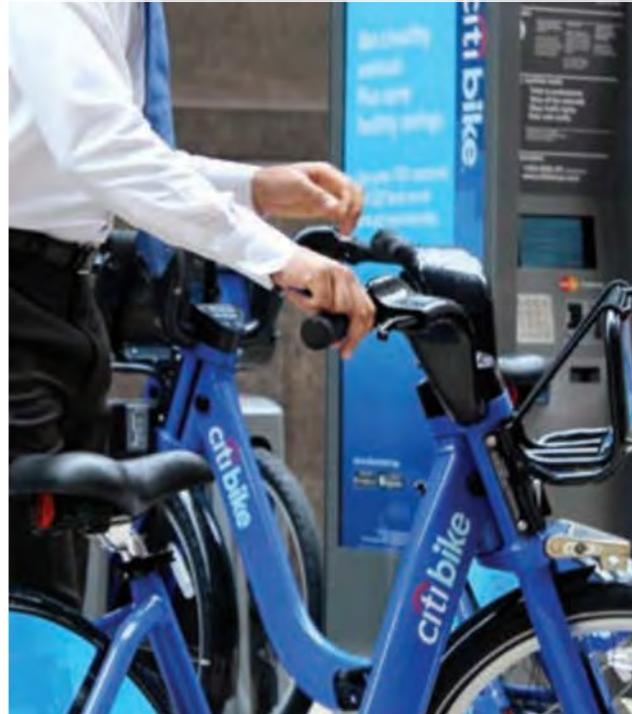


# Bicicletas Publicas y Compartidas

## Por una movilidad segura y sostenible



Encuentro Latinoamericano de SBPC | Rio de Janeiro | Junio 2018

**Fabrizio Prati**

NACTO | National Association of City Transportation Officials

GDCI | Global Designing Cities Initiative

[fabrizio@nacto.org](mailto:fabrizio@nacto.org)

@GlobalStreets





# NACTO: Cities Leading The Way

**USDOT**  
FHWA Memorandum  
States  
California  
Massachusetts  
Minnesota  
Tennessee  
Utah  
Washington

**Cities**  
Arlington, VA  
Atlanta  
Austin  
Baltimore  
Bellevue, WA  
Boston  
Boulder  
Brownsville, TX  
Charlotte  
Chattanooga  
Chicago  
Davis  
Denver  
El Paso  
Fort Lauderdale  
Hoboken  
Indianapolis  
Louisville

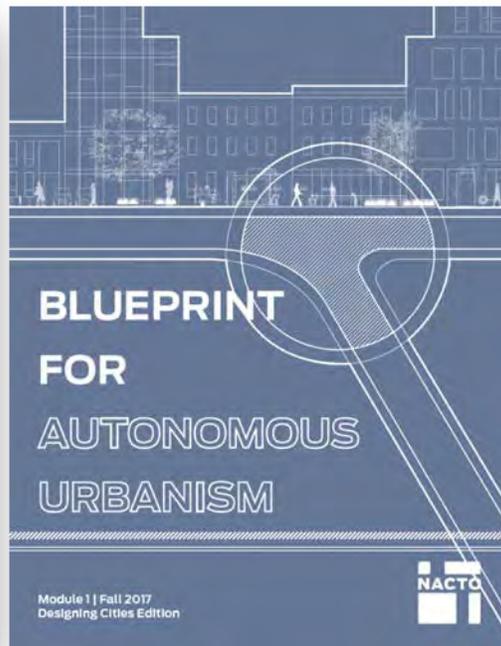
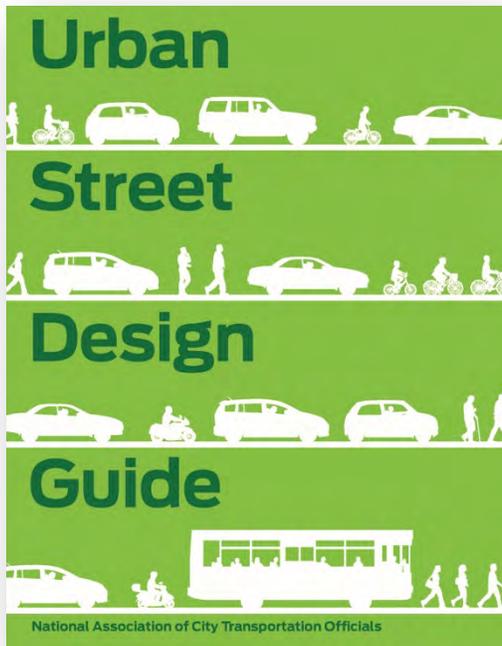
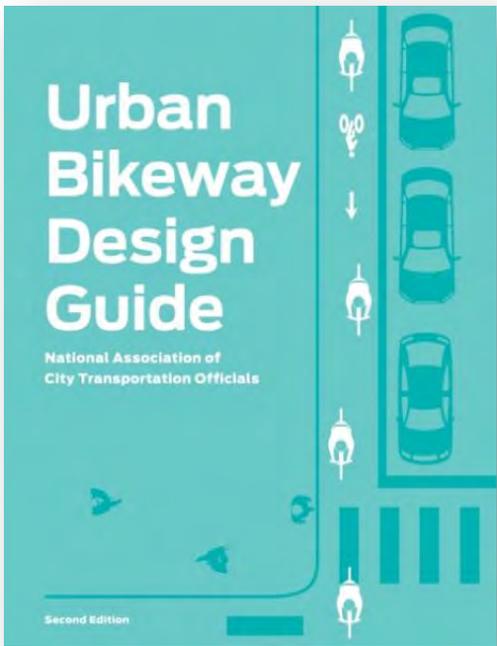
Memphis  
Minneapolis  
Nashville  
New York  
Oakland  
Philadelphia  
Pittsburgh  
Phoenix  
Portland, OR  
Portsmouth, NH  
Providence  
Rochester, NY  
Saint Paul  
Salt Lake City  
San Diego  
San Francisco  
Seattle  
Somerville, MA  
Tacoma, WA  
Traverse City, MI  
Washington, DC

**Counties**  
Hennepin County, MN

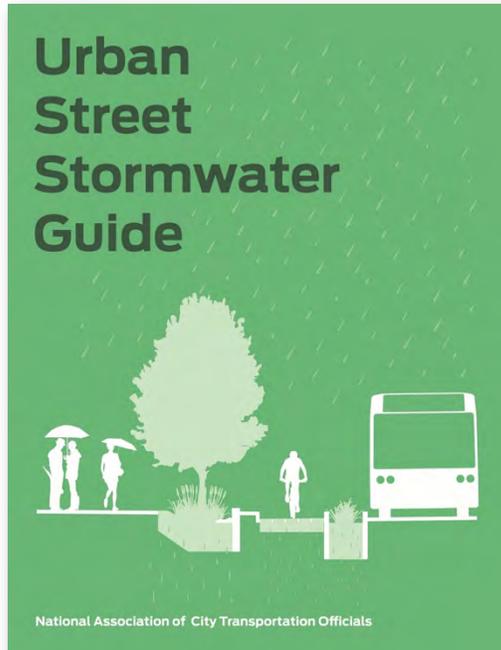
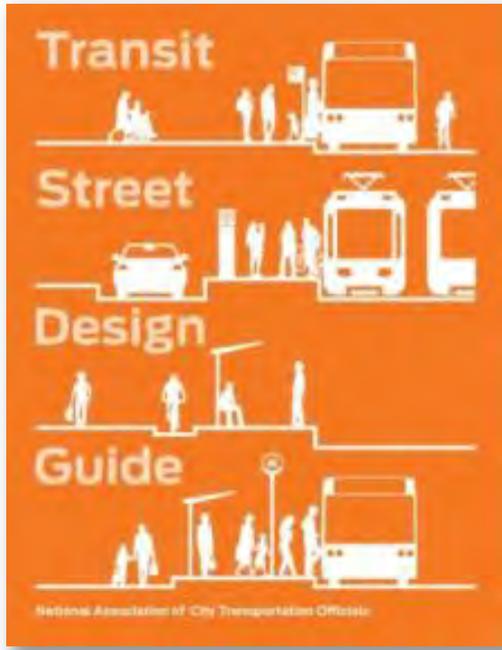
**Organizations**  
Association of Bicycle & Pedestrian  
Professionals  
Urban Land Institute



# Peer-to-peer mentoring



National  
Association of City  
Transportation  
Officials



**Guías de  
Diseño**

**Una autorización a  
innovar!**



# LOS ANGELES

DESIGNING CITIES 2018

**1 - 4 octubre**

**[nacto.org/conference](http://nacto.org/conference)**





**Janette Sadik-Khan**

**En 2014**

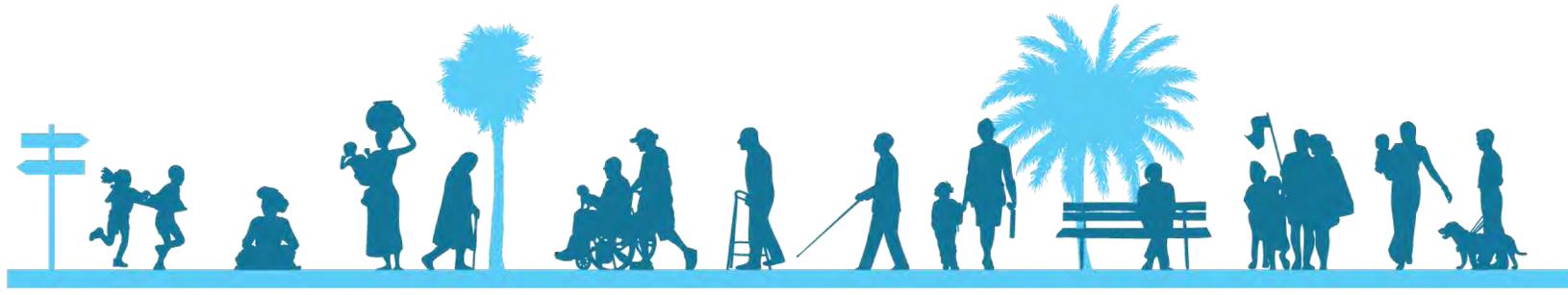


**Iniciativa  
Global de  
Diseño de  
Ciudades**



# Introducir una visión distinta en el diseño de las calles urbanas







## 6.4.5 | Cycle Share

Around the world, cycle share programs are offering new transportation choices for people of all incomes. They extend the reach of existing transit systems, make one-way cycle trips possible, and eliminate some of the barriers to riding such as cycle ownership, access to storage space, maintenance costs, and concerns about theft.

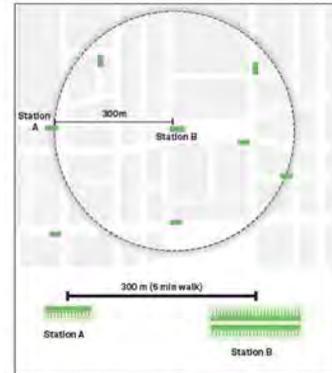
Cycle share offers an opportunity to promote cycling in a city when it involves good system planning and is incorporated as part of a larger citywide strategy.

### Program Coverage Area

For cycle share systems to offer a meaningful transportation option, they should cover large, contiguous areas that include a variety of neighborhoods, employment centers, cultural or recreational destinations, and high-density areas. Initial coverage areas should be carefully selected and strategically expanded in phases while maintaining critical station density and spacing across the entire system.

### Program Density and Station Spacing

Cycle share usage is largely driven by convenience. So, having many options will increase overall ridership. While many people will comfortably walk 400 m to reach a mass transit stop, it appears that the distance someone is willing to walk in order to use a bicycle is smaller, about 300 m, or a 5-minute walk. Since this distance remains the same regardless of neighborhood type, the size of the stations should be adjusted, not the spacing. When a station is full or empty, a user should be able to easily go to the nearest station to drop off or pick up a bicycle. Cities should ensure that stations are spaced no more than 300 m apart across the entire program area. This translates to an overall density of 11 stations per square kilometer.



Station distance is fundamental to the success of a cycle share system. Stations should be located no more than 300 m apart.

### E-BIKE SHARE SYSTEM IN COPENHAGEN

E-bike share systems provide pedelec bicycles whose pedalling is assisted by a small electric motor. These types of bicycles are particularly helpful for elderly people and can encourage people to cycle in hilly cities. Pedelecs reduce effort, decrease the time to reach a destination, and increase the range of destinations. In some cases, digital wayfinding screens are included on the bicycle.



Copenhagen, Denmark. This share system provides pedelec e-bikes with built-in wayfinding screens.



### Station Placement

Consider key destinations such as transit stations, schools, office districts, commercial corridors, and tourist attractions in the placement of cycle share stations.

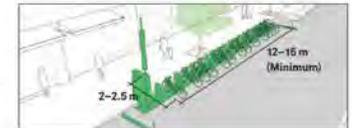
On-street cycle share stations can be placed on parking spaces. On-street stations also assist in traffic calming and street safety efforts by helping define pedestrian and cycle spaces and increasing visibility at intersections.

Stations should ideally be placed near cycle lanes and should never impede clear and safe pedestrian flow. Opportunities can be found:

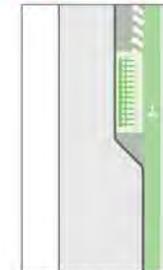
- In parking spaces adjacent to sidewalks
- In parking spaces adjacent to cycle lanes
- On wide sidewalks
- In adjacent public spaces, parks, or destination sites outside the public right-of-way

### Station Dimensions and Types

Cycle share stations generally include no fewer than 15 docks and can accommodate more than 100 at very high demand locations. Some cities use hardwired stations, which require digging and trenching. Although they have a better appearance, they require more construction time. Alternative systems are installed on plates and are generally less expensive and faster to install.



### Cycle Share Station Configurations



Configuration 1: Parking spaces adjacent to sidewalks.



Configuration 2: Parking spaces adjacent to cycle lanes.



Configuration 3: On wide sidewalks.



Configuration 4: In adjacent public spaces, parks, or destination sites outside the public right-of-way.

### CYCLE SHARE; HANGZHOU, CHINA

The city of Hangzhou started a cycle share program in 2008 and has now the largest system in the world, with 66,500 bicycles operating from 2,700 stations. Stations are located around bus stops and water taxi stations. The first 90 minutes of usage are free if transferring from a public bus or metro. The system is seen by locals as the best way to complement mass transit.

The high number of cycles and stations, along with the very wide protected cycle track network, are vital to the success of the system.



Hangzhou Cycle Share System

# NACTO Bike Share Initiative



## Designing for All Ages & Abilities

Contextual Guidance for Selecting High-Comfort Bicycles



June 21



## NACTO Bike Share Intercept Survey Toolkit



### BRINGING EQUITABLE BIKE SHARE TO BED-STUY

Progress Report from Bedford Stuyvesant Restoration Corporation in Partnership with NACTO

MARCH 2017

...traditional bike share psychology...  
...low-income would be riders. In addition to convenient...  
...pricing options that are user-friendly for people...  
...advantages of backend technology updates to create...  
...systems like Bikeshop's impact...  
...alternatively on payment options, streamlining the...  
...annual membership and offering in its place monthly...  
...While no...  
...options...  
...bike share...  
...paper...  
...feelings...  
...addition...  
...of pricing...  
...method...  
...variety...  
...especially...



## NACTO Bike Share Station Siting Guide

# Better Bike Share Initiative



# Better Bike Share Initiative



- Compartir conocimientos
- Definir buenas practicas por sistemas de bikes share mas equitativos
- Suportar proyectos pilotos
- Crear guías y orientaciones

# NABSA

A stylized logo for NABSA, featuring the letters N, A, B, S, and A in a bold, sans-serif font. The letters are dark grey and are set against a light blue background that has a subtle, repeating pattern of bicycle wheels and spokes.

## North American Bike Share Association

La asociación de la industria de bicicletas públicas: operadores, constructores, y ciudades

# NABSA + Better Bike Share

NORTH AMERICAN BIKESHARE ASSOCIATION AND  
BETTER BIKE SHARE PARTNERSHIP PRESENT:

**MOVING FORWARD**

**T > O > G > E > T > H > E > R**

**2018 CONFERENCE**

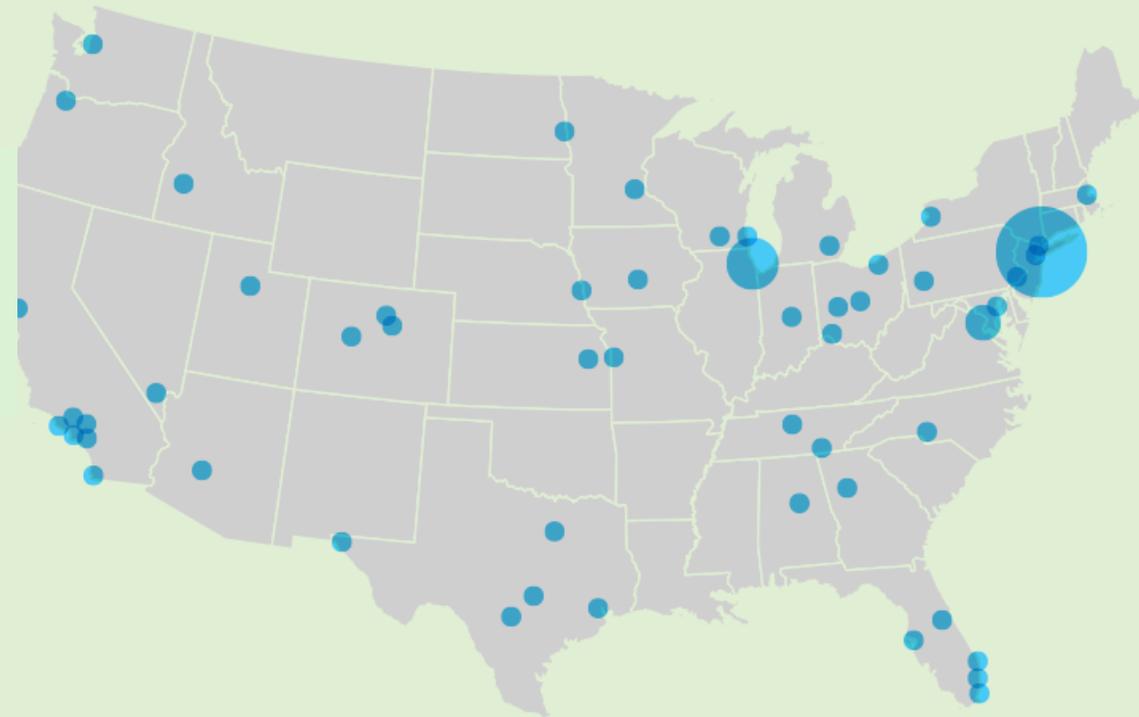
**SEPTEMBER 4-7, 2018**

**PORTLAND, OR**

# 100+ Millones

de viajes desde 2010

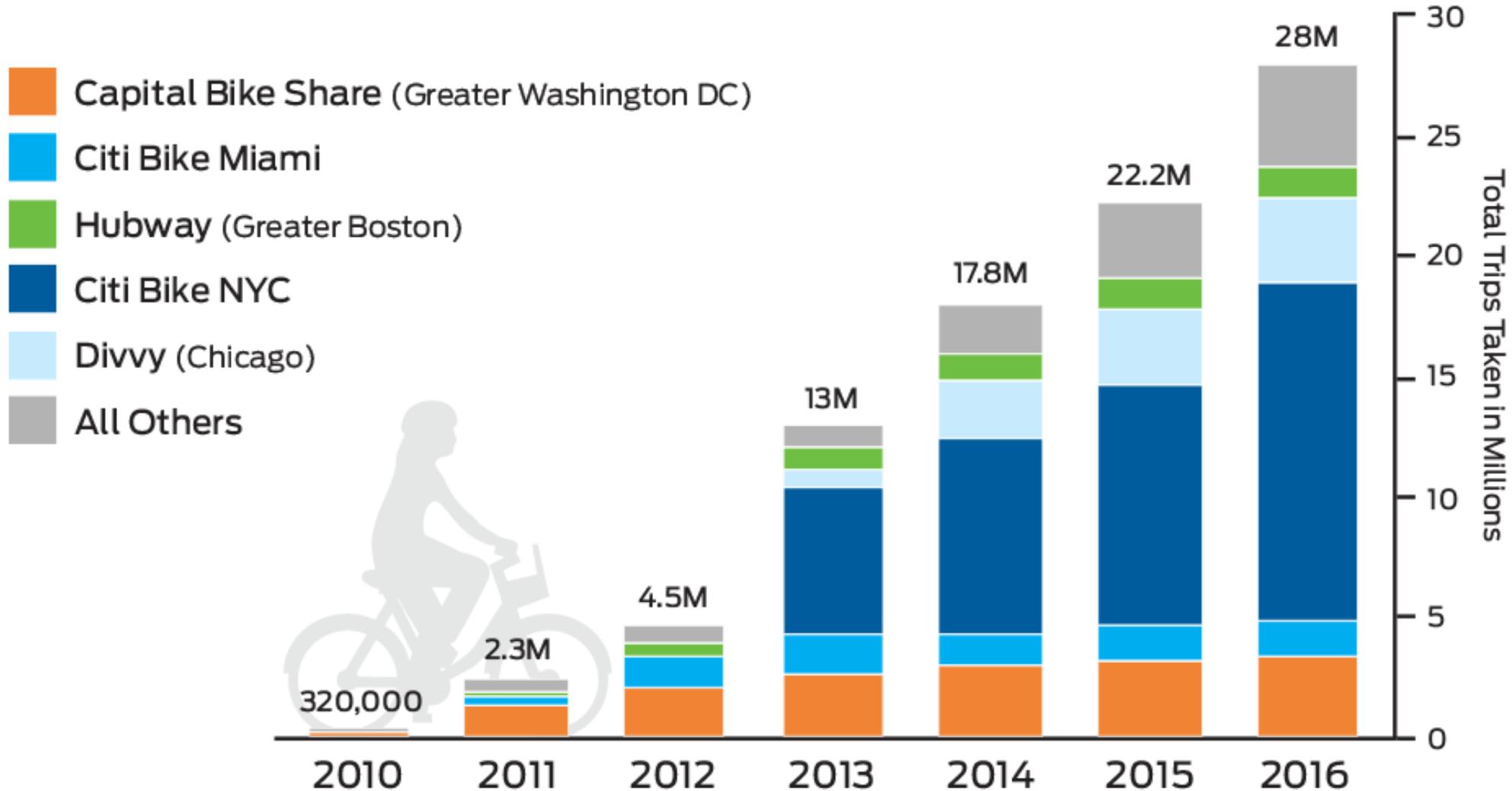
**55 sistemas**  
**45,000 bicicletas**



Source: NACTO

# 5 sistemas generan la gran mayoría de los viajes

## Bike Share Ridership in the US by System





**San Francisco Bay Area**



**Seattle,  
Washington DC  
and others**

# **Bike share initiative:**

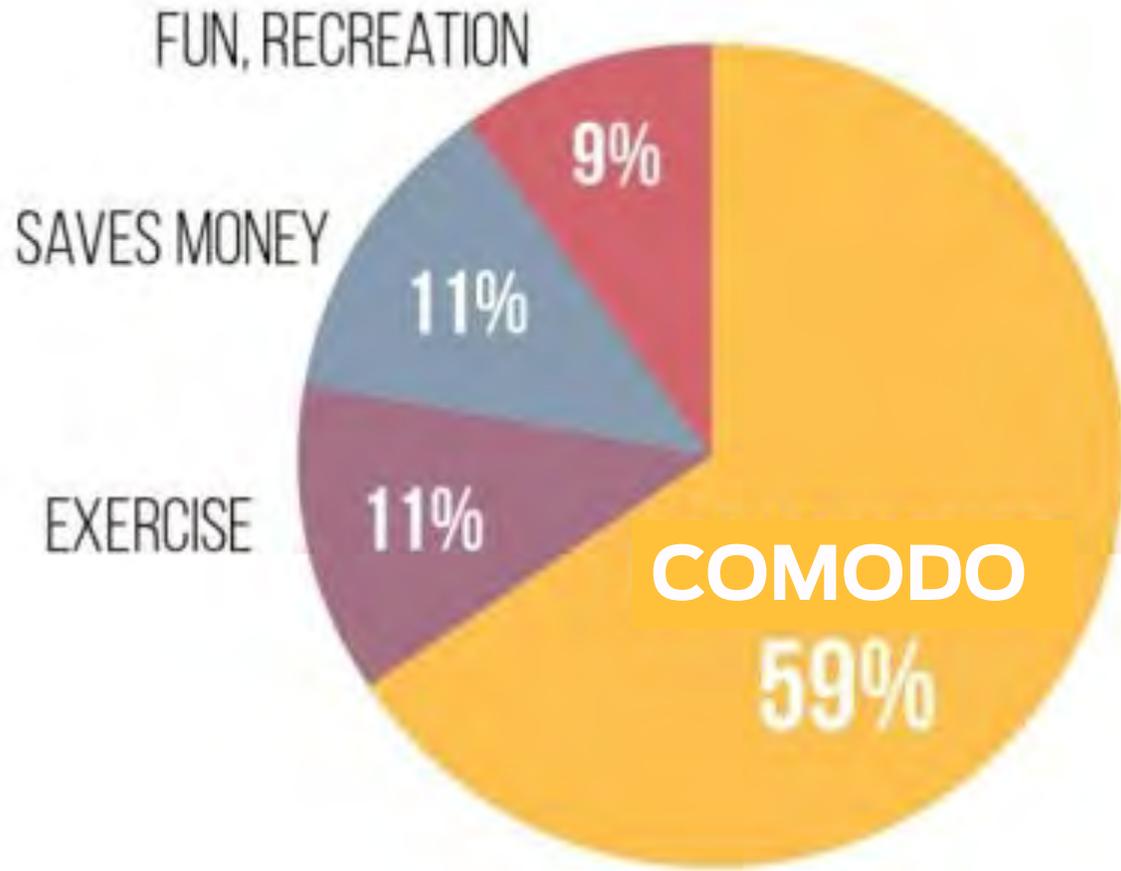
**Que aprendimos**

**sobre los sistemas**

**mas exitosos**

Los SBPC  
tienen que ser  
**cómodos y  
fáciles de acceso**

# Ahorra tiempo, ahorra dinero



Citi Bike 2013



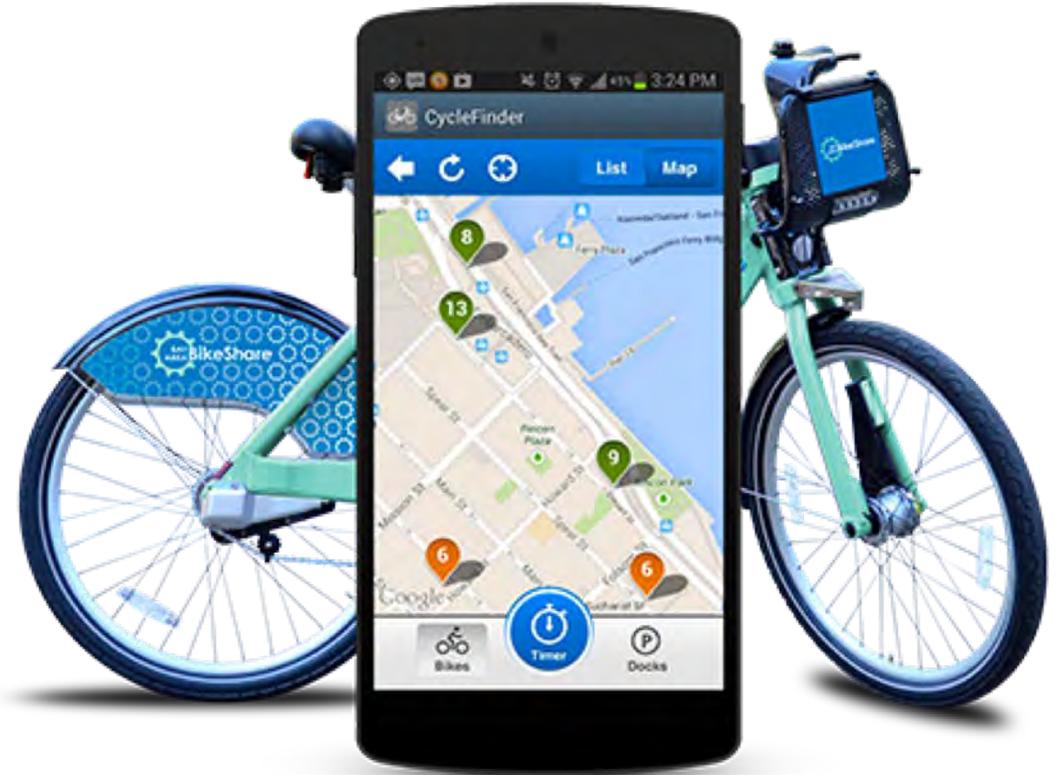
# Finding a bike has to be easy



“Smart Dock” (NYC)

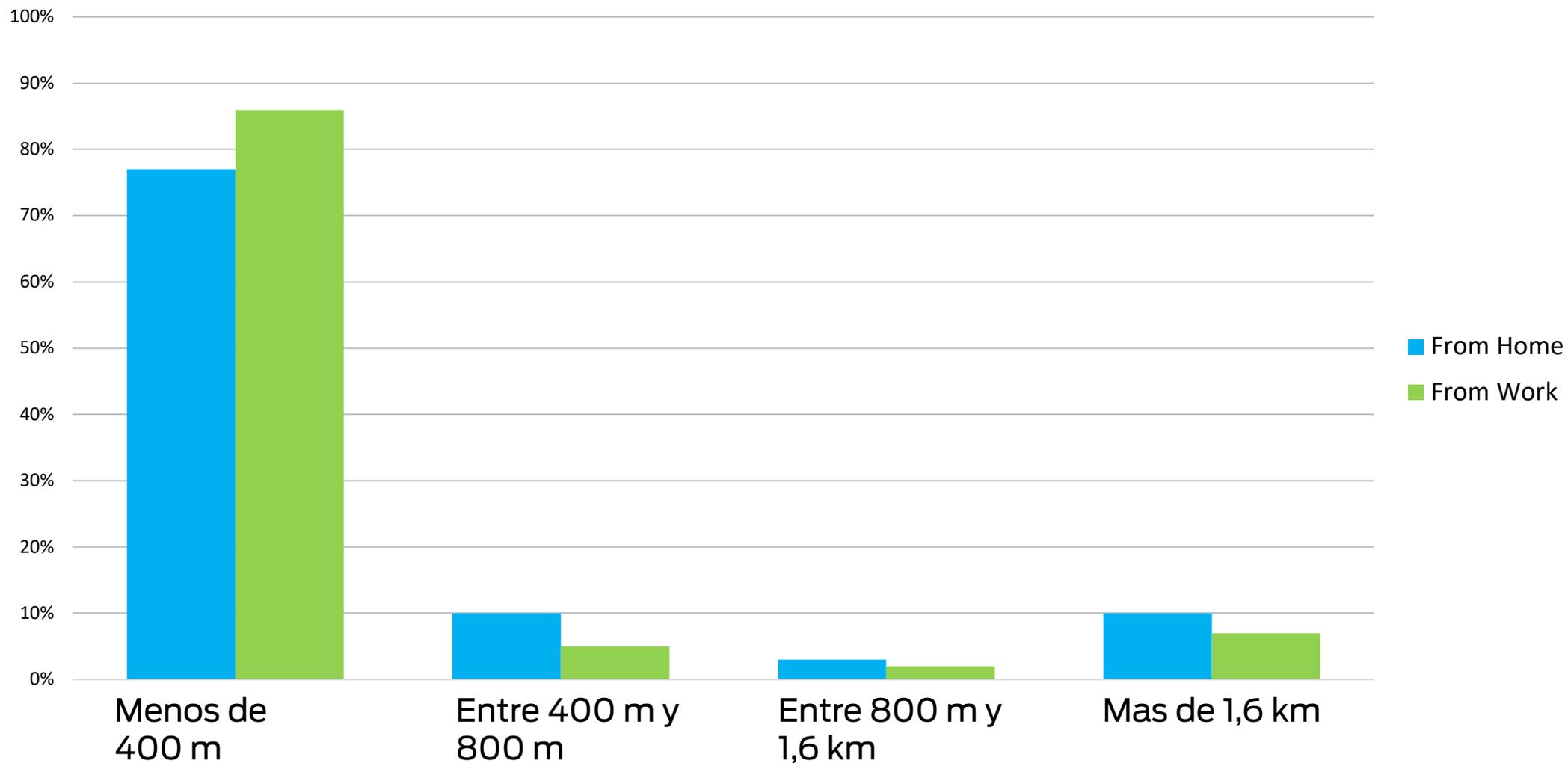


“Smart Bike” (PDX)



# La facilidad de acceso es fundamental

*¿Qué distancia hay entre su hogar / trabajo y la estación de bicicletas compartidas más cercana?*



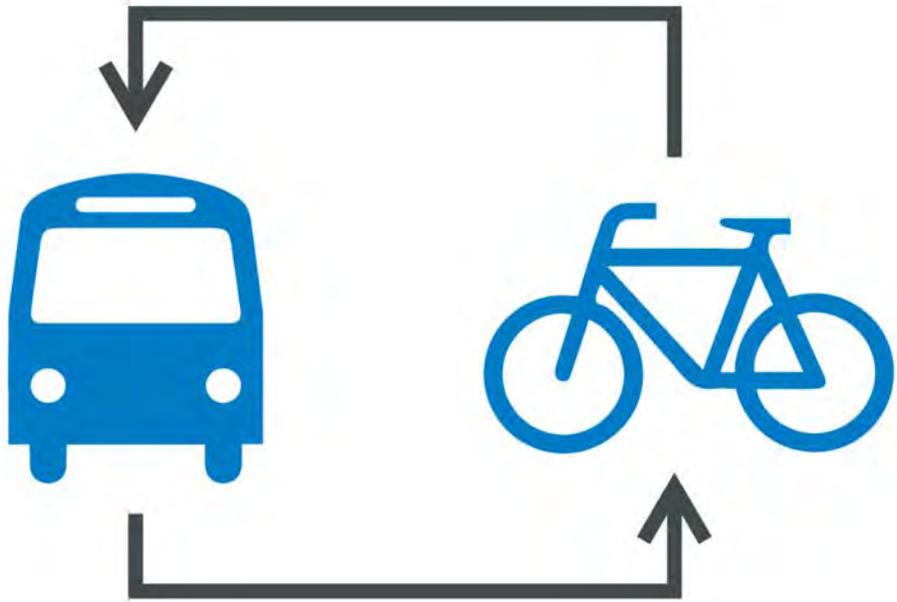
# Integración con el transporte público



LA, USA (Launched 2016)

<http://www.bicycletransit.com/los-angeles/>

# Integración con el transporte público



## Bicicleta integrada (Fortaleza)



(Source: City of Fortaleza)

Los SBPC  
tienen que ser  
**accesible**  
**económicamente**

# Las bicis publicas ya son económicas...

ANNUAL PASS

**\$80**

Best deal for Detroit locals

LEARN MORE



Por 2 viajes a la semana:

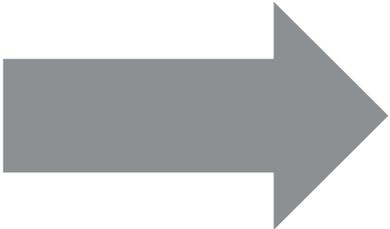
**75¢ /viaje**

ACCESS PASS

**\$5**

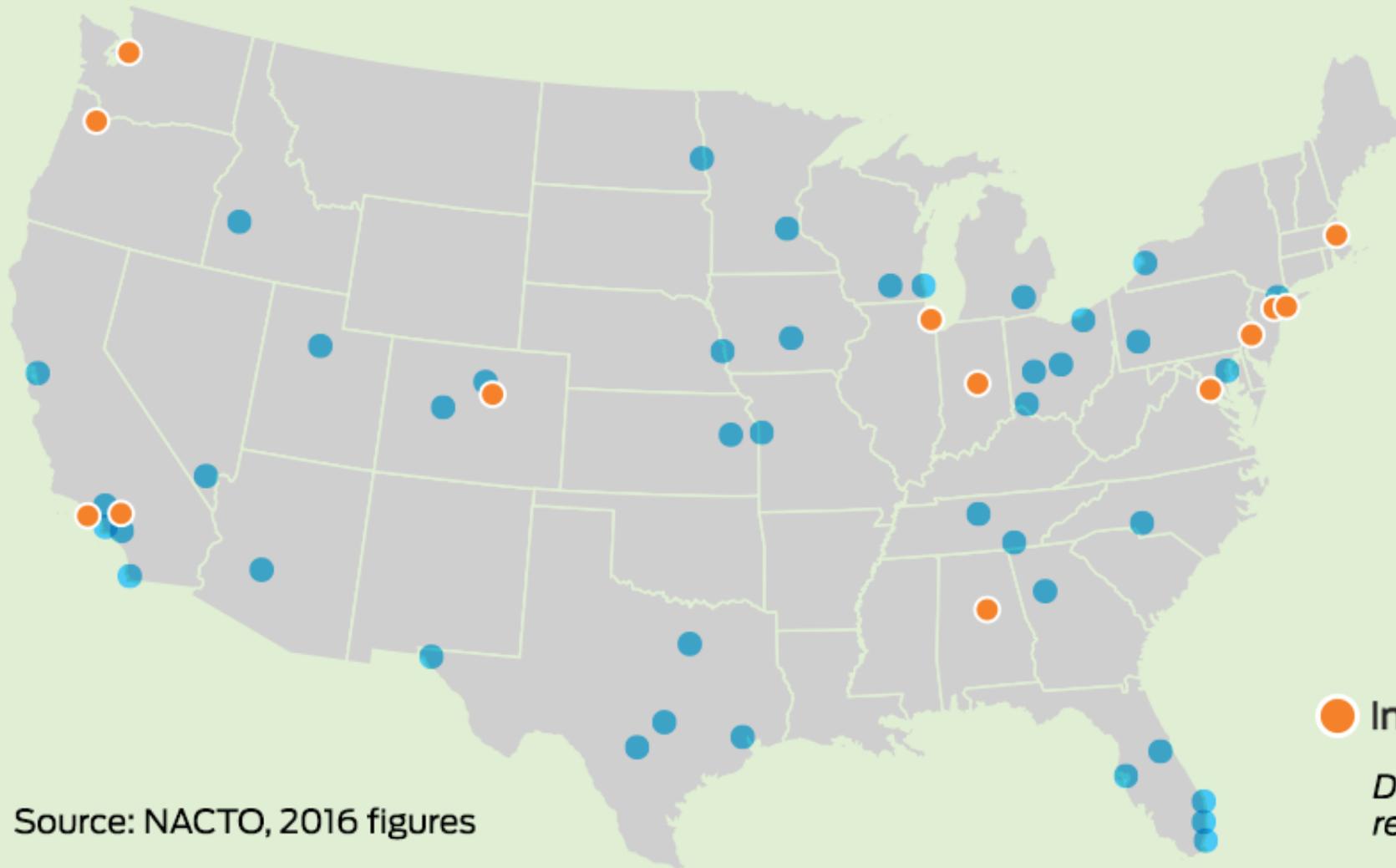
For qualified individuals

LEARN MORE



**5¢ /viaje**

# ...y pases mensuales y programas de descuentos basados en los ingresos los hacen mas accesibles



**24%**

**HAVE A DISCOUNT PROGRAM**

**Income-based Subsidy Available**

*Defined as using income thresholds or residence in affordable housing as criteria*

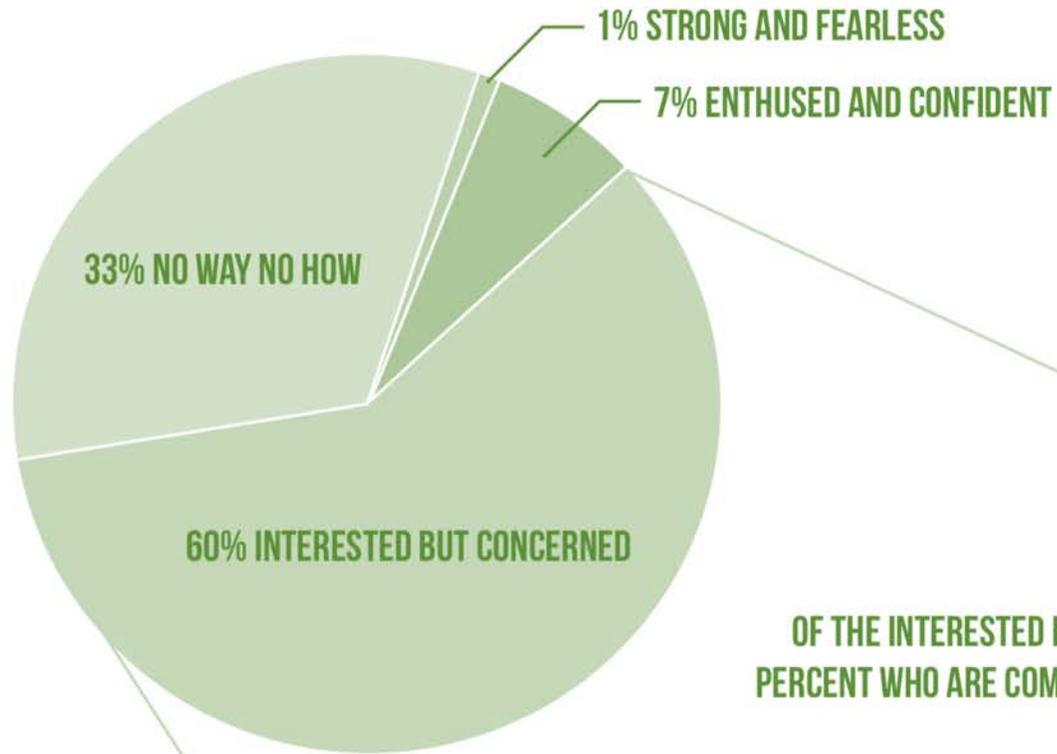
Source: NACTO, 2016 figures

Los SBPC tienen  
que ser vinculados  
a mejoras de la  
infraestructura

# Los SBPC no pueden crecer sin infraestructura



## TYPES OF CYCLISTS IN PORTLAND

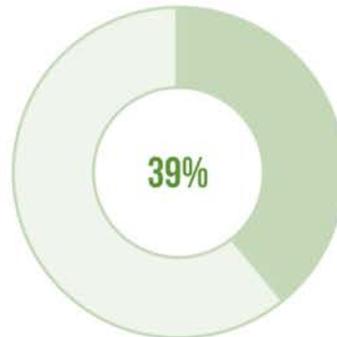


# Los SBPC no pueden crecer sin infraestructura

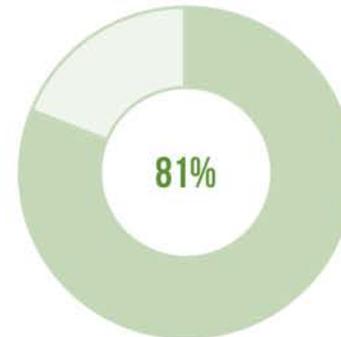
OF THE INTERESTED BUT CONCERNED CYCLISTS, PERCENT WHO ARE COMFORTABLE ON STREETS WITH:



NO BIKE FACILITY

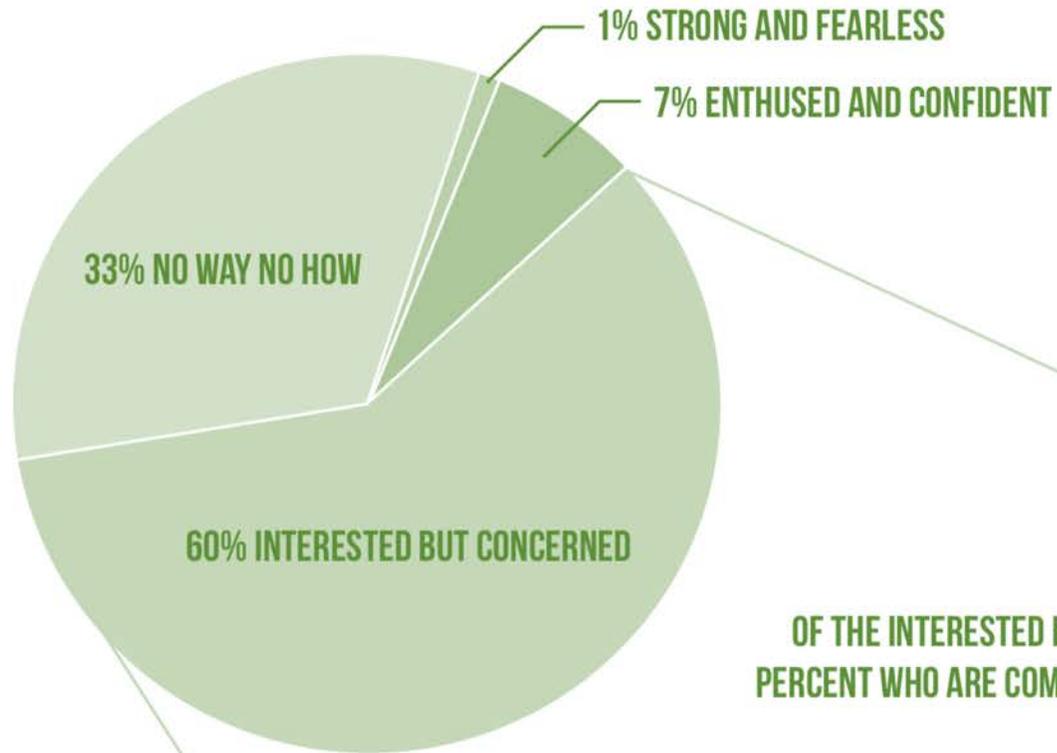


A BIKE LANE



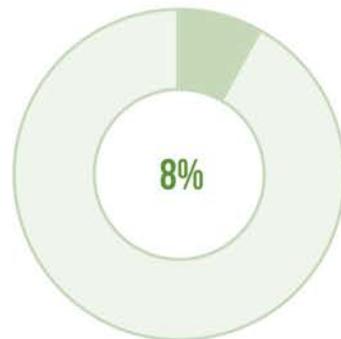
A SEPARATED BIKE LANE

## TYPES OF CYCLISTS IN PORTLAND

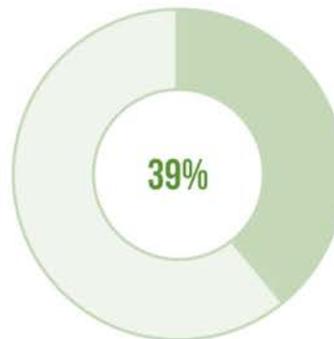


**Los SBPC no pueden crecer sin infraestructura**

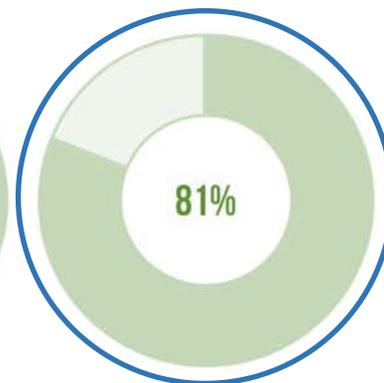
OF THE INTERESTED BUT CONCERNED CYCLISTS, PERCENT WHO ARE COMFORTABLE ON STREETS WITH:



NO BIKE FACILITY



A BIKE LANE



A SEPARATED BIKE LANE

**81% prefiere una ciclovía protegida**

# Usuarios de SBPC prefieren ciclovías protegidas



## % de usuarios de Citi Bike por tipo de ciclovía utilizada

PROTECTED BIKE LANE

32%

UNPROTECTED BIKE LANE

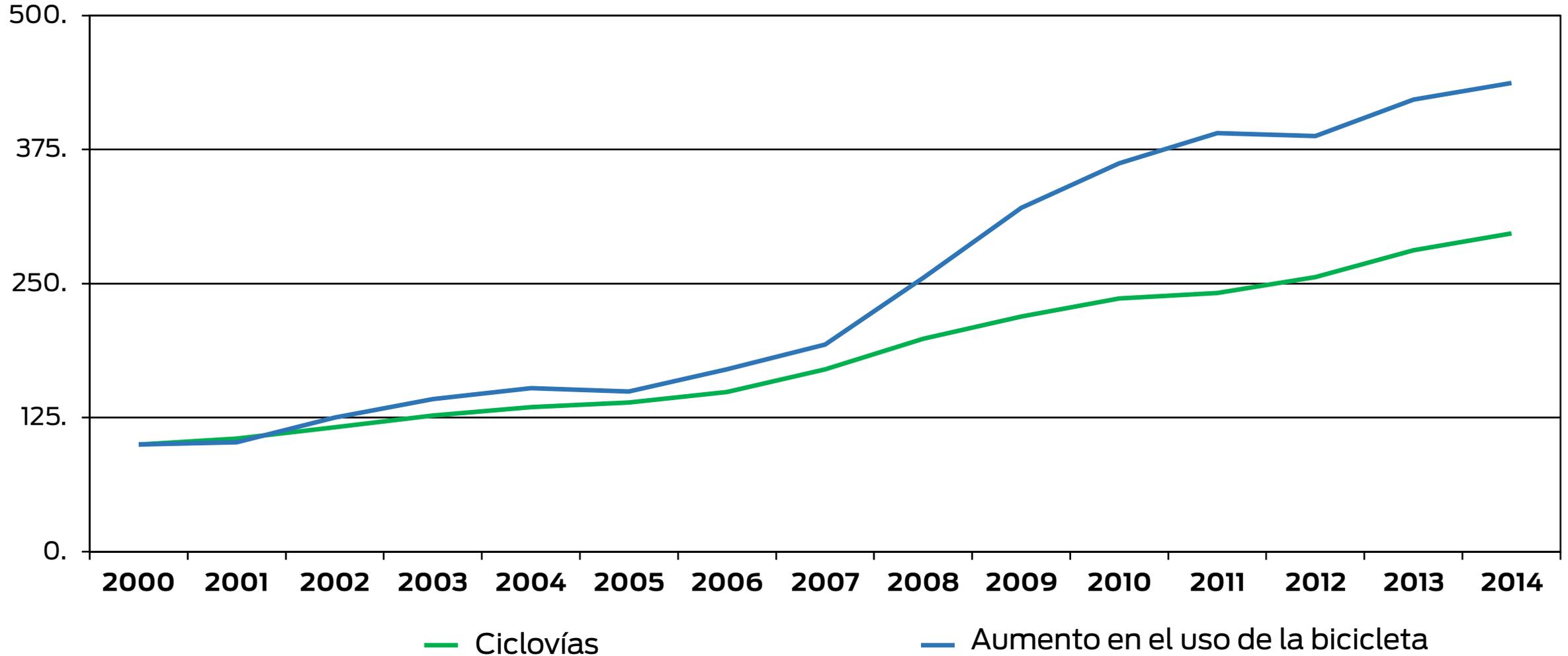
23%

NO BIKE LANE

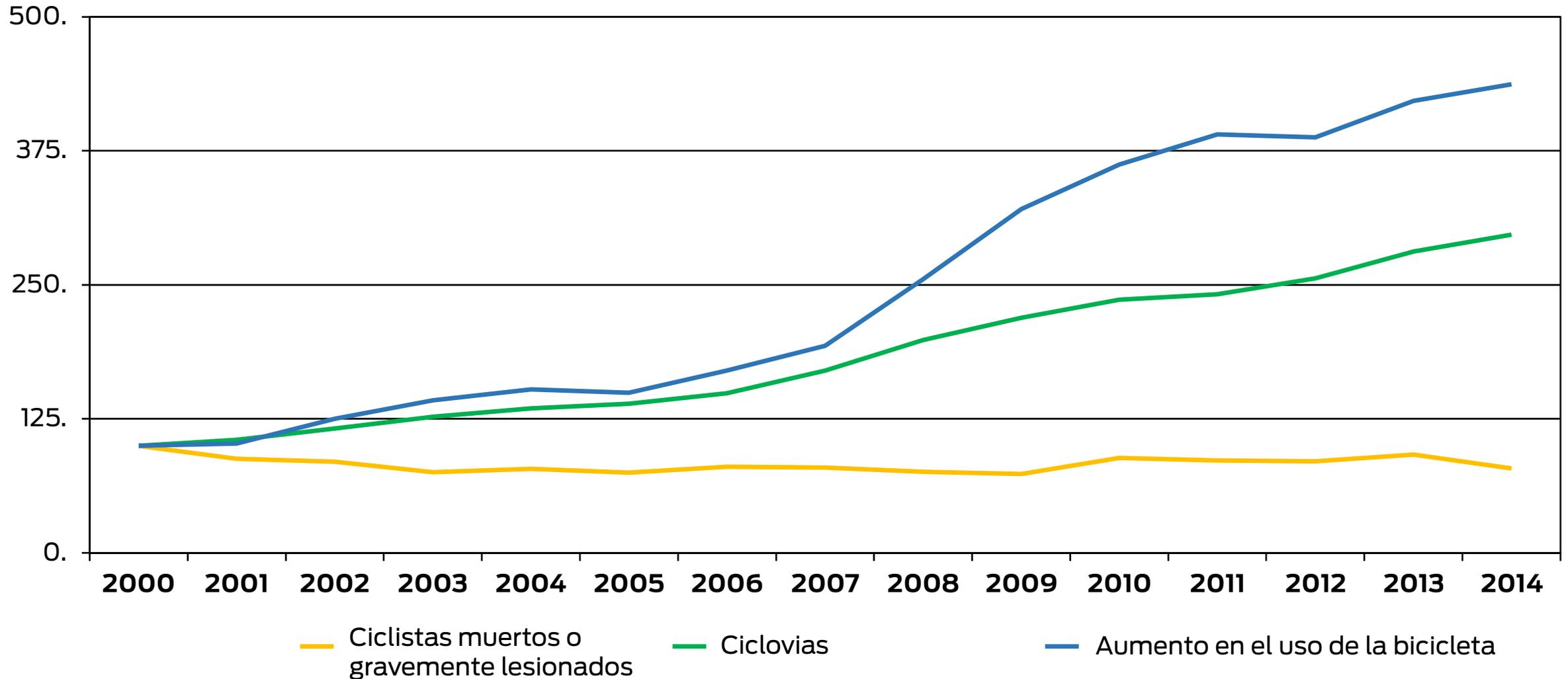
18%

**Andar en bici  
hace que las  
calles sean mas  
seguras**

# Más ciclovías = Más ciclistas



# Más ciclovías + Más ciclistas = Menor riesgo



# Cambios sencillos...



NYC/Park West

# Cambios sencillos...



NYC/Park West

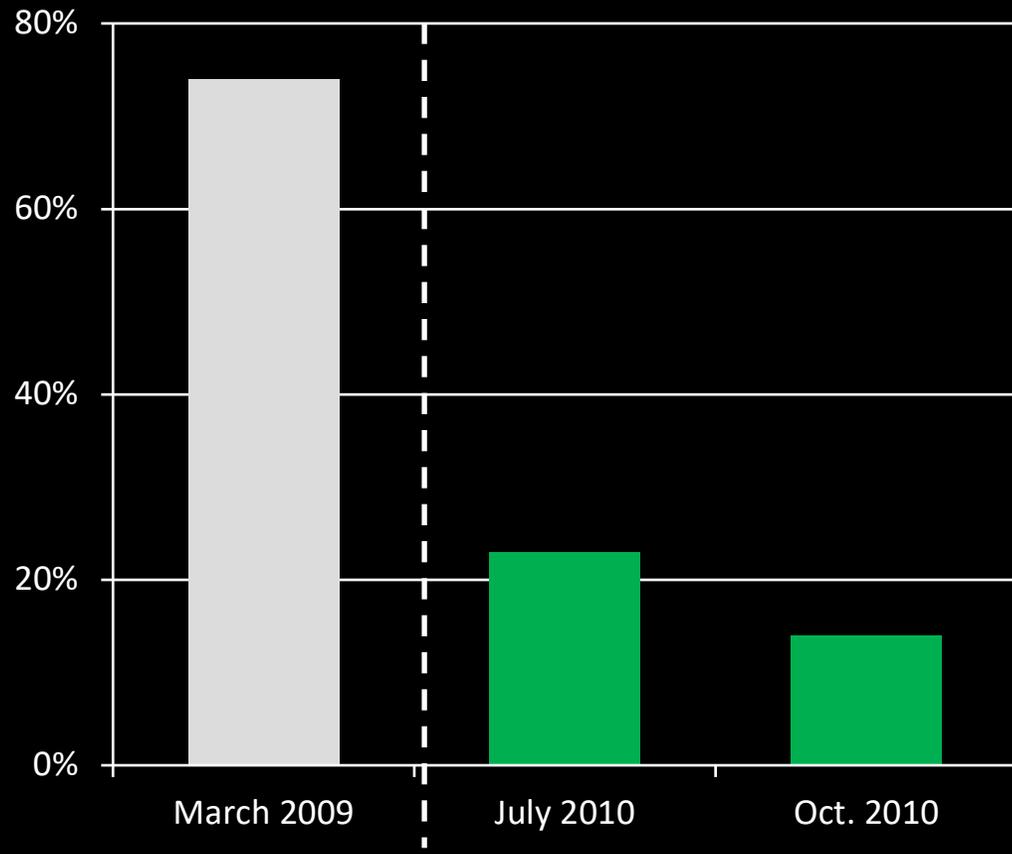
**Cambian radicalmente quien  
utiliza la calle**

**NYC/Park West**



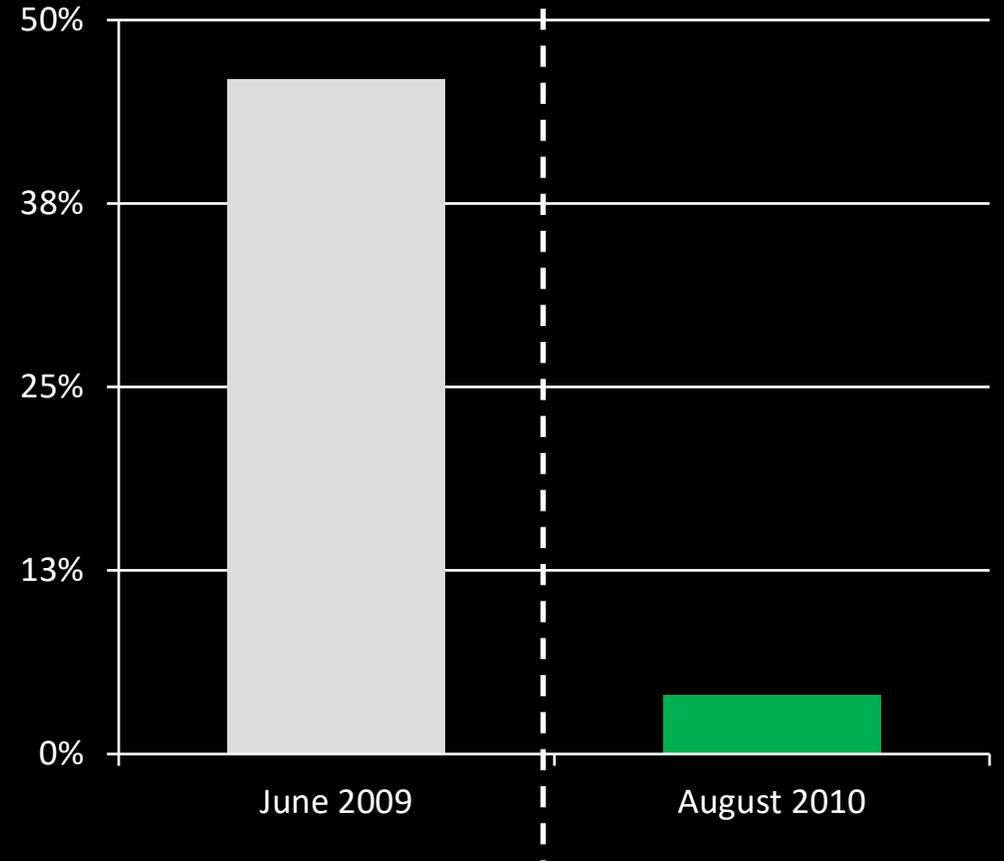
# El diseño cambia el comportamiento

## Exceso de velocidad > 30km/h



PPW Protected  
Bike Lane Installed

## Bicis en la acera



PPW Protected  
Bike Lane Installed



- **40%** reducción en choques
- **9%** aumento de ventas al detalle
- **78%** aumento de los ciclistas
- **100%** aumento de los peatones

Los SBPC tienen  
*(y deben)*  
mejorar el  
espacio público



**Los SBPC pueden  
crear espacios  
publicos  
(Philadelphia)**

**Los SBPC tienen que mejorar el espacio público. Es una comodidad urbana valiosa y limitada!**



Jamie Swedler @jswedler · Nov 13  
Seattle bike share devastated by #wawind #Seabikes



Los SBPC tienen  
que ser planeado  
con y para las  
comunidades

# Planear con y para las comunidades



Atlanta, GA



Los Angeles, CA



New York, NY

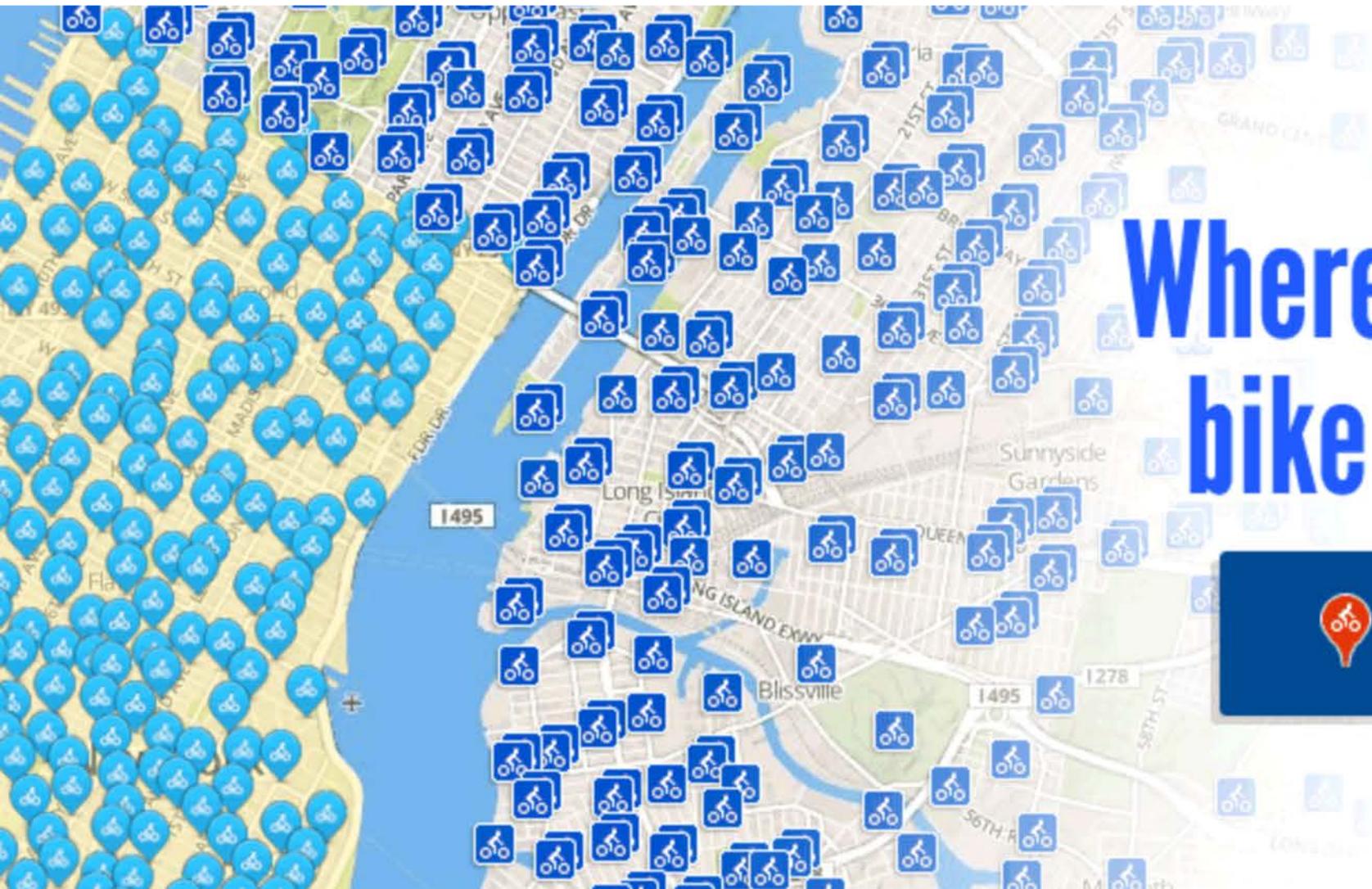


Charlotte, NC

Es fundamental trabajar con las comunidades y el contexto local



PREDICTIVE MODEL FOR BIKE SHARE STATION SIZE



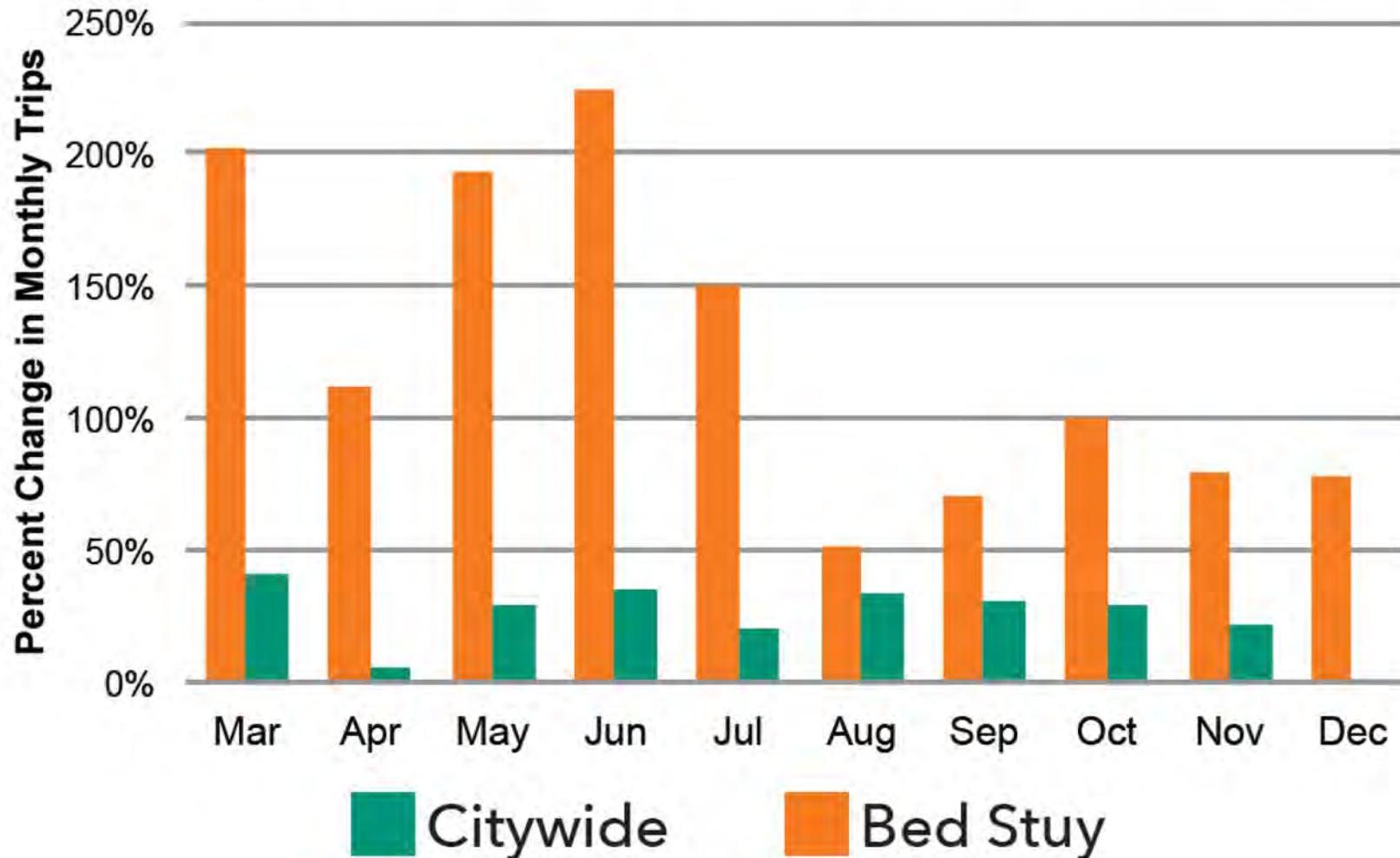
# Where do you want a bike share station?

 SUGGEST A LOCATION...

## ...Utilizando la tecnología



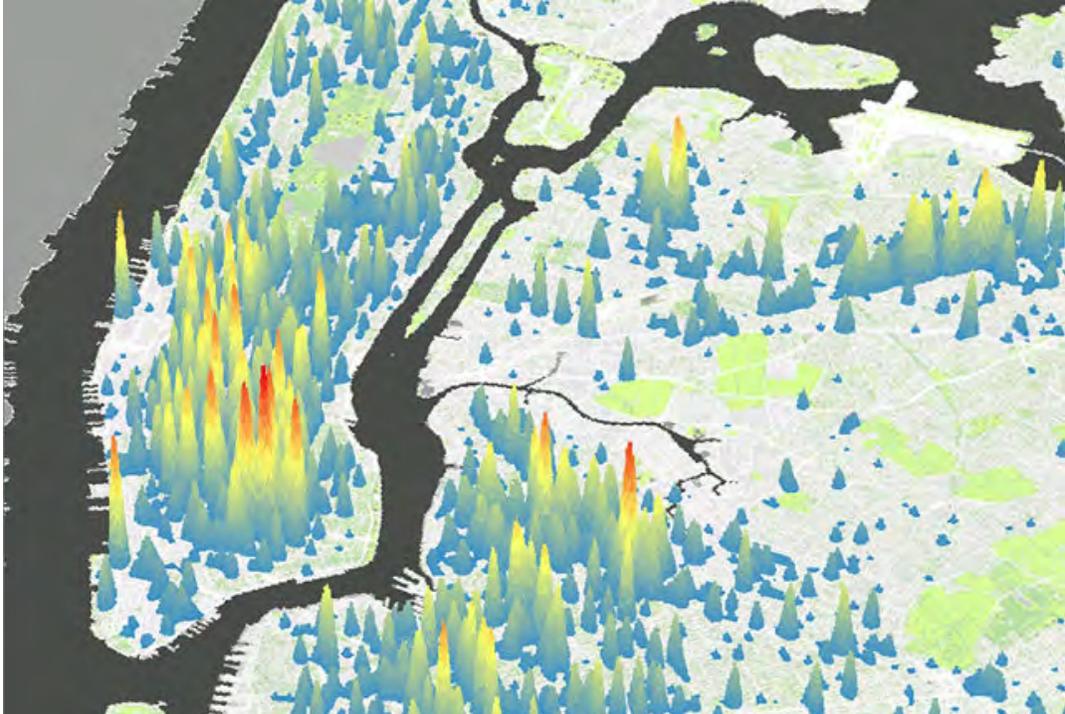
# Los viajes en Citi Bike están incrementando de manera mas rápida en Bedford Stuyvesant en comparación con el resto de la ciudad



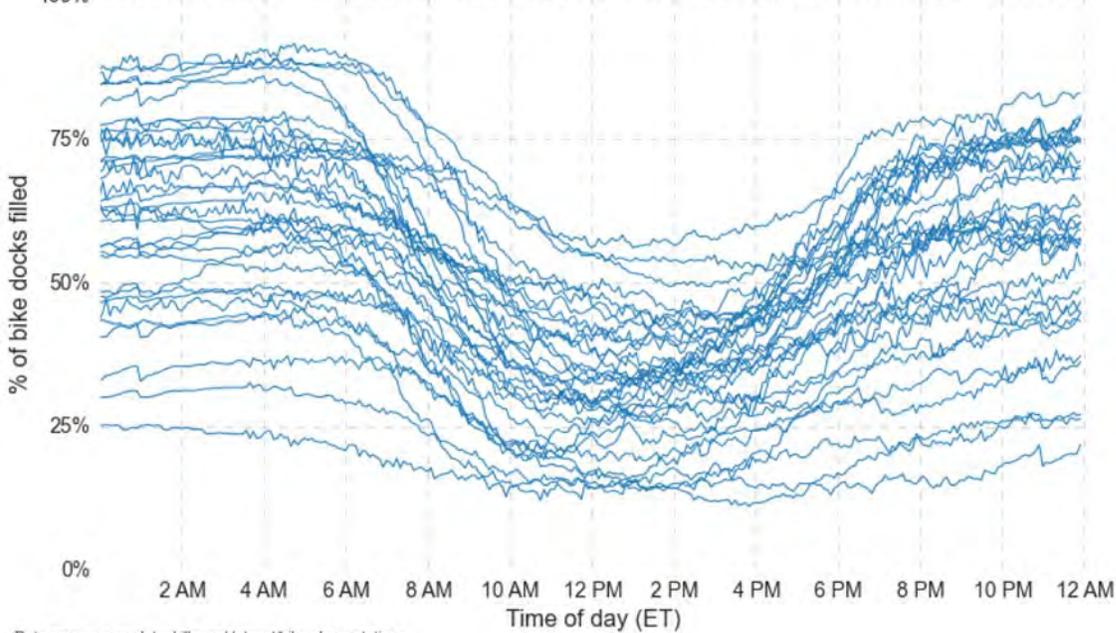
% change in total monthly trips 2015 vs 2016

Las ciudades  
tienen que **colectar**  
**y intercambiar**  
**datos**

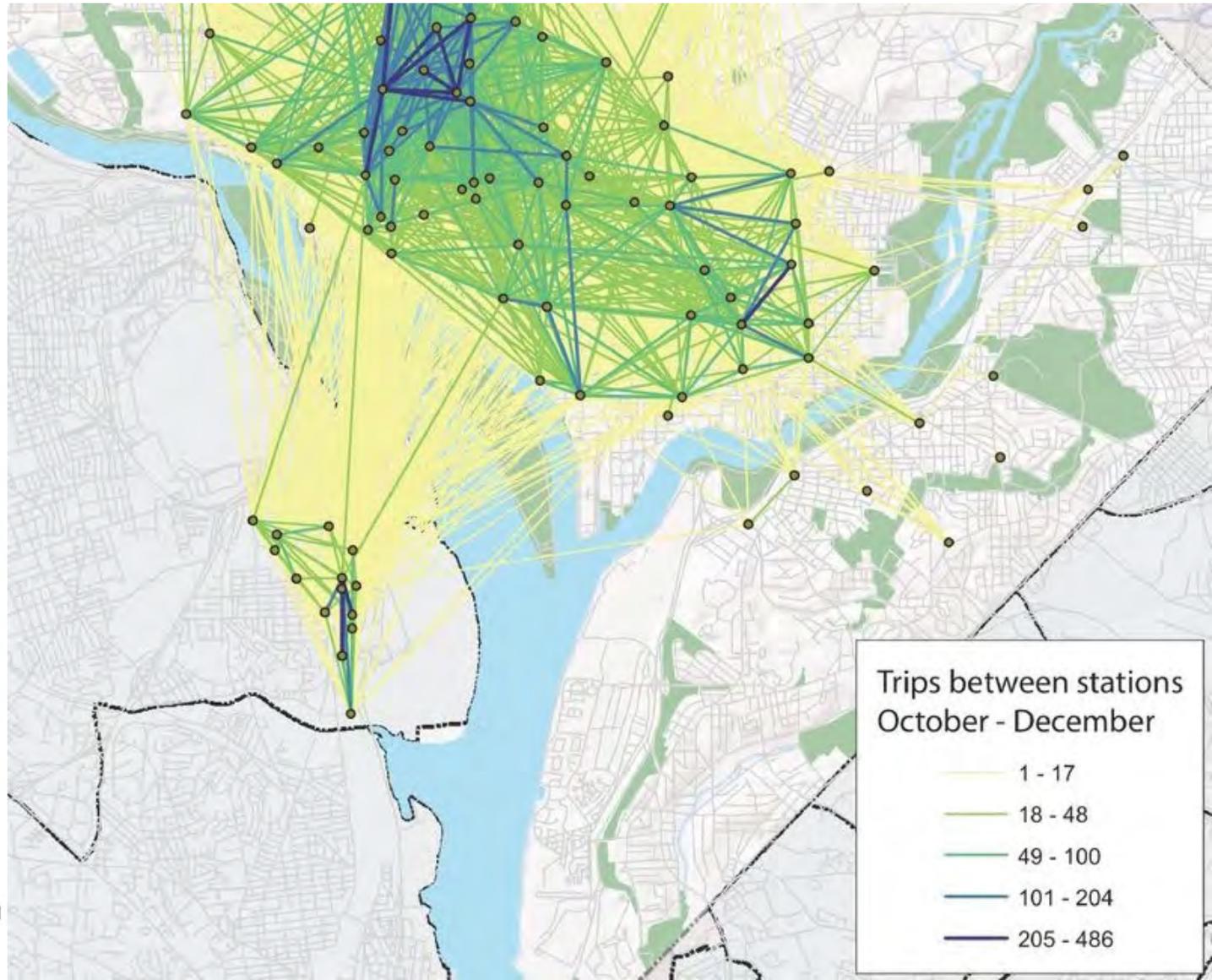
# Colecta y intercambio de datos



Daily usage patterns of commuting (outbound) Indego bike stations



Data source: [opendataphilly.org/dataset/bike-share-stations](https://opendataphilly.org/dataset/bike-share-stations)  
Author: Randy Olson ([randalolson.com](https://randalolson.com/) / [@randal\\_olson](https://twitter.com/randal_olson))



Trips between stations  
October - December

- 1 - 17
- 18 - 48
- 49 - 100
- 101 - 204
- 205 - 486

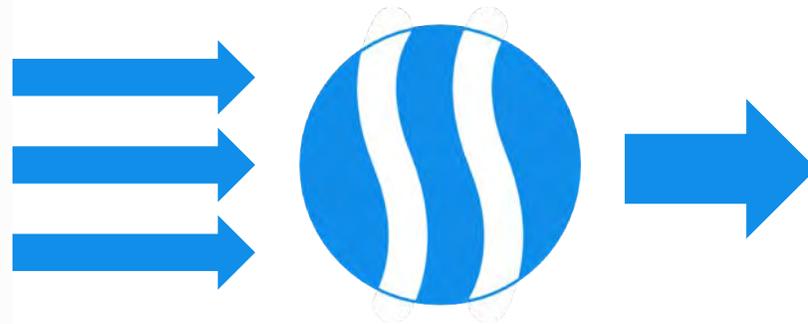
# Colecta y intercambio de datos

**Shared Streets  
Platform  
(NACTO + OTP\*)**

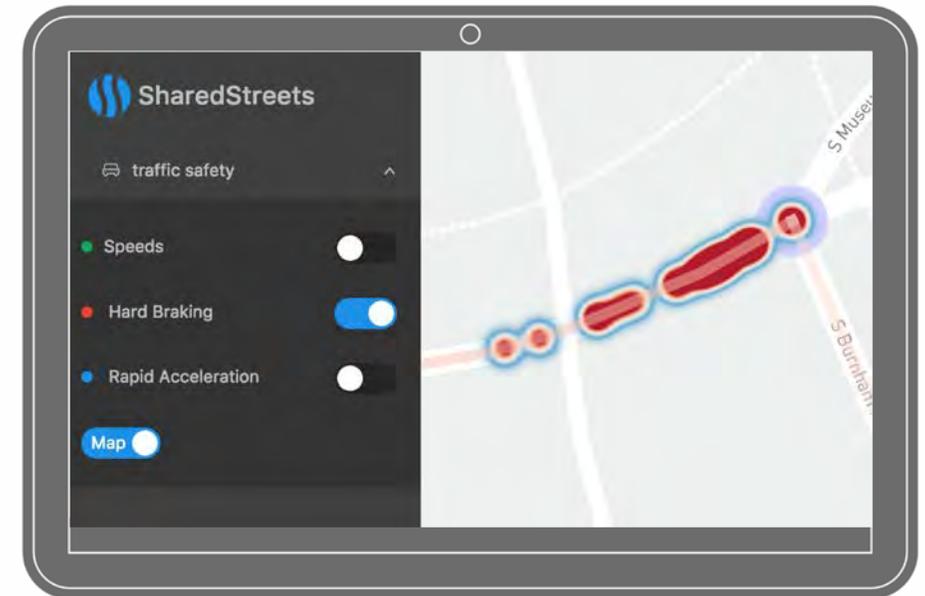
**DATA PARTNERS**



**DATA AGGREGATION  
+ ANONYMIZATION**



**PUBLIC SECTOR TOOLS  
FOR PUBLIC GOOD**



\*Open Transport Partnership

# Sistemas de Bicis Públicas^ exitosos y equitativos

- Cómodo y eficiente (sujetado a otras opciones de transporte)
- Económico/accesible
- Seguro
- Relacionado con mejoramientos de la infraestructura bici
- Mejoran el espacio público
- Planeado con, para y por las comunidades
- Colectan y intercambian datos

# iGracias!

Descargue la GSDG aqui  
[www.globaldesigningcities.org](http://www.globaldesigningcities.org)

Descargue otras informaciones:  
[www.nacto.org](http://www.nacto.org)

## Fabrizio Prati



@GlobalStreets  
@NACTO  
@FabrizioPrati



[facebook.com/globalstreets](https://facebook.com/globalstreets)

