida** de moverte por Santiago

Haz tu ciudad más viva, menos contaminada y con menos tacho:  
usa Apata, tu App de movilidad sustentable

[Descargar app](#)



# CYCLE-“INCLUSION”, THE NETHERLANDS

...the full integration of cycling considerations into the city and planning systems, through diverse measures developed over the past 40 years by cyclists and planners, particularly in The Netherlands (original definition, Interface for Cycling Expertise, 2007-2009)



# CYCLO-“INCLUSION” DEVELOPING WORLD





# CICLO-INCLUSION



**SANTIAGO**



**TAIPEI**



# CICLO-INCLUSION: WORK





# PRADIP KUMAR: RICKSHAW BANK

## Uses of a rickshaw



**INDIA**



# PRADIP KUMAR: RICKSHAW BANK

## Old vs. Rickshaw bank



Changes to rickshaws  
(shown on left):

- Aero-dynamically designed, thus lighter
- More spacious
- More attractive to clients
- Comfortable for all age groups
- Longer life
- Rickshaw designed by IIT, Guwahati



Rickshaw Bank / CRD

CREATE  
NEW  
BUSINESS  
MODELS  
THAT EMPLOY  
& BETTER  
SERVE  
WOMEN



**3. Examples of what  
CYCLE INCLUSION could  
mean to women  
(and other excluded groups)**



# TRANSPORT AND LAND USE, THROUGH A GENDER LENS

**CARE**



Trip purpose, work day	% of trips	Sex	Total, purpose
Work	38%	Man	24.56%
		Woman	13.14%
Shopping	17%	Man	4.93%
		Woman	12.40%
Other (health, red tape, other)	16%	Man	6.57%
		Woman	9.88%
Visit, pick up or drop someone off	13%	Man	4.46%
		Woman	8.30%
Studies	10%	Man	5.27%
		Woman	4.93%
Recreation, eat or drink something	6%	Man	3.00%
		Woman	2.55%

*Source: Prepared by Ignacio Tiznado, based on EOD 2012.*



# TRANSPORT AND LAND USE, THROUGH A GENDER/SOCIAL LENS

Propósito de viaje (Día Laboral)	% de viajes	Sexo	Total, purpose
Trabajo	38%	Hombre	24.56%
		Mujer	13.14%
Compras	17%	Hombre	4.93%
		Mujer	12.40%
Otros (salud, trámites, varios)	16%	Hombre	6.57%
		Mujer	9.88%
Visitar, bus		Hombre	4.46%

Trip Purpose	% of trips	Implications
Care	55%	<i>Provide most neighbourhoods with basic amenities: schools, shops, primary health care, etc. Reverse direction of key services on temporary or permanent basis.</i>
Work	38%	Primarily walk-bike-bus and other motorized transport, preferably buses, car share, collective taxis, etc.
Studies	10%	Highschools and universities within cycling distance, including bike-bus combinations and e-assisted pedaling for hilly terrain
Recreation	6%	Basic entertainment (café, music, place to meet) within walk, cycle, bike-bus-metro distances locations.

Source: Pr



# IMPLICATIONS FOR WOMEN

How bike-bus intermodal service could affect life	% income
Travel options	US\$400 mes
Option 1: Only public transport	32%
Opción 2: Current conditions, intermodal own bicycle, Metro, feeder and shared bike at end	26%
Opción 3: Own bicycle, Metro or express bus, shared e-bike at the end)	22%
Monthly cost, basic food basket, two people	29%
<i>Source: Sagaris, Tiznado &amp; Steiniger 2017</i>	



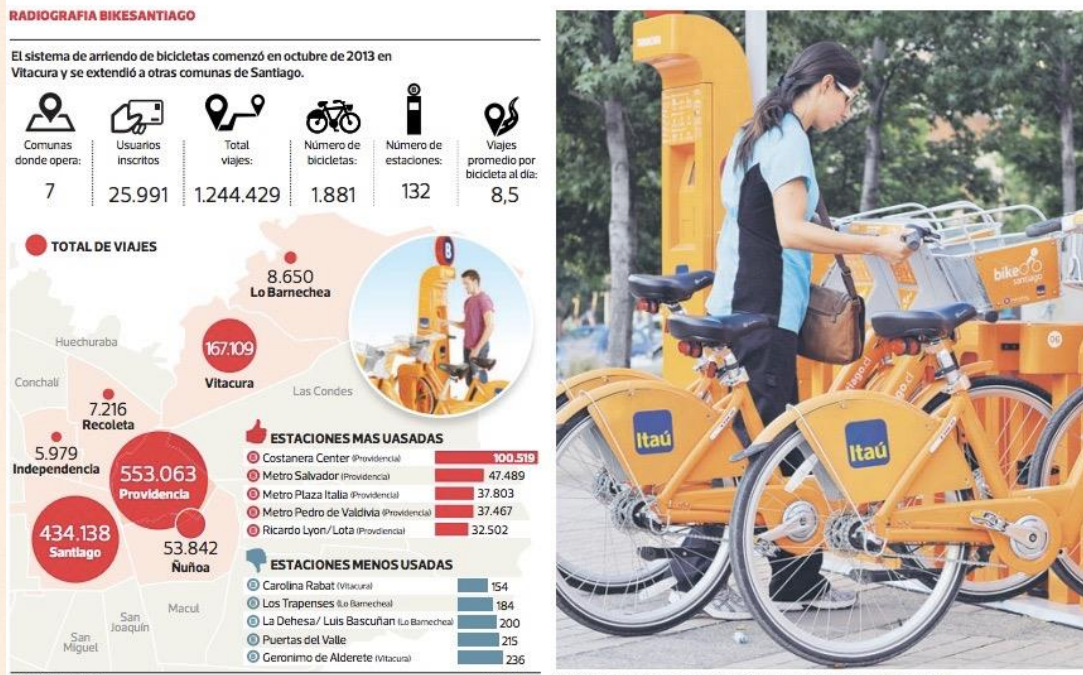
## WHY SHOULD THIS MATTER? EXAMPLE 2: NURSE ON NIGHT SHIFT

- ❖ Eliminates long wait at bus stop
- ❖ Eliminates dangerous crossings of bridges, pedestrian walk-overs, etc.
- ❖ Gets her home more quickly and safely
- ❖ Makes her healthier and happier!





# WHY SHOULD THIS MATTER? EXAMPLE 3: DIGNITY



Equality of access to the city and its benefits









# Investigación-participación-acción

## Laboratorio de Cambio Social

Un espacio de investigación de Ingeniería de Transporte (PUC) y Ciudad Viva, que convoca a otros socios líderes del “Laboratorio Vivo” de la ciudad. Apoyado por el Centro de Desarrollo Urbano Sustentable (Cedeus) y el Centro Transporte Rápido en buses.

[www.cambiarnos.cl](http://www.cambiarnos.cl)

Gracias - obligada - thanks



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