PBIC Webinar

Measuring the Economic Impact of Nonmotorized Transportation

Erica Simmons, Volpe Transportation Systems Center

Sean Quinn, New York City's DOT

Greg Lindsey, University of Minnesota

June 4, 2 pm

Today's Presentation

- Introduction and housekeeping
- Presentations
- Questions at the end

Webinar Issues

- **Audio issues?**
  Dial into the phone line instead of using "mic & speakers."
- **Webinar issues?**
  Re-Load the webpage and log back into the webinar. Or send note of an issue through the Question box.
- **Questions?**
  Submit your questions at any time in the Questions box.

CM Credits and Email

⇨**Certificate of Attendance**

You will receive a certificate of attendance by email from the UNC Highway Safety Research Center

Pedestrian and Bicycle Information Center

Dear James,

Thank you for registering for "A Resident's Guide for Creating Safer Communities for Walking and Biking".

The Federal Highway Administration just released "A Resident's Guide for Creating Safer Communities for Walking and Bicycling," a free guide offering step-by-step instructions for residents and community groups looking to improve pedestrian and bicyclist safety, access, and comfort. This webinar offers an overview of the guide and will review how two communities used the principles outlined within it to make their communities more walkable and bikeable.

Tamara Redmon, with FHWA's Office of Safety, will introduce the guide and discuss how it fits within the US Department of Transportation's Safer People, Safer Streets Initiative.

Laura Sandt, with the Pedestrian and Bicycle Information Center, will discuss the content of the new guide and how residents can use it.

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Evaluating the Economic Benefits of Nonmotorized Transportation

Case Studies Methods

Image courtesy Bike Walk Twin Cities

Volpe The National Transportation Systems Center

Advancing transportation innovation for the public good

U.S. Department of Transportation
Office of the Secretary of Transportation
John A. Volpe National Transportation Systems Center

White Paper Background

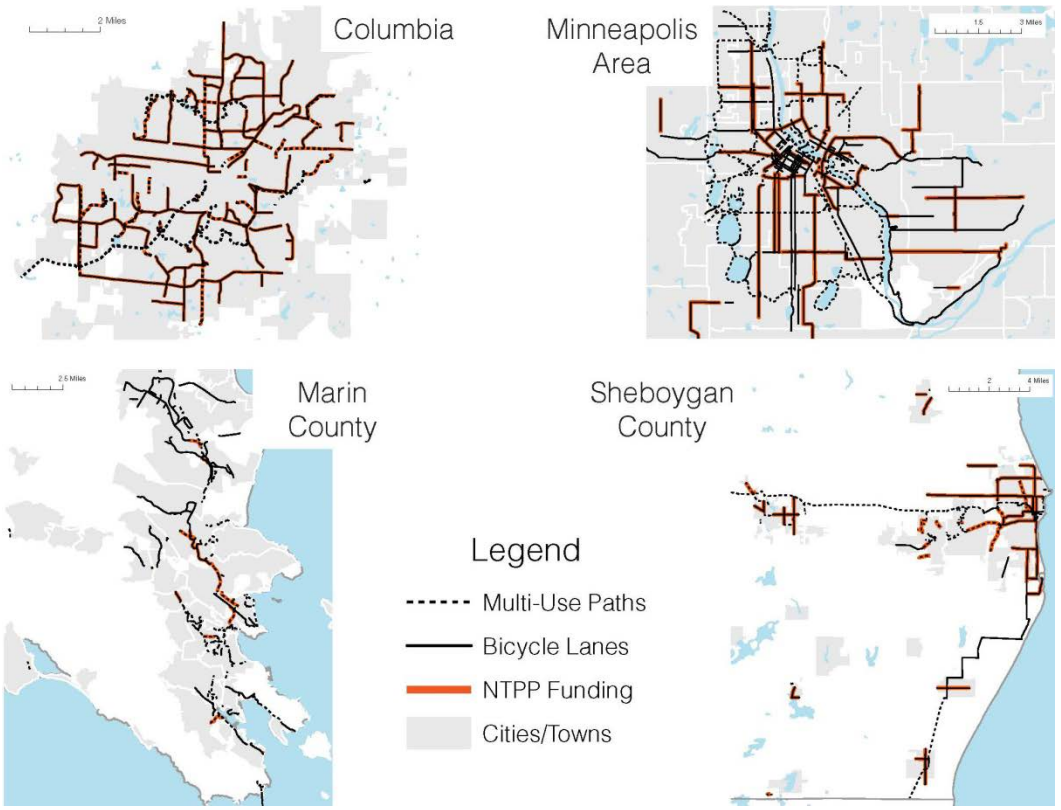
Nonmotorized Transportation Pilot Program (NTPP)

White Paper Background

- **NTPP**
  - Desire to evaluate economic benefits from program, but limited data
  - Need for practical, available methodologies
- **Goal of white paper:**
  - Provide a resource for communities interested in measuring economic impacts from bicycle and pedestrian projects and programs
  - For NTPP communities and a wider audience

White Paper Framework

- Types of economic benefits
- Methods for measurement and analysis
- Scales of analysis
- Conclusion and recommendations



Types of Economic Benefits from Nonmotorized Transportation

- User cost savings
- Direct impacts
- Indirect or induced impacts
- Economic impacts due to health savings
- Economic impacts due to environmental benefits

Image courtesy Sheboygan County, WI

User Cost Savings

- **Definition:**
  - Low user costs and increased affordability of travel for pedestrians and bicyclists. Increased access to opportunities via low-cost travel.
- **Methods for measurement:**
  - User surveys of traveler behavior and travel costs.
  - Mode share analysis to generalize observations.

Direct Economic Benefits

- **Definition:**
  - Money spent that benefits local businesses as a direct result of new nonmotorized infrastructure or programs.
  - Examples: construction jobs, bike store revenue, tour companies.
- **Methods for measurement:**
  - Business surveys
  - Tax receipts

Indirect or Induced Economic Benefits

- **Definition:**
  - Economic activity indirectly caused by changes in transportation modes or street characteristics.
- **Potential reasons:**
  - Increased disposal income from travel cost savings
  - Bicycle and pedestrian travel more conducive to browsing
  - Street redesign may make commercial streets more attractive to visitors.
- **Methods for measurement:**
  - Consumer surveys (mode and share and consumer behavior)
  - Sales tax receipts, commercial vacancy rates, rents, etc.

Economic Impacts Due to Health Savings

- **Examples:**
  - Economic savings from to reduced mortality or morbidity due to obesity.
  - Economic savings from reduced mortality or injury due to safety.
- **Methods for measurement:**
  - World Health Organization's Healthy Economic Assessment Tool (HEAT)
  - Integrated Transport and Health Impacts Model (ITHIM)
  - Both tools in development

Economic Impacts Due to Environmental Benefits

- **Examples:**
  - Savings due to air quality improvements (e.g., health, visual air quality, greenhouse gas emissions reduction).
- **Methods for measurement:**
  - Impacts diffuse, difficult to measure at a local scale.

Measures of Cumulative Economic Impacts

- **Models and tools include:**
  - REMI
  - Impact Analysis for Planning (IMPLAN)
  - TREDIS
  - U.K. Department for Transportation: Guidance on the Appraisal of Walking and Cycling Schemes
- **Considerations**
  - Cost-benefit analysis
  - Post-project evaluation
  - Need to document assumptions

Additional Considerations

- **Baseline data**
  - Ideally, analyses should have pre-project data to allow for a pre- and post-project comparison.
  - Best practice: design evaluation strategy before project implementation.
- **Control study**
  - Controls can help researchers understand the counterfactual – *what would have happened without the project?*
  - Best practice: use a location with similar characteristics as a control.

Scales of Observation and Analysis

- **Micro-scale**
  - Individual businesses or consumers
- **Meso-scale**
  - Neighborhoods and commercial corridors
- **Macro-scale**
  - City, Zip Code, County, or State

Micro-Scale: Individual Businesses or Consumers

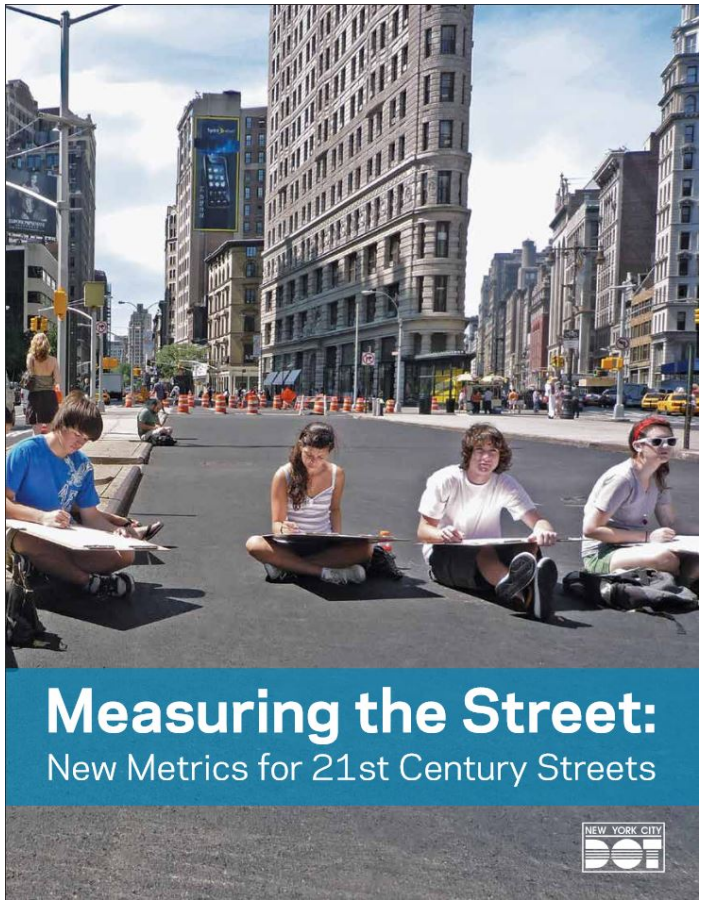
- **Advantages**
  - Data collection is relatively simple
  - Concrete way to study travel cost savings and consumer behavior
- **Challenges**
  - Difficult to extrapolate to more general conclusions
- **Example studies**
  - Minneapolis: Consumer behavior of bike share users
  - Toronto: Consumer behavior of shoppers by travel mode

Meso-Scale: Neighborhoods or Corridors

- **Advantages**
  - Fine-grained enough to measure impacts from small infrastructure projects
  - Does not require as much extrapolation as micro-scale analysis
- **Challenges**
  - Data availability
- **Example study**
  - New York City Department of Transportation (NYCDOT), *Measuring the Street*

NCYDOT, *Measuring the Street* (2012)

- **Goal**
  - Evaluate the impacts of individual projects on adjacent corridors
- **Methods**
  - Analyze commercial indicators (city sales tax receipts, commercial vacancy rates)
  - Surveys and site observations (number of visitors)
  - Collected before and after data
  - Compared to borough average or similar streets for control

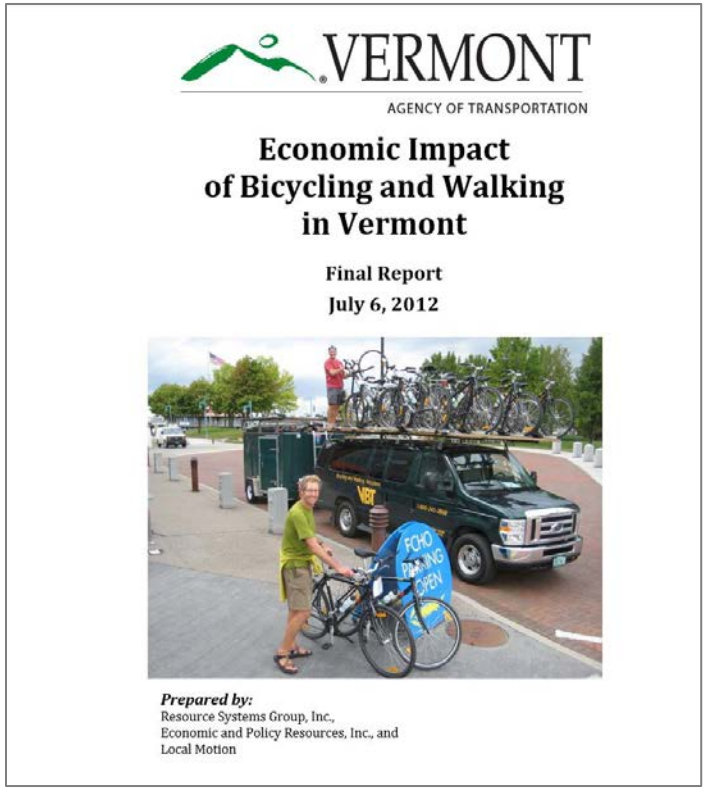


Macro-Scale: Zip Codes, Cities, Counties, States

- **Advantages**
  - Understand cumulative impacts at a larger scale
  - Accounts for economic displacement within a region
- **Challenges**
  - Data availability
  - Scale of analysis may be too coarse-grained for small, localized impacts
  - Economic models can be costly or complex
- **Example study**
  - Vermont Agency of Transportation (VTRANS): *Economic Impact of Bicycling and Walking in Vermont*

VTRANS, *Economic Impact of Bicycling and Walking in Vermont* (2012)

- **Goal**
  - Evaluate the impacts of bicycling and walking throughout the state
  - Prompted by the Vermont Pedestrian and Bicycle Policy Plan
- **Methods**
  - REMI model
  - Data from running and cycling events
  - Business survey



Conclusions and Recommendations

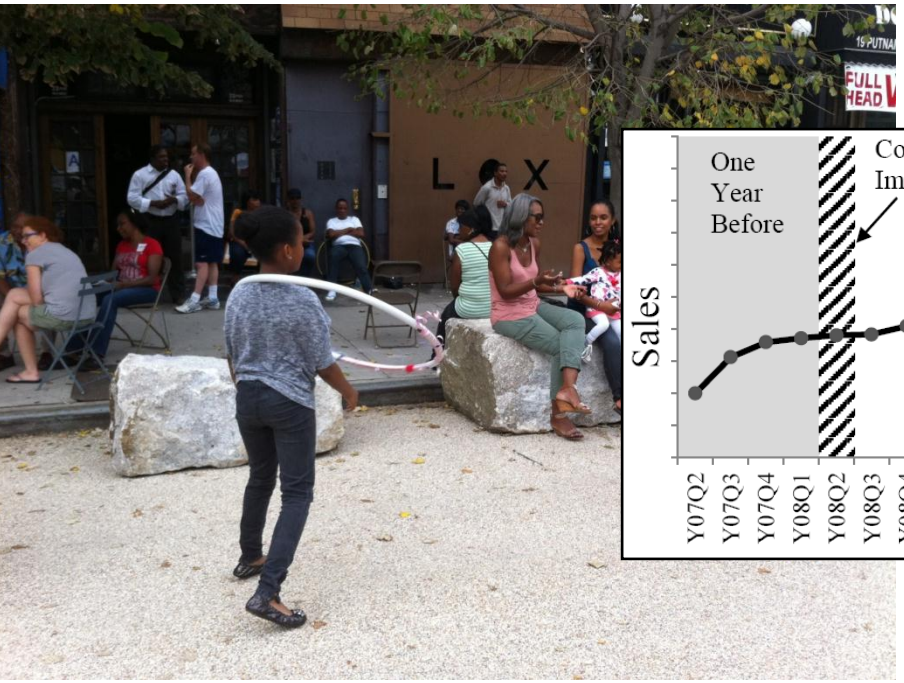
- **Determine the goals of your analysis**
  - What types of economic impacts?
  - Which methods will you use? What data are available?
  - What is the most appropriate scale for analysis?
- **Determine what you can do**
  - Cost / complexity of analysis
  - Timeframe
  - Baseline data?
  - Control location?
- **Plan ahead**
  - Develop evaluation plan along with your project!

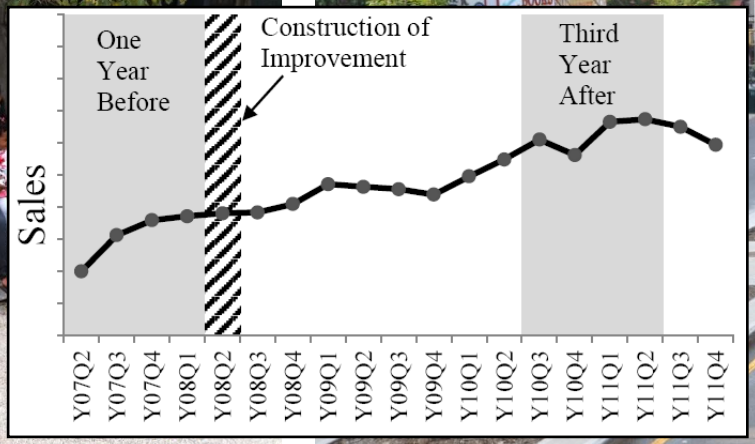
Thanks!

- **Acknowledgments:**
  - Federal Highway Administration
  - NTPP Pilot Communities
  - Rails-to-Trails Conservancy
  - Centers for Disease Control and Prevention
  - Marin County Bicycle Coalition
  - NYC DOT
  - VTRANS

The Value of 21st-Century Streets

Making the Business Case for a High-Quality Public Realm





Sean Quinn
New York City Department of Transportation

Our Design Goals have Evolved

THEN

- **Mobility – Automobile**
- **Safety**

+

NOW

- **Access/Mobility – Multimodal**
- **Public Health**
- **Economic Development**
- **Environmental Quality**
- **Livability/Quality of Life**

Our Metrics Must Evolve, Too

	METRICS
Mobility – Automobile	• **Volumes** (ATR, MTC, class'n) • **Vehicular LOS** (delay, V/C, etc)
Safety	• **Crash Total** (all, by mode, etc) • **Exposure** (crashes/volume)
Access/Mobility – Multimodal	• **Multimodal volumes & LOS** • Commute times
Public Health	• Minutes/physical activity/day • Rates of obesity, diabetes, etc
Economic Development	• # of businesses, employment • Retail sales, visitor spending
Environmental Quality	• Air quality, water quality • Urban heat island, energy
Livability/Quality of Life	• User satisfaction • "Staying" activities, events

Measuring Economic Impacts

How can we measure business impacts?

Qualitative

- ❑ Survey Businesses/Business Organizations
- ❑ Survey Shoppers

Quantitative

- ❑ Retail Sales via Sales Taxes
- ❑ Retail Sales via Survey
- ❑ Commercial Rents & Vacancies
- ❑ Assessed Property Value
- ❑ Property Sales
- ❑ Building Permits
- ❑ Business Creation/Loss
- ❑ Job Creation/Loss

Measuring Economic Impacts

Qualitative

❑ Survey Businesses/Business Organizations

Pros	Cons
• Perceived as "from the horse's mouth" • Value added from on-the-ground, firsthand insights	• Potential for self-selection, anecdotal/biased responses • Labor-intensive • Less authoritative than quantitative data

❑ Survey Shoppers

Pros	Cons
• Potential for creating compelling descriptive connection to changes in shopping behavior	• Potential for self-selection, anecdotal/biased responses • Labor-intensive • Less authoritative than quantitative data

Measuring Economic Impacts

Quantitative

❑ Retail Sales via Sales Taxes

Pros	Cons
• Strong, direct indicator of business health • Objectivity → authoritative	• Confidentiality limitations may reduce data availability • Significant "data cleaning" necessary for reliability • Many variables affect retail sales

❑ Retail Sales via Survey

Pros	Cons
• Same as above, but less authoritative	• Self-selection in responses • Data accuracy can't be verified • Labor-intensive • Less objective than tax filings

Measuring Economic Impacts

Quantitative

❑ Commercial Rents & Vacancies	• Strong indicator • Limited availability (3rd-party firms) • Insufficient sample sizes (frequency) • Difficult to obtain actuals vs. asking
❑ Assessed Property Value	• Typically readily available • Blunt instrument: obscure formulas • Infrequently updated (data lag)
❑ Property Sales	• Insufficient sample sizes (frequency) • Weak indicator
❑ Building Permits	• Data requires significant parsing • Weak indicator
❑ Business Creation/Loss	• Poor availability • Insufficient sample sizes (frequency) • Weak indicator
❑ Job Creation/Loss	• Poor availability

Measuring Economic Impacts

How can we measure business impacts?

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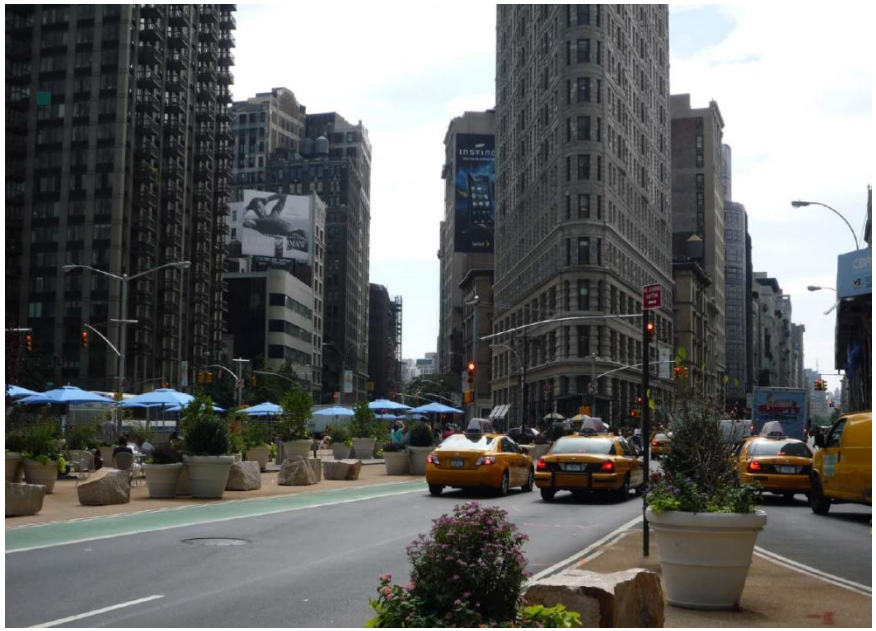
Quantitative

- ☑ Retail Sales via Sales Taxes
- ❑ Retail Sales via Survey
- ☑ Commercial Rents & Vacancies
- ☑ Assessed Property Value
- ❑ Property Sales
- ❑ Building Permits
- ❑ Business Creation/Loss
- ❑ Job Creation/Loss

Research Question

How have street improvements affected economic activity at improvement sites?

Madison Square – Before Improvement



Madison Square – After Improvement

Research Question

Methodology should meet **3 key criteria**:

1. Uses **impartial data** that is a direct measure of economic activity
2. Accounts for **before-and-after changes**, which occur in a short span of time
3. Measures impact in a **small geographic area**

Research Question

Why sales tax data?

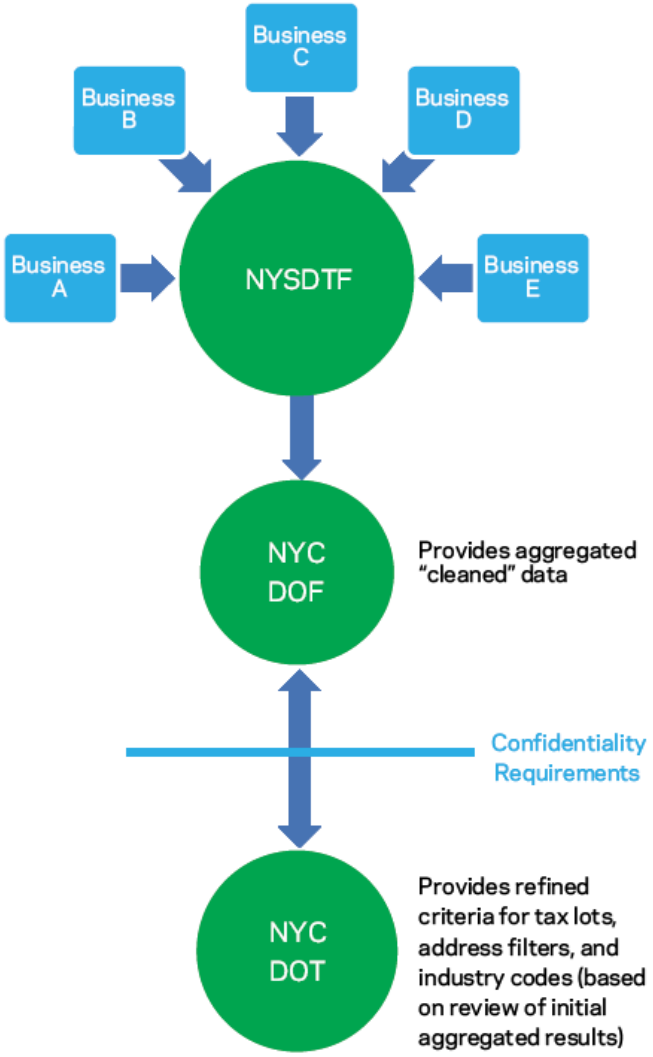
- All **businesses we are interested in** – stores and shops of all kinds, restaurants, bars, etc – pay sales tax to the state
- Payments are made **every quarter**, facilitating analysis over time at a granular level
- Sales tax data is **available with little time lag**
- Tax records are **highly localized**, by address
- Filing businesses classify themselves into a specific industry, allowing **filter by business type**

Research Question

Data Source

New York City **sales tax data** (proxy for retail sales) from NYC Dept. of Finance (DOF) via NYS Dept. of Taxation & Finance

- DOF aggregates all data to ensure **taxpayer confidentiality**



Research Question

Project Type

Street Corridor

- Added or enhanced medians, parking-protected bike lanes, Select Bus Service or widened sidewalks.
- Selected all tax lots abutting the improvement

Plaza

- Created substantial new public space.
- Selected all tax lots within a radius of 250-350 feet from improvement.

Methodology

1. For each improvement site, defined a set of local and/or similar sites to serve as a **comparison group**

Methodology

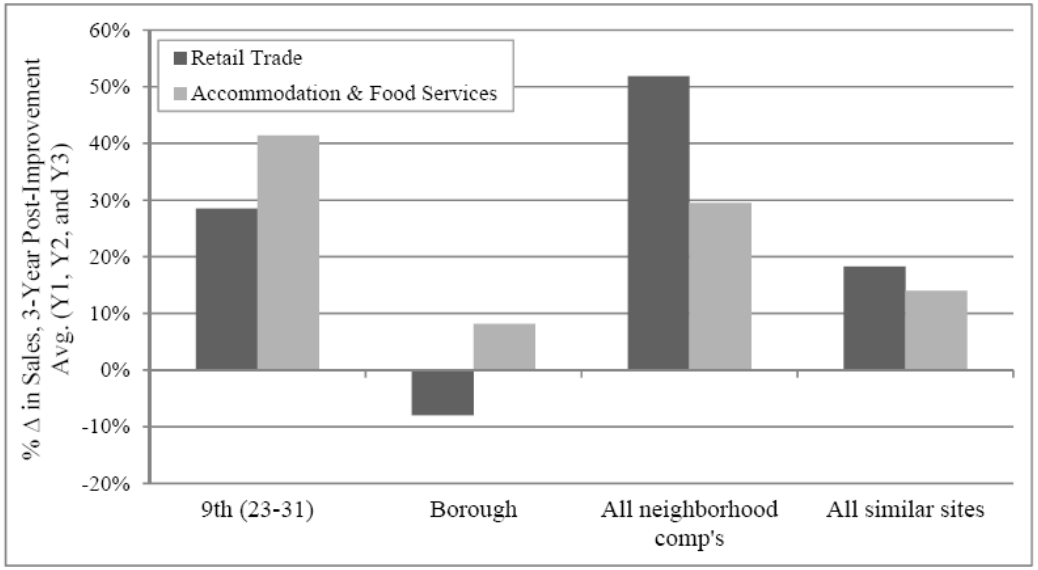
2. For each improvement or comparison site, obtained **before-and-after data** on our specified tax lots based on quarterly sales tax records from NYCDOF
   - 1 year pre-improvement data
   - 3 years post-improvement data
     - 2 years appears to be sufficient going forward

		Retail Trade		Food Services		Combined	
Period	Site	Number of Businesses	Taxable Sales	Number of Businesses	Taxable Sales	Number of Businesses	Taxable Sales
Y08Q1	Columbus	50	$8,765,097	29	$9,670,576	79	$18,435,673
Y08Q2	Columbus	51	$8,287,929	28	$9,324,206	79	$17,612,135
Y08Q3	Columbus	47	$8,418,217	29	$9,299,392	76	$17,717,609
Y08Q4	Columbus	44	$7,090,088	28	$8,013,377	72	$15,103,465
Y09Q1	Columbus	42	$7,461,663	27	$9,394,335	69	$16,855,998
Y09Q2	Columbus	44	$7,136,300	30	$9,831,939	74	$16,968,239
Y09Q3	Columbus	44	$7,283,450	32	$10,484,189	76	$17,767,639
Y09Q4	Columbus	44	$6,299,593	30	$10,237,903	74	$16,537,496
Y10Q1	Columbus	42	$6,547,301	31	$12,084,522	73	$18,631,823
Y10Q2	Columbus	43	$6,444,463	33	$13,547,142	76	$19,991,605
Y10Q3	Columbus	47	$7,362,669	35	$12,813,020	82	$20,175,689
Y10Q4	Columbus	47	$6,894,219	34	$11,437,993	81	$18,332,212
Y11Q1	Columbus	46	$7,461,173	33	$13,604,566	79	$21,065,739
Y11Q2	Columbus	46	$6,990,662	31	$13,410,218	77	$20,400,880
Y11Q3	Columbus	45	$7,882,124	30	$11,914,044	75	$19,796,168
Y11Q4	Columbus	45	$7,283,038	34	$10,721,850	79	$18,004,888
Y12Q1	Columbus	45	$8,210,586	31	$13,863,276	76	$22,073,862
Y12Q2	Columbus	47	$8,703,523	30	$12,239,529	77	$20,943,052
Y12Q3	Columbus	45	$8,756,052	35	$14,132,562	80	$22,888,614
Y12Q4	Columbus	45	$8,577,287	37	$13,726,751	82	$22,304,038

Methodology

3. Data pre-aggregated by NYCDOF into **two industry sectors** (using NAICS codes)
   - Retail Trade (44-45)
     - Excluded Motor Vehicle and Parts Dealers (441), Gasoline Stations (447), and Non-store Retailers (454), but could be included going forward
   - Accommodation & Food Services (72)
     - Except Special Food Services (7223)
     - Food Services and Drinking Places (722) is sufficient going forward

Chart 16. Relative Growth in Retail Trade and Accommodation & Food Services



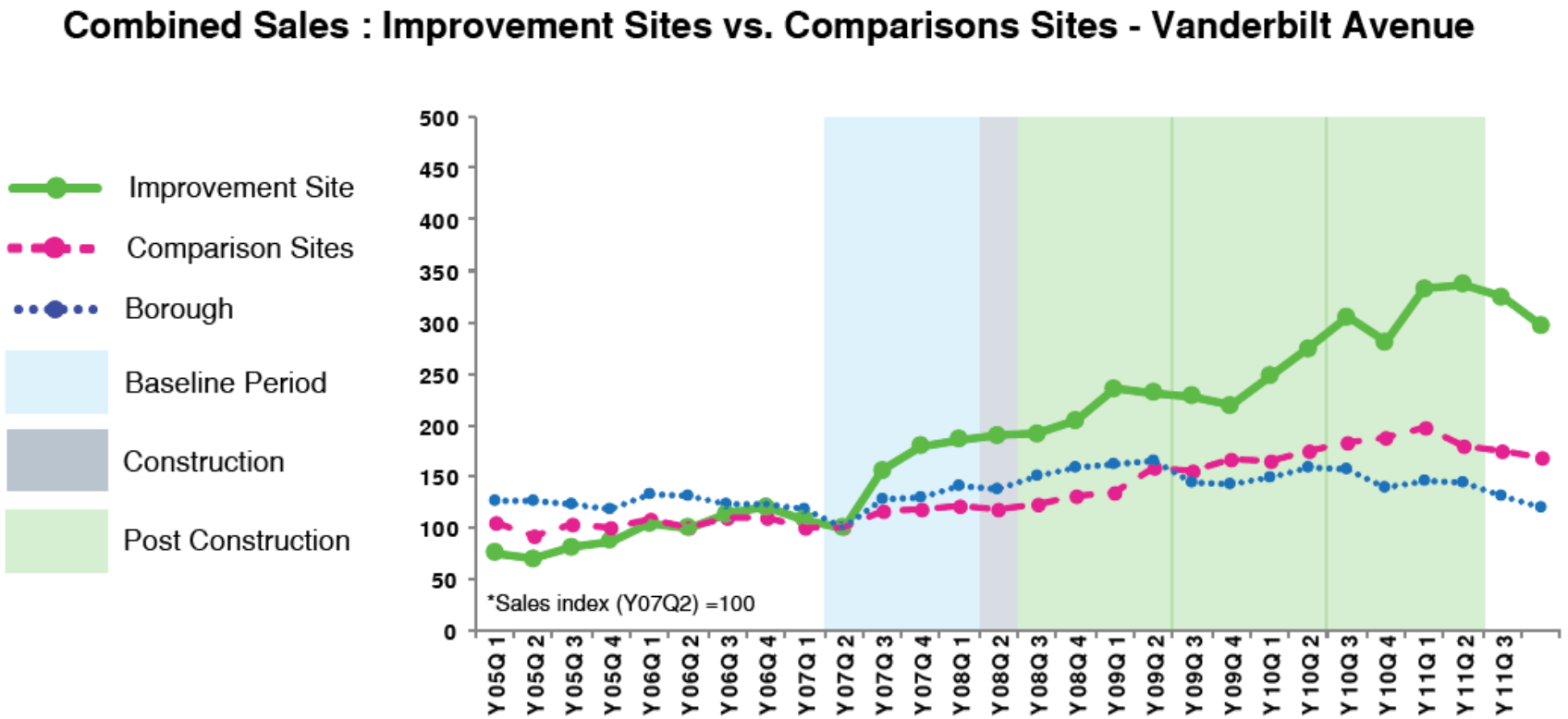
Methodology

4. Queries & **data set refined** to ensure relevant results:

- Addresses filtered to isolate “real” ground-floor businesses (manual examination of results containing “Apt,” “Room,” “Suite,” “Floor,” “Rm,” “Ste,” “Fl,” “#,” etc)
- Manual checks of several locations to confirm effectiveness of address filtering (Street View)
- Expanding site boundaries as needed to ensure sufficient aggregated data over all quarters
- “Smoothing” outlier data spikes (≤3 quarters) by averaging adjacent quarters
- Adjusting for inflation (all figures $January 2005)

Methodology

5. Compared sales at each site in the year prior to implementation to sales **one, two, and three years out**
6. Compared each site to **neighborhood comparisons & borough-wide** sales in the same time frame



Results – Case Studies

Vanderbilt Avenue, Brooklyn

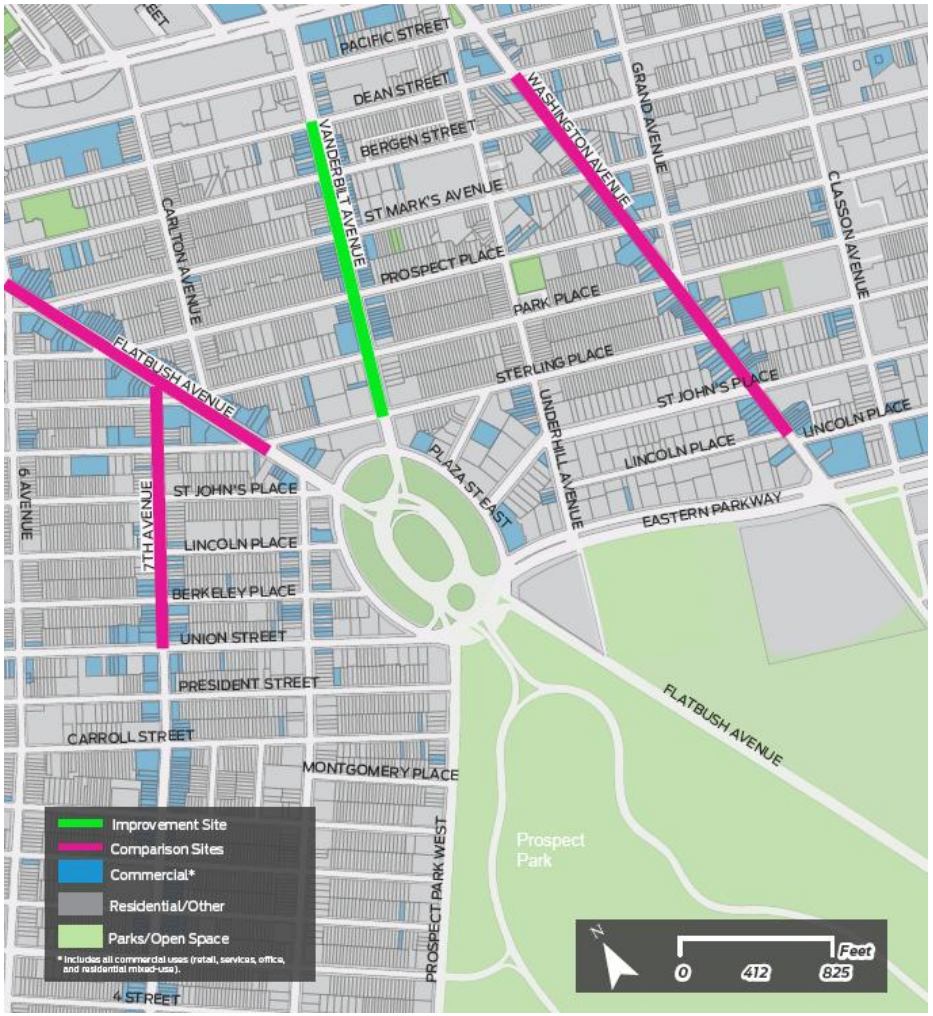
Implemented: June 2008

Context:
- Neighborhood on upswing
- Key bike network connection
- Excess vehicle capacity & speeding
- Road diet implemented in 2006

Strategies:
- Dedicated bike lane
- Median islands at all crossings
- New trees & landscaping
- Updated curbside regulations

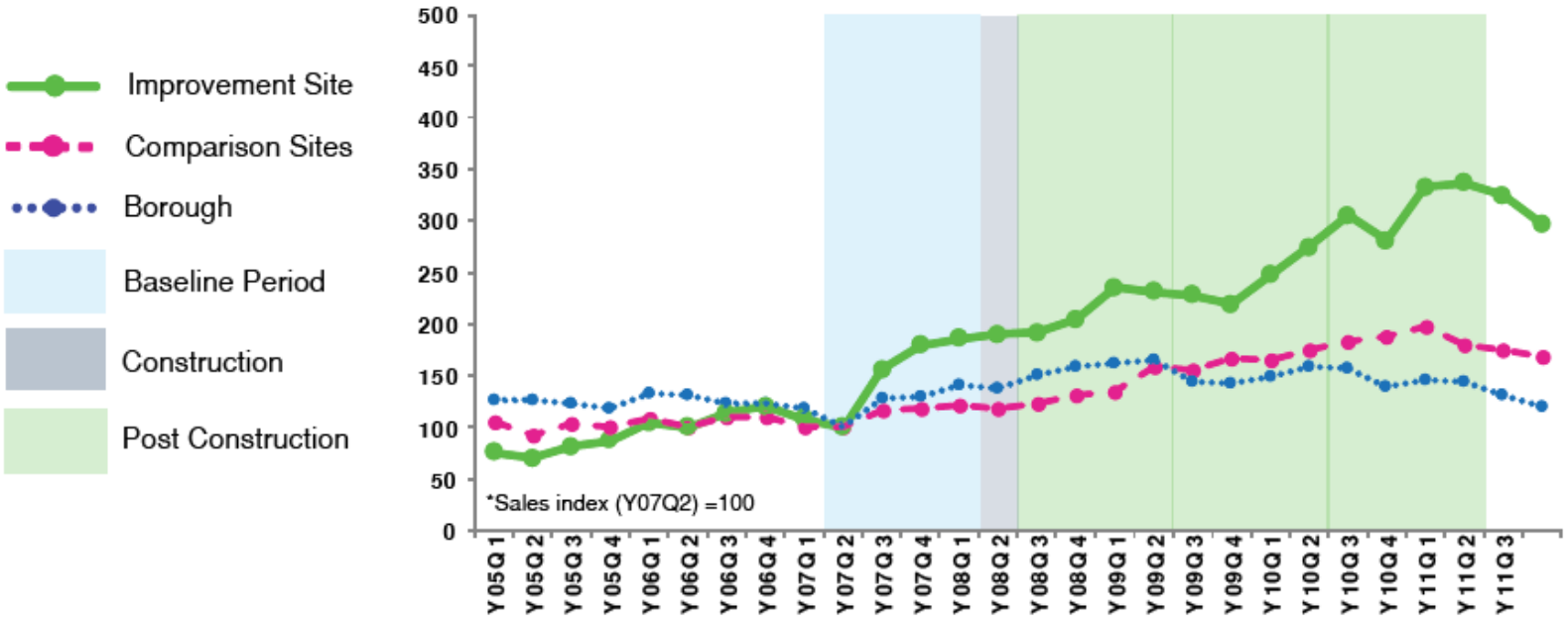
Results – Case Studies

Vanderbilt Avenue, Brooklyn



Results – Case Studies

Vanderbilt Avenue, Brooklyn



Area	Baseline Quarterly Sales	Δ Sales Post-Improvement		
Improvement Site		1st Year	2nd Year	3rd Year
Vanderbilt	$894,673	39%	56%	102%
Borough				
Brooklyn	$982,413,239	27%	19%	18%
Neighborhood Comparisons				
Average	$1,713,174	19%	46%	64%
Flatbush	$2,191,880	27%	32%	51%
7th Ave	$2,176,027	12%	35%	21%
Washington	$771,616	19%	70%	120%

Results – Case Studies

Vanderbilt Avenue, Brooklyn

RESULTS

Economic:	102% growth in sales (64% for comparison sites; 18% for borough as a whole)
Other:	Bicycle ridership up almost 80%
	Injury crashes down significantly vs. pre-traffic calming

Results – Case Studies

St. Nicholas/Amsterdam Avenues, Manhattan

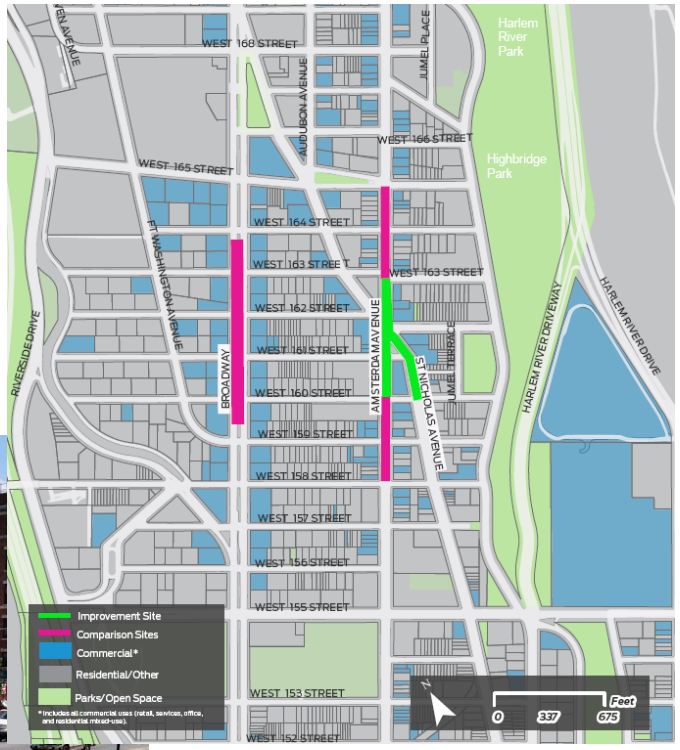
Implemented: December 2010

Context:
- Lower-income neighborhood
- Small-scale, neighborhood retail
- Skewed, complex intersection
- Transit connections

Strategies:
- Street directional changes
- New public spaces from roadbed
- Improved parking & loading
- Improved existing bike lane

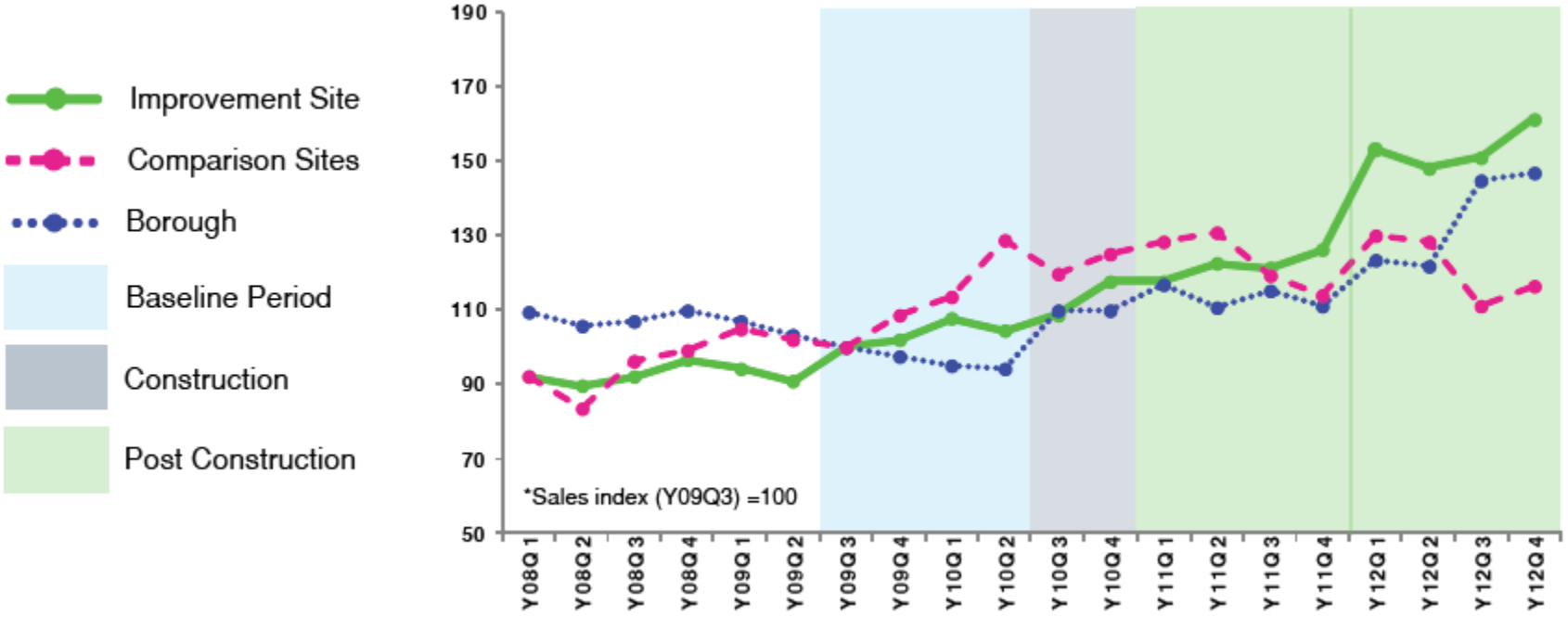
Results – Case Studies

St. Nicholas/Amsterdam Avenues, Manhattan



Results – Case Studies

St. Nicholas/Amsterdam Avenues, Manhattan



Area	Baseline Quarterly Sales	Δ Sales Post-Improvement	
Improvement Site		1st Year	2nd Year
St. Nick/Amsterdam	$706,940	+18%	+48%
Borough			
Manhattan	$3,962,683,573	+17%	+39%
Neighborhood Comparisons			
Average	$601,716	9%	7%
Broadway	$896,680	+13%	+22%
Amsterdam	$306,752	+4%	-9%

Results – Case Studies

St. Nicholas/Amsterdam Avenues, Manhattan

RESULTS

Economic:	48% growth in sales (7% for comparison sites; 39% for borough as a whole)
Other:	4% decrease in total crashes
	47% decrease in injury crashes
	54% decrease in total injuries
	61% decrease in ped. injuries

Conclusions

- It is **now possible to document impacts** of changes to street environment on surrounding locally-based retail businesses in a rigorous way
- This **does not mean that all projects will show economic benefits** – urban economies are complex and designing streets involves trade-offs between different goals
- Quantitative data on retail sales **would pair well with qualitative surveys** of shoppers to create an even stronger causal explanation for changes in shopping behavior

Conclusions

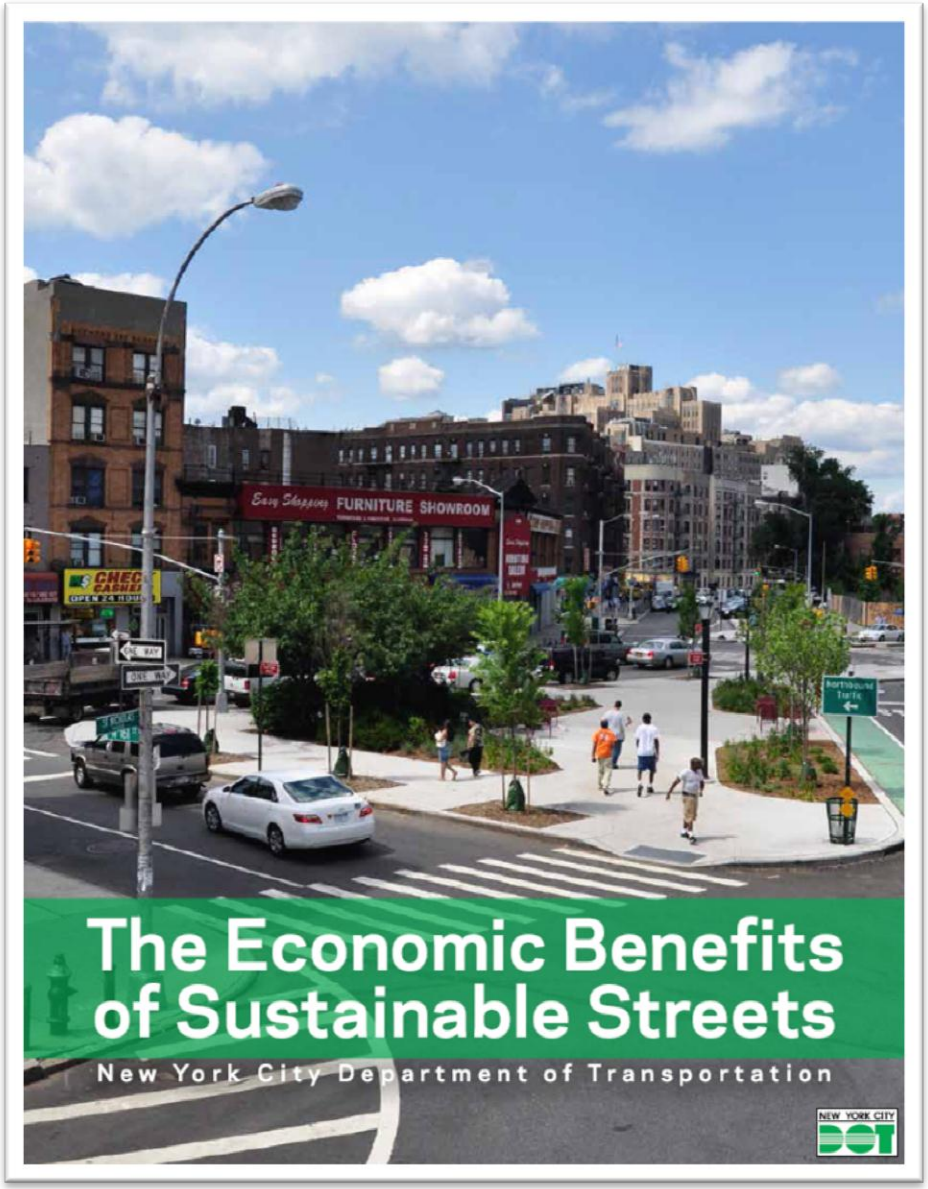
- Being able to demonstrate the potential economic benefits of better-designed streets **can be a powerful tool** for:
  - Project evaluation, joining other metrics that agencies such as NYCDOT have been publishing
  - Addressing the concerns of local residents and business owners about impacts on businesses, replacing anecdote with data
  - Activating the business community in support of appropriately designed projects
  - Allowing cities to link street design with economic development, similar to public health (e.g. Active Design)

Conclusions

- Based on NYC's results, safer, more inviting and sustainable streets are rarely detrimental and in the great majority of cases **can be a boon to local businesses**
- By playing a part in spurring reinvestment and capturing more spending within immediate neighborhoods, their **benefits apply just as much to lower-income neighborhoods** with struggling retail as to affluent neighborhoods

Final Report

- Released 12/13/13
- Download at http://www.nyc.gov/html/dot/downloads/pdf/dot-economic-benefits-of-sustainable-streets.pdf



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SHARING TO GROW

J. E. Schoner
Xize Wang
Andrew Harrison
Greg Lindsey

Thanks to:

Bikes Belong Foundation
Nice Ride Minnesota
Bike Walk Twin Cities

Photo: niceridemn.org

Economic Activity associated with Nice Ride Bike Share Stations

What is bike sharing?

Photo: wired.com

- Bike rental system
- Pricing model encourages short, one-way trips
- Stations placed throughout the city
- Bikes are available on demand, 24/7 throughout the entire season
- Short- and long-term subscriptions cater to a range of users

Conceptual Model

Do bike share stations generate local economic activity?

Station Placement

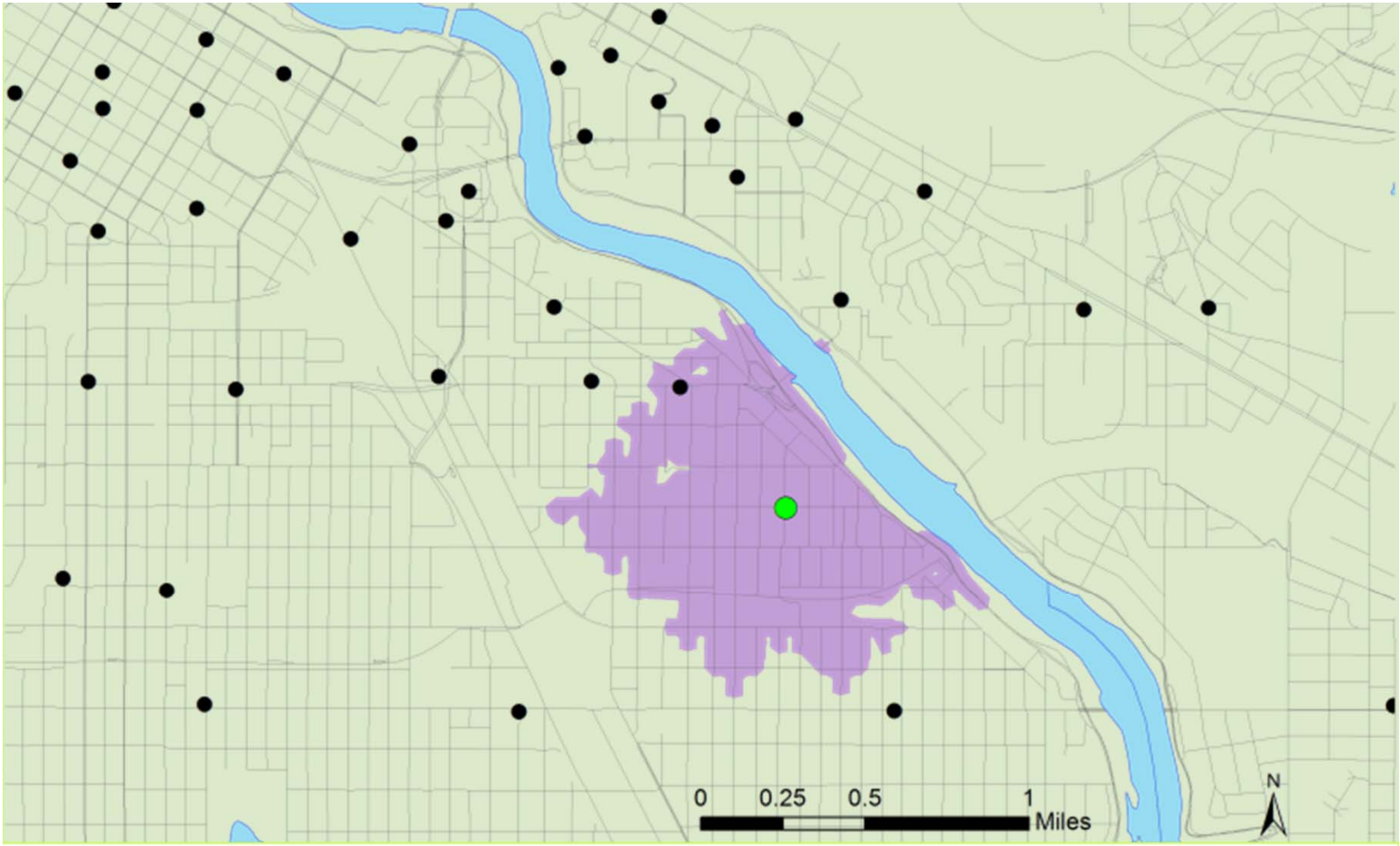
- Stations increase accessibility to neighborhoods near them

Travel Behavior

- People switch destinations
- People take additional trips

Expenditure Patterns

- People spend money at businesses near newly-accessible stations



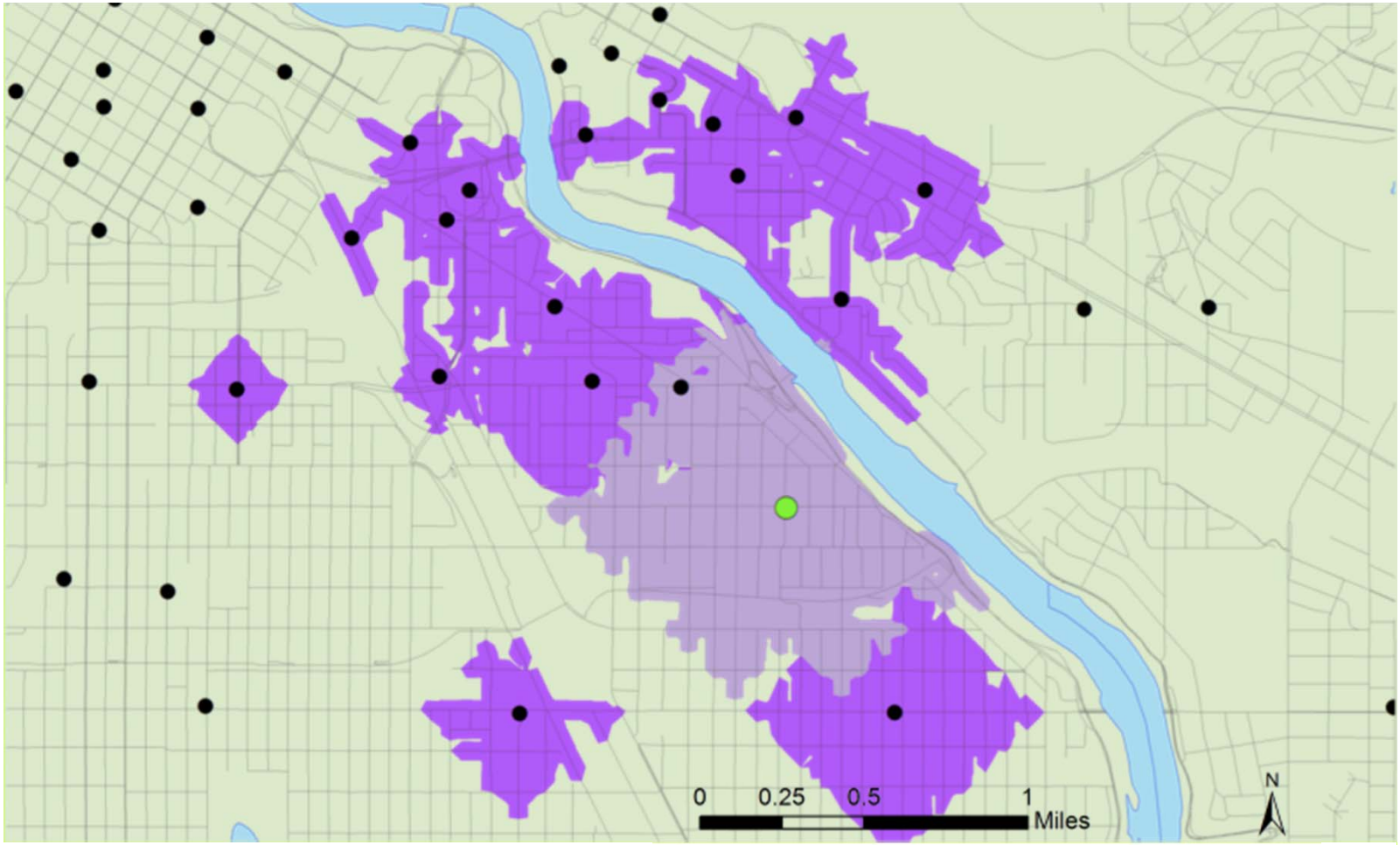
Walking Accessibility

Legend

- Birchwood Cafe
- Nice Ride Stations
- Streets
- Lakes & Rivers
- 15 minute walking distance

15-minute travel time buffer to Birchwood Café by walking

Assumes walking 3mph



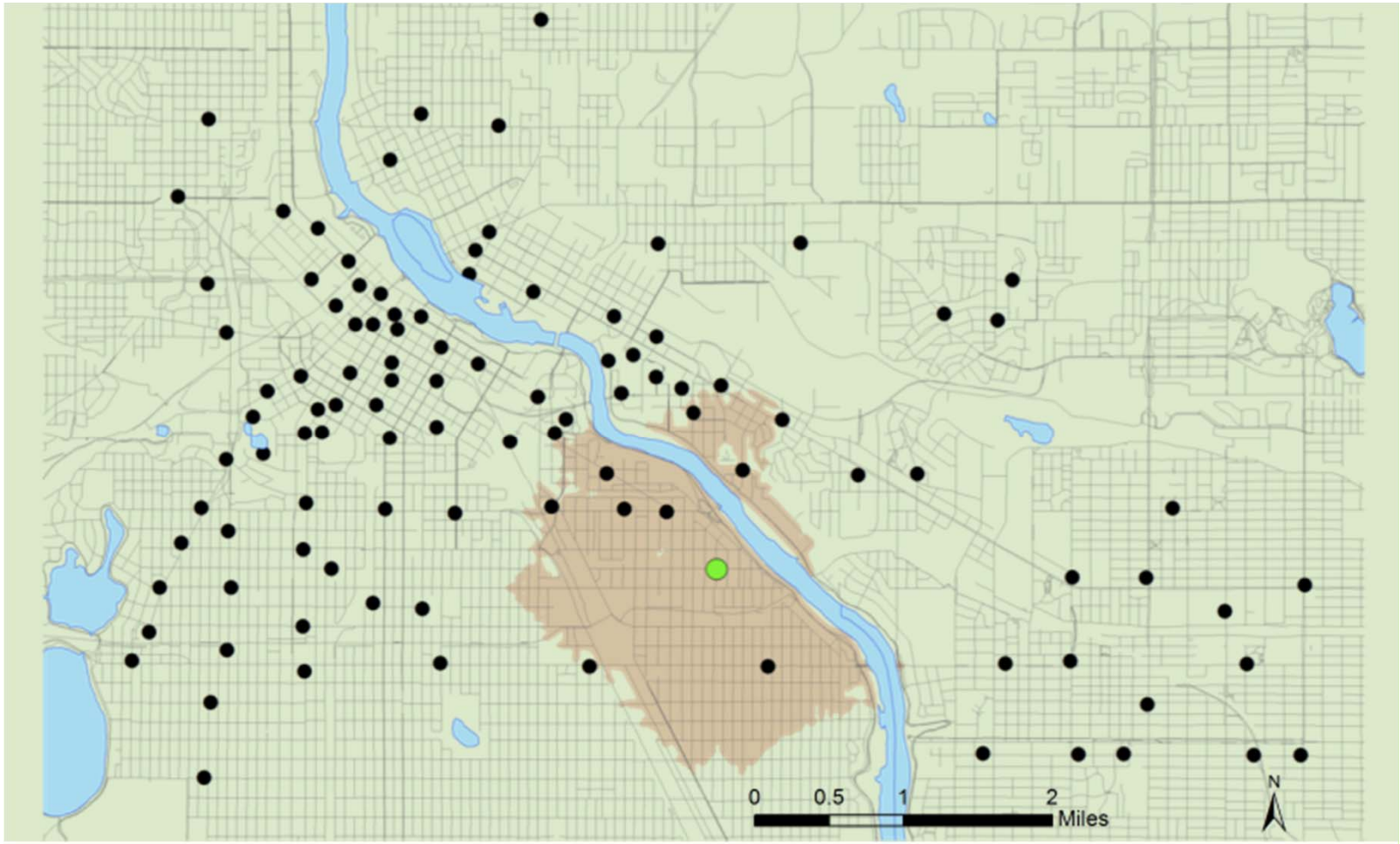
Nice Ride Accessibility

Legend

- Birchwood Cafe
- Nice Ride Stations
- Streets
- Lakes & Rivers
- 15 minute walking distance
- 15 minute Nice Ride distance

15-minute travel time buffer to Birchwood Café by a combination of walking to stations and bicycling

Assumes walking 3mph & biking 10mph



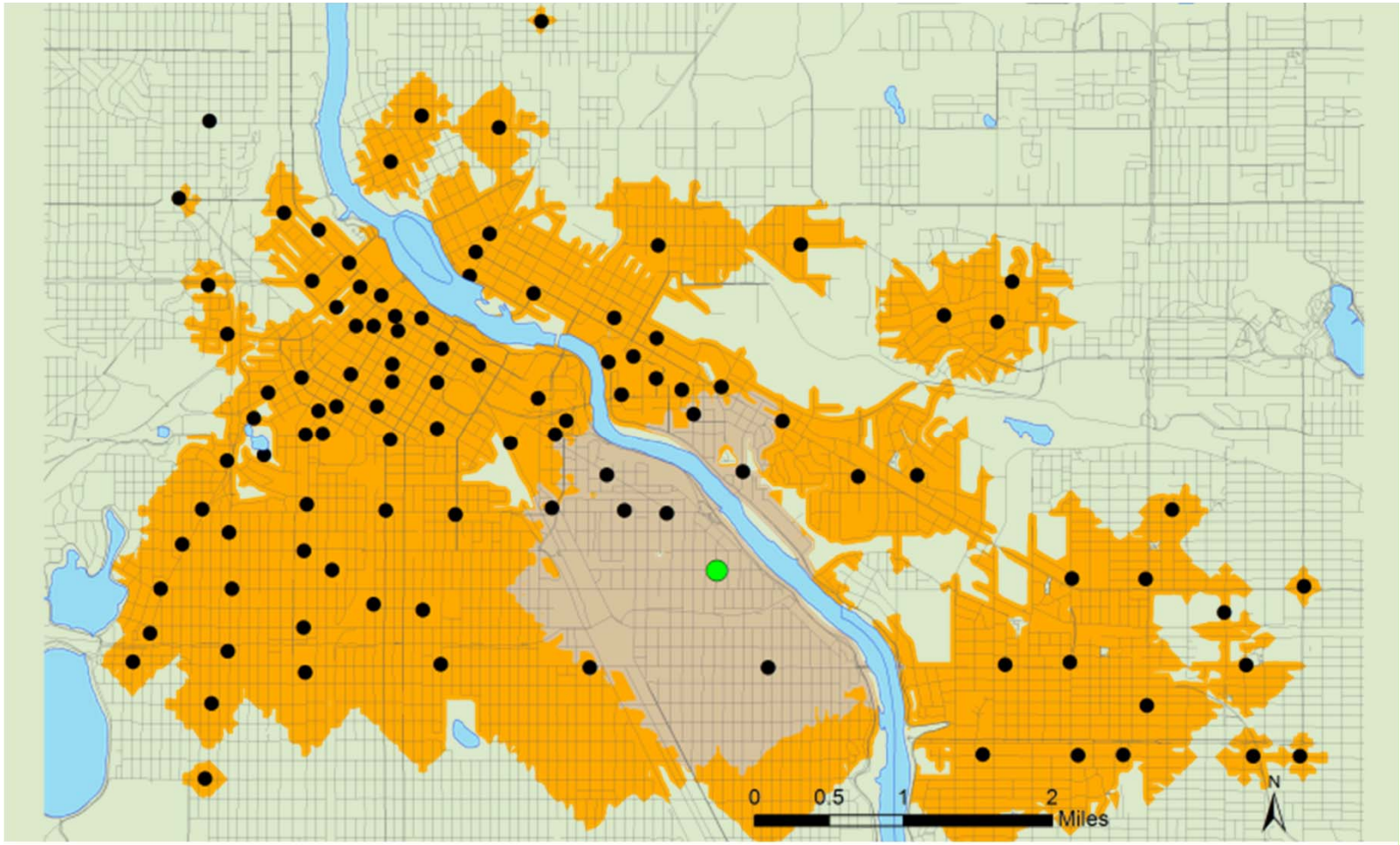
Walking Accessibility

Legend

- Birchwood Cafe
- Nice Ride Stations
- Streets
- Lakes & Rivers
- 30 minute walking distance

30-minute travel time buffer to Birchwood Café by walking

Assumes walking 3mph



Walking Accessibility

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- Birchwood Cafe
- Nice Ride Stations
- Streets
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- 30 minute walking distance
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30-minute travel time buffer to Birchwood Café by walking

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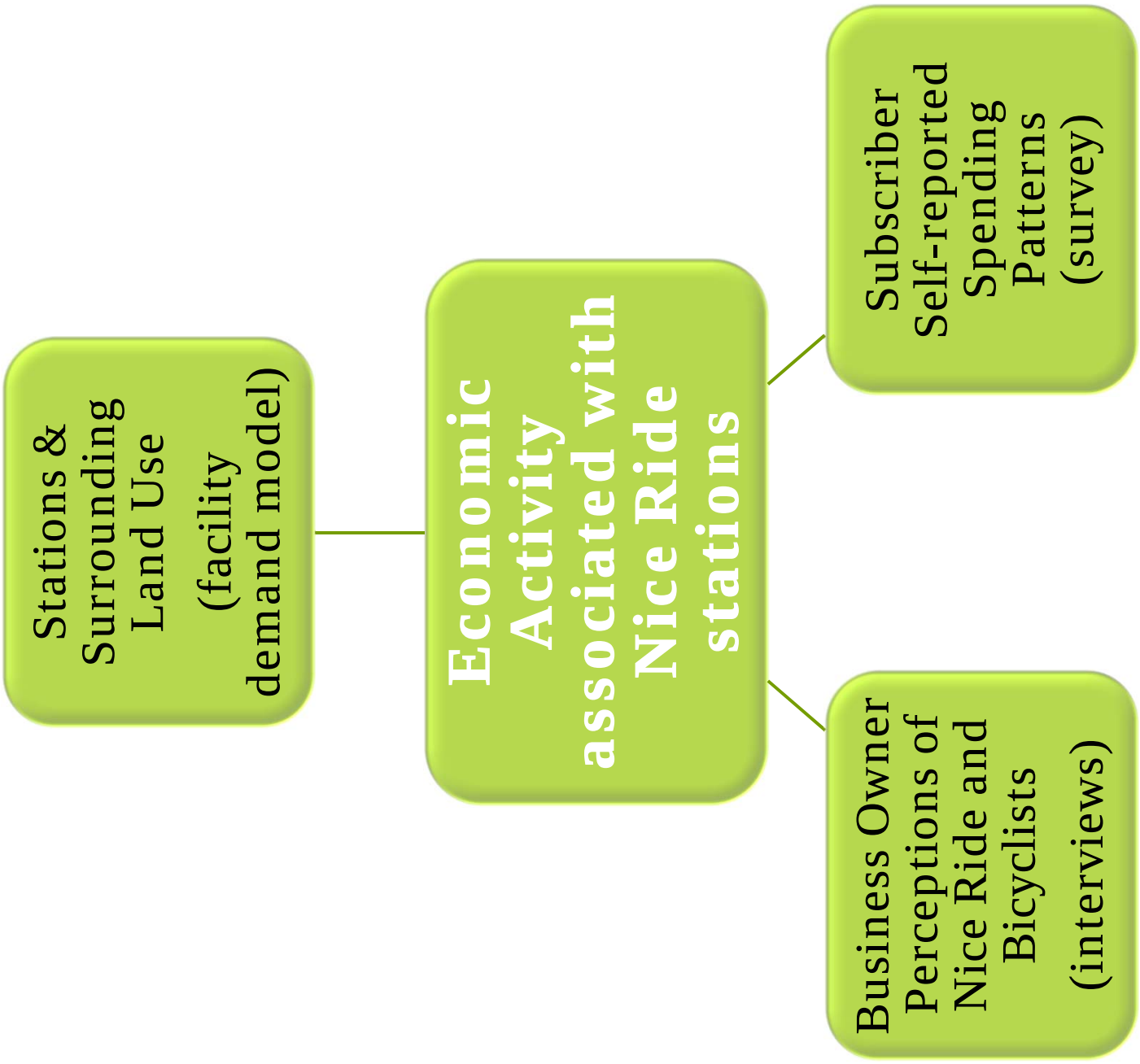
Measurement Approach



Station Demand Model

Unit of Analysis	Dependent Variable	Independent Variables
• "Station area": ¼ mile walking distance buffer around the station • Census blocks that intersect with walking distance buffer	• Total station activity, measured as originating trips + arriving trips	• Number of shopping businesses • Number of food-related businesses

Station Demand

	Average	Maximum	Minimum
Trips per day	19.5	96.5	0.9
Total trips	3,749	20,544	83
Trip origins	1,875	9,843	37
Trip destinations	1,874	10,701	39

Results: Food Destinations, Access to Jobs Matter

Variables in Bike Share Station Facility Demand Model

Economic Activity

food-related stores

Access to jobs by transit

Built Environment

Distance to water

Distance to Central Business District

Distance to parks

Campus station

Social Demographic

% population white

% population < 5 and > 64

Transportation Infrastructure

Trail access at station area

Distance to nearest station

Operational Controls

Station in N. Minneapolis

Station access limited by construction of LRT

Days of operation in 2011

***Adj. R2 = 0.85**

****All variables statistically significant**

Sampling for Businesses Interviews

- Businesses with an existing relationship with Nice Ride:
  - Station sponsors
  - Nice Ride rewards programs or coupons
- Businesses within selected station areas based on combinations of station activity and station area destinations

Business Interview Protocol

- Do business owners notice Nice Riders or traditional bicyclists patronizing their business?
- Are business owners using any particular business strategies, deals, or discounts to attract Nice Riders? What kind and why?
- Do business owners offer a Nice Ride subscription to employees for work-related errands, commuting, or personal use?
- Would business owners give up their parking and/or sidewalk space to have a Nice Ride station by their business?

Do business owners notice Nice Riders or bicyclists patronizing their business?

Short answer: Not really

- Hard to distinguish Nice Riders from traditional bicyclists or other customers arriving on foot
- Proximity to Nice Ride station a major factor in whether businesses notice Nice Riders
- Traditional cyclists are easier to identify – helmets, parking out front
- Mixed responses about Nice Ride manual coupon redemption patterns

Are owners using deals, discounts, or strategies to attract Nice Riders?

Short answer: some do

- Nice Ride manual coupons
- Nice Ride rewards program
- Advertising on Nice Ride stations & Station sponsorship
- Discounts and promotions to attract cyclists (e.g., bring in your helmet for a discount)

Why do businesses work with Nice Ride?

Short answer: reason varies by business

- Cross-promotion is part of the local business culture
- Nice Ride fits with other "sustainability" values and green business practices
- Advertising visibility
- Business/industry-specific reasons (e.g., bike shop hopes to capture future purchases)
- But …
  - Most businesses are not providing subscriptions for employee use

Other findings from interviews …

Short answer: support for Nice Ride not unlimited …

- Food-related businesses more interested than other retail operations
- Most businesses prefer parking spaces on street to Nice Ride stations
  - Want Nice Ride stations nearby, in line-of-sight, not on sidewalk
- Most businesses do not provide subscriptions for employee use

Survey of Nice Ride Subscribers

- Email survey: 3,693 monthly & annual subscribers
- Modeled on travel inventories
  - Trip purpose
  - Frequency of Nice Ride use
  - Alternative mode if not Nice Ride
- Response rate: 30%
  - 1,197 valid surveys

Survey of Nice Ride Subscribers

Respondent Characteristics	
Average age	39.6
Average household size	2.2
Households with children	19.1%
College degree	85.5%
Graduate degree	41.3%
Household income > $75,000	52.5%
Licensed drivers / household	1.9
Vehicles / household	1.6
Bicycles / household	2.6

Survey of Nice Ride Subscribers

- 59% ride weekly
- Plurality ride “two-three times per week”
- 50% have used Nice Ride for commuting
- 33% have traveled to grocery stores, restaurants, cafes, or bars
- Likely would have driven if not taken Nice Ride
- Spend $7 - $14 per for shopping, dining, and entertainment-recreation (depends on assumptions about trip frequency)

Are bike share stations generating local economic activity?

Yes	• Station area model of Nice Ride activity
Some	• Business perceptions of Nice Ride
Yes Some	• User survey of expenditure patterns on Nice Ride trips

Implications

Sponsorship & business partnerships

Targeted station placement

Needs & preferences of bike share users

Synergistic effects, no economic panacea

Questions?

Thank you .....

Questions?

- **Archive at www.pedbikeinfo.org/webinars**
  Download a video recording and presentation slides
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