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## Webinar: Economic Impacts from Bicycle and Pedestrian Street Improvements

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# Economic Impacts from Bicycle and Pedestrian Street Improvements

NITC Webinar 04-25-2017



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**Portland State**  
UNIVERSITY

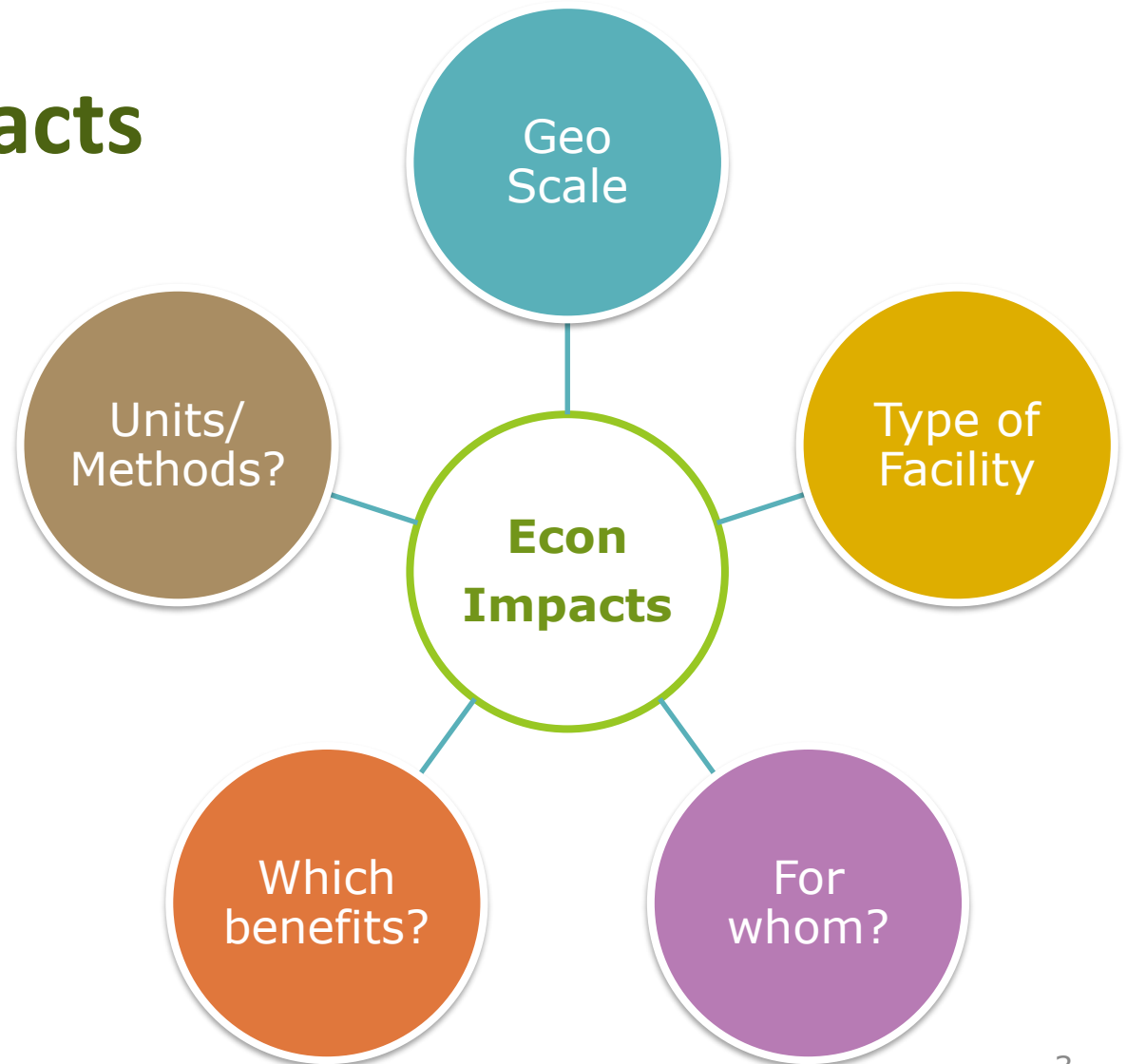


# Roadmap for Webinar

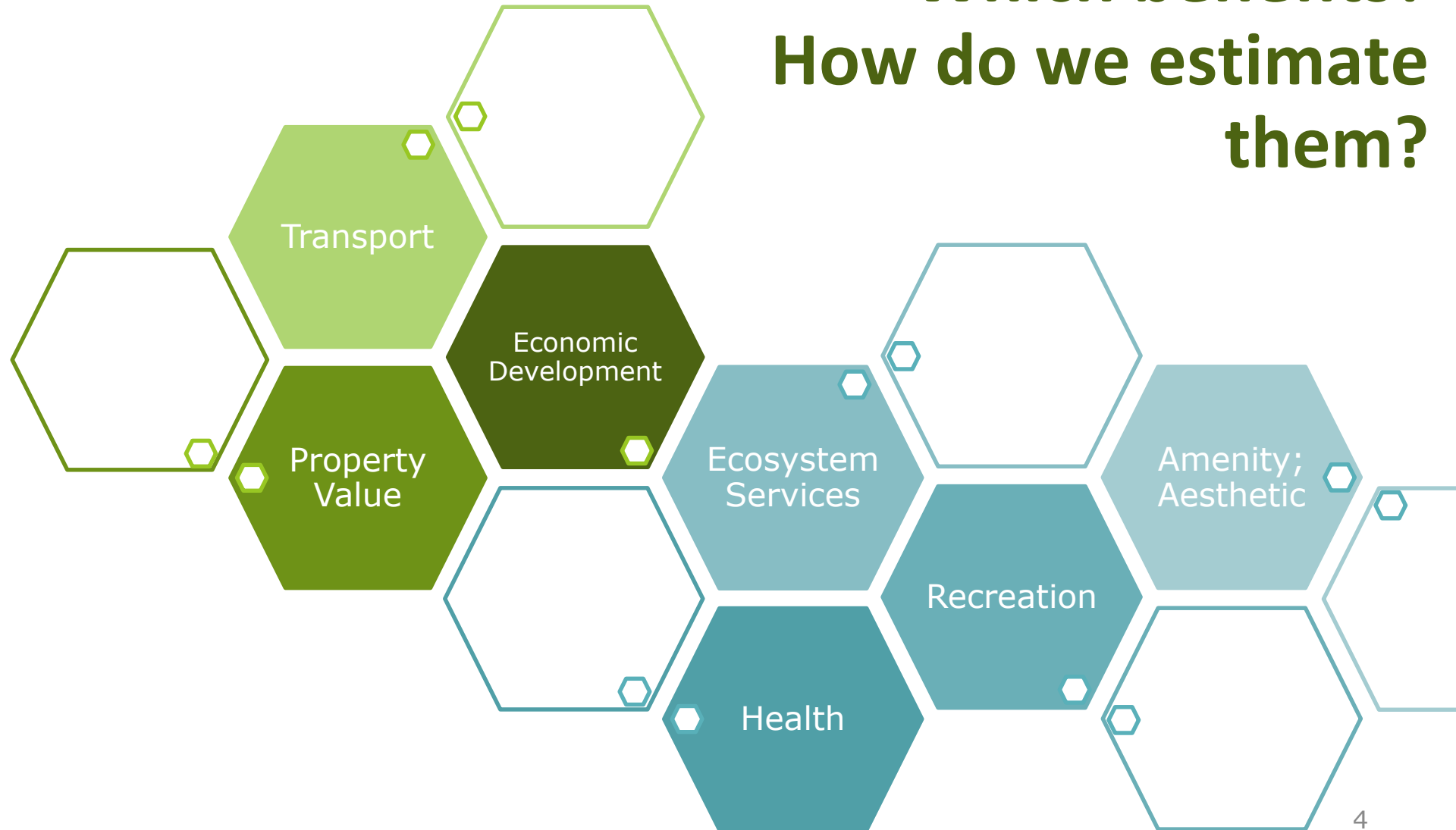
- Overview of economic impacts of bike and pedestrian infrastructure
- Impact of Bike Facilities on Residential Property Prices
  - Data & Methods
  - Findings
  - Policy Implications
  - Limitations
- Updates on ongoing research



# Evaluating economic impacts of bike infrastructure



# Which benefits? How do we estimate them?



# Evidence of Economic Impacts from Street Improvements

## Property Values

- Impacts of access to transportation facilities
- Impacts of greenspaces and off-street recreational trails

## Economic Development

- Business owner and customer perceptions & attitudes
- Consumer expenditure by travel modes
- Retail sales comparison
- Economic impact analysis (input-output models)
  - tourism & construction



Portland **GREEN LOOP**  
Economic Analysis

**NeRC**

Northwest Economic Research Center  
College of Urban and Public Affairs

FINAL REPORT  
NOVEMBER 2016

 Portland State  
UNIVERSITY

## Impact of Bike Facilities on Residential Property Prices – Context & Motivation

- Portland **Green Loop**
- Street improvement projects across the country
- Urban economics – consumer preferences

# Impact of Bike Facilities on Residential Property Prices - Study Objectives

- What is the value of bicycle facilities?
- How do bicycle facilities access or bike networks impact property values?

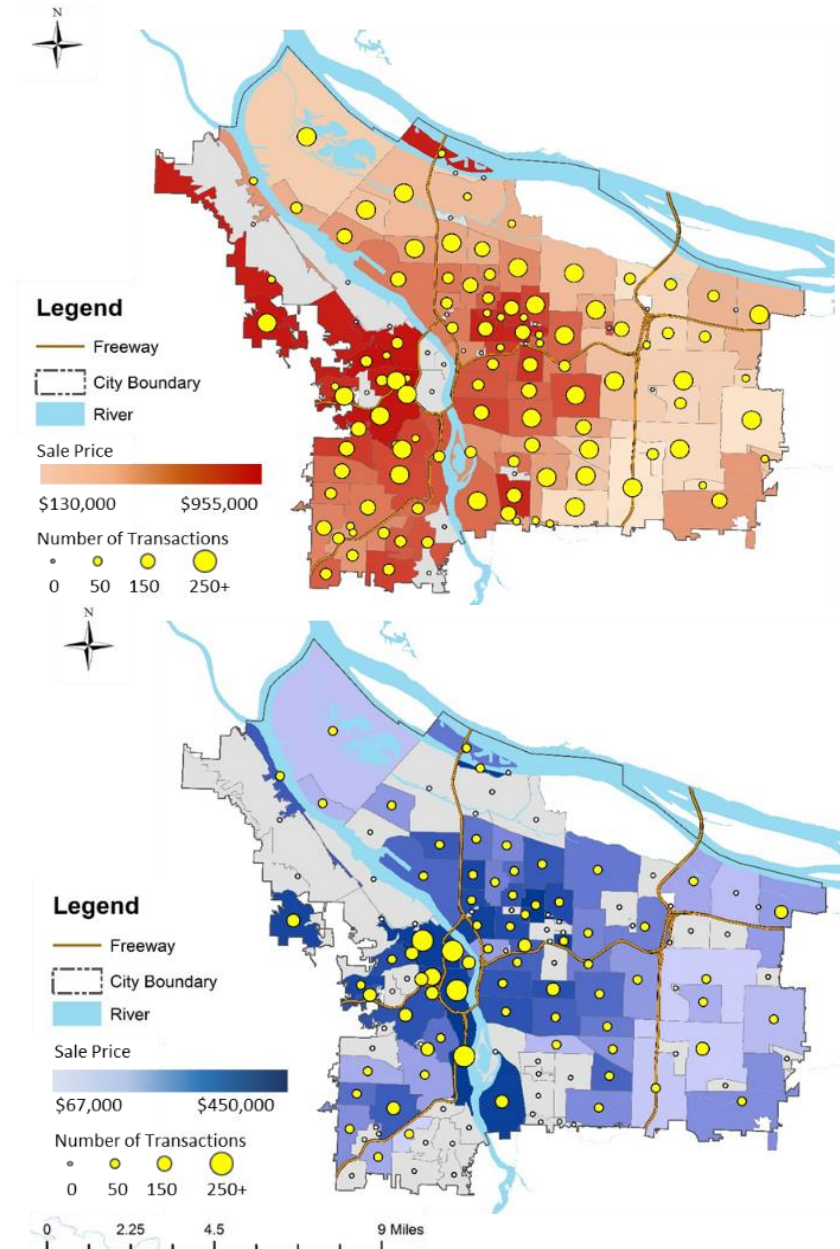




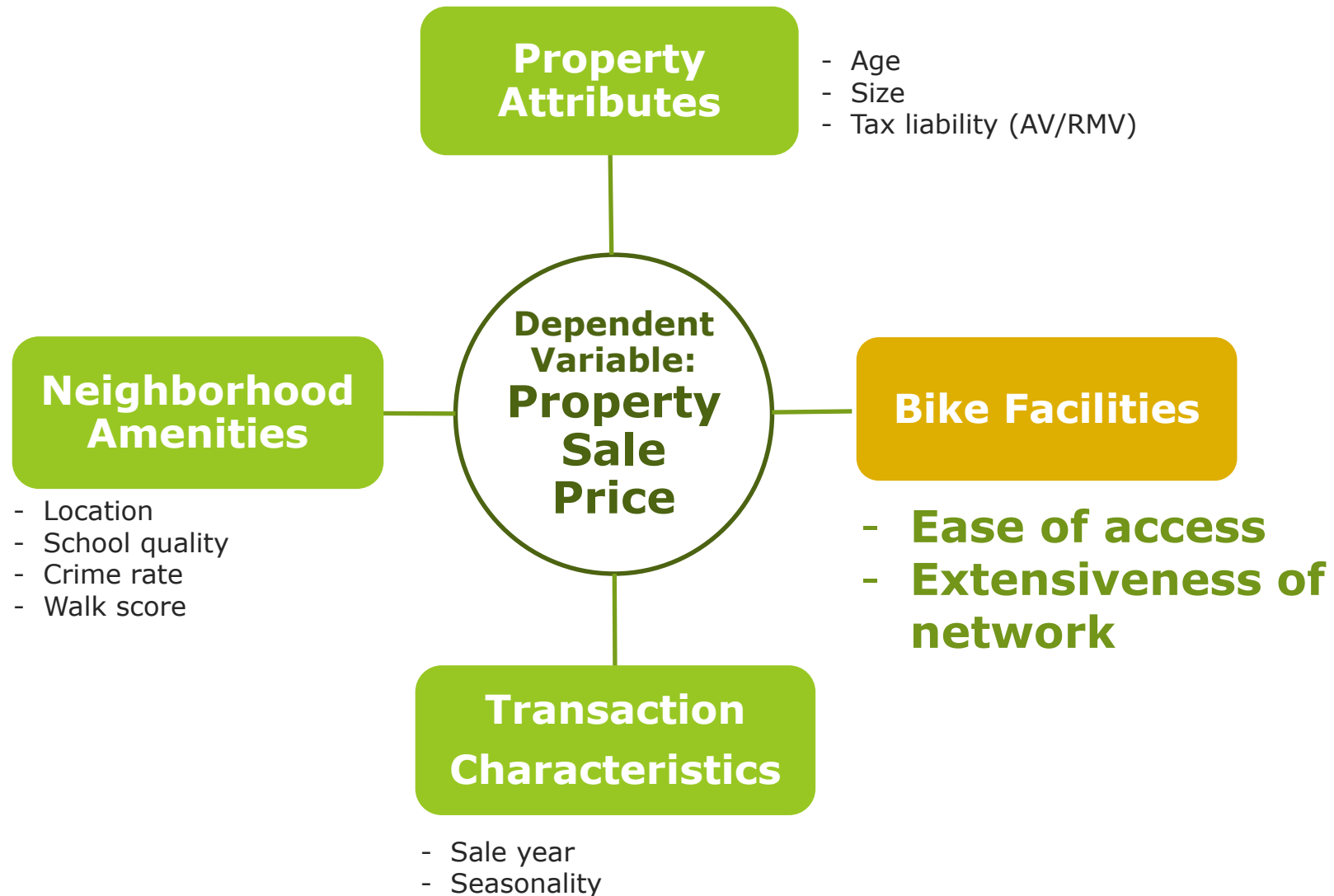
# Data

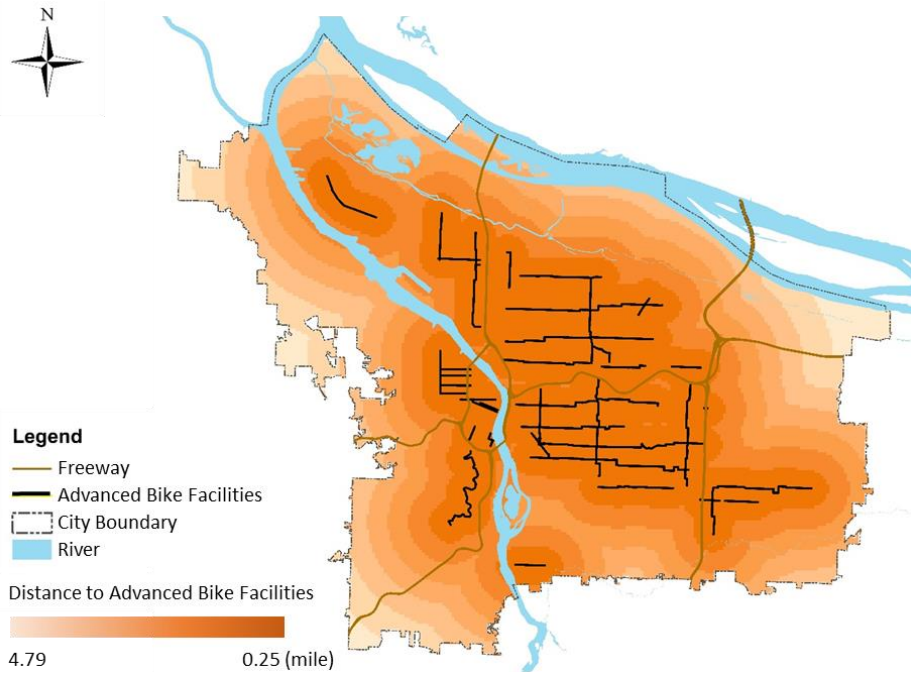
Multnomah County residential property tax roll sale data (2010-2013)

- 17163 single family homes (SFH)
- 2959 multi family homes (MFH)



# Key Independent Variables





Ease of Access



Extensiveness



# Advanced Bike Facilities



# Findings

## Ease of Access

Each quarter mile closer to the nearest advanced bike facility



### OLS

SFH: + \$686

MFH: + \$66

### SAR

+ \$1,571

+ \$211

## Extensiveness of Network

Each quarter mile increase in the density of advanced bike facilities within a half-mile radius



SFH: + \$4,039

MFH: + \$4,712

+ \$1,399

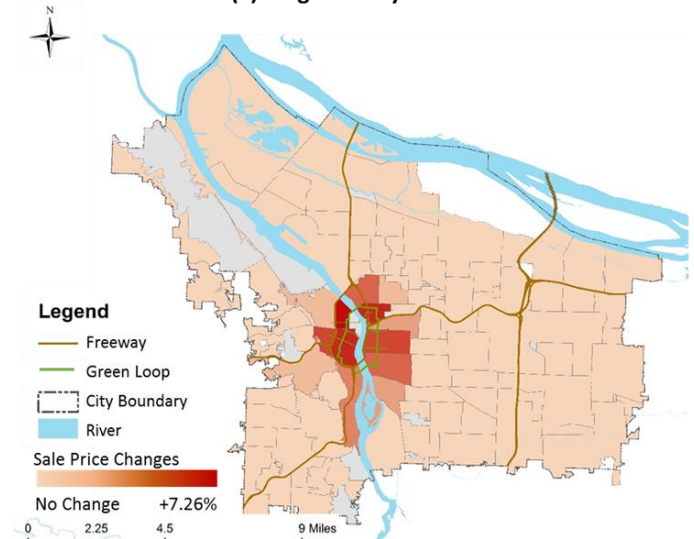
+ \$3,683

# Policy Implications

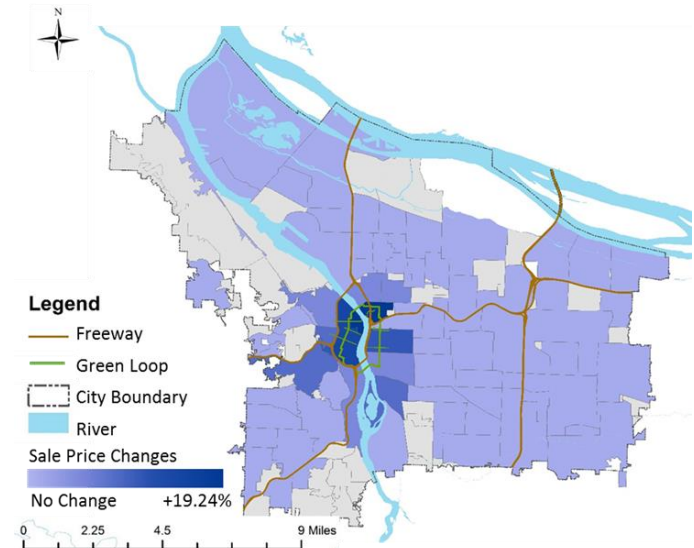


Portland *GREEN LOOP*

(a) Single-family Homes



(b) Multi-family Homes



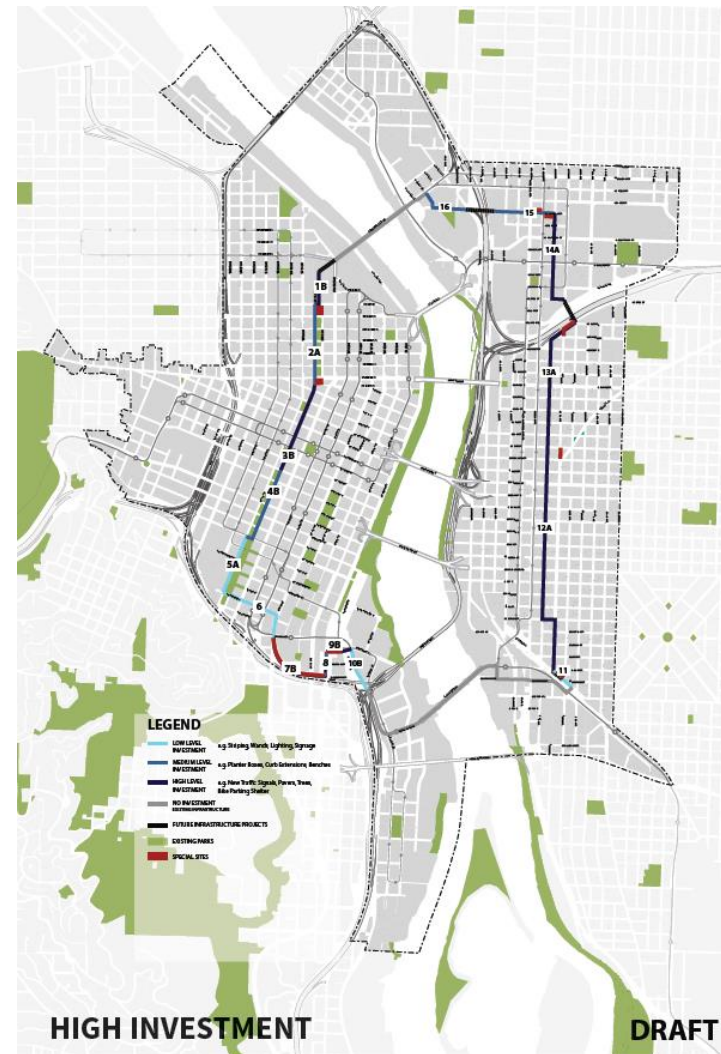
## Conclusions & Limitations

- Preference for high quality bike facilities
- Different preferences for SFH and MFH consumers
- Both measures of advanced bike facilities impact property values: **ease of access** (distance) and **extensiveness of bike network** (density).
- Enhancing the model specifications with **spatial autocorrelation effects** prevents overestimation of coefficient estimates.
- Causality
- Bike facility types
- Portland-specific results

# Portland Green Loop – Economic Impact Analysis

**Direct, indirect and induced impacts**

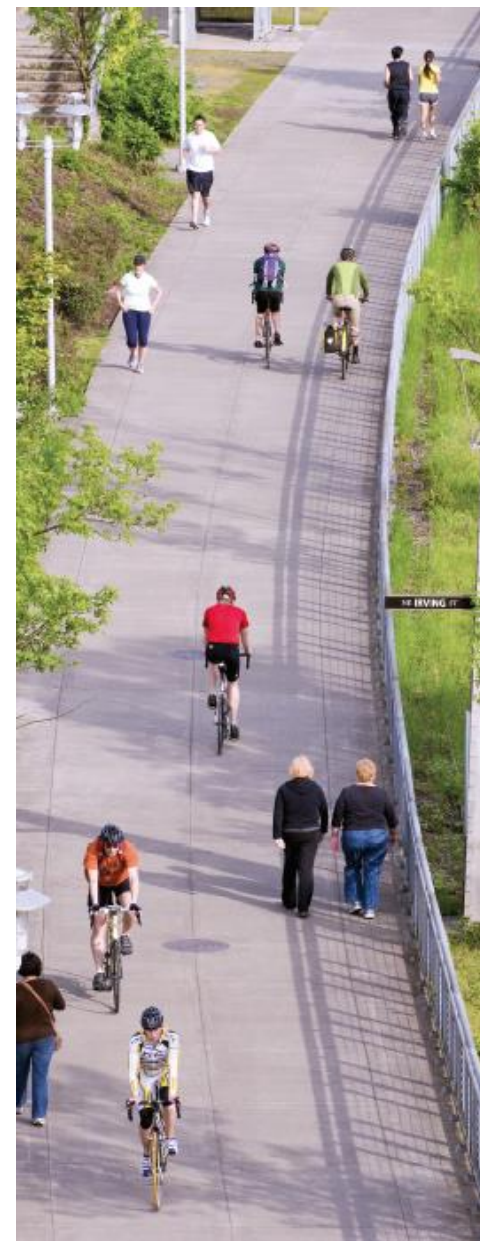
156 in employment in the low investment scenario to 783 in the high scenario





# Understanding the economic impacts of urban greenway infrastructure

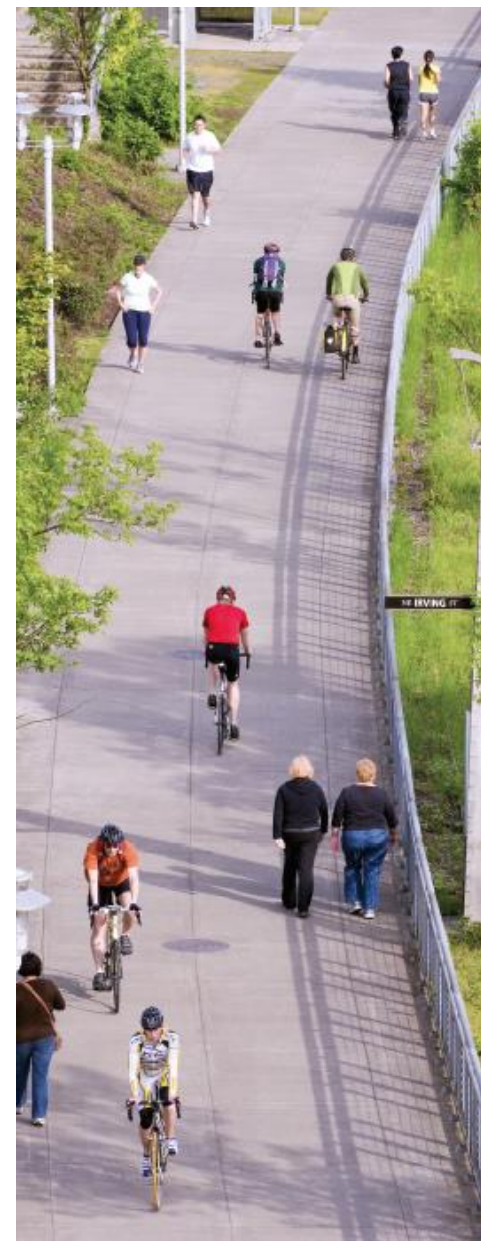
- Funded by NITC
- In collaboration with Portland Bureau of Planning and Sustainability (BPS)
- Portland 2035 Comprehensive Plan **City Greenways**
  - Enhanced greenway corridors
  - Trails
  - Heritage parkways
  - Neighborhood greenways



# Understanding the economic impacts of urban greenway infrastructure

## ○ Research Objectives

- How do we characterize access to the urban greenway **network** to facilitate our understanding of its impacts on the economy?
- What are the economic impacts of the existing bicycle/pedestrian (greenway) network in Portland? How would the City Greenways concept further impact the economy?

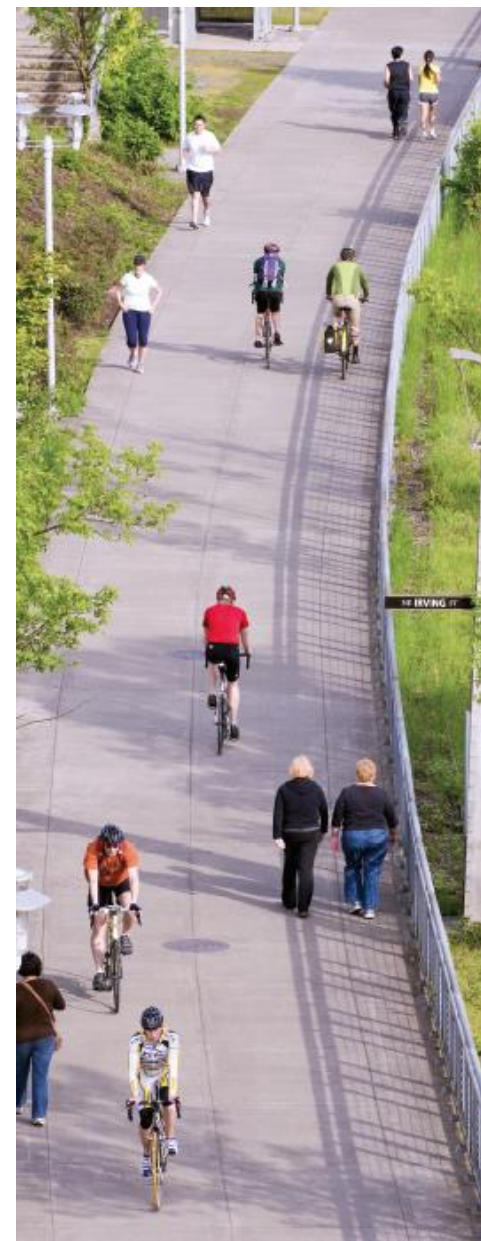


# Understanding the economic impacts of urban greenway infrastructure

- **Characterizing the urban greenway network**

Access to the network

- Distance-based measure
- Topological measure
- Bikeability measure



# Understanding Economic and Business Impacts of Street Improvements for Bicycle and Pedestrian Mobility – A Multi-City Multi-Approach Exploration

- Funded by NITC & Summit Foundation
- In collaboration with PeopleForBikes and Bennett Midland
- **Research Objectives**
  - How do corridor-level street improvements impact economic activity?
  - To develop a **systematic and rigorous** methodological approach that is **replicable** in different cities and corridors for pre-post implementation evaluation and analysis





**Thank you!**

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**Assistant Professor, School of Urban Studies & Planning, PSU  
Assistant Director, Northwest Economic Research Center (NERC)**

Download: [Portland Green Loop Econ Analysis](#)

Download: [Impact of Bike Facilities on Residential Property Prices](#) (TRR 2017 forthcoming)