BIKE-SHARING SYSTEMS
MORE THAN A LAST MILE SOLUTION
ONCE UPON A TIME IN 2012


2. BCRPA, 2011, Bicycle Facilities Design Course Manual
MISSION

Move human society to live in ways that protect Earth’s environment and its capacity to provide for the needs and aspirations of current and future generations.

OUR APPROACH

We measure our success through real change on the ground. Our approach involves three essential steps:

1. **Count It** We conduct independent research and draw on the latest technology to develop new insights and recommendations.

2. **Change It** We use our research to influence government policies, business strategies, and civil society action. We test projects with communities, companies, and government agencies to build a strong evidence base.

3. **Scale It** We work with partners to adopt and expand our efforts regionally and globally.
Are bike-sharing systems part of sustainable urban solutions? Mobility, development…?
BIKE-SHARING AROUND THE WORLD

2015: 1,188 systems / 1.2 million bicycles

2018: 1,600 systems / 17 million bikes / 980 cities

Source: www.bikesharingmap.com, 2017
OPPORTUNITIES

• Integration with public transport network for last mile connectivity.
• Can be the fastest and the more flexible mobility solution in cities.
• Increase accessibility and availability of bikes.
• Can reduce the investment for local governments in mobility.
• Potential increase in bicycle trips (depending on other conditions of the city e.g. Infrastructure, equipment, regulations)

https://eng.yidaiyilu.gov.cn/info/iList.jsp?tm_id=1398&cat_id=10058&info_id=21682
CHALLENGES

• Lack of technical process for planning, design and implementation.
• Not enough policy's around bicycle mobility in general.
• Need for improve and transparency on: business models legal arrangements and regulations for operation.
• Close coordination between local governments and private sector is needed to develop long-lasting regulations to operate safely, sustainably and civilly.
FINANCING SUSTAINABLE CITIES INITIATIVE

- **Partnership:**

- **Project:** “Financing Sustainable Cities Initiative”

- **Main question:** How can we develop business models that can accelerate and scale-up the implementation of sustainable urban solutions?

http://www.financingsustainablecities.org/
WHAT BUSINESS MODELS ARE CITIES USING? WE ANALYZED 30 CITY EXAMPLES
WHAT DO WE NEED TO KNOW?

• There are many different types of bike-sharing systems.
• A bike-sharing system is more than just a bicycle. It requires additional elements, including cycling infrastructure.
• Many cities in the world have already gone through this process.
WHAT IS A BUSINESS MODEL?

**How to mobilize investment capital?**
The financial products that can be used to mobilize third-party capital

**What to invest in?**
The elements that form part of an investment in a bike share system

**How to structure implementation?**
The distribution of risks and responsibilities among all stakeholders

**How to pay for it?**
The funding sources that exist to pay the investment
BUSINESS MODEL FRAMEWORK FOR BIKE SHARING SYSTEMS

Tangible assets

Intangible assets

Processes

Investment proceeds

Investment incentives

Other budgets

Equity

Debt

De-risking

FINANCIAL PRODUCTS

DELIVERY MECHANISMS

FUNDING SOURCES

INVESTMENT COMPONENTS

INSTITUTIONAL FRAMEWORKS

LEGAL ENTITIES

CONTRACTS
21,000 inhabitants Greater Mexico City

35 million trips per day

8.9 million

7.4 million

Mexico City Context

http://www.iingen.unam.mx/es-mx/Investigacion/Proyectos/Documents/PresentacionOD.pdf
Bicycle mobility strategy for Mexico City is a comprehensive program linked to different national and local policies.

**NATIONAL**
- General Law of Climate Change 2012 (reform 2016)
- National Development Program 2013-2018
- General Development Program of Mexico City 2013 – 2018

**LOCAL**
- Mexico City Climate Action Program 2014-2020
- Mobility Plan for Mexico City 2013-2018
Integrated Transportation System

Articulate the different modes of transport financially, technically and operationally.

Culture of mobility

Change mobility patterns to encourage non-motorized modes and/or public transportation.

Streets for all

Space for all modes pedestrian and cyclist priority.

More mobility with less car

Demand management with non-motorized modes of transport.

http://www.cms.sedema.cdmx.gob.mx/storage/app/media/libro_ciclista.pdf
BICYCLE - MOBILITY STRATEGY

1. Infrastructure and equipment
   Bike lanes and Bikehubs

2. Culture and Education
   Open Street Programs & Bike schools

3. ECOBICI
   Bike-share system

http://www.cms.sedema.cdmx.gob.mx/storage/app/media/libro_ciclista.pdf
Phase I - 2010
90 stations
1,200 bikes

Phase II y III - 2012
175 stations
2,500 bikes

Phase IV - 2015
171 stations
2,500 bikes
500% CYCLE TRIPS INCREASE 2008-2016

Source: [http://www.cms.sedema.cdmx.gob.mx/storage/app/media/libro_ciclista.pdf](http://www.cms.sedema.cdmx.gob.mx/storage/app/media/libro_ciclista.pdf)

Photo: Enrique Abe [http://kiks49.wixsite.com/lightbandit](http://kiks49.wixsite.com/lightbandit)
BENEFITS OF CLIMATE ACTION
Piloting A Global Approach To Measurement

Source: http://www.c40.org/researches/measuring-benefits
Initial findings on measuring the wider benefits of climate action focus on bikeability and walkability in Mexico City; specifically:

- Introduction of bike lanes
- Bike-share (EcoBici)
- Pedestrian avenue (Madero Street).

Cities need the evidence and tools to make a stronger case, enabling the staggering increase in scale and pace of action required.

Source: http://www.c40.org/researches/measuring-benefits
Photo: Enrique Abe http://kiks49.wixsite.com/lightbandit
Bikeability and walkability in México City has saved the city 109 million US dollars in the last 7 years

Huge range of benefits for the health and wellbeing of citizens, reducing the risk of obesity and associated Non-Communicable Diseases, such as cardiovascular disease and type 2 diabetes.

Source: http://www.c40.org/research/measuring-benefits
300% increase on the number of people who switched their mean of transport from car to bike-sharing.

SUSTAINABLE DEVELOPMENT BENEFITS
CO2 REDUCTION
ON THE FIRST 8 YEARS*

4,000 Tons

equivalent to

12,000 trees

*First CO2 Calculator Reduction in LATAM. WRI México in 2012

Source: http://www.cms.sedema.cdmx.gob.mx/storage/app/media/libro_ciclista.pdf
Operation Area

- Urban zone & central
- Transport Network System
- Flat
- Less urban barriers

Attract 40% of all city trips

PLANNING AND DESIGN
5 out of 10 users do not live in ECOBICI area.
15% live in the Metropolitan Area
INTERMODALITY

9 out of 10 trips in bike-share are combine with transit

36 subway stations

54 BRT stations

34% ECOBICI total trips

Source: http://www.cms.sedema.cdmx.gob.mx/storage/app/media/libro_ciclista.pdf
95.8 years saved from all bike share trips.

Time spent using ECOBICI represents between 31-55% of the weekly recommended exercise.

Source: http://www.cms.sedema.cdmx.gob.mx/storage/app/media/libro_ciclista.pdf
In 2010, 20% women used cycles

Now 4 out of 10 users are women
“In my office, we are mainly women. I think that a key factor for using ECOBICI is safety. On ECOBICI you avoid harassment, you do not experience any violence. I think that it is an important argument for women riding a bike.”

Sara Hernández, 51 years old.
BENEFITS

ECOBIICI USERS

22% > MORE RELAXED
82% > BETTER QUALITY OF LIFE
25% > BETTER HEALTH
19% > MORE DISPOSABLE INCOME
65% > SPEND 41 HOURS PER YEAR CYCLING
35% > SPEND 71 HOURS PER YEAR CYCLING & WALKING

Mexico City
Cycling prevents an estimated 10 deaths per year due to the protective benefits of increased physical activity

TEN DEATHS A YEAR PREVENTED

It is estimated that 26 hours of physical activity per user per year have been gained due to use of EcoBici instead of less active modes of transport

26 HOURS

Source: http://www.c40.org/researches/measuring-benefits
OTHER CYCLING PROGRAMS WAITING TO BE MEASURED
THANK YOU FOR YOUR TIME!

THE FINANCING SUSTAINABLE CITIES INITIATIVE (FSCI) TEAM RESEARCHERS AND COLLABORATORS IN BIKE-SHARING SYSTEM INNOVATIONS:

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