Digital Public Participation in Bogota: A Case Study Using Streetmix

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Content of today

What is Streetmix

How has NUMO supported them

Bogotá 2020 project

How to move forward collaboratively

Streetmix - its main characteristics

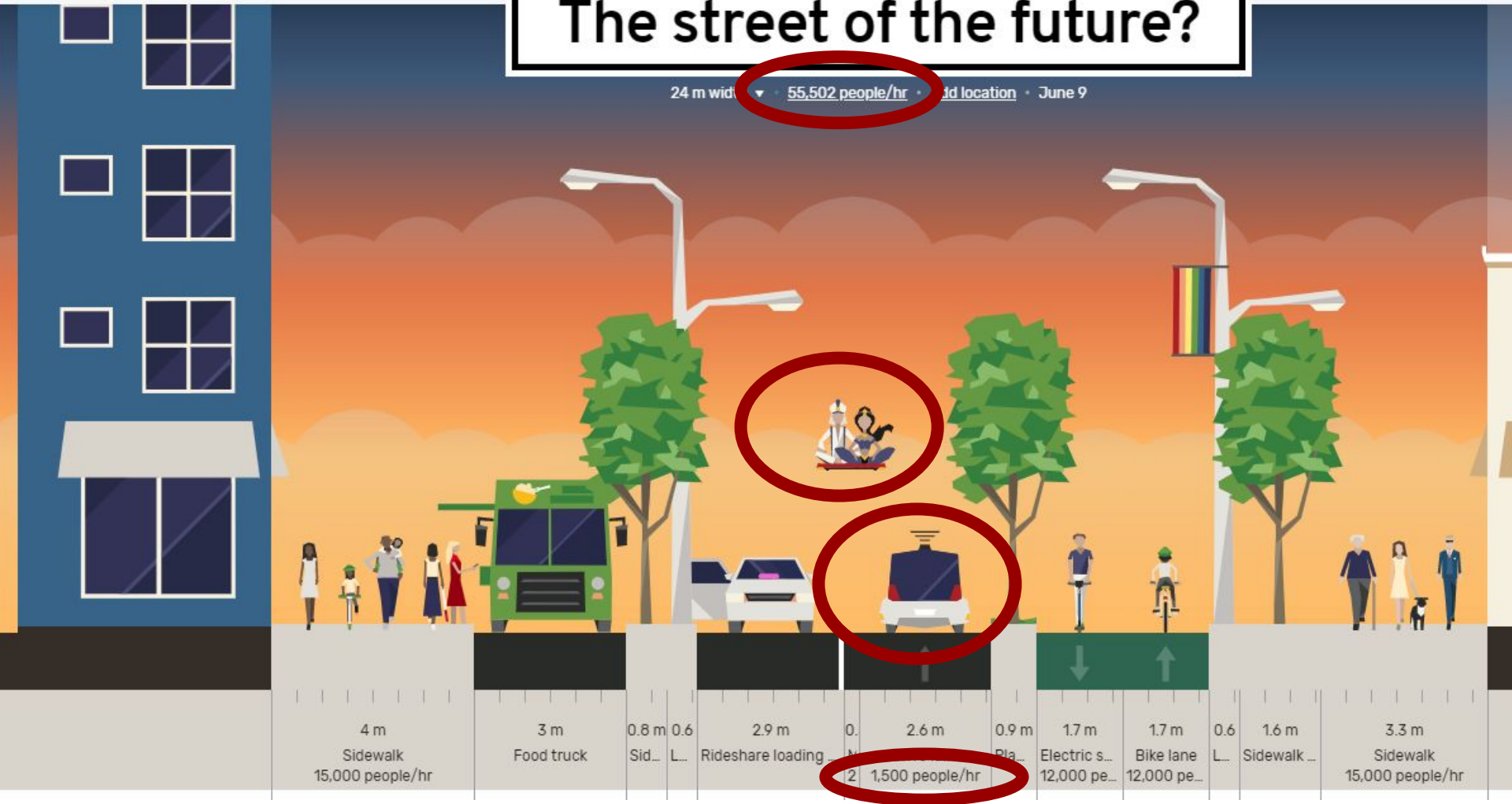
- Open source platform (GitHub) launched in 2013
- Enables specific suggestions to street design
- Translates the design into code (can be analyzed quantitatively)

NUMO support to Streetmix

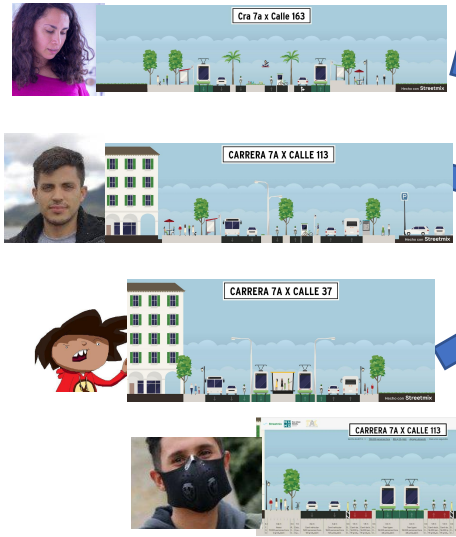
- NUMO support in 2019:
  - Street capacity
  - AVs
  - Magic carpet
  - Revamp database structure
- NUMO Support 2020:
  - Added Bus Rapid Transit bus and station (NUMO + ITDP)
- Bogotá 2020 “Séptima Verde”

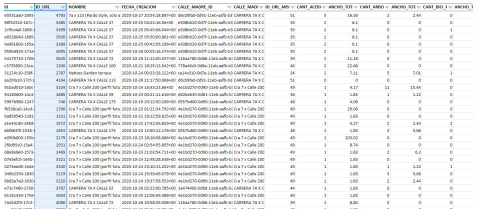
From Streetmix “about” section

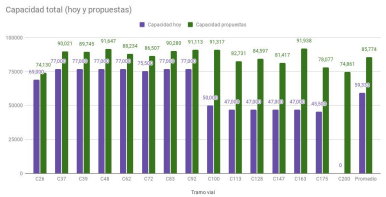
The street of the future?



NUMO in Bogotá: Séptima Verde







Getting the word out

- Twitter
- Email
- Print and online newspaper articles
- in-person workshops (directing people to site)

1.12

Bogotá metropolitana

La herramienta para diseñar un Corredor Verde en la 7.ª

A través de Streetmix, la Alcaldía quiere incentivar la participación de la gente en el futuro de la vía.

Juez pone fin a último pleito que existía sobre la séptima

Streetmix for Séptima Verde

- **October 17-31, 2020**
- **6,712** proposals (avg. **480 daily proposals)**
- **Equivalent to 650 hours of work**
- **91% valid proposals** (5,941 valid streets adjusted to profile as of 31 oct, 6.093 as of nov 3)

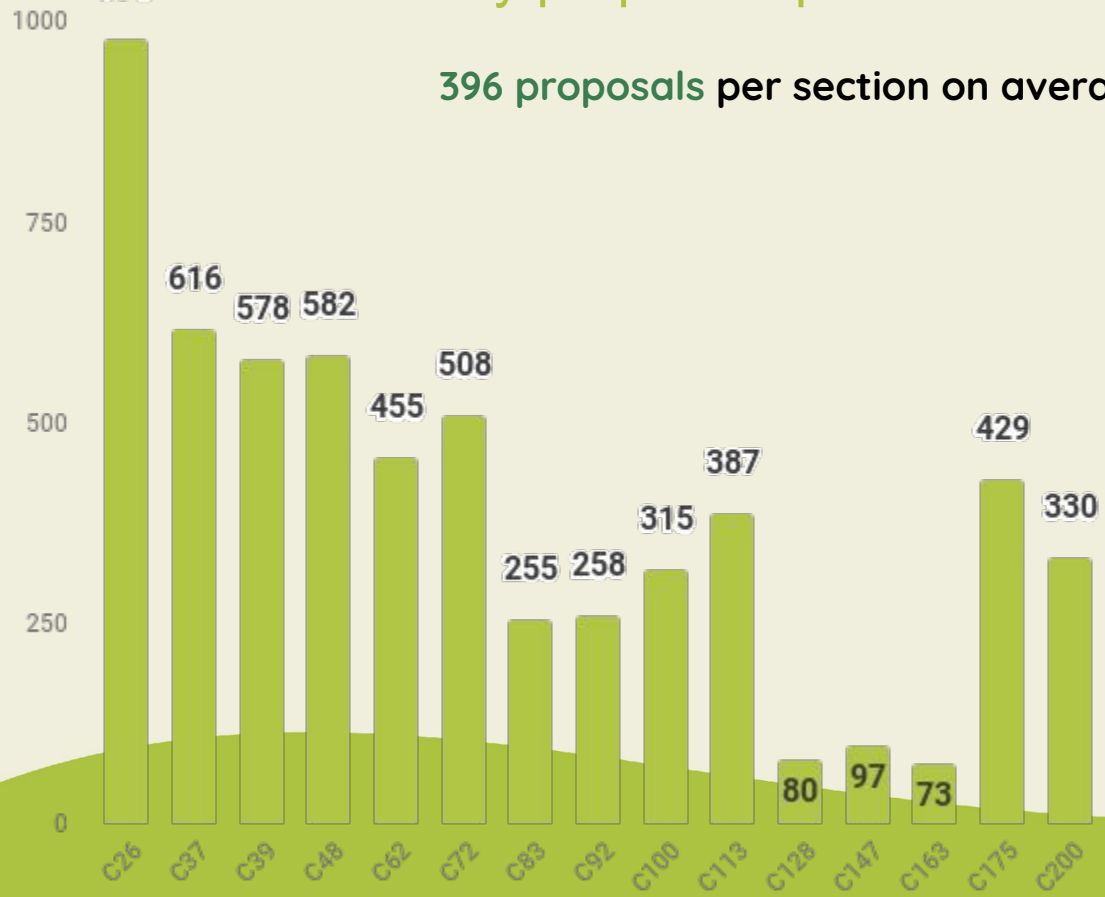
IP control (to control for excessive repetitions)

Quantity of Designs per Street	How many cases?	Percentage	Which ones?

Cantidad Diseños por calle/IP	Eso pasa en cuántos casos?	Pct	Cuáles?
1	4300	83.40%	
2	571	11.07%	
3	166	3.22%	
4	68	1.32%	
5	24	0.47%	
6	7	0.14%	
7	9	0.17%	
8	6	0.12%	
10	1	0.02%	CARRERA 7A X CALLE 72 (IP: 186.29.231.189)
11	2	0.04%	CARRERA 7A X CALLE 62 (IP: 186.29.41.73) CARRERA 7A X CALLE 26 (IP: 186.154.239.19)
13	1	0.02%	CARRERA 7A X CALLE 26 (IP: 186.84.91.12)
32	1	0.02%	CARRERA 7A X CALLE 26 (IP: 186.28.92.38)

How many proposals per section?

396 proposals per section on average



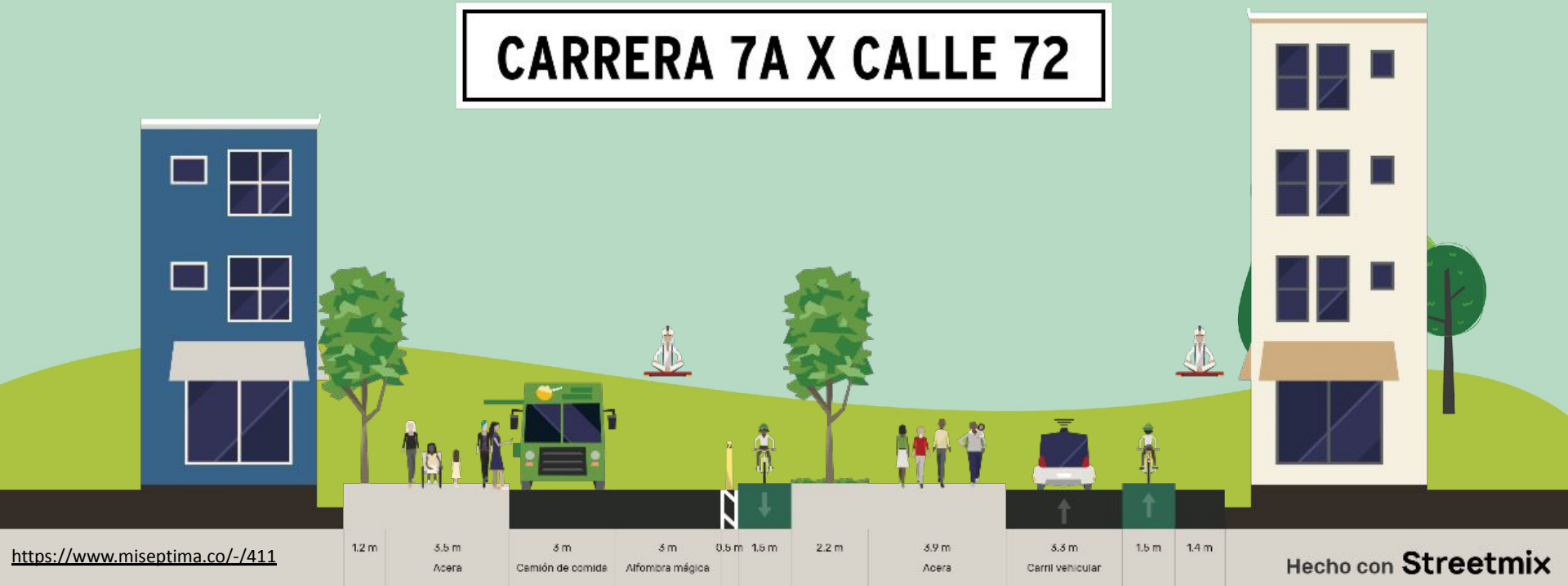
How many proposals per day?

What we saw: a **creative** citizenry and **open to change**

BOGOTÁ

235 proposals with at least one magic carpet in their design

248 integrated autonomous vehicles



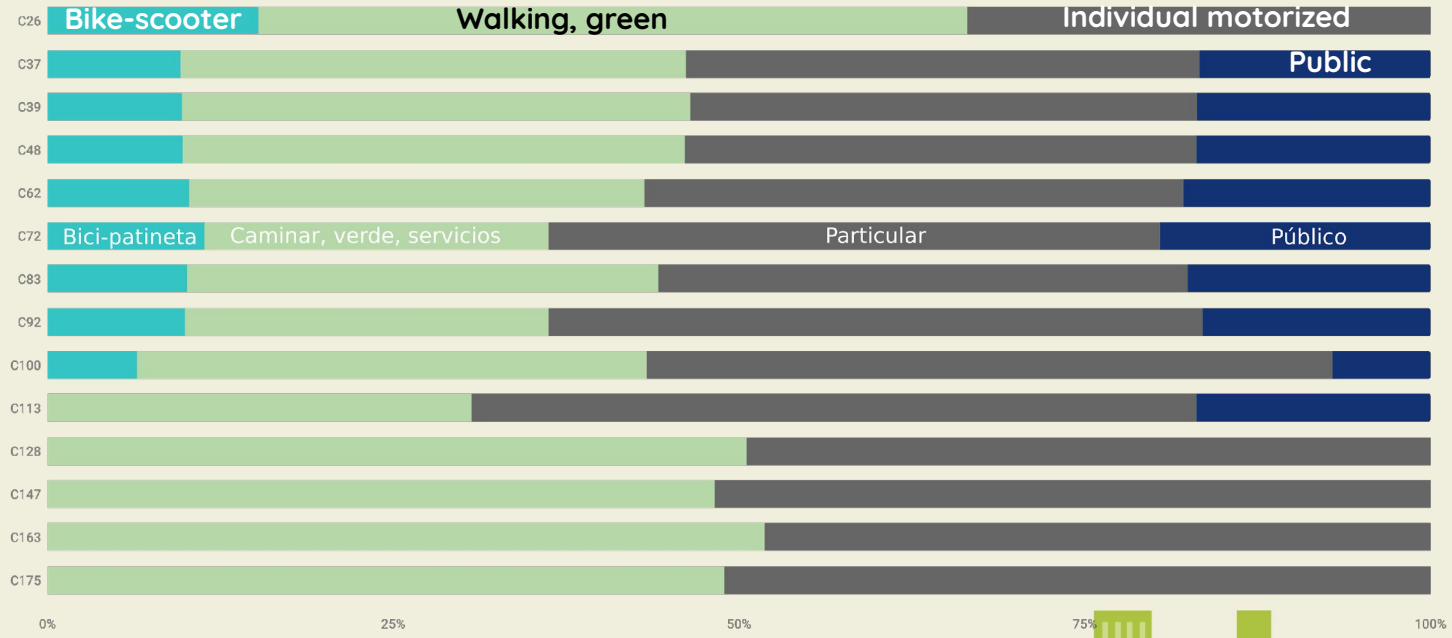
https://www.miseptima.co/-/411

Hecho con **Streetmix**

Bogotanos propose a more sustainable and equitable way of distributing space on the road

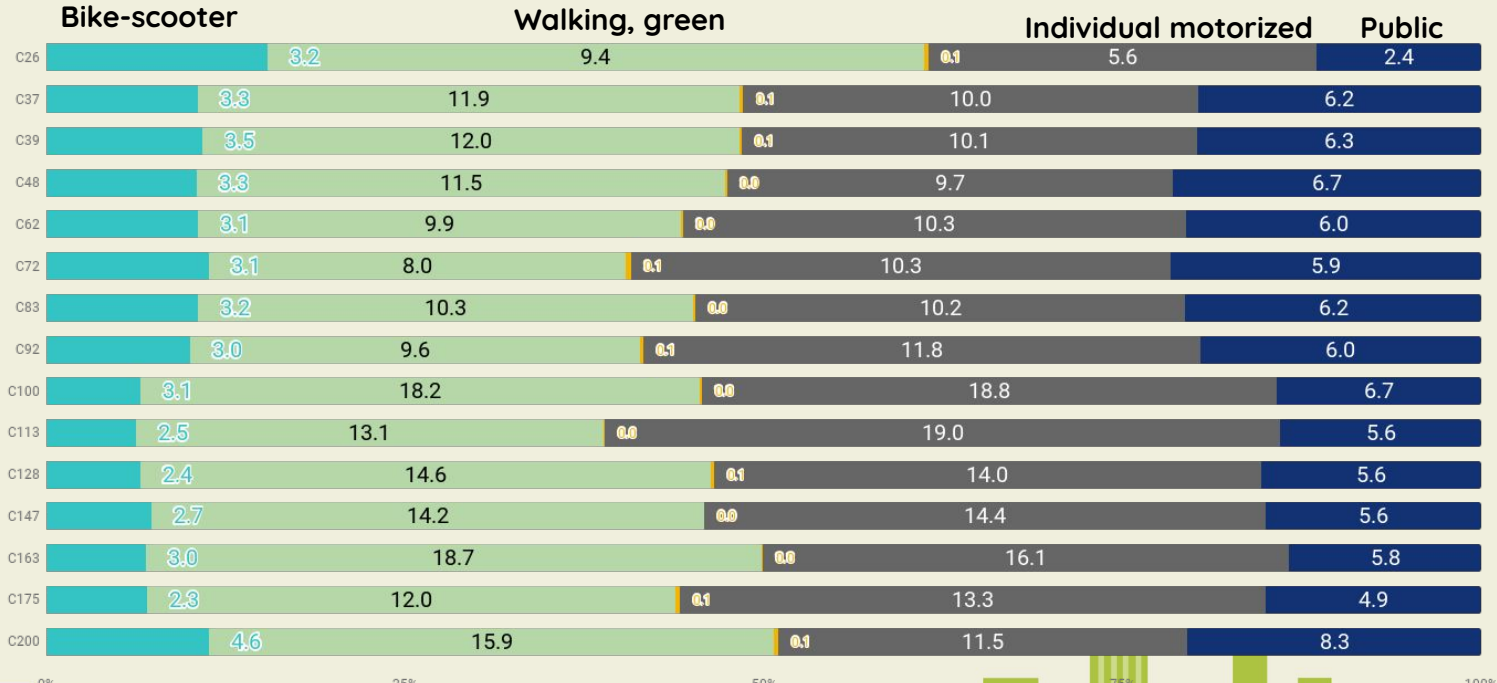
- **Increase 56%** space to bicycles, skateboards
- **Increase 74%** of space to public transit
- **Reduce 19%** of space from private vehicles
- **Create space** for more services (food, ect)

How roadways are distributed today

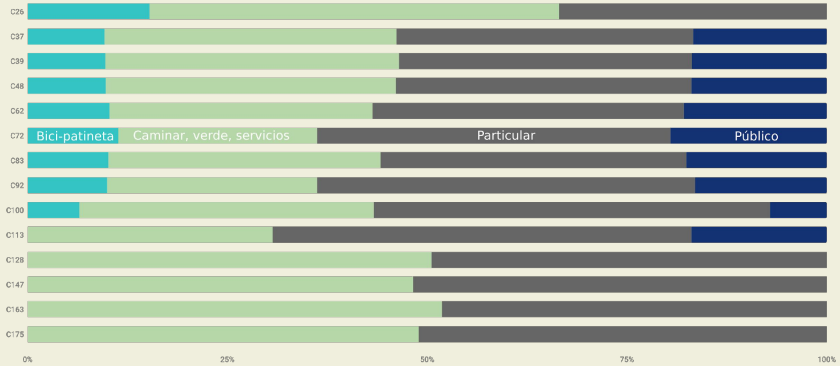


Note: space allocated to the public is at 50% as it is not exclusive

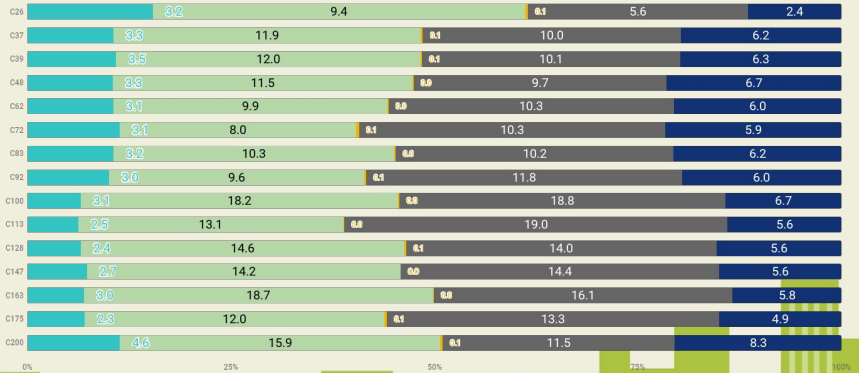
How proposed changes look



Comparing Existing vs Proposed

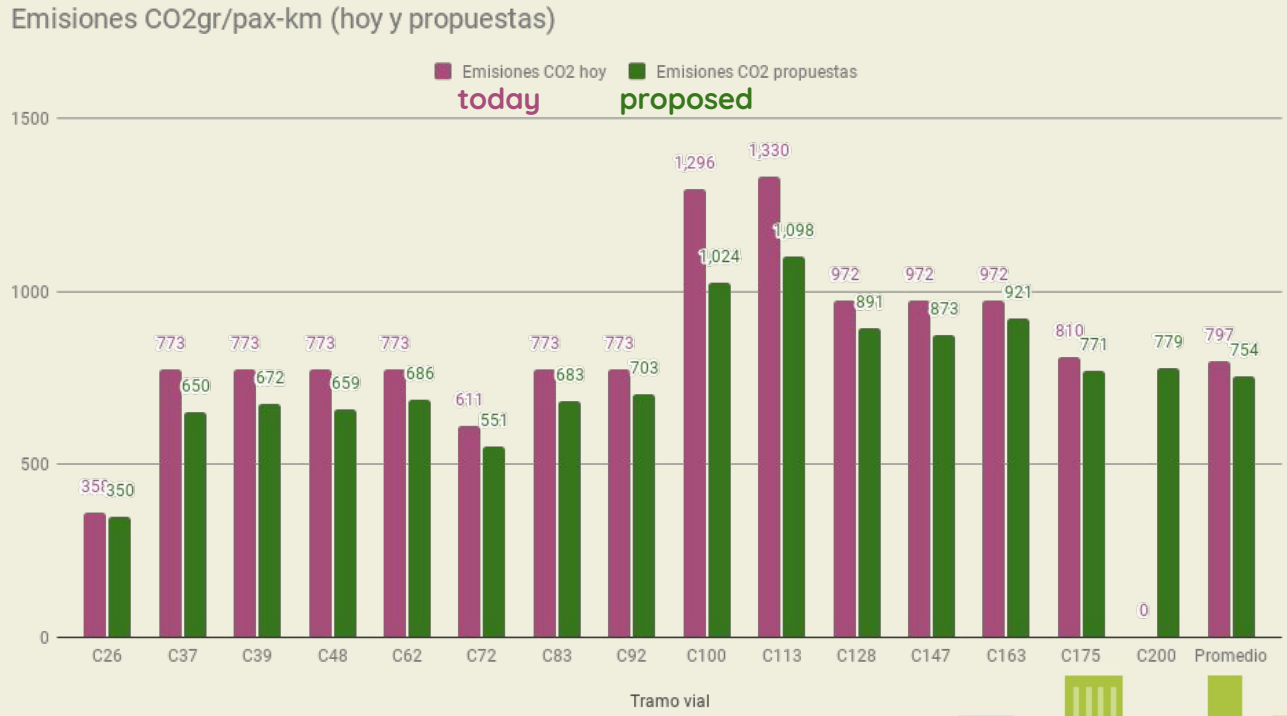


Existing



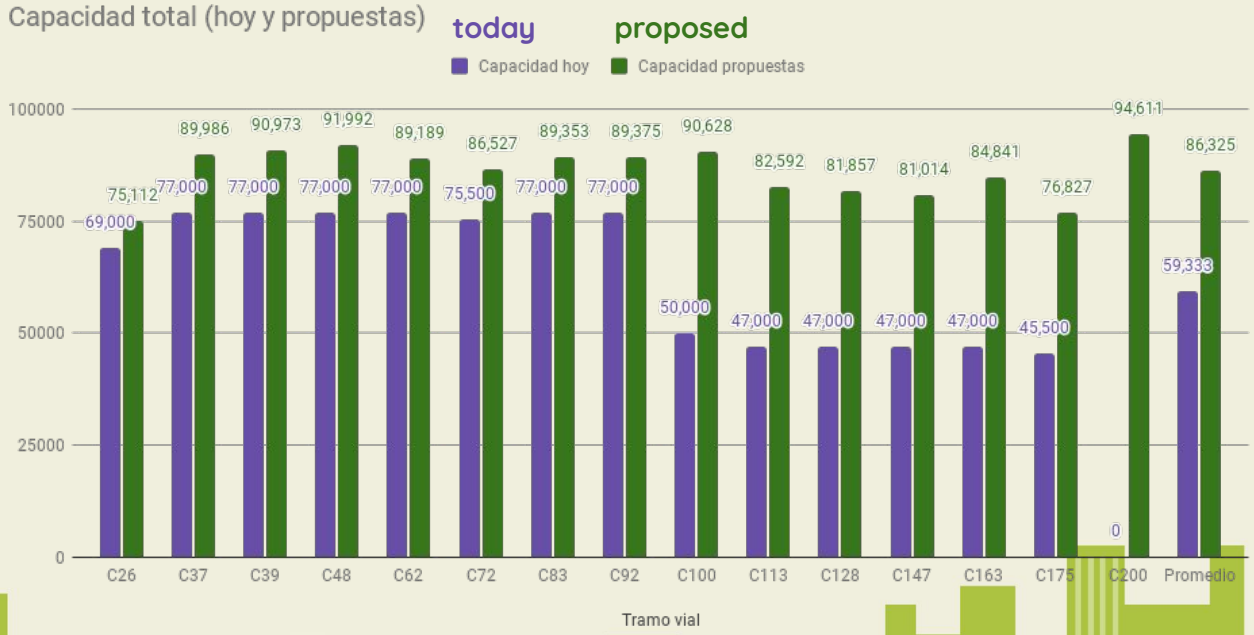
Proposed

Citizens propose corridors that reduce emissions by up to 22% (conservative scenario)



- On average, proposals **reduce emissions by 6%**
- Proposals for Calle 100 **reduce emissions by 26%**
- Mainly giving priority to public and active transport

Bogotanos propose corridors with greater capacity (sometimes almost double)



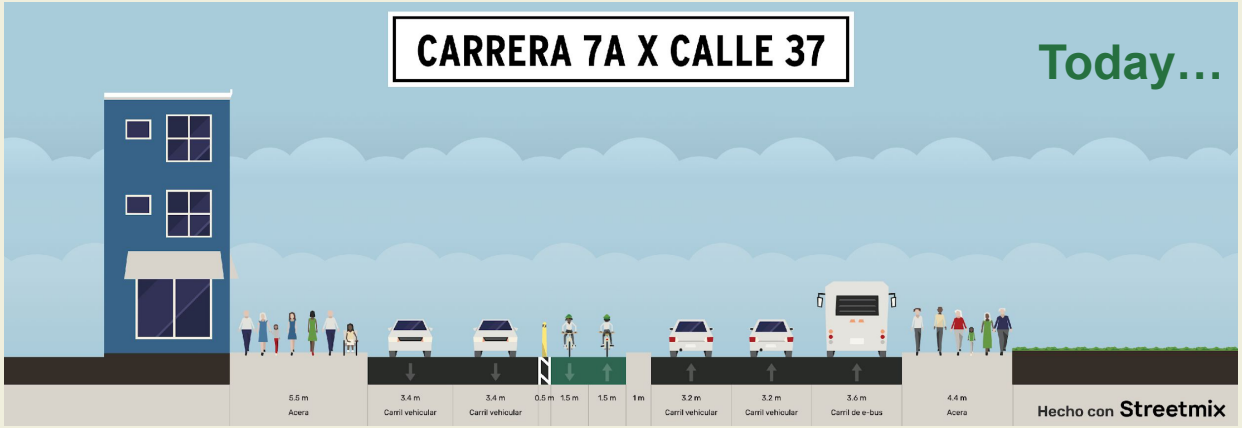
- On average, the proposals increase capacity by 45% (from 59,000 to 86,000 passengers)
- **Calle 163 increased 80%**

Lessons – in general

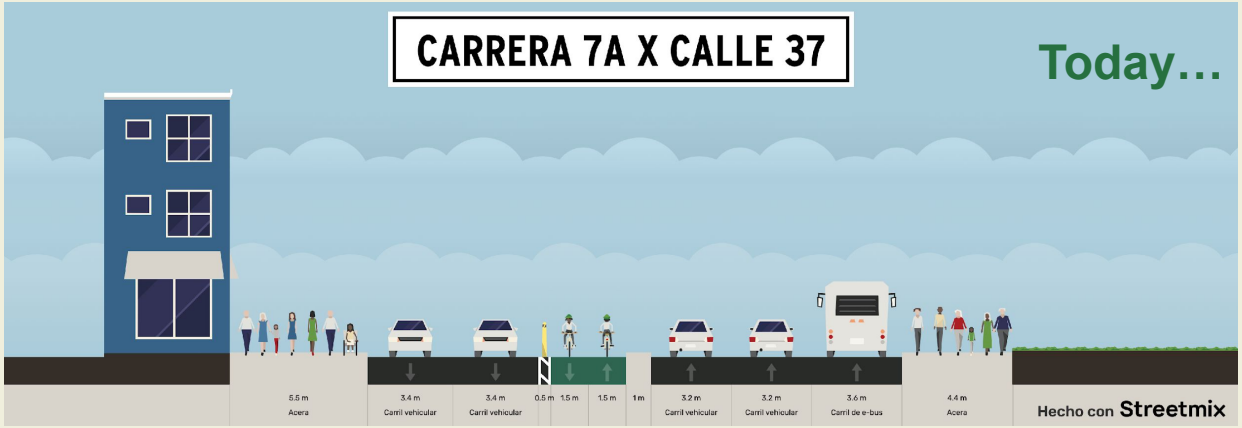
- The activity had wide **participation** which is useful as an input to the process
- Citizens proposed **emissions reduction, higher capacity** in corridor
- Bogotá is **open to change**

Lessons for design

- Create dedicated space for **public transport**
- Preserve and expand space for **walking**
- Preserve and improve space for **bicycles**
- Improve public space **furniture**, green areas, services (food etc)
- Be **creative** in the design


CARRERA 7A X CALLE 37
Today...
5.5 m
Acera
3.4 m
Carril vehicular
3.4 m
Carril vehicular
0.5 m
1.5 m
1.5 m
1 m
3.2 m
Carril vehicular
3.2 m
Carril vehicular
3.6 m
Carril de e-bus
4.4 m
Acera
Hecho con Streetmix

CARRERA 7A X CALLE 37
How it's proposed...
6.2 m
Acera
3.4 m
Carril vehicular
0.6 m
3.5 m
e-BRT
4 m
Estacion de e-BRT
3.5 m
e-BRT
0.6 m
3.2 m
Carril vehicular
6.2 m
Acera
Hecho con Streetmix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Today...
5.5 m
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1.5 m
1.5 m
1 m
3.2 m
Carril vehicular
3.2 m
Carril vehicular
3.6 m
Carril de e-bus
4.4 m
Acera
Hecho con Streetmix

CARRERA 7A X CALLE 37
How it's proposed...
6.2 m
Acera
3.4 m
Carril vehicular
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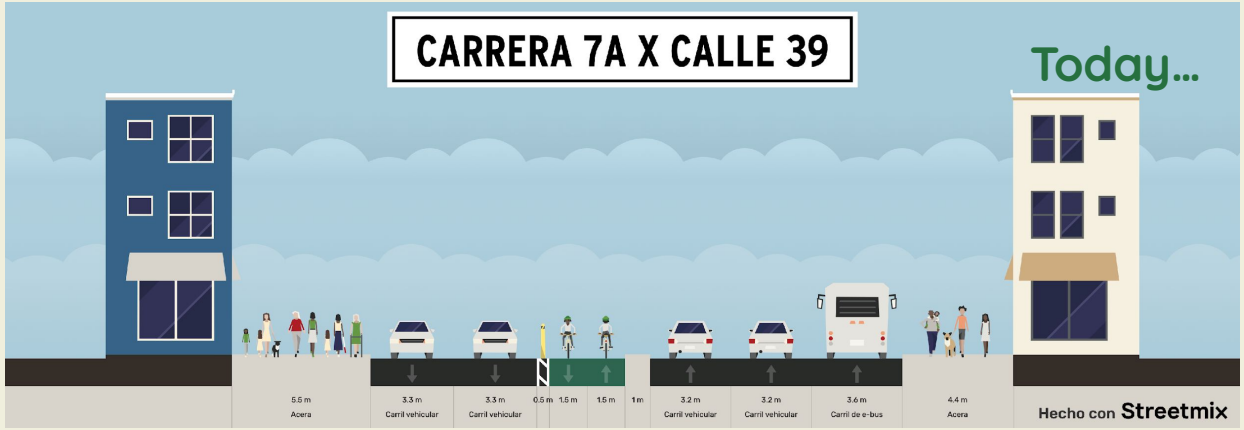
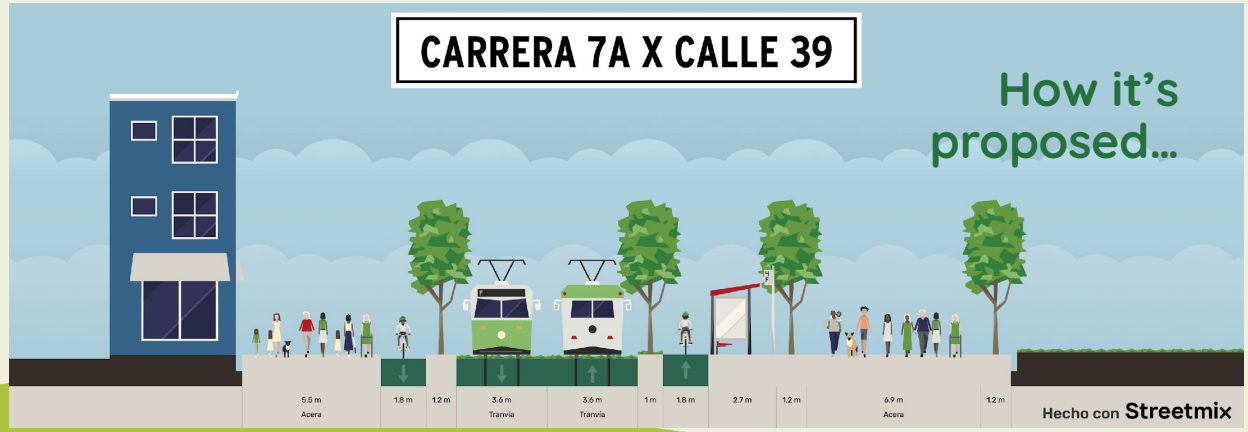
3.2 m
Carril vehicular
6.2 m
Acera
Hecho con Streetmix


CARRERA 7A X CALLE 39
Today...
5.5 m
Acera
3.3 m
Carril vehicular
3.3 m
Carril vehicular
0.5 m
1.5 m
1.5 m
1 m
3.2 m
Carril vehicular
3.2 m
Carril vehicular
3.6 m
Carril de e-bus
4.4 m
Acera
Hecho con Streetmix


CARRERA 7A X CALLE 39
How it's proposed...
5.5 m
Acera
1.8 m
1.2 m
3.6 m
Tranvía
3.6 m
Tranvía
1 m
1.8 m
2.7 m
1.2 m
6.9 m
Acera
1.2 m
Hecho con Streetmix

Cra 7a x Calle 163

Today...

Hecho con **Streetmix**

Cra 7a x Calle 163

How it's proposed...

Hecho con **Streetmix**

Low emissions proposal (205 grCO2/pax-km, 80k pax/h)

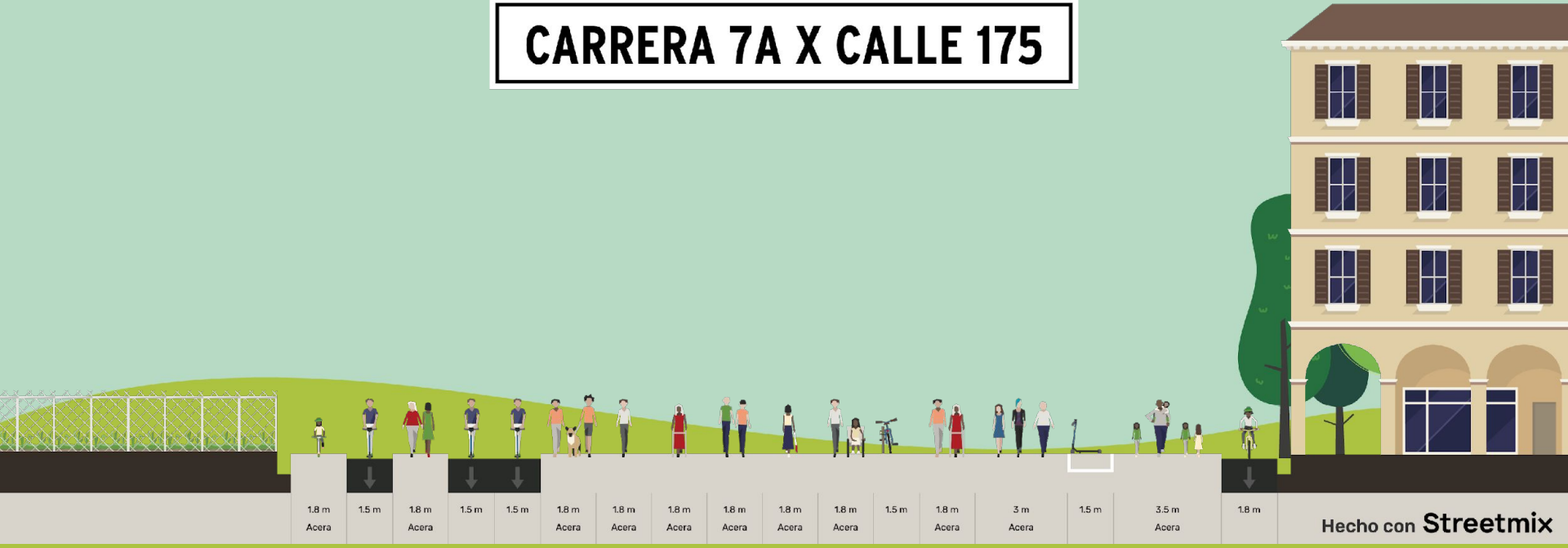
https://www.miseptima.co/-/1149

Hecho con Streetmix

Another proposal of low emissions

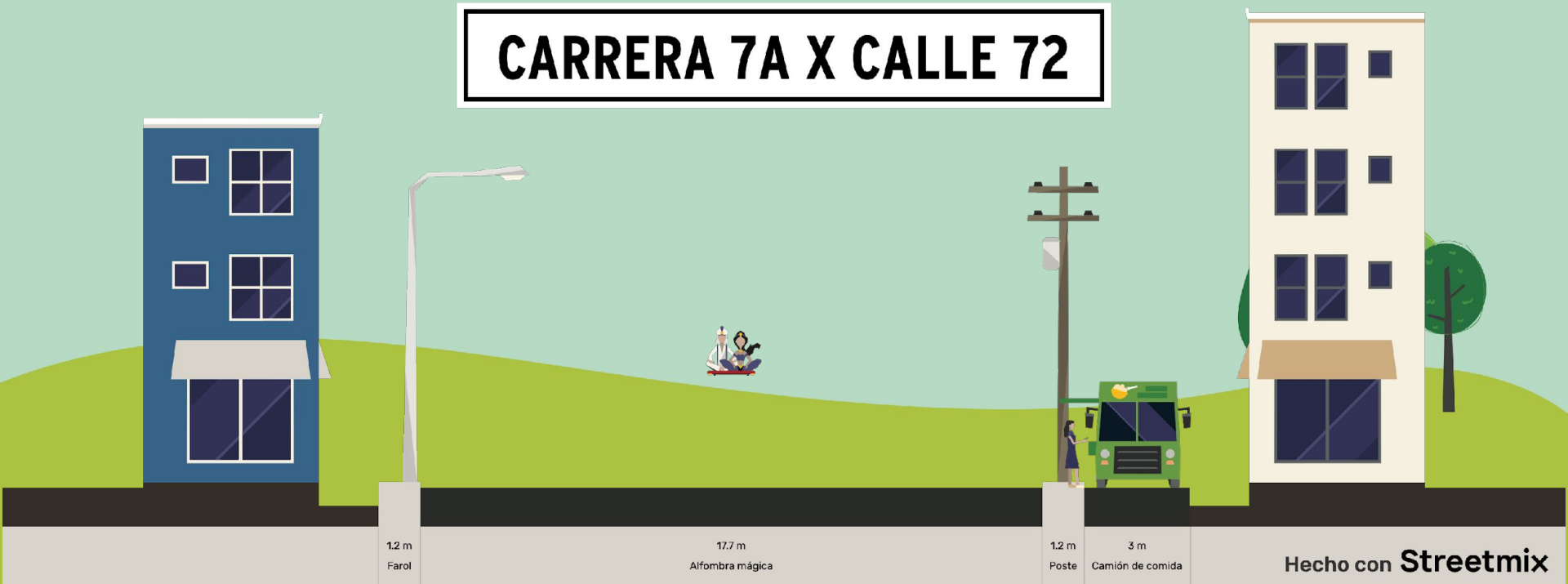
https://www.miseptima.co/-/17
5

Highest capacity proposal (265,000 people per hour)

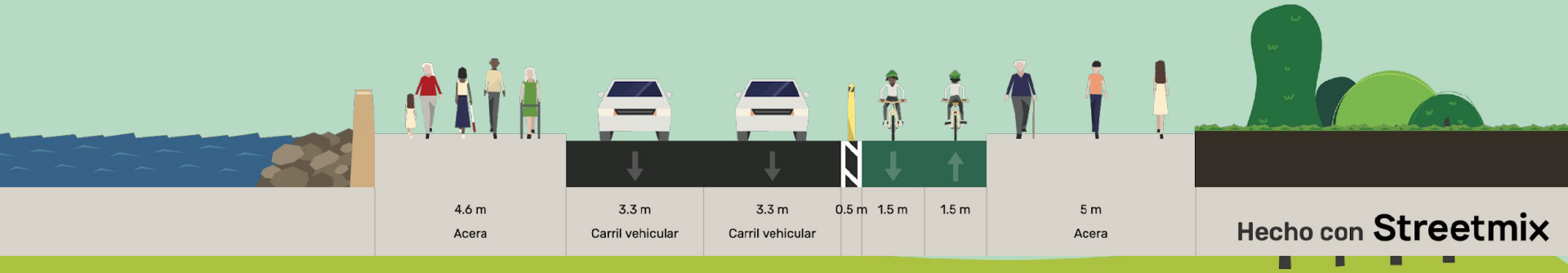


https://www.miseptima.co/-/677

Lowest capacity: 1,500 passengers per hour.

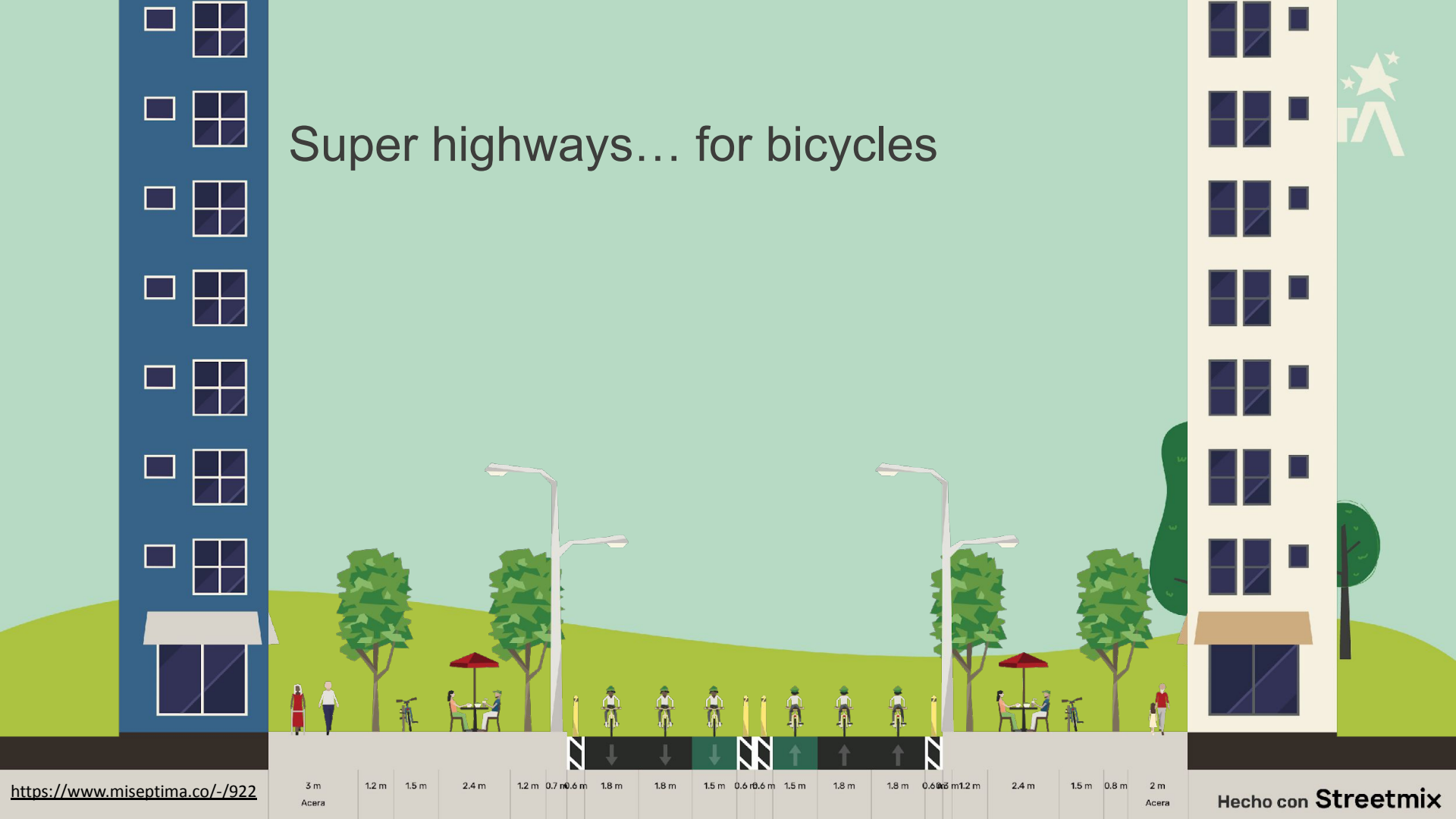


CARRERA 7A X CALLE 26



https://www.miseptima.co/-/460

Super highways… for bicycles



https://www.miseptima.co/-/922

Hecho con Streetmix

How to move forward

Séptima process was “**by hand**” but can be **improved**:

Streets coded and scraped to CSV **(automate process)**

CSV used to create google drive to clean database **(automate)**

Clean database used to produce graphs **(PowerBI / datastudio / create other visual interface)**

Yet another step - going isometric (or Plan View)