

# Extending the Reach of Transit: *Strategies & Tactics for Facilitating Bicycle Connections*



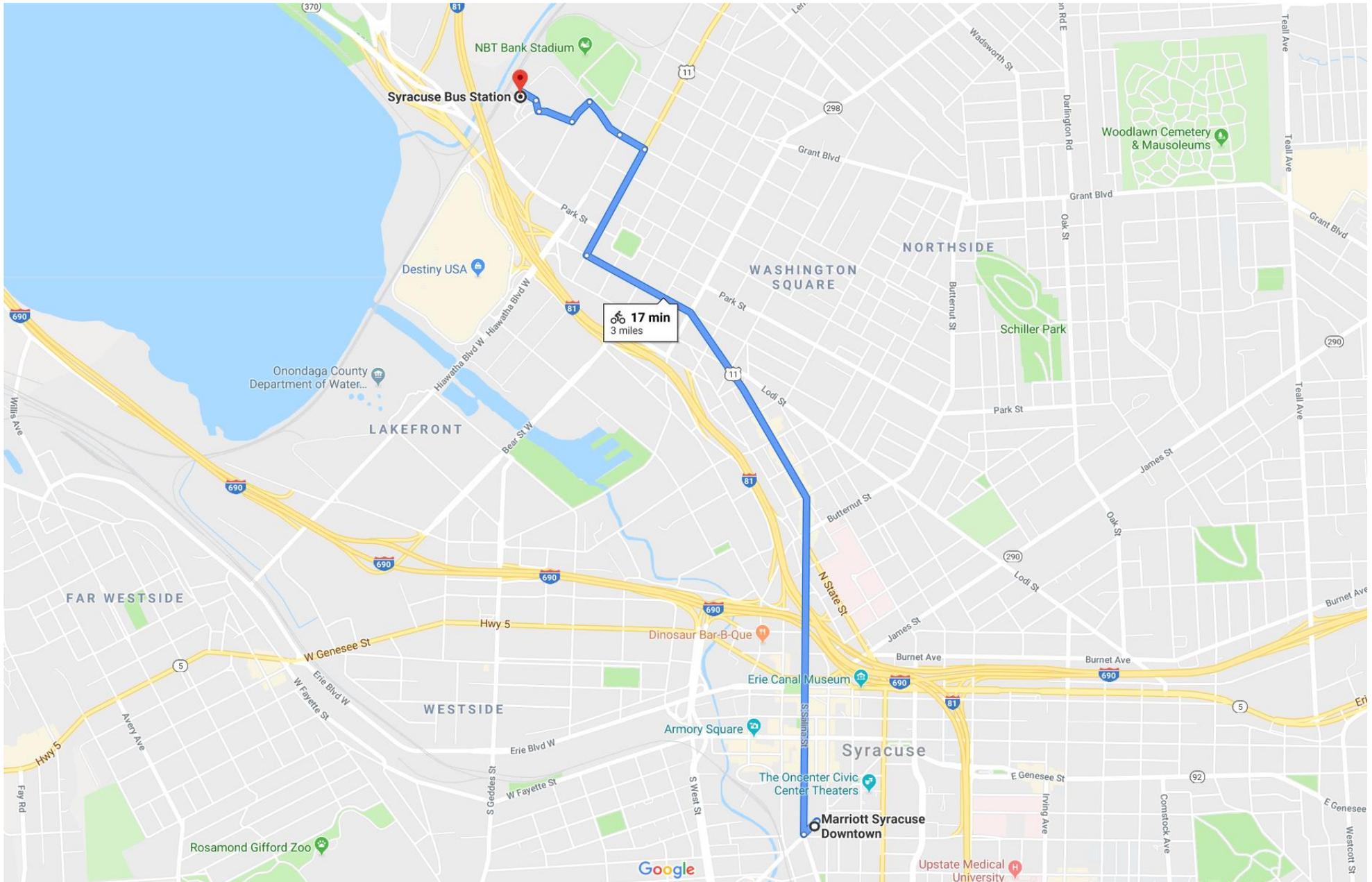
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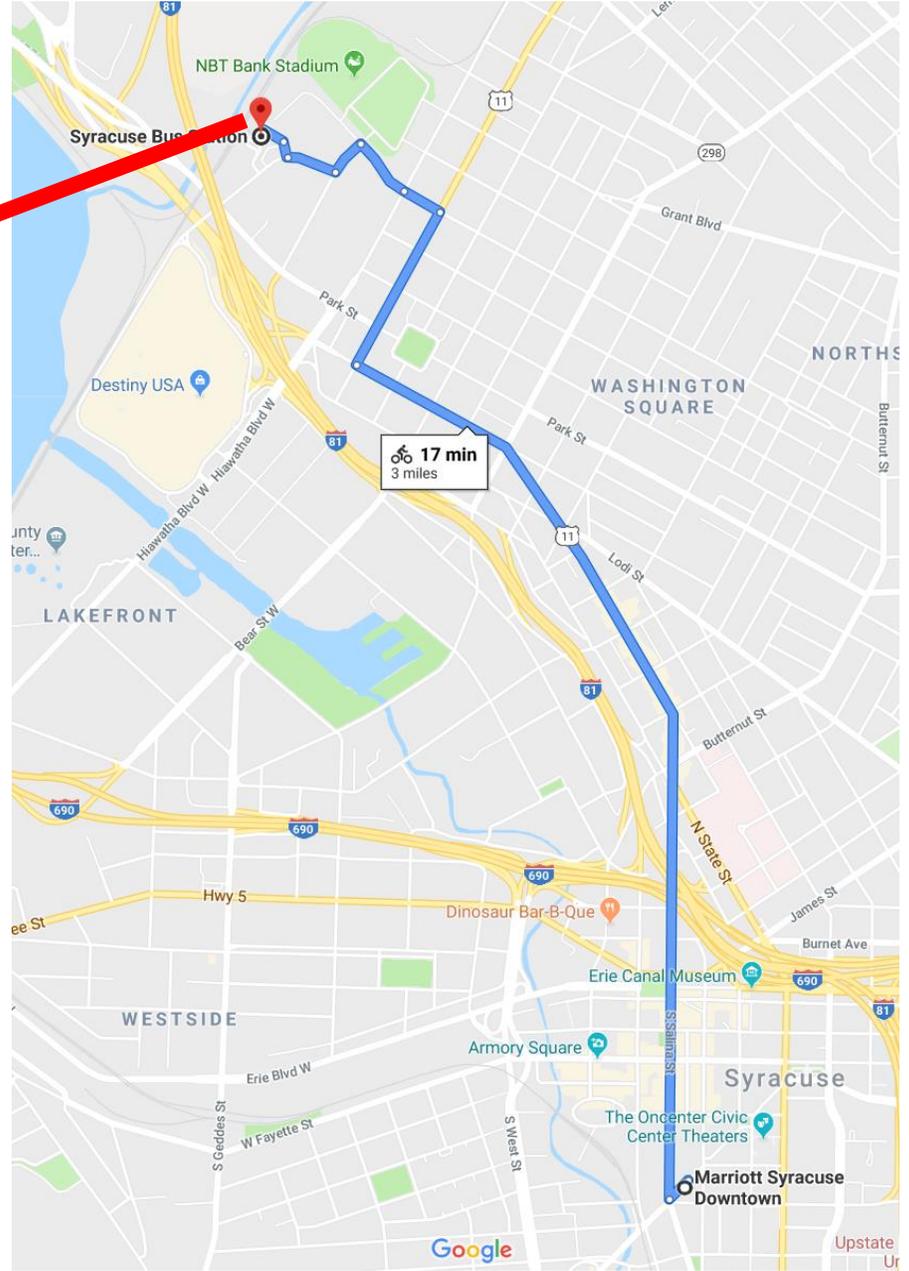
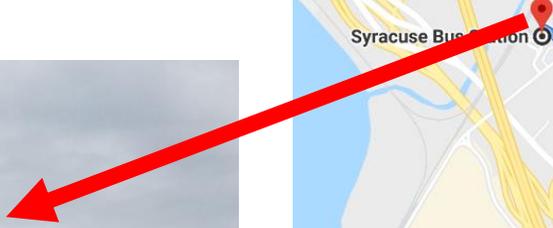
Dan Suraci, AICP

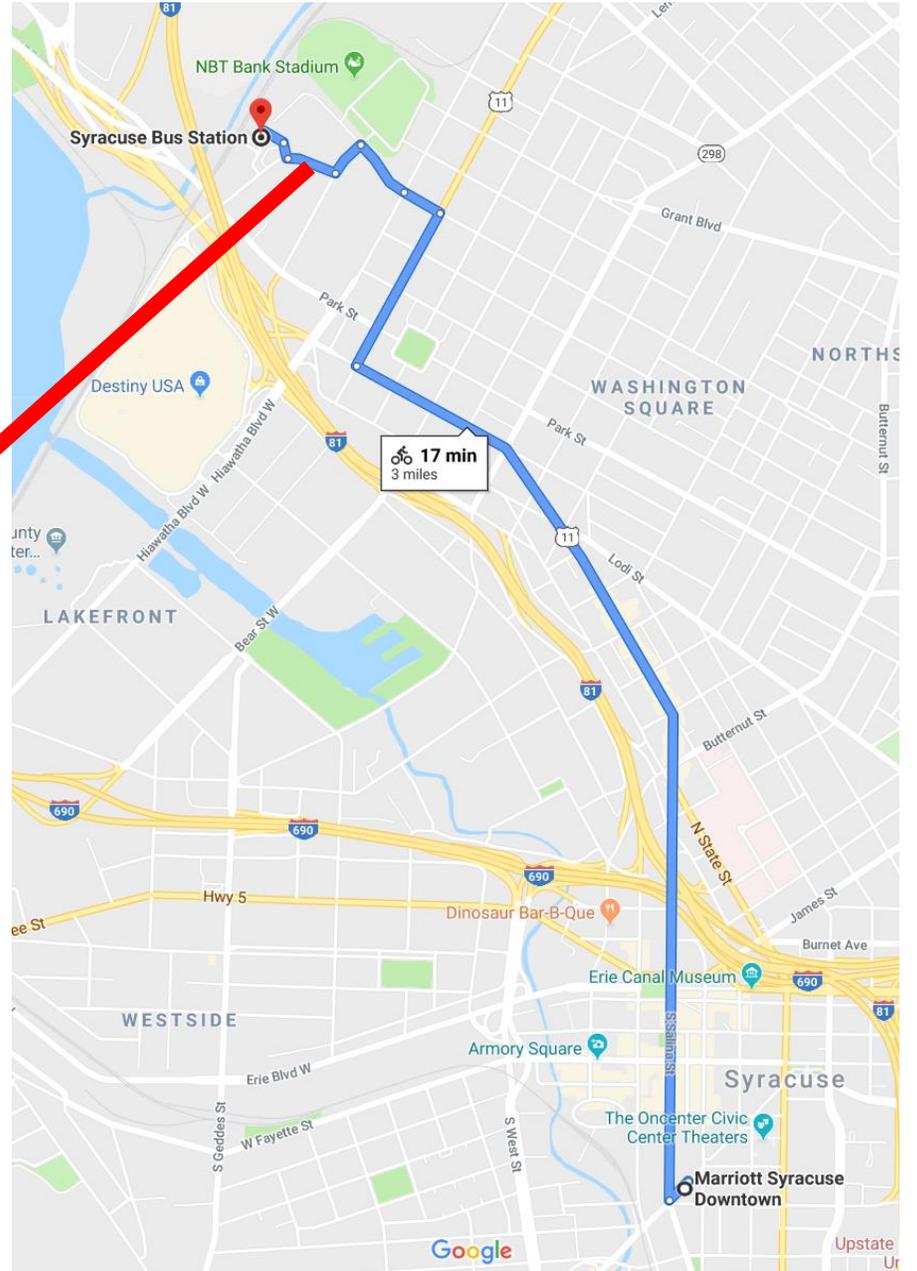
UCS | URBAN  
CYCLING  
SOLUTIONS

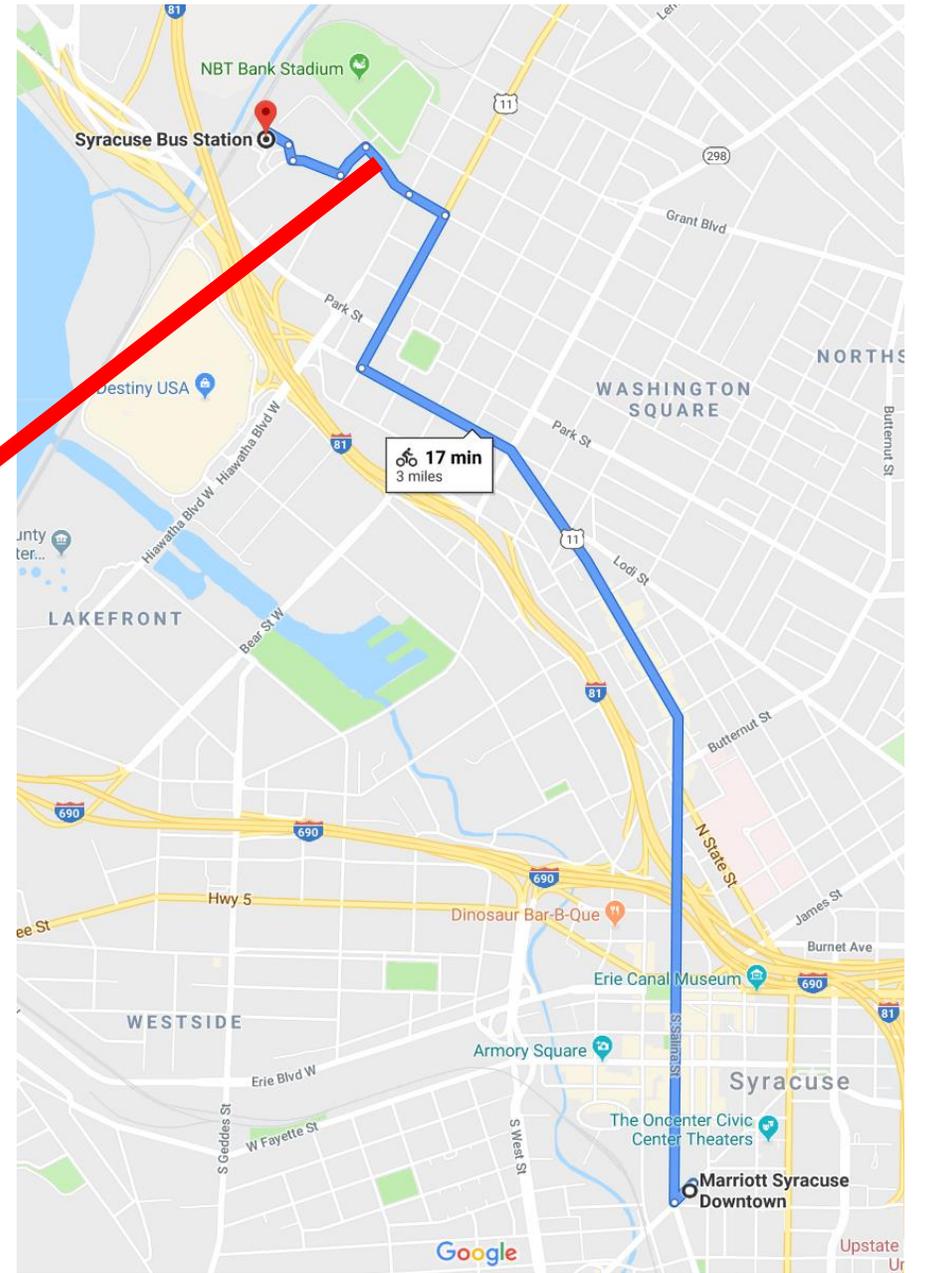
# Syracuse: A Case Study

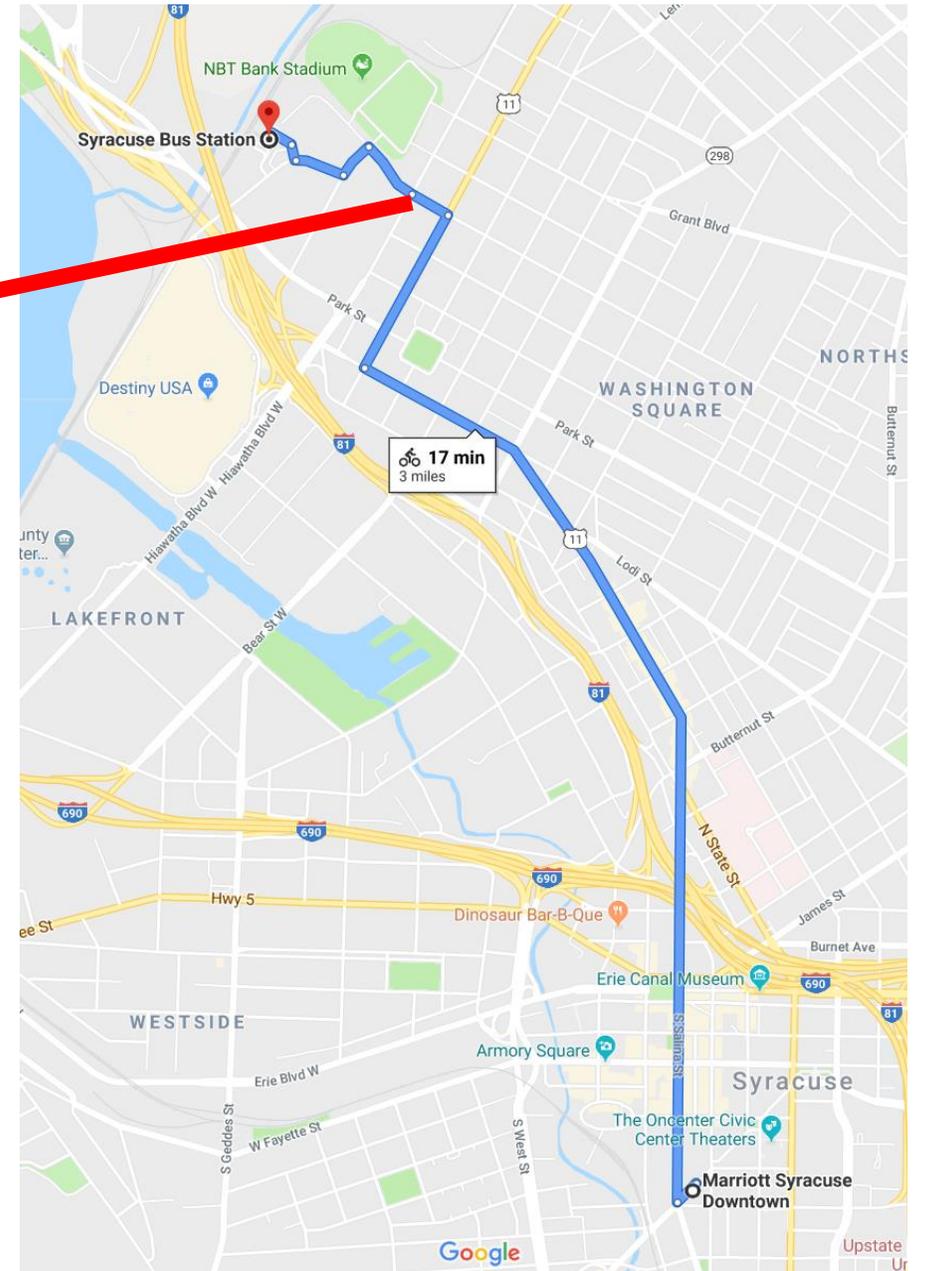


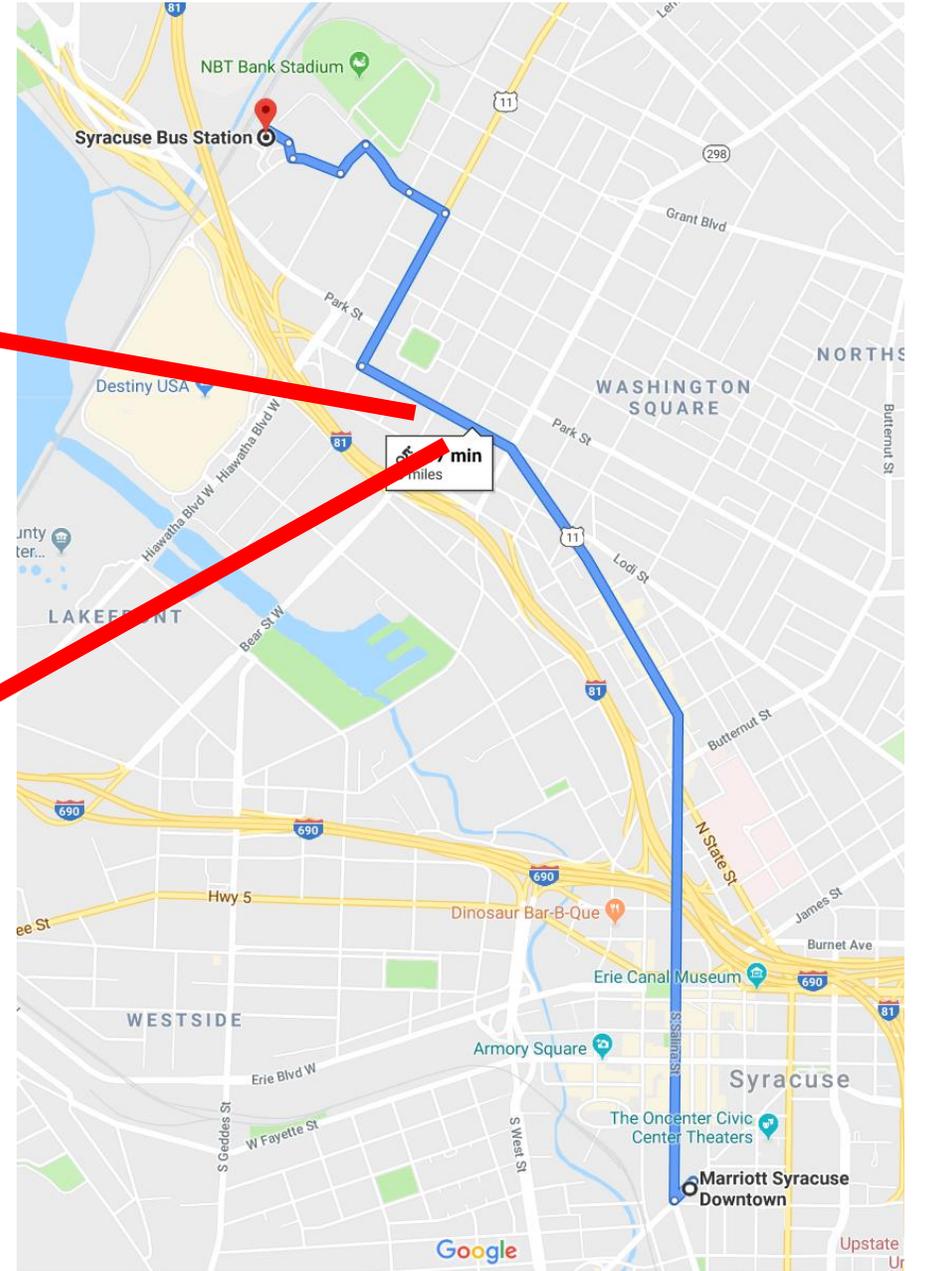
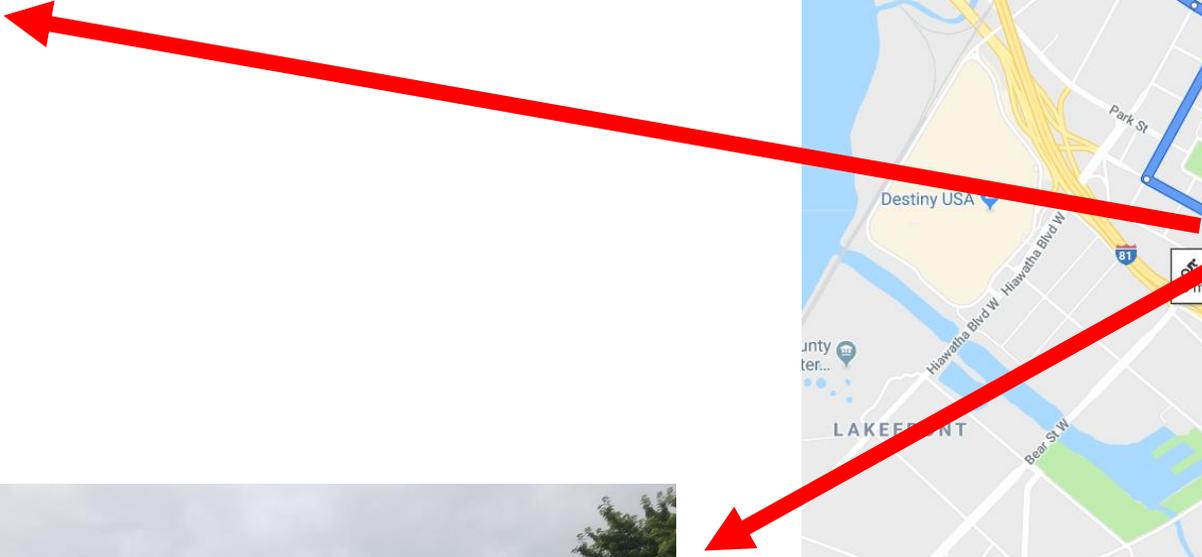


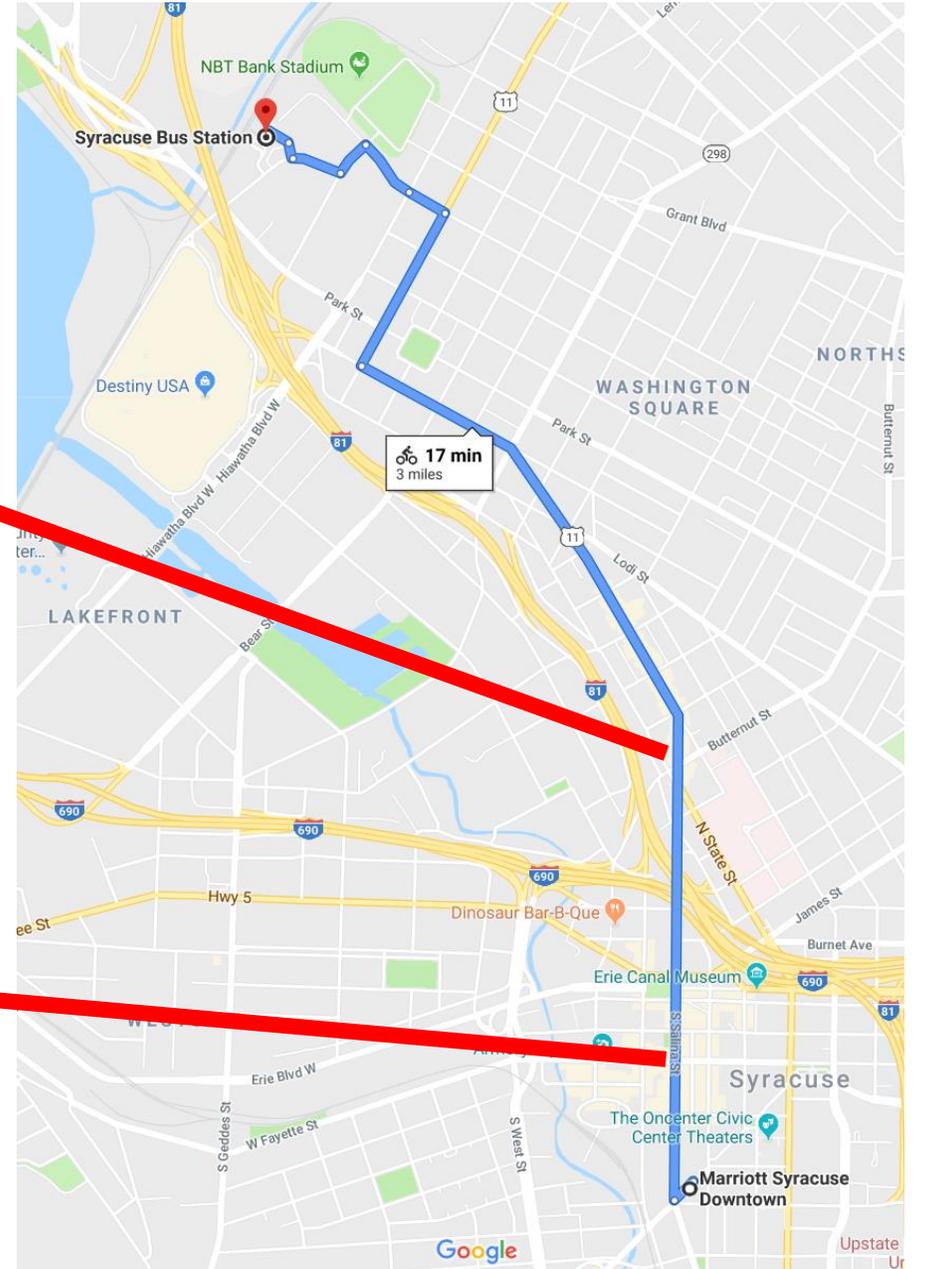












# Agenda

- Why integrate Bikes & Transit
- Getting Started
- Building a Toolkit
  - Bike Parking
  - Bikes Onboard Transit
  - Bike Share Integration
  - Safe Routes to Transit
- Implementation
- Takeaways



# WHY INTEGRATE BIKES & TRANSIT?



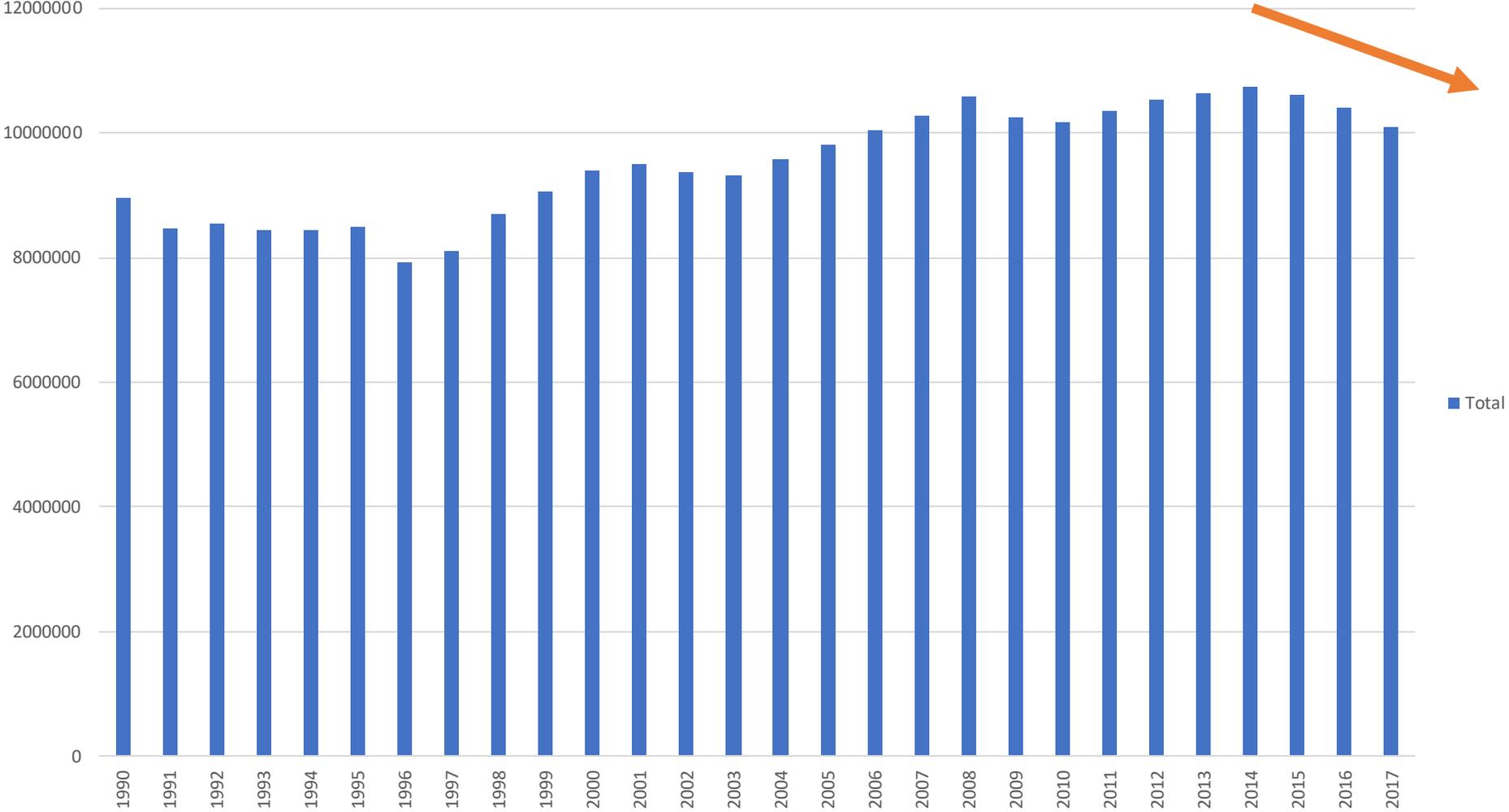
# The Usual Suspects...



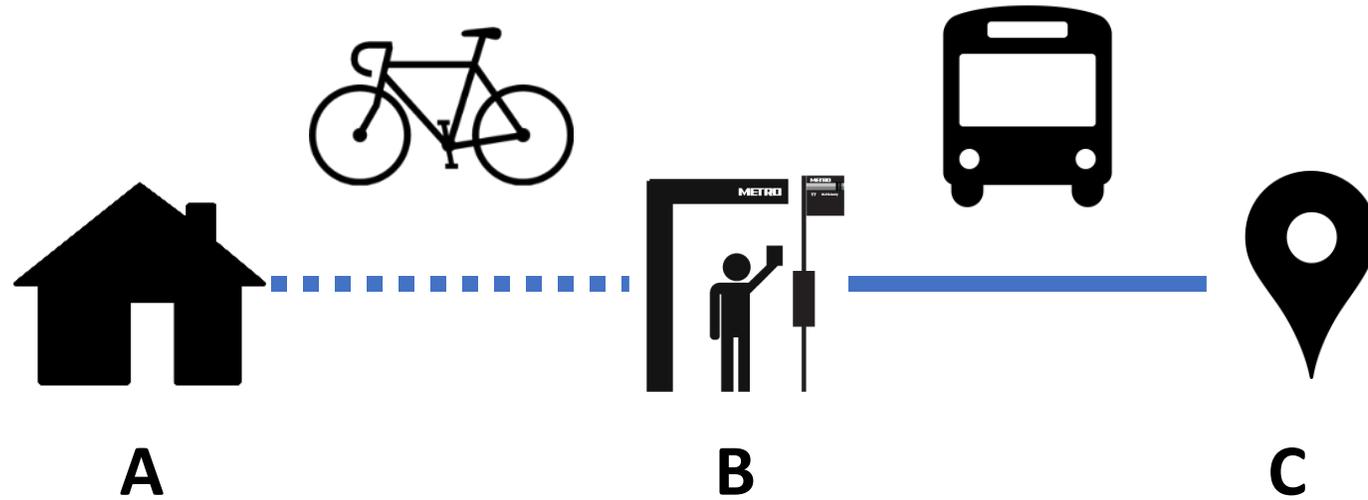
# Efficiency!



# National Transit Ridership



# Extend the Reach of Transit



# Reduced Demand for Parking



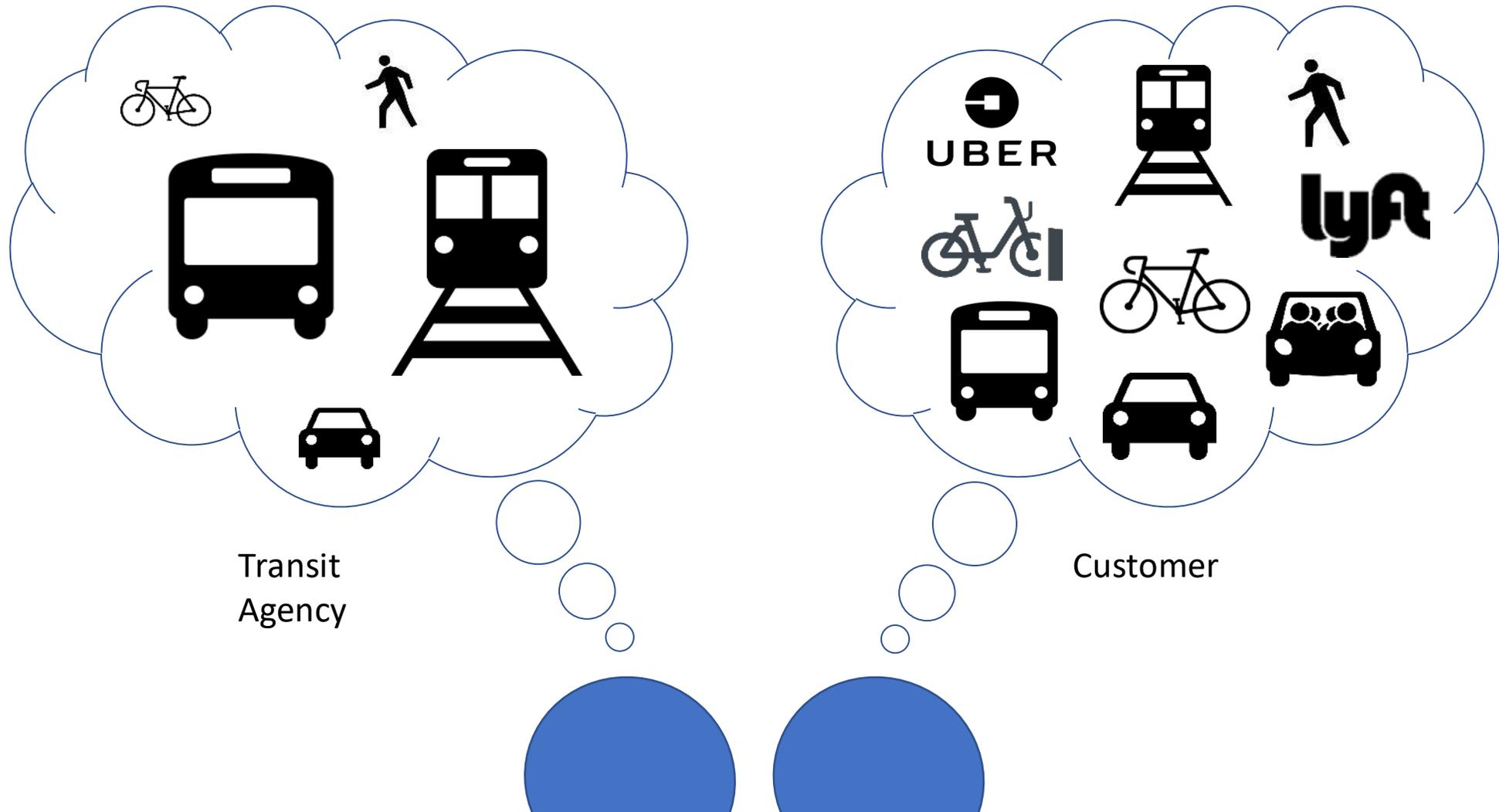
# Cause Everybody's Doin' It!



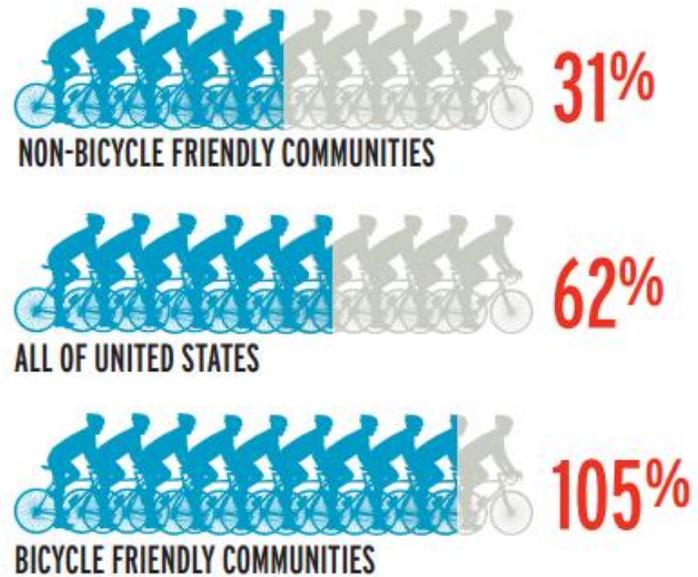
# LAYING THE GROUNDWORK



# Transit Agency Priorities vs Customer Choice



# Growing Industry Dataset



BFC and non-BFC numbers based on sample of 70 largest cities



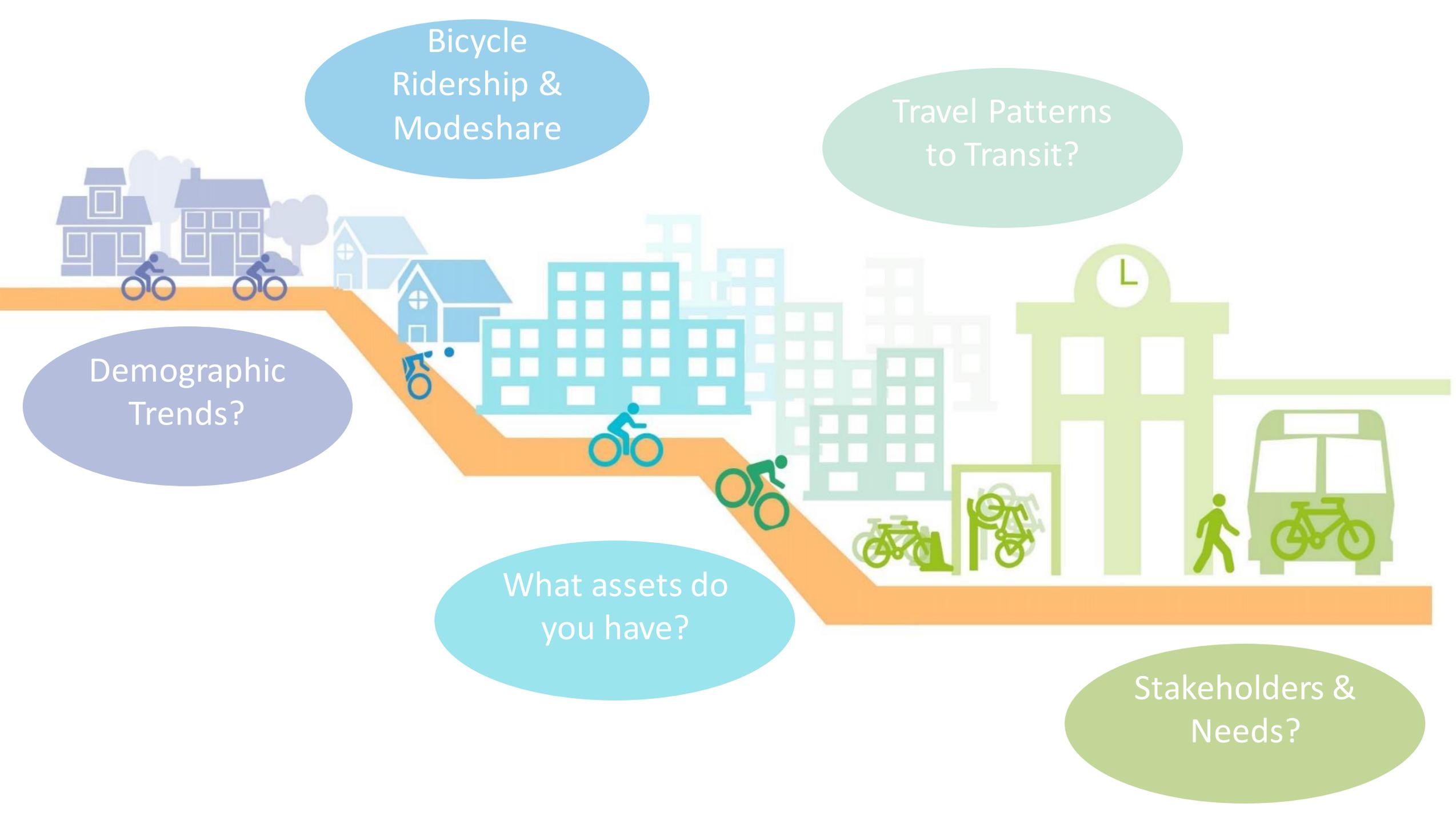
Bicycle  
Ridership &  
Modeshare

Travel Patterns  
to Transit?

Demographic  
Trends?

What assets do  
you have?

Stakeholders &  
Needs?



# BUILDING A TOOLKIT



# The Core Issues



# BIKES AT TRANSIT

*BICYCLE PARKING*





# WHERE



# SPACE



# CAPACITY



**keyed lockers**



**on-demand lockers**

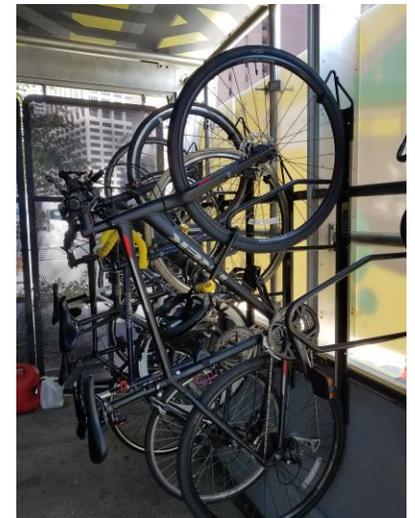


**Smart Racks**



**Modular Secure Bike Parking**

**Cages**



# BIKES ON TRANSIT

*BICYCLES ONBOARD TRANSIT VEHICLES*



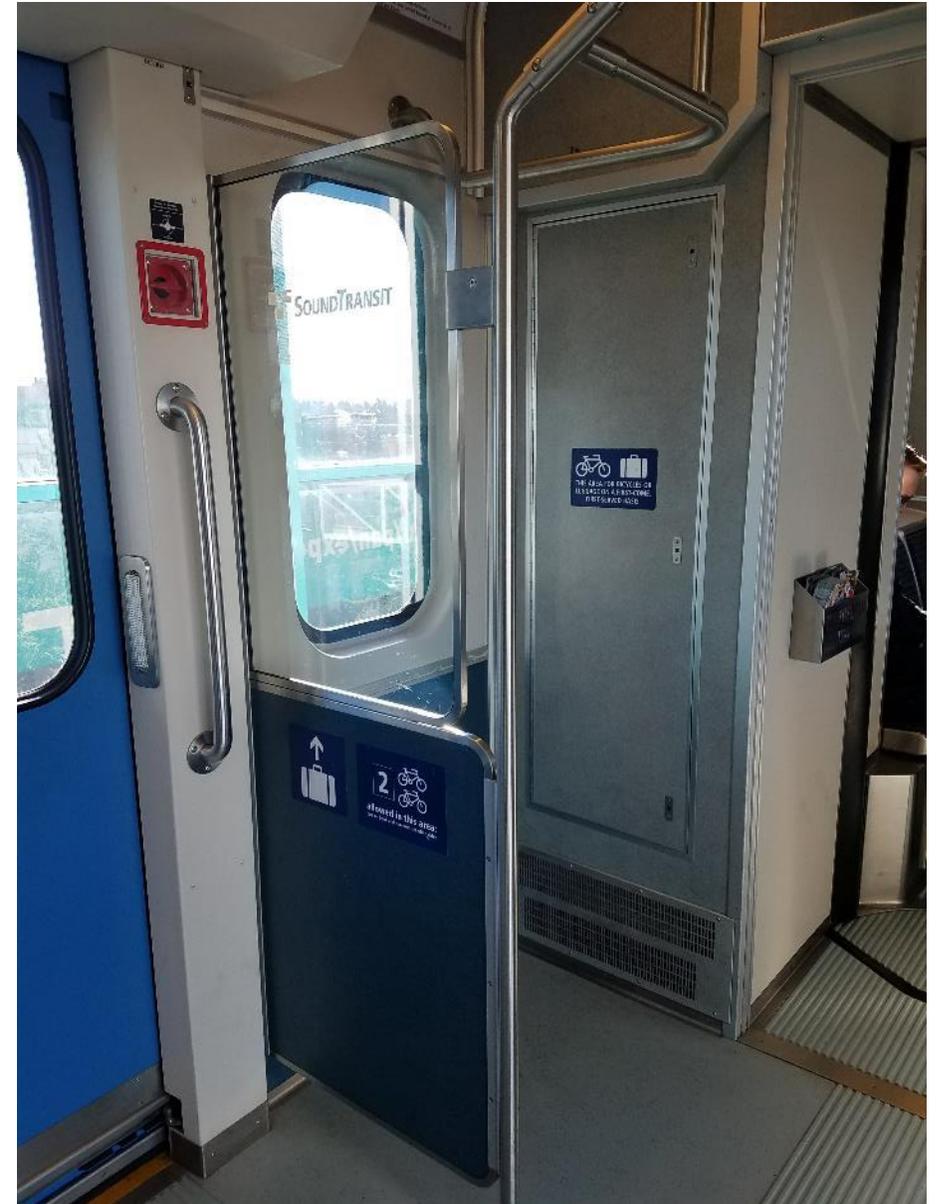
# Bicycles On Transit



# Safe Access to Vehicles



# Design Considerations



# Regulation

## Bike Smart on BART! Important Rules for Taking Bikes on Trains



**Bikes Rules:**

- Bikes are never allowed on crowded cars.
- Bikes are not allowed in the first car of any train.
- Bikes are not allowed on the first three cars during commute hours.
- Bikes should never block aisles, doors or seats.

It is the cyclist's responsibility to know and follow **ALL** rules. For a complete list of rules, visit [www.bart.gov/bikes](http://www.bart.gov/bikes)



BART... and you're there.

If you need language assistance services, please call (510) 465-2273.  
如需語言協助服務，請電 (510) 465-2273。  
如需語言協助服務，請電 (510) 465-2273。

## Bicyclist Conduct



### General Rules

- Follow all traffic rules.
- Look after your safety and the safety of others.
- Walk your bicycle at all times.
- Park your bicycle in racks or lockers only.
- Leave your bicycle behind in an emergency.
- Sound Transit is not responsible for any personal injury or loss.
- Folding bicycles are allowed on all Sound Transit vehicles.
- Store folding bicycles on your lap or under the seat in front of you.

Please follow these rules while on Sound Transit vehicles and at facilities. For more information about bicycles and Sound Transit, visit [soundtransit.org/bicycles](http://soundtransit.org/bicycles).

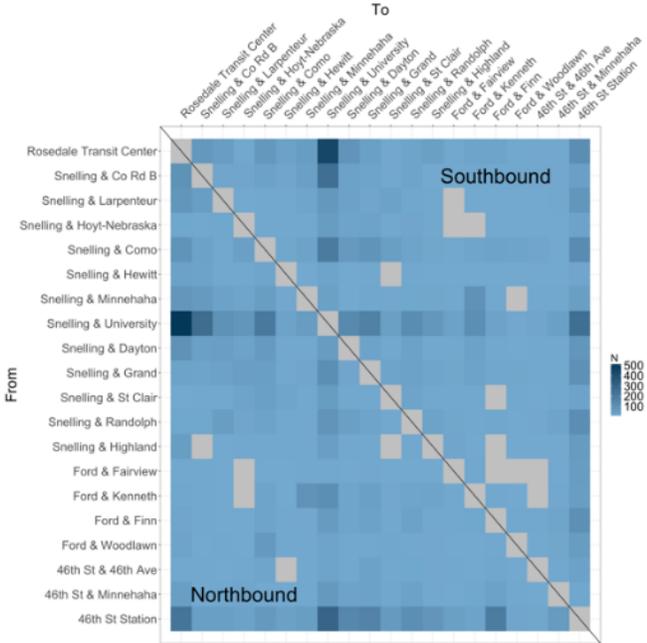
### On Trains

- Board at doors marked with a bicycle symbol.
- Use storage marked with a bicycle symbol.
- Try another car if storage area is full.
- Do not store your bicycle in the wheelchair or senior priority areas.
- Protect others from sharp edges on your bicycle.
- Keep aisles and exits clear.

### On Buses

- Always load your bicycle from the curb.
- Alert the driver before loading your bicycle.
- At your stop, exit using the front door and tell the driver you are getting your bicycle.

# Data Collection



NexTrip				NOW: 2:33 PM
Snelling & Grand Station			STOP#: 17312	
ROUTE	DESTINATION	AVAIL	DEPARTS	
A Line	46 ST Station/Rapid	1	6 Min	
84	Snelling Av / Davern Rd	no info	12 Min	
A Line	46 ST Station/Rapid	2	17 Min	
A Line	46 ST Station/Rapid	0	3:00	
A Line	46 ST Station/Rapid	0	3:10	
84	Snelling Av / Davern Rd	no info	3:15	

• Real Time • Scheduled



# BIKES WITH TRANSIT

*BIKESHARE INTEGRATION*

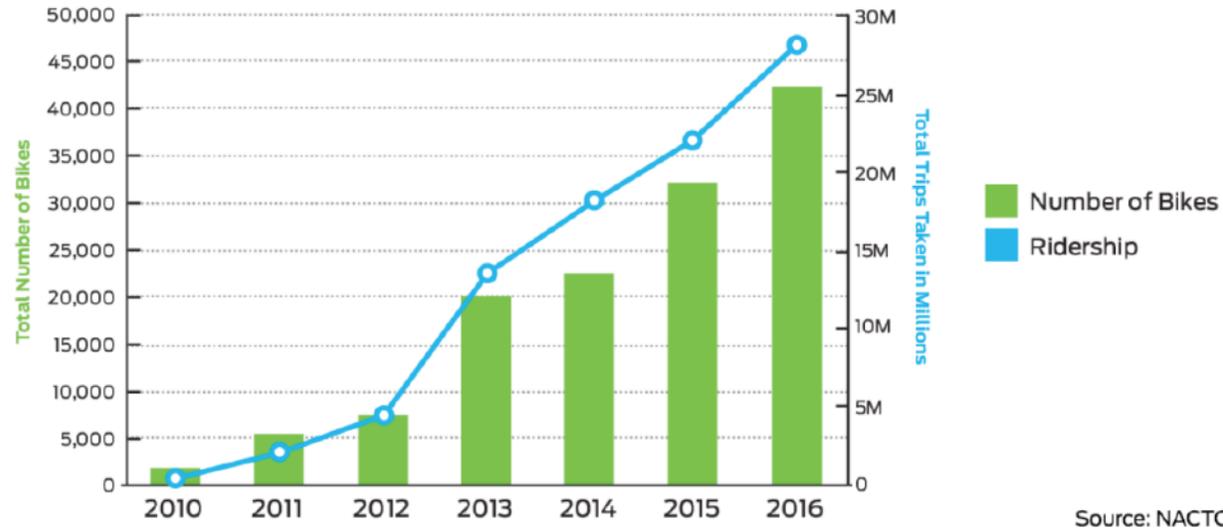


# US Bike Share Growth [2010-2016]



## Growth of Bikes and Riders

Systems with at least 10 stations and 100 bikes



Total Bike Share Trips

88 million

2016 Bike Share Trips

28 million

Graphic: King County Metro

# Bike share can be...

Stations



Dockless



Combination

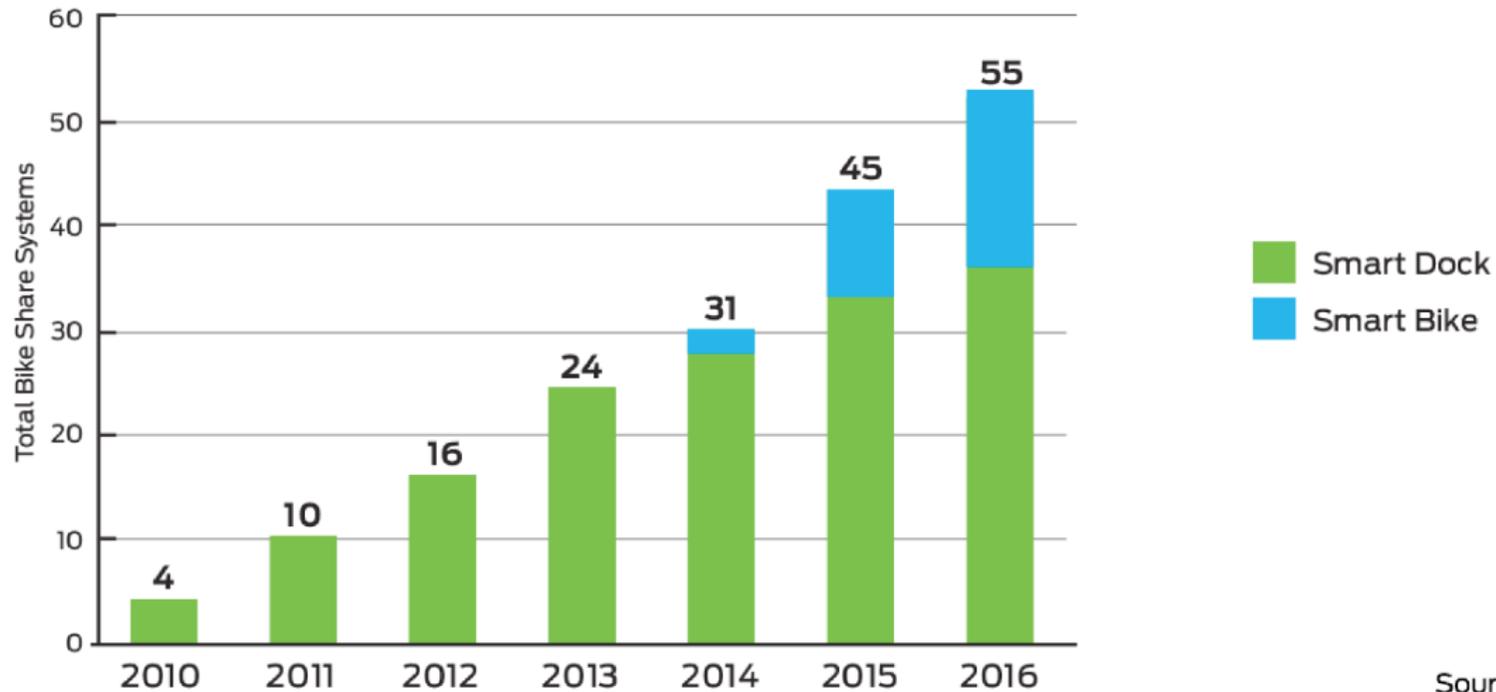


# US Bike Share Growth [2010-2016]



## Growth by System Type

Systems with at least 10 stations and 100 bikes



Source: NACTO

Graphic: King County Metro





# SAFE ROUTES TO TRANSIT

*BIKE ROUTES & INFRASTRUCTURE*





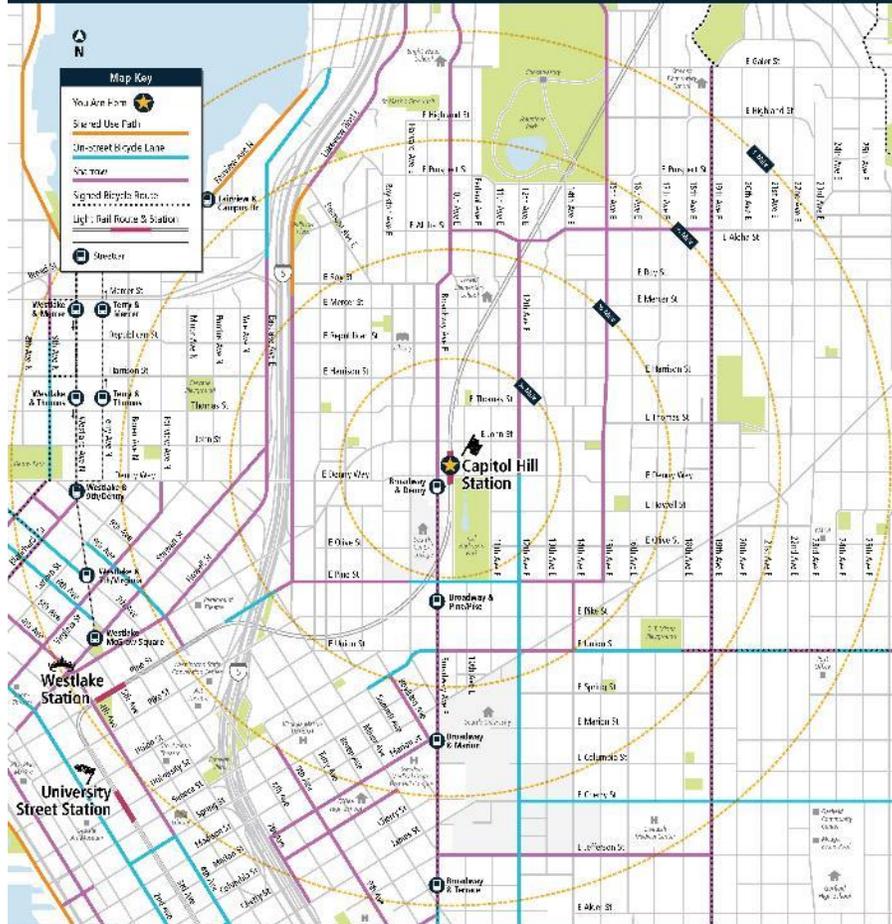
# Bike Map



soundtransit.org/bike-map



soundtransit.org/bike-map



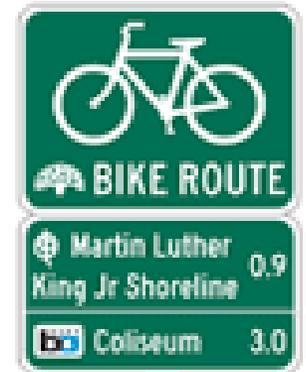
SOUNDTRANSIT



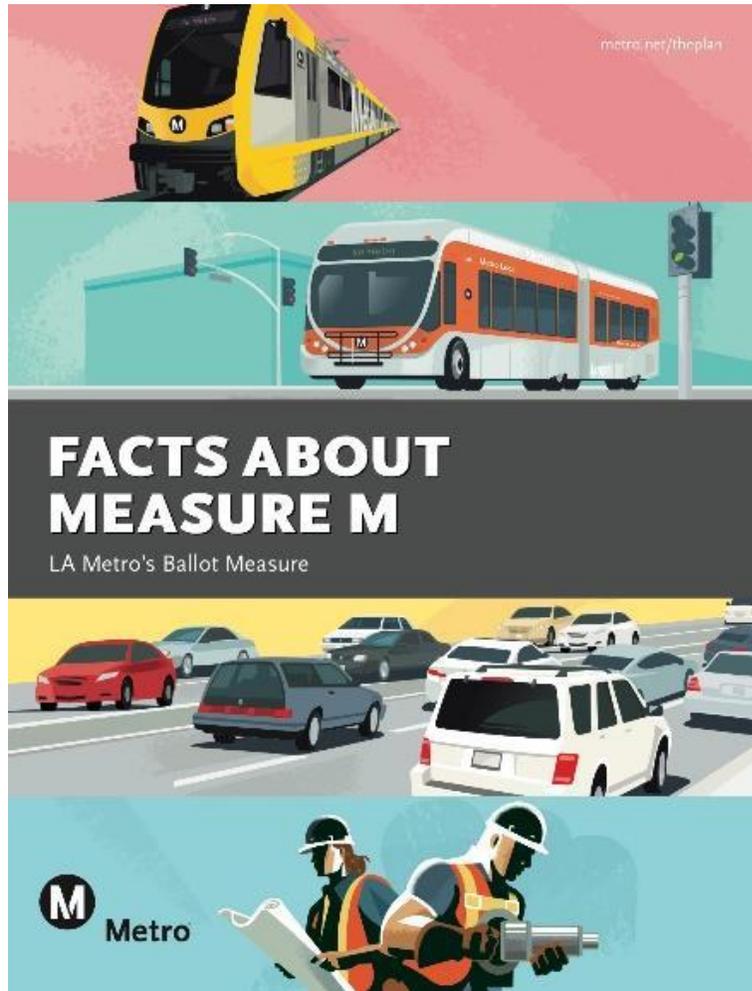
Berkeley, CA



Chicago, IL



Oakland, CA

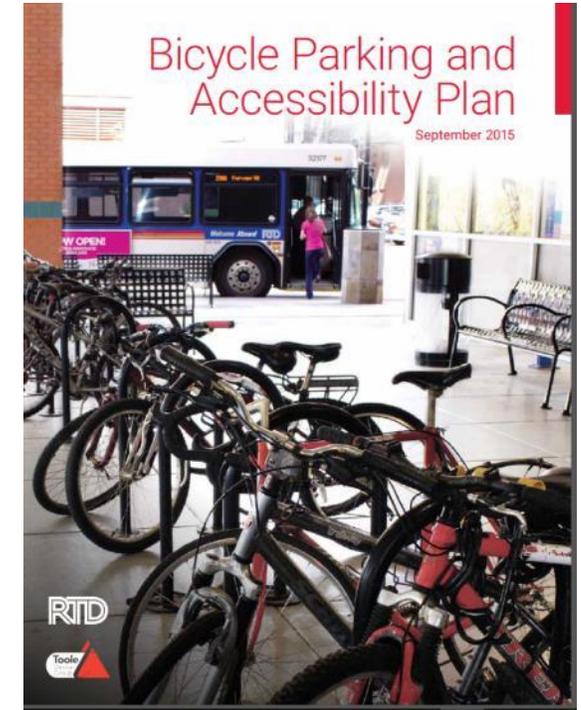
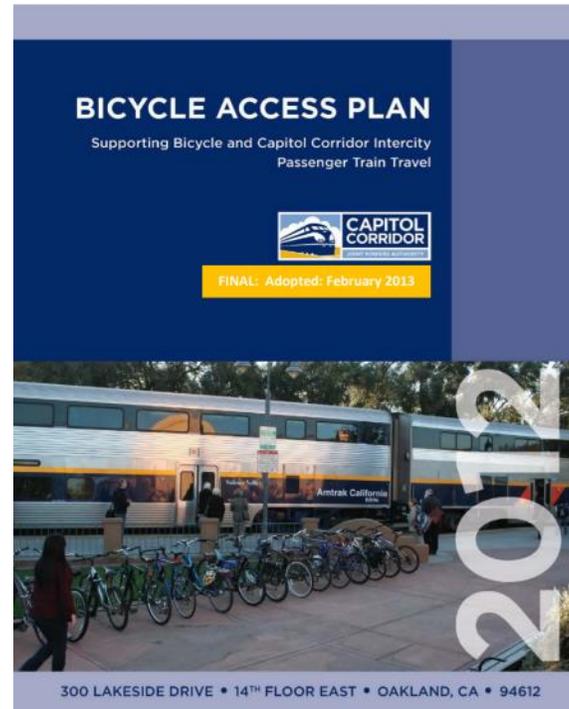


# IMPLEMENTING CHANGE

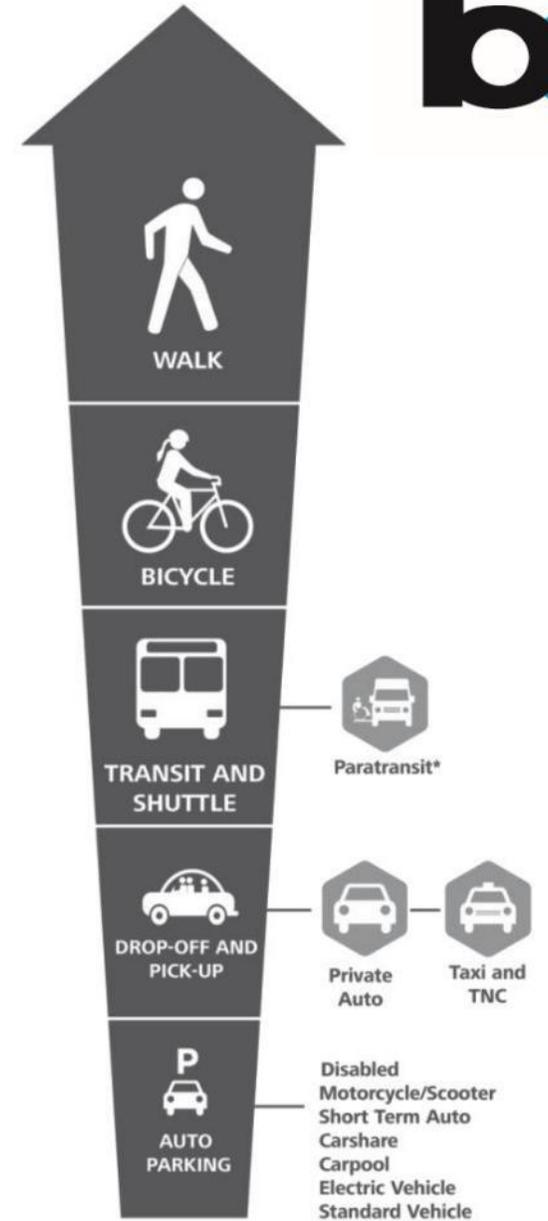


# Change Starts at Home

- Culture change
- Policy
- Strategic Plan
- Advisory Group and employee engagement
- Agency documentation



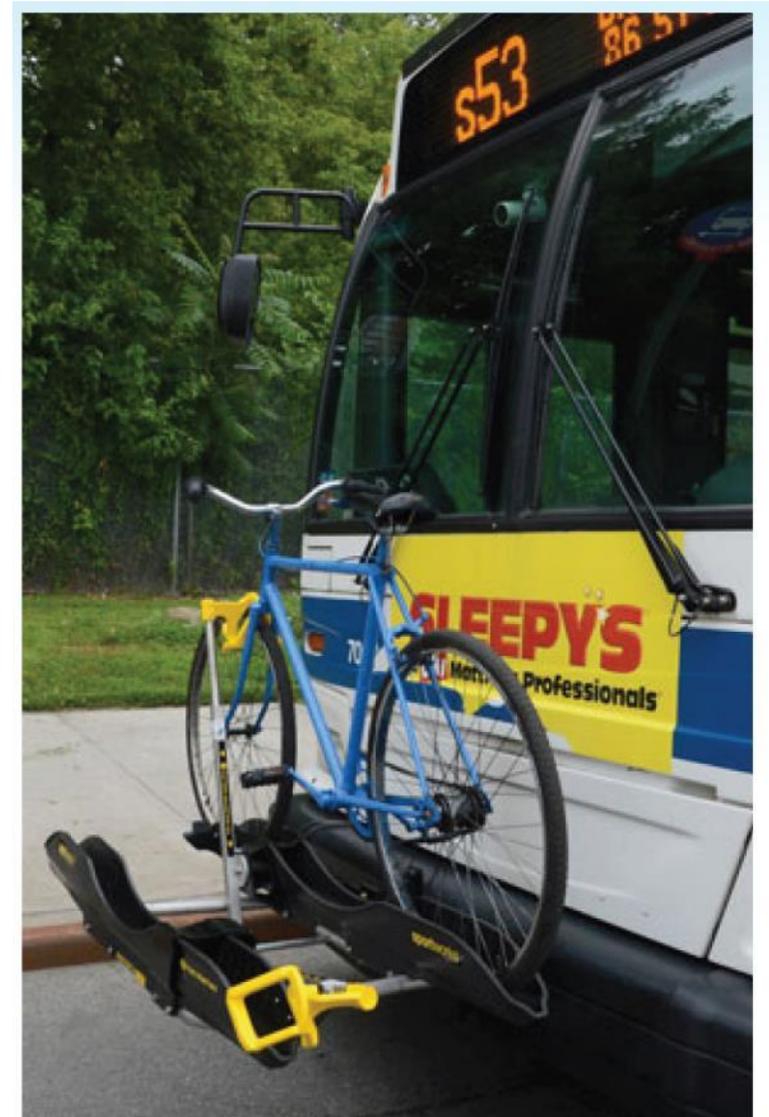
STATION TYPE	PRIMARY INVESTMENTS	SECONDARY INVESTMENTS	ACCOMMODATED	NOT ENCOURAGED
URBAN	 Walk  Bicycle	 Transit and Shuttle	 Taxi and TNC  Drop-Off and Pick-Up	 Auto Parking*
URBAN WITH PARKING	 Walk  Bicycle	 Transit and Shuttle	 Taxi and TNC  Drop-Off and Pick-Up	 Auto Parking*
BALANCED INTERMODAL	 Walk  Bicycle	 Transit and Shuttle  Drop-Off and Pick-Up	 Taxi and TNC  Auto Parking*	
INTERMODAL/AUTO RELIANT	 Walk	 Bicycle  Drop-Off and Pick-Up  Transit and Shuttle	 Taxi and TNC  Auto Parking*	
AUTO DEPENDENT	 Walk	 Bicycle  Drop-Off and Pick-Up  Auto Parking*  Transit and Shuttle	 Taxi and TNC	



# What's your role?

Customer Concerns	Core Issue	Partners & Roles			
		Transit Agency	Public Sector	Bike/Transit Advocacy Groups	Private Sector Partners
“How Do I get to Transit via bicycle?”	Safe Routes To Transit	Influencer	Lead Role	Influencer	Varies
“What resources are available to help me bike to transit?”	Customer Communication & Education	Lead Role	Lead Role	Lead Role	Support Role
“Is there a safe place to store my bicycle?”	Bicycle Parking at Transit Stations	Lead	Varies	Varies	Varies

# Pilot Projects



# TAKEAWAYS



Build a dataset

Know What  
Tools you have

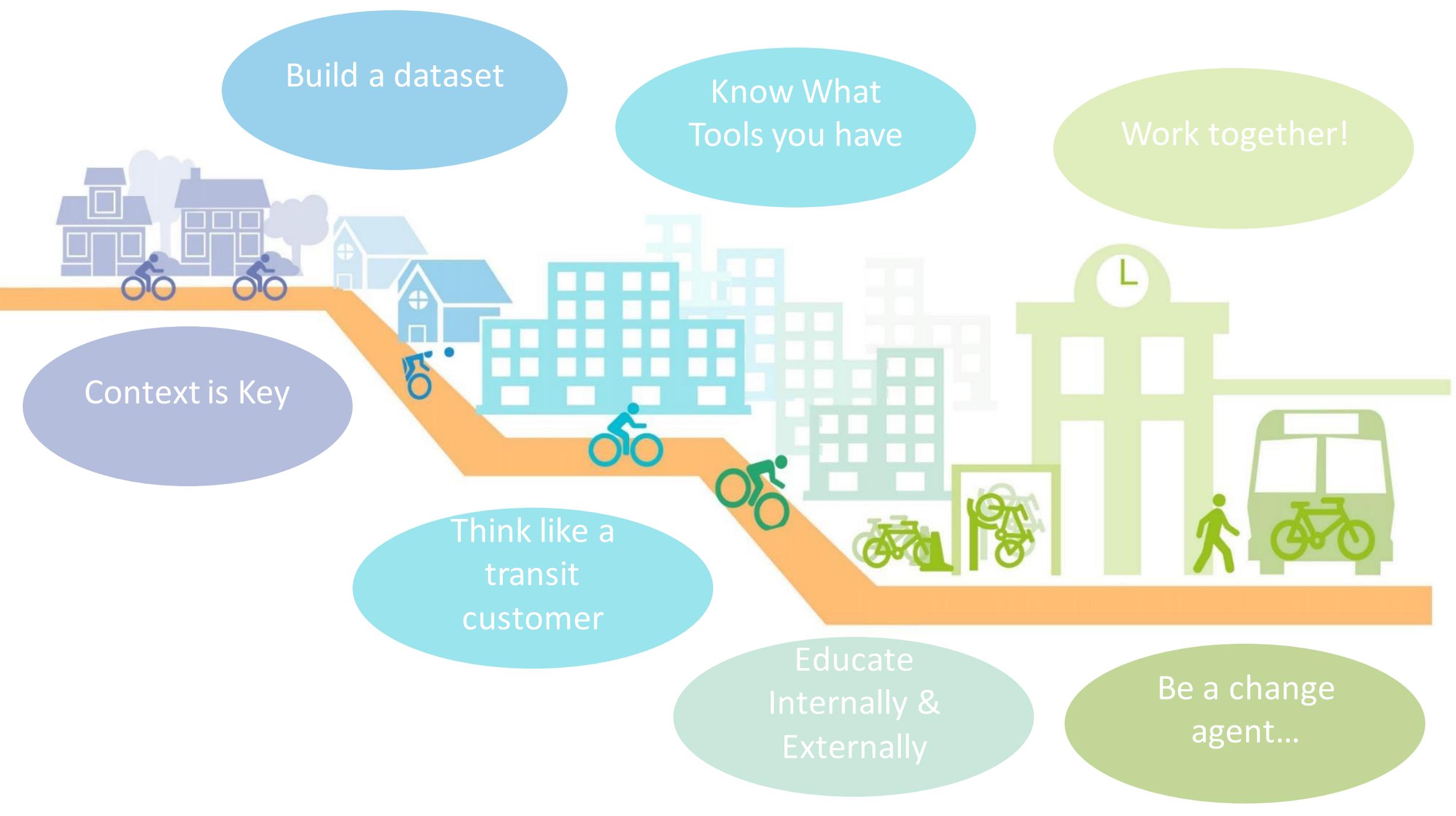
Work together!

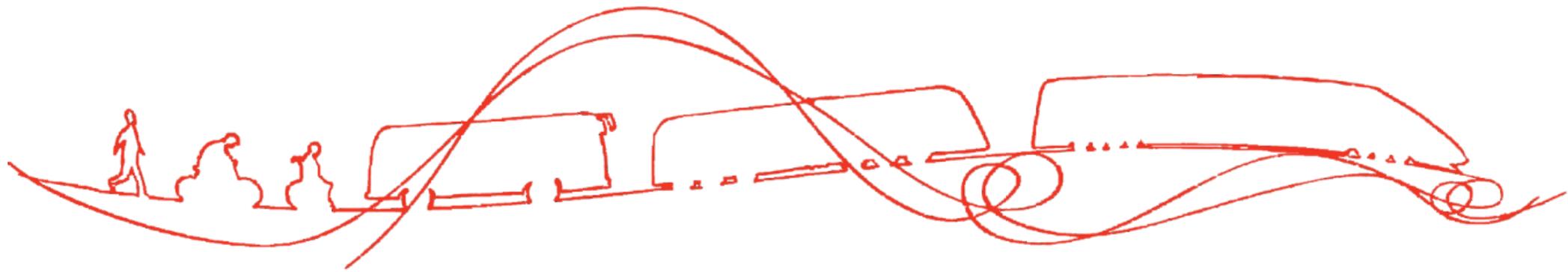
Context is Key

Think like a  
transit  
customer

Educate  
Internally &  
Externally

Be a change  
agent...

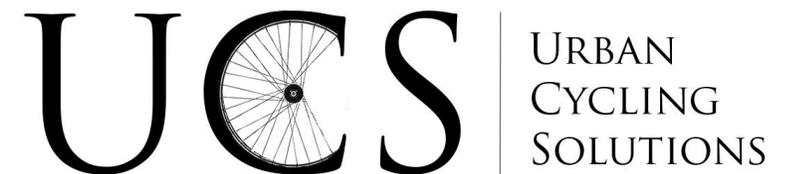




For more information on bicycle and transit integration or an advanced copy of the APTA guide, contact:



Dan Suraci, AICP  
Urban Cycling Solutions  
[dan@urbancyclingsolutions.com](mailto:dan@urbancyclingsolutions.com)  
718-635-2648





# Getting Started

## AGENCY AND PARTNER ROLES

Transit agencies often have limited jurisdiction outside their immediate property and right-of-way. The inter-agency nature of bicycle integration with transit requires an understanding of core issues grounded in customer concerns, coupled with a roadmap of the dynamic, complementary roles and responsibilities that may involve numerous stakeholder groups. In addition to the transit agency, stakeholder groups involved in bicycle and transit integration projects may include the following:

### Nontransit Public-Sector Partners

These partners may include metropolitan planning organizations (MPOs), municipal governments and local departments of transportation (DOT) or public works (DPW), county governments and state governments/DOTs. Transit projects often require collaboration with a municipal DOT for projects that fall outside of an agency's property. Other agencies such as MPOs may require inputs for broader transportation plans throughout an entire region. Additional partners may include schools and other higher-education institutions, the federal government, multijurisdictional authorities, park boards and airport commissions.

### Bike/transit Advisory Groups

Local bike coalitions, advocacy organizations and transit advisory groups can provide valuable insights into customer needs and can help gain access to populations at the grassroots level. Advocacy groups are an avenue for presenting bike/transit integration ideas directly to executives and management. This may also include transportation management areas (TMAs).

### Private-Sector Partners

Private entities can include small businesses, developers and employers. These stakeholders can serve as valuable partners, providing funding, land access and other resources. In some cases, particularly with developers, bike integration can be leveraged as an abatement tool to facilitate projects that benefit the public.

## Customer Concerns

"How do I get to transit via bicycle?"

"What do I need to know?" "Where can I find information about biking to transit?"

"Is there a safe place to store my bicycle?"

"Can I extend my transit ride with a bike?" "How do I complete my trip by bike at both ends?"

"Can I get to transit without using my own bike?"

## Technical Issue

Safe routes to transit

Customer communication and education

Bike parking at or near transit facilities

Bikes onboard transit vehicles

Bike-share connectivity

## Partners and Roles

### TRANSIT AGENCY

Influencer role; communicate customer demand to municipal authority; act as funding partner, provide policy support where possible

Lead role; provide central repository with clear information on using bikes with agency services, facilities and incentives

Lead role; responsible for design, implementation, maintenance and administration of bike parking at transit stations

Lead role; responsible for operations, policy and administration

Varies; where feasible, work with bike-share operators to ensure clear rules for dockless bikes and efficient placement for stations

### PUBLIC SECTOR

Lead role; responsible for planning, implementation and maintenance of facilities; data sharing

Lead role; provide accessible information on the bicycle network as it relates to transit facilities; includes wayfinding and route maps

Varies; provide demand data for bike parking; leads construction; ensures interoperability with bicycle parking if possible; establishes bike parking standards in land-use code

Support role; should communicate customer demand to transit agencies; provide data about facility use

Varies; municipalities overseeing planning for bike share should work proactively to ensure adequate capacity at transit stations

### PRIVATE SECTOR

Varies; developers may fund bike paths as an abatement and/or amenity in conjunction with development projects

Support role; employers may provide incentives for biking to work and use existing educational materials to illustrate resources

Varies; provide information and incentives for using bike parking; can build own bike parking facilities if near transit

Support role; incentivize and encourage bicycle integration with transit; communicate customer demand to transit agencies

Varies; may fund bike-share programs through sponsorship and advertising; may provide incentives for using bike share

### ADVOCATES

Influencer role; advocate for better bike facilities and connectivity throughout the bike network; help identify demand, balanced with other mode advocacy

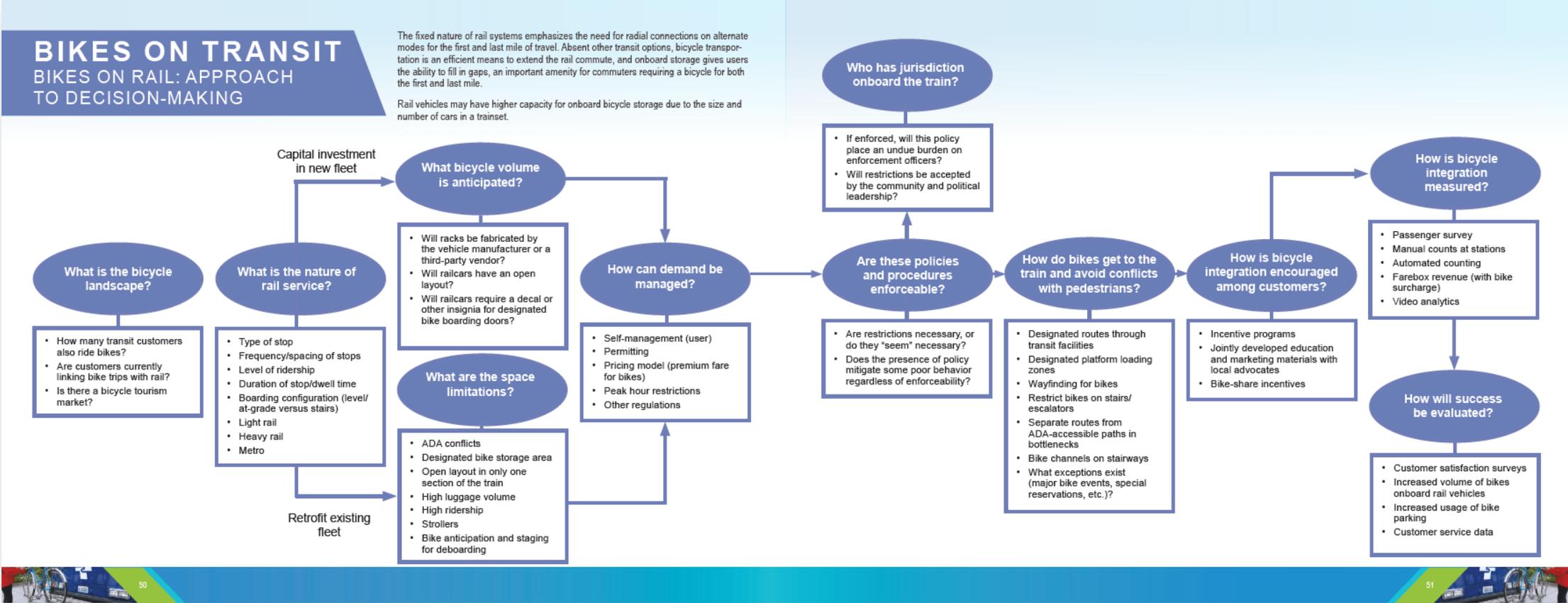
Lead role; provide grassroots messaging to underserved populations; incorporate transit resources into educational materials; provide translations; support events; provide amenities such as parking and showers

Varies; some advocacy groups may be contracted for operations of bike parking; advocates should otherwise provide information for users

Influencer role; provide information to the community; communicate customer needs

Influencer role; promote the use of bike share at the grassroots level and provide education on bike-share resources; work with providers on discounted use and access for unbanked users

# Decision-Making Frameworks



# Case Studies

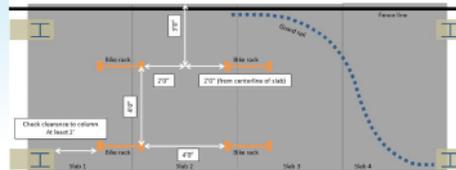
## CASE STUDY



### NEW JERSEY TRANSIT WESMONT STATION

In May 2016, NJ Transit opened Westmont Station, a new commuter rail station in Wood-Ridge, New Jersey, situated on its Bergen County Line. The new station is located adjacent to a significant, residential development built on an environmentally remediated 70-acre former industrial site.

Prior to the station's opening, NJ Transit's Capital Planning Department was asked to evaluate and select the most appropriate location at the station to install bicycle racks to accommodate anticipated demand while the adjacent commuter parking lot was under construction and to serve future needs. Capital Planning fulfilled this request by conducting a site visit to evaluate the site and perform a conditions assessment. The proposed bike rack locations were identified based on proximity to platform access points, pedestrian pathways and other considerations, including weather protection, lighting and camera security. After Capital Planning determined the preferred location for the bike racks, a sketch was prepared showing the racks' location. Spacing recommendations were included to facilitate full usage of all racks. The sketch was circulated to NJ Transit's Stations and Maintenance team to confirm that the rack placements would not conflict with station maintenance needs, and subsequently to the construction management team for installation.



Ultimately, four bike racks were installed beneath the main stairway leading up to the station's pedestrian overpass. The location under the stairway was chosen primarily for its convenient location (equidistant from the stair and elevator entrances) and protection from the elements. It is also close to the pedestrian pathway but does not obstruct it. The selected location has adequate lighting and security cameras for security.

The racks are standard-size staple racks with a crossbar and were ordered previously in bulk at a cost of approximately \$140 each. For installation at Westmont Station, four racks were taken from storage and delivered onsite to the construction management team.

One year later, the site selection appeared to have been successful, as the racks are being used nearly to capacity. The photo below was taken in August 2017. As of that date, the parking lot had been completed and made available to customers, and the bike parking in this location continued to be heavily used.



## CASE STUDY



### LA METRO BIKE HUB

Metro Bike Hub is the name of LA Metro's program offering high-capacity bike parking in a controlled access, secure facility to support bike trips to and from key transit stations. Metro also manages over 800 bike lockers throughout the system. Where bike locker demand is high, the Metro Bike Hub technology and functions including access control, registration, user monitoring and interoperability will accommodate for retrofit to self-serve shelter designs.

Metro opened its first location in 2015 at the El Monte Transit station, which provides the flexibility to operate as self-serve bike parking and offer staffed services. Staffed hours are limited to test the business potential of bike commuter retail services. The Hollywood/Vine Metro Bike Hub opened in the spring of 2017 with similar operations. Both locations are designed within storefront retail space of approximately 1,000 square feet each. A third Metro Bike Hub location opened in the fall of 2017 at Union Station, which is designated as a "flagship" location operating out of the LA region's transportation hub. A fourth location at Culver City is scheduled to open later in 2018, which will accommodate 64 bikes. Both Union Station and Culver City are designed as free-standing facilities, with separate areas for bike retail/repair services.



These initial locations include staffed services as a strategy to offer face-to-face support and to educate transit patrons about bicycling. The locations evolved through leveraging various opportunities associated with financial support from station improvements, Metro joint-development property and grant programs emphasizing active transportation to help address needs at stations with high demand.

	Bike Capacity	Staffed	Approximate Tenant/Construction Improvement
El Monte	56	7 to 11 a.m. weekdays	\$635,000
Hollywood/Vine	64	7 to 11 a.m. weekdays	\$560,000
Union Station	192	8 a.m. to 6 p.m. weekdays, 10 a.m. to 6 p.m. weekends	\$2.5 million

Metro selected a vendor that provides access control, secure bike parking management and retail services for the El Monte, Hollywood/Vine and Culver City locations. The same access control and secure parking management is used at Union Station to allow interoperability. However, the bike retail and repair shops at Union Station are negotiated through a lease with a separate company. As Metro tests these operating models, it will allow for flexibility to support ongoing operations and provide staffing at key locations. With additional locations planned and opening, Metro Bike Hubs will offer more than just secure bike parking; they will also act as venues for access to mobility resources.

Customer registration for secure parking involves a carefully reviewed application process that includes photos of the applicant/user, state-issued license/ID card and bicycle(s). Memberships can be purchased annually (\$60), monthly (\$12) and weekly (\$5), with discounts available for qualified individuals (seniors, students, Medicare recipients, etc.) Membership provides access to and use of all Metro Bike Hub locations. Free bike clinics are also offered to the public to educate the community about bike commuting, riding skills and repair tips.



# “CEO-Friendly” Executive Summary

