

# An Analysis of Bikeshare Options for Kalamazoo



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# What is Bikeshare?



Convenient, accessible bikes for short-term use



# What **isn't** a Bikeshare?

**BIKE  
RENTAL**



# What **isn't** a Bikeshare?

- Cost structure makes longer rental expensive

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- Intended to be for “minutes to hours”

# What **isn't** a Bikeshare?



- Cost structure makes longer rental expensive
- Intended to be for “minutes to hours”
- Not meant to compete with existing rental options

# Rental Experience

# To compliment other modes of transportation

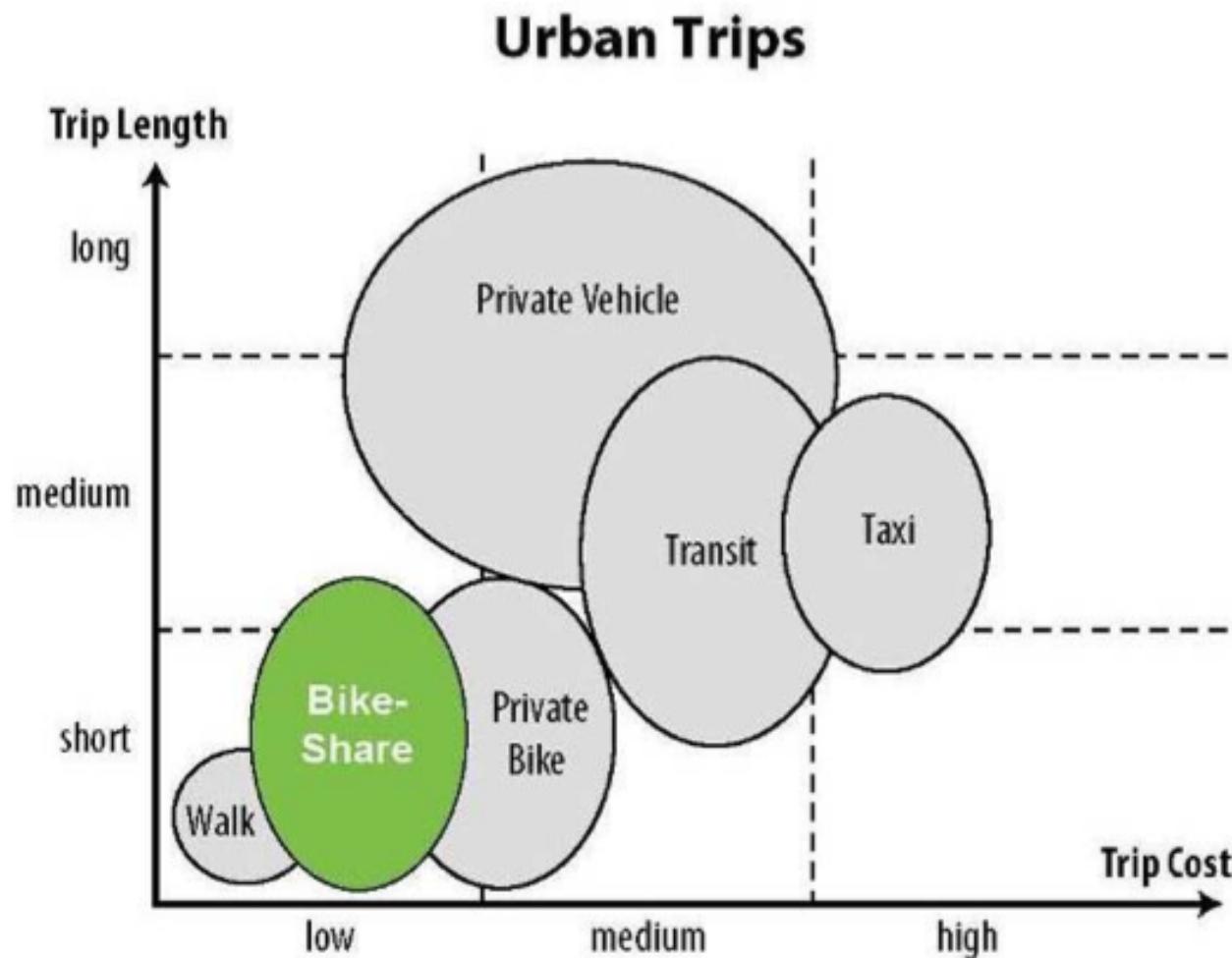


Figure 6 – Urban Transportation Spectrum

# To compliment other modes of transportation

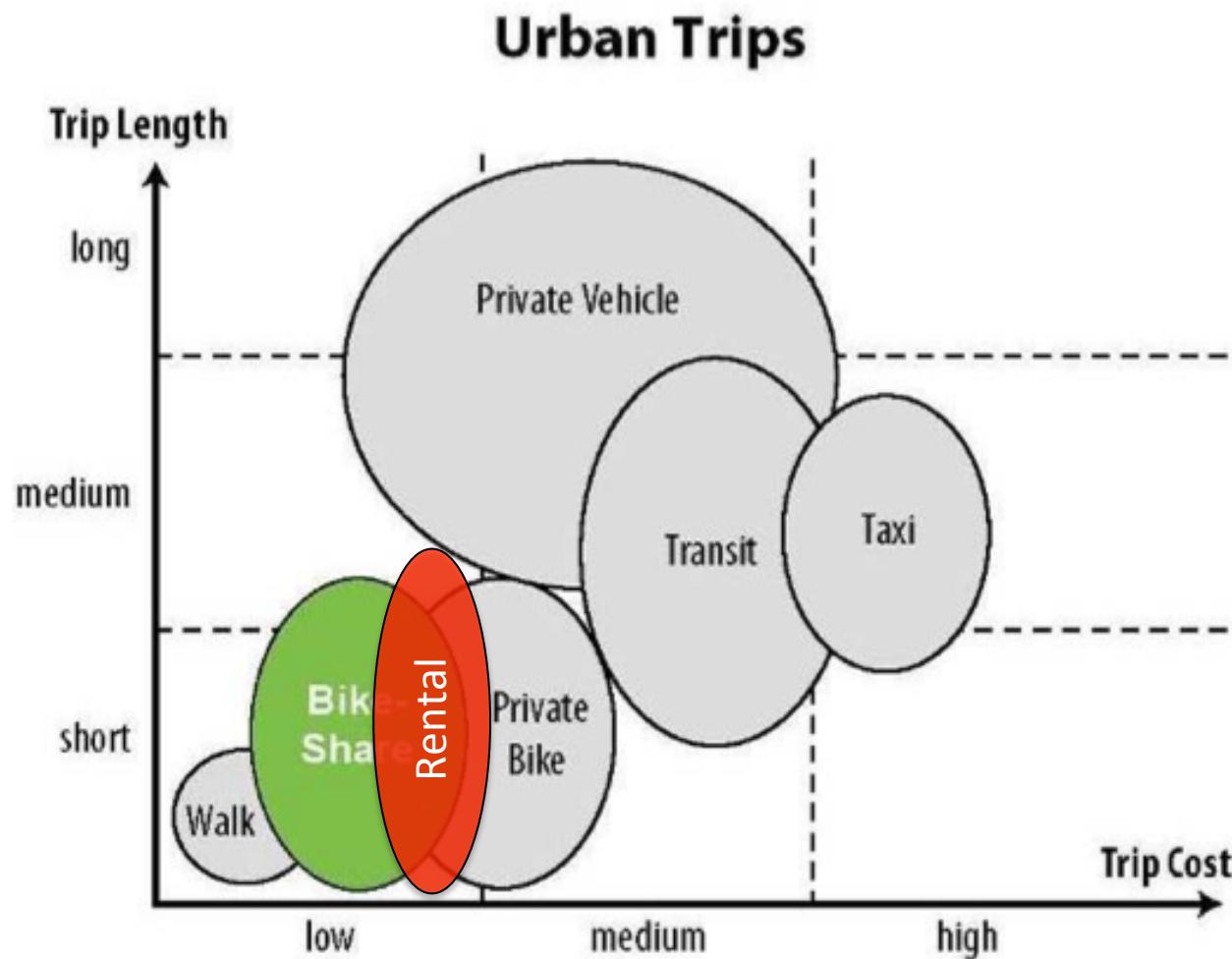


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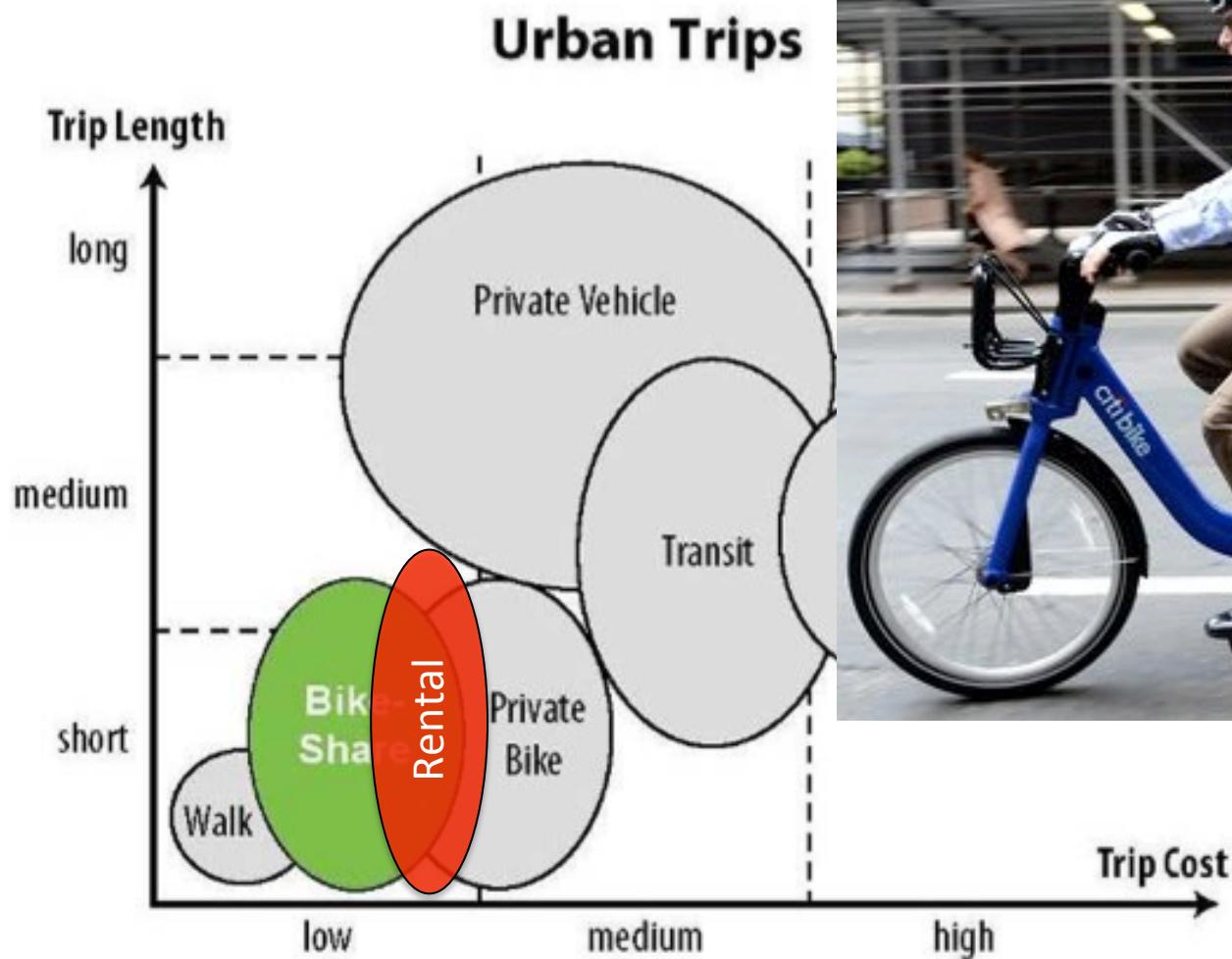
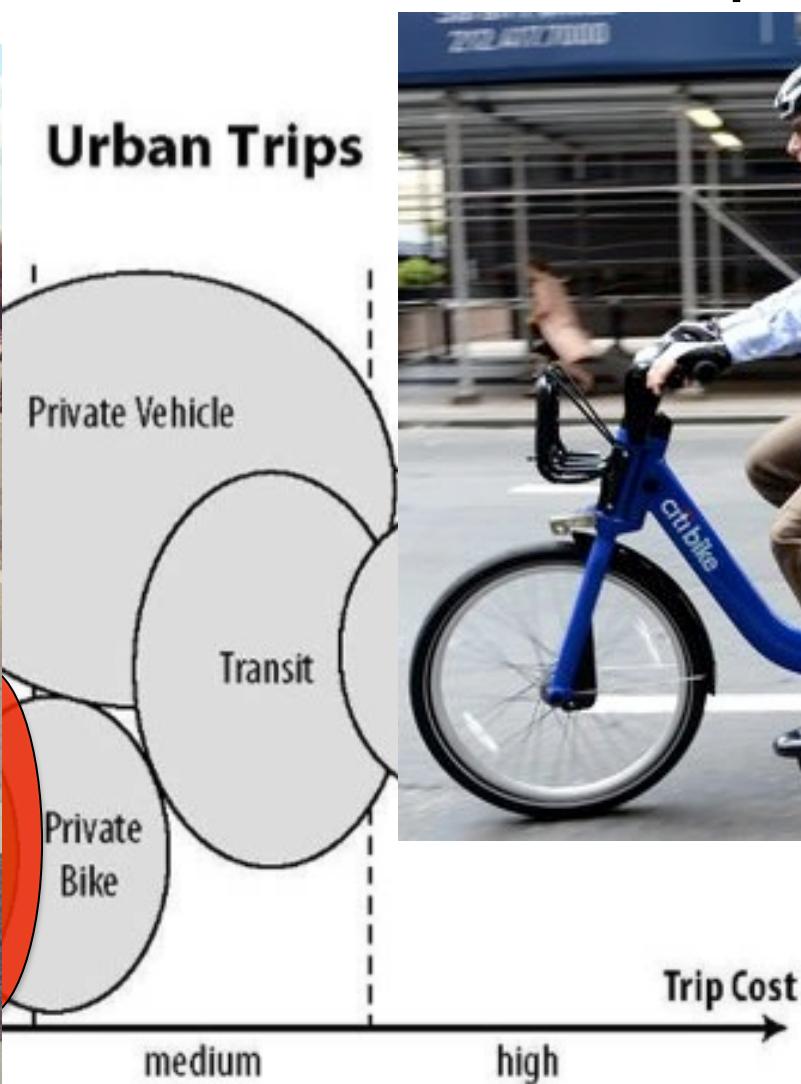


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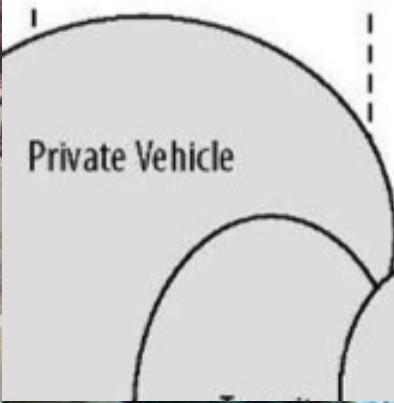


6 – Urban Transportation Spectrum

# To compliment other modes of transportation



## Urban Trips



Trip Cost  
→

















# History of Bikeshare

Progression can be broken into 3 Generations:

- Guerilla Bikes



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- Bike Vending



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- Smart Rentals



# Generation 1 – Guerilla Bikes

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Red Bikes program, Madison WI  
Active since 1996

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- System degrades, bikes fall into disrepair



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  - No accountability (theft & destruction)



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# Generation 2 – Bike Vending

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- Similar to airport luggage cart



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  - No revenue generation (fee as deposit only)

# Generation 3 – Smart Rentals

- Generation 3 systems can be further subdivided into:
  - **Smart Racks:** Where the rack houses the rental system to track users and bikes



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- **Smart Racks:** Where the rack houses the rental system to track users and bikes



- **Smart Bikes:** Where the rental system resides in an apparatus on the bicycle itself



Components of a bikeshare bike

# Generation 3 – Smart Rentals

- Smart Racks:
  - Rental stations are placed throughout the city



Alta – Bike Chattanooga

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  - Users swipe a credit card or membership card to gain access to a bike



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  - Rental stations are placed throughout the city
  - Users swipe a credit card or membership card to gain access to a bike
  - Bikes are robust, purpose-built bikes with fenders, cargo carriers & lights



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- Smart Racks:

- PROS:

- Improved end-user accountability



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    - Confusion price models



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24-hr	\$6.00
1 Year	\$65.00
Student 1 Year	\$55.00

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24-hr	\$6.00		0-30 min      No additional fee
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- Membership (24h)
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## Example:

–Membership (24h) \$6.00  
–2 Hour ride 90 + 30 \$4.50 + \$6.00  
–Total Cost: **\$16.50**

# Kiosk Stations



# Generation 3 – Smart Rentals

- Smart Bikes:
  - Rental stations are simply designated bike racks



ViaCycle's Smart Unit, Georgia Tech Bike Share

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  - Purpose-built bikes with fenders & lights



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    - Easily scalable (adding additional racks)
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  - CONS:
    - Requires cellphone for rental
    - No active shares at the municipal level



ViaCycle's Smart Unit, Georgia Tech Bike Share





# Poverty



Poverty  
Population density

# Aspects of a Successful Bikeshare

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- 1) Transportation “gap filler”
- 2) Social equity vehicle
- 3) Recreational value

# Costs



Monroe St & Classon Av  
Bedford-Stuyvesant  
citibike







# Initial Costs

Bikeshare City	Minneapolis	Calgary	Cincinnati (high cost)	Cincinnati (low cost)	Average	Kalamazoo?
Number of Bikes	1000	400	210	210	NA	100
Number of Stations	75	40	21	21	NA	10
Total Cost	\$3,386,913	\$2,438,381	\$1,350,000	\$1,200,000	NA	\$600,000
System as Cost per Bike	\$3,386	\$6,096	\$6,428	\$5,714	\$5,406	\$6,000
System as Cost per Station	\$45,158	\$60,960	\$64,285	\$57,142	\$56,886	\$60,000

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# Annual Costs

Bikeshare City	Minneapolis	Calgary	Cincinnati (high cost)	Cincinnati (low cost)	Average	Kalamazoo?
Number of Bikes	1000	400	210	210	NA	100
Number of Stations	75	40	21	21	NA	10
Annual Cost	\$1,574,453	\$1,092,212	\$600,000	\$450,00	NA	\$350,000
System as Cost per Bike	\$1,574	\$2,731	\$2,857	\$2,142	\$2,326	\$3,500
System as Cost per Station	\$20,992	\$27,305	\$28,571	\$21,428	\$24,574	\$35,000

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\$600,000

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- Annual Costs:  
\$350,000

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- Initial Costs:

\$600,000



5 Year Cost:

\$2,500,000

- Annual Costs:

\$350,000

# Revenues

US cities have reported “farebox recoveries” ranging from 36% (Boulder) to 97% (Capital Bikeshare)

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Meaning O&M recovery rate between  
\$600 - \$1,000 per bike

# Costs & Recovery

## Recovery

\$600 - \$1,000 per bike per year

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## O&M Costs

\$3,500 per bike per year

# Costs & Recovery

## Recovery

\$600 - \$1,000 per bike per year

## O&M Costs

\$3,500 per bike per year

## Average Loss

\$2,500 per bike per year

# Costs & Recovery

## Total Cost

\$250,000 per year

## Recovery

\$600 - \$1,000 per bike per year

## O&M Costs

\$3,500 per bike per year

## Average Loss

\$2,500 per bike per year

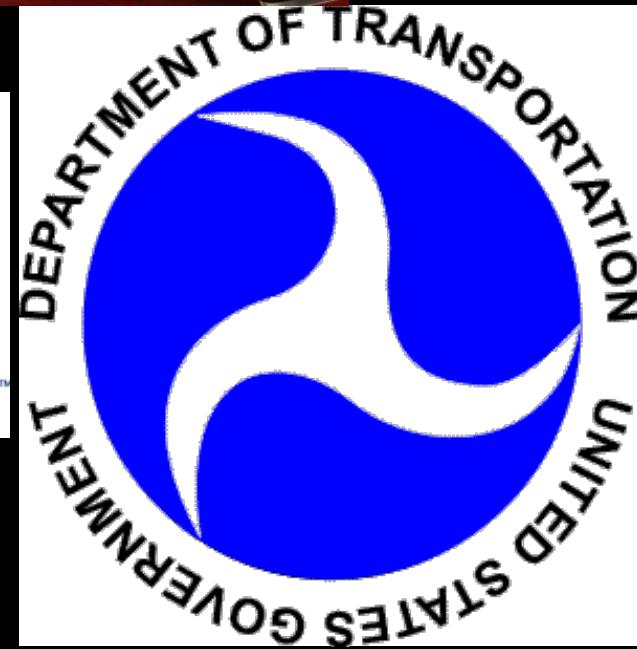
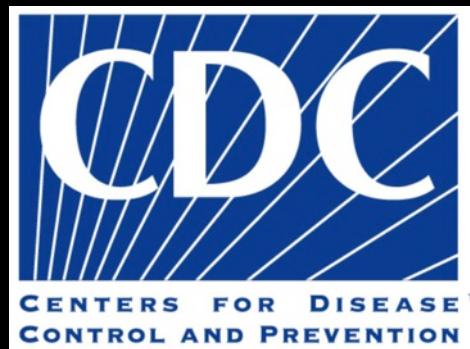
# Cost Reduction Strategies

- Tiered Sponsorship
  - Title
  - Presenting
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  - Title
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  - Station/Fleet logoing
- Grant Funding
  - Congestion Mitigations and Air Quality
  - Federal Transit Administration
  - Federal Highway Administration
  - CDC & Public Health Programs



# Sponsorship Examples



New York City,  
Citibank



- Tier 1: Title Sponsor
  - 5 Year contract  
\$41,000,000
  - \$8200 per bike per year

# Sponsorship Examples

Boston,  
New Balance

- Tier 2:  
Presenting  
Sponsor
  - 3 Year contract  
\$600,000
  - \$333 per bike  
per year



# Sponsorship Examples

Minneapolis,  
Blue Cross  
Blue Shield

- Tier 2:  
Presenting  
Sponsor
  - \$1,000,000  
initial  
investment
  - 1/3 match on  
all public funds  
raised



# Sponsorship Examples

Minneapolis,  
Allina Health

- Tier 3:  
Station Sponsor
  - 3 Year contract  
\$10,000 per  
year
  - Billboarding at  
2 stations



# Possible Sponsors

**BORGESS**

**stryker**<sup>®</sup>



GREENLEAF  
TRUST



**Pfizer**

**S**  
Studio Grill

A blue bicycle icon with the text "PEDAL BICYCLES" below it.

PNC

**Upjohn**

**K**  
KALAMAZOO COLLEGE

Better World Builders

ECCU

WATER STREET  
COFFEE JOINT

ALFRED E  
BIKE

KALAMAZOO COLLEGE

gazelle sports

KALAMAZOO VALLEY  
COMMUNITY COLLEGE

BRONSON

**Sawall** **HEALTH FOODS**

**BELL'S**



KALAMAZOO  
**people's**  
FOOD CO-OP  
• SINCE 1973 •

Food Dance

CSM  
GROUP

Building owners' trust.<sup>™</sup>

**consumers**  
credit union

# THANK YOU!



clean energy **cycle**  
coalition

**NASHVILLE**  *cycle*



# Potential Options

# Potential Options



# Potential Options



# Potential Options



# Potential Options



# Potential Options

# 4th



# Gen?



# Possible Next Steps

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“Feeler Fleet” of  
GPS bikes



# Possible Next Steps

“Feeler Fleet” of  
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Non-motorized  
Transportation  
Planning Consultant



