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11-5-2021

# Economic Impacts of Street Improvements: Findings from Portland Area

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# Active Transportation Return on Investment study

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Friday Transportation Seminar | November 5, 2021  
Jennifer Dill, Ph.D. & Jenny Liu, Ph.D.



# Project Overview

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**Overall Objective: Provide a quantitative and qualitative assessment of the benefits of active transportation infrastructure in the Portland, OR region.**

Funded by Metro, with tasks being done by PSU, Metro, and Alta Planning+Design

Today's presentation focuses on Task I

- Research assistants: Minji Cho and Kyuri Kim
- Task III collaborator: Dr. Marisa Zapata

**Task I:**  
PSU

**Task I & II**  
Quantitative,  
technical  
analysis

- Task I**
- **Catalyst Projects** in centers and main streets, primarily pedestrian improvements
  - Focus on business activity (e.g. jobs and sales)

**Task II:**  
Metro

- Task II**
- **Longer Gap-filling Bikeways** that connect destinations
  - Focus on benefits to users, including travel time savings and health benefits

**Task III:**  
PSU

**Task III**  
Qualitative  
analysis

- Task III**
- **Catalyst and Longer Gap filling projects**
  - Document impacts that cannot be quantified easily to help tell a complete story of the investments

**Today's  
Seminar**

**Final  
Report**  
*early 2022*

# Catalyst Projects: Examples

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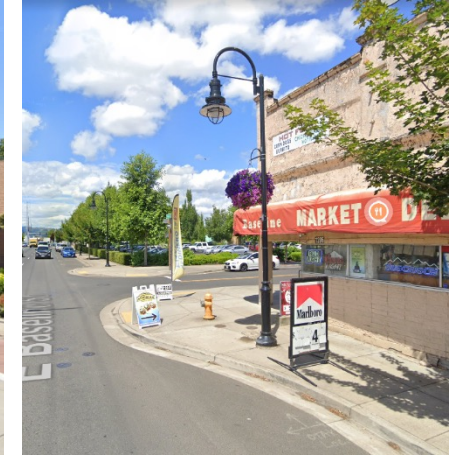
Primarily pedestrian (some bike) enhancements in town and regional centers and main streets



SE Division, Portland



Main St., Tigard

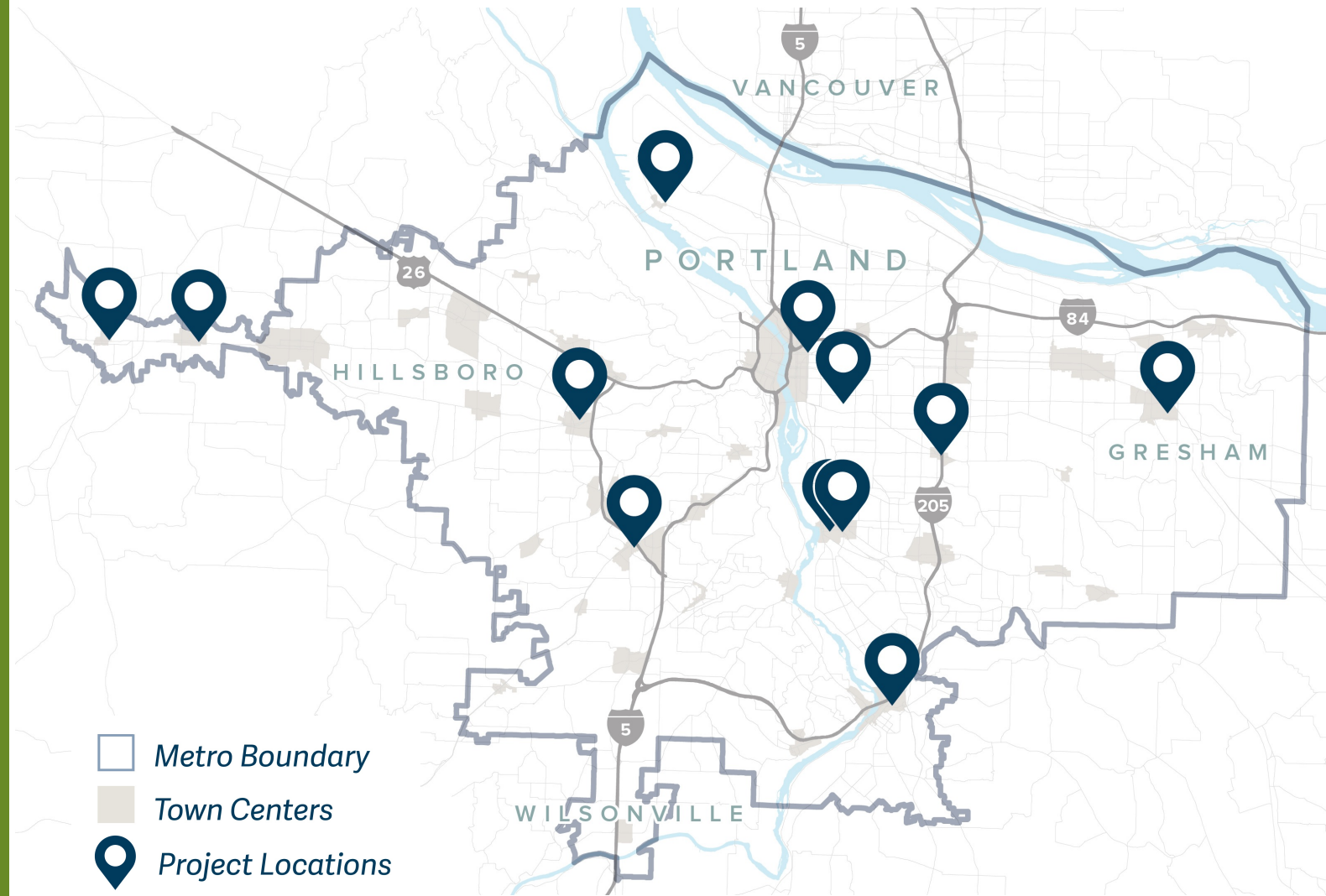


Baseline, Cornelius

# Catalyst Projects

12 projects in cities of Gresham, Portland, Milwaukie, Oregon City, Beaverton, Cornelius, Forest Grove and Tigard

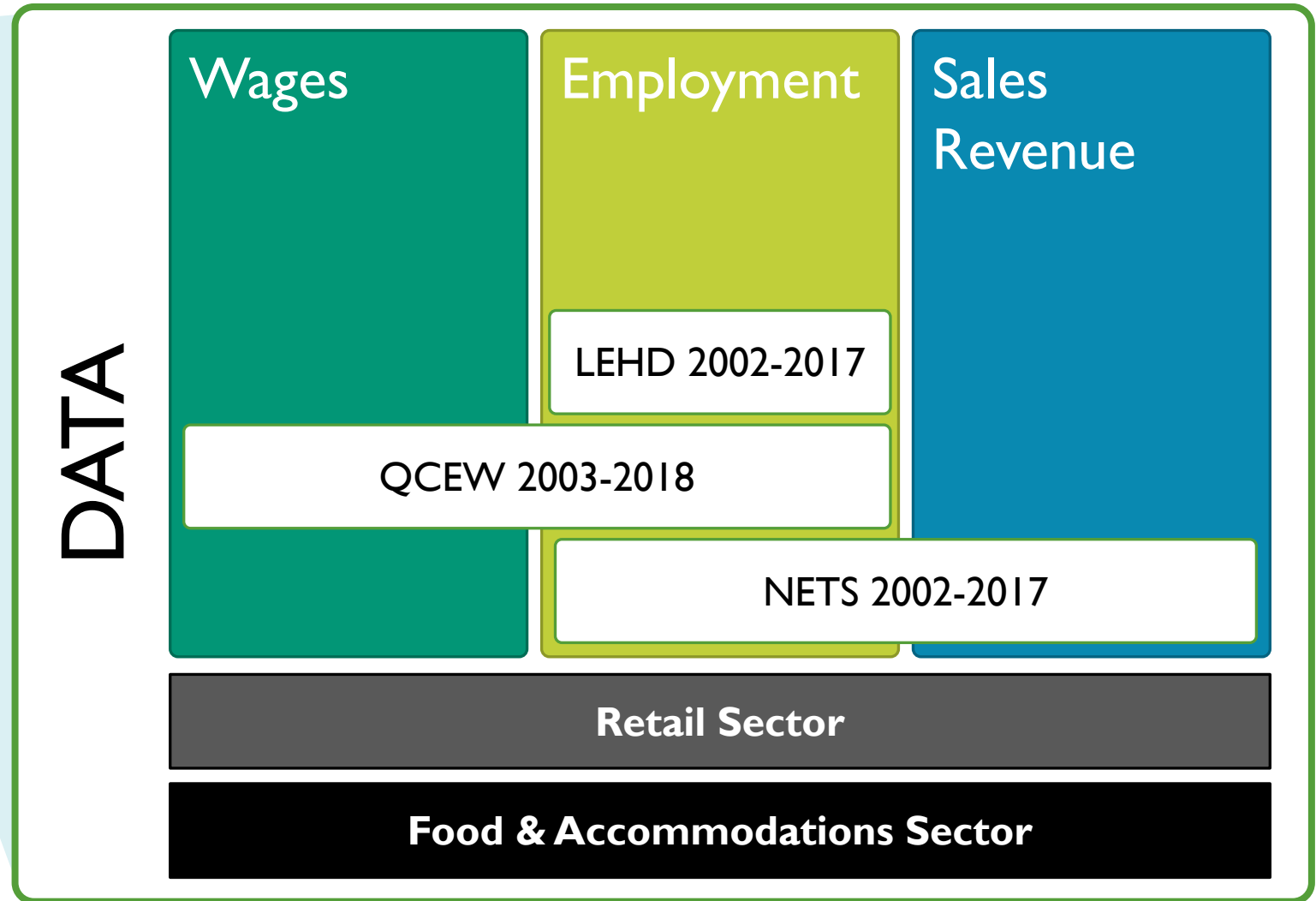
Constructed 2006 - 2016



**Task I:**  
Quantitative  
Analysis  
(PSU)

**Task II:**  
Quantitative  
Analysis  
(Metro)

**Task III:**  
Qualitative  
Analysis



**Task I:**  
Quantitative  
Analysis  
(PSU)

**Task II:**  
Quantitative  
Analysis  
(Metro)

**Task III:**  
Qualitative  
Analysis

**METHODS**

Aggregated  
Trend  
Analysis

Difference-  
in-Difference  
(DID)  
Analysis

Interrupted  
Time Series  
(ITS) Analysis



























Control corridor or comparator area






Quasi-experimental method

Retail Sector

Food & Accommodations Sector

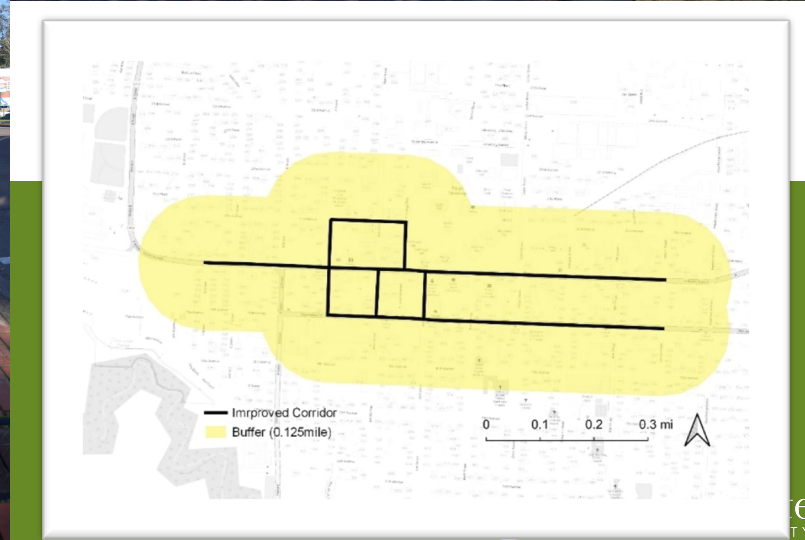


Study Area		
	Retail	Food
McLoughlin Blvd, Milwaukie (2006)		
Town Center, Milwaukie (2016)		
McLoughlin Blvd, Oregon City (2009)		
NE Hood Ave, Gresham (2013)		
E Burnside, Portland (2010)		
SE Division St, Portland (2014)		
SE Foster Rd-Woodstock Blvd, Portland (2013)		
St John's, Portland (2012)		
SW Rose Biggi Beaverton (2015)		
E Baseline, Cornelius (2016)		
Town Center, Forest Grove (2010)		
Main St, Tigard (2014)		

-  Mainly Positive, No Negative
-  Some Positive, No Negative
-  Some Positive, Some Negative
-  No Negative, No Positive
-  Some Negative, No Positive

# Findings: Overall





# Forest Grove (2010)

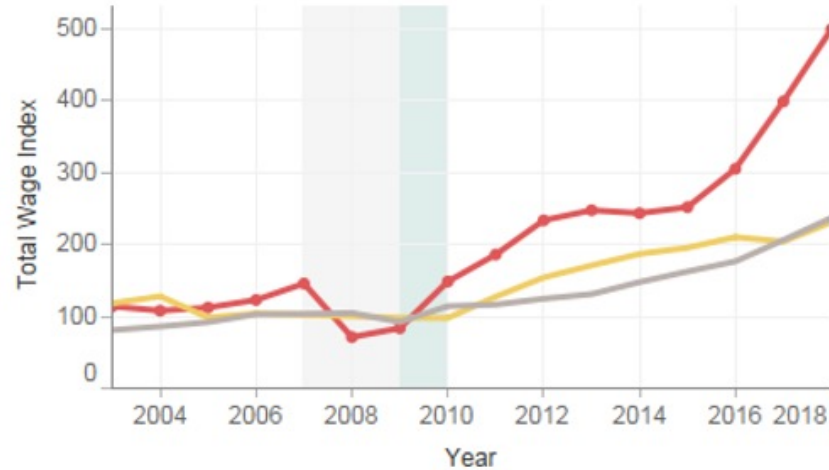


# Forest Grove (2010)

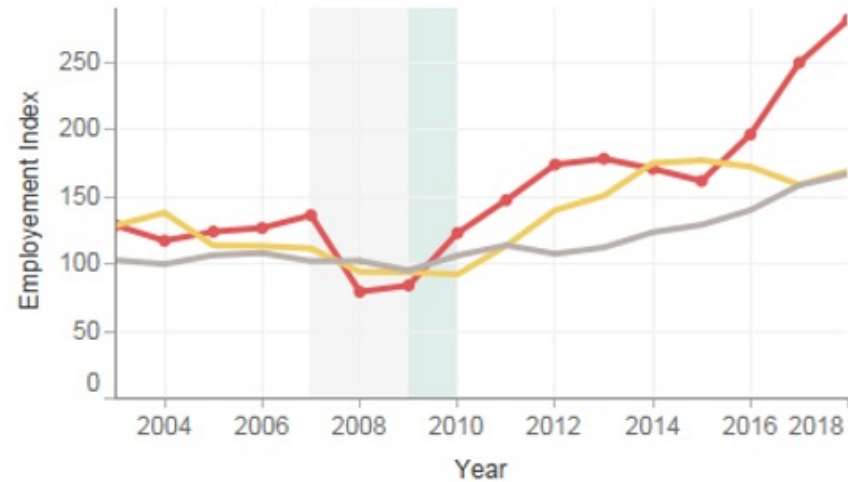
**Positive** impacts on food employment and wages using trend and ITS analysis (2 data sources)

**Positive** impacts on retail employment and wages using ITS analysis (2 data sources)

**Total Wage Index:**  
Food & Accomodations



**Employment Index:**  
Food & Accomodations



QCEW data



Note1. Gray shaded area is pre-construction period

Note2. Blue shaded area is construction period

Note3. Total wage index is employment indexed to the 3 years pre-construction





# SE Division, Portland (2014)





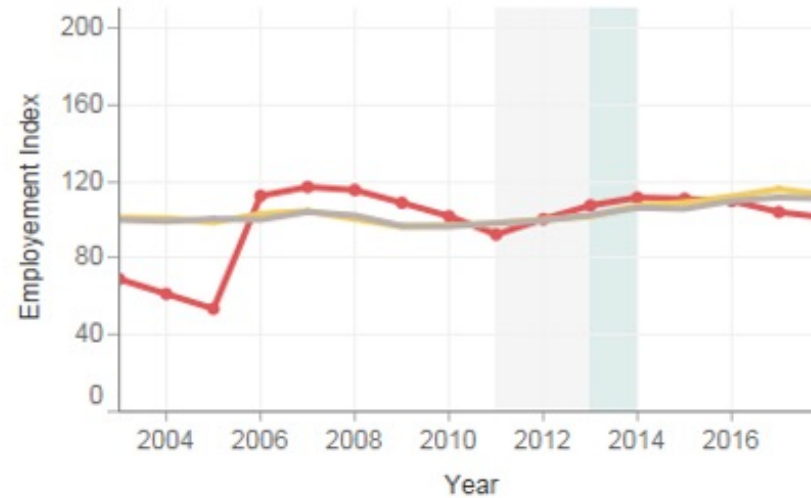
# SE Division, Portland (2014)

Positive impacts on food employment and wages using trend and ITS analysis (3 data sources)

No clear impacts on retail employment and wages using trend and ITS analysis using QCEW data

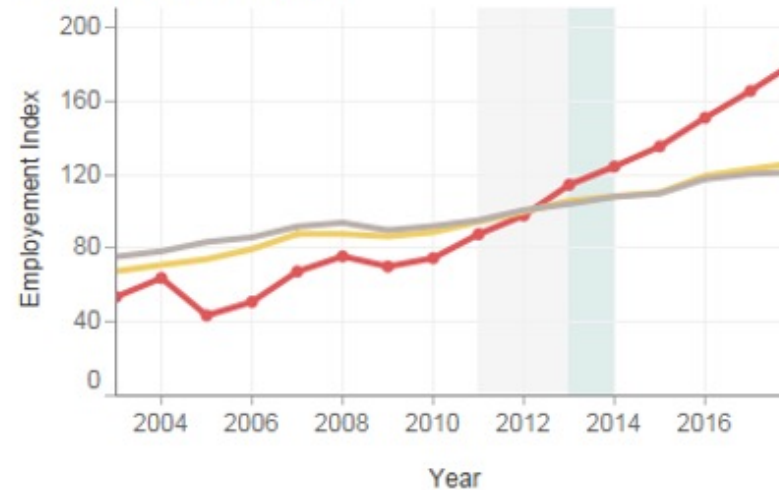
Employment Index:

Retail



Employment Index:

Food & Accomodations



QCEW data



Note1. Gray shaded area is pre-construction period

Note2. Blue shaded area is construction period

Note3. Total wage index is employment indexed to the 3 years pre-construction





# SE Foster-Woodstock, Portland (2013)



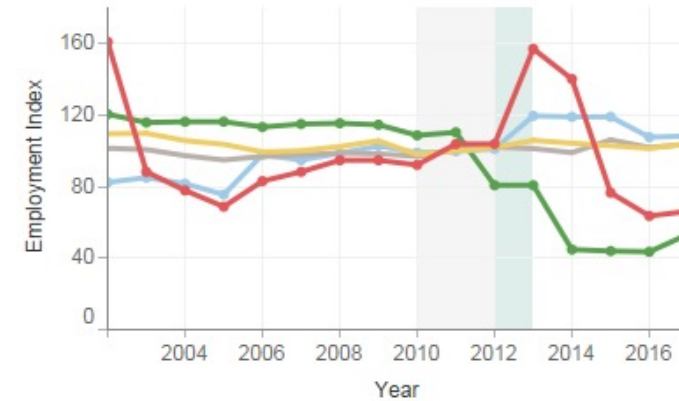
# Foster-Woodstock, Portland (2013)

Negative impacts on food employment and wages using trend and ITS analysis (3 data sources)

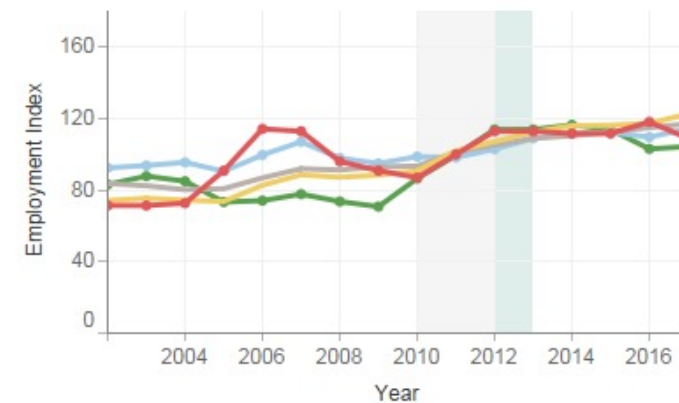
Mixed impacts on retail employment and wages using trend, DID and ITS analysis (3 data sources)

## NETS data

Employment Index:  
Retail



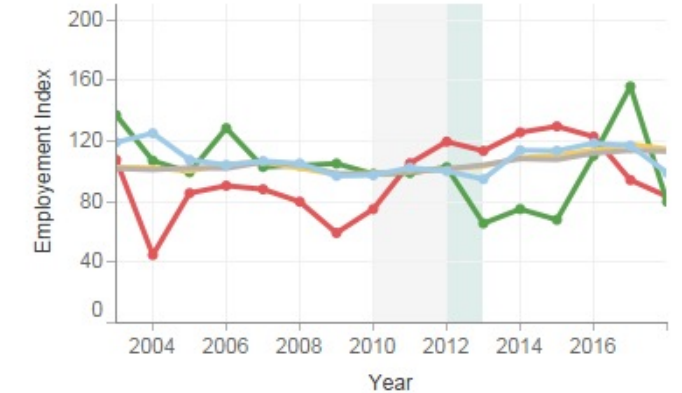
Employment Index:  
Food & Accomodations



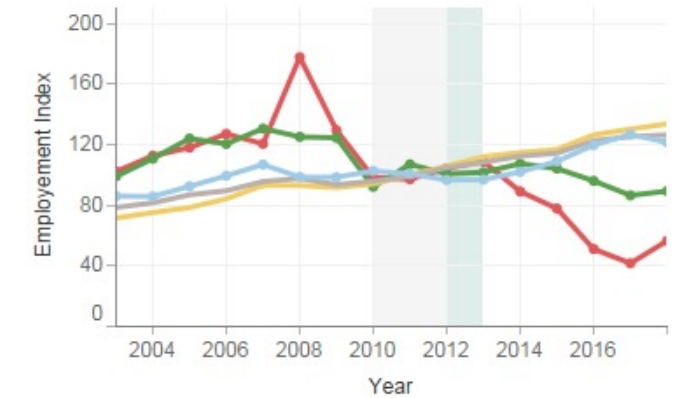
Note1. Gray shaded area is pre-construction period  
 Note2. Blue shaded area is construction period  
 Note3. Employment index is employment indexed to the 3 years pre-construction

## QCEW data

Employment Index:  
Retail



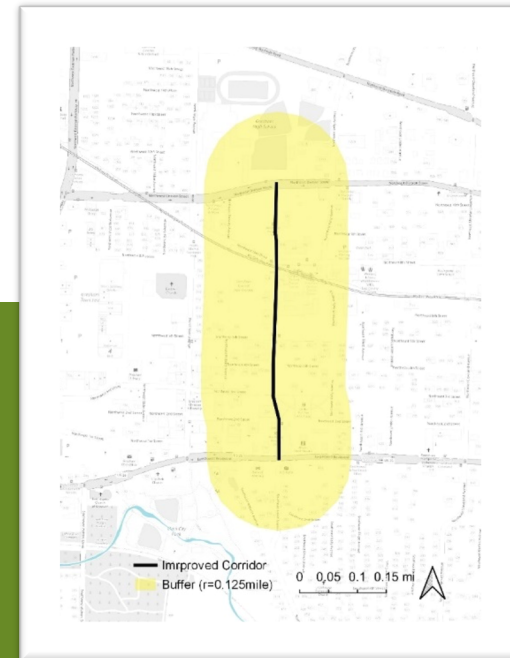
Employment Index:  
Food & Accomodations



### Legend

- Improved Corridor
- Control Corridor
- Comparator: Mt. Tabor, Montavilla
- Comparator: SE Portland
- Comparator: Portland





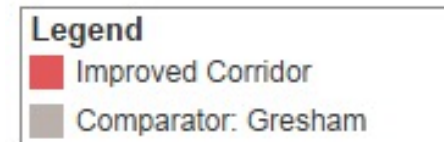
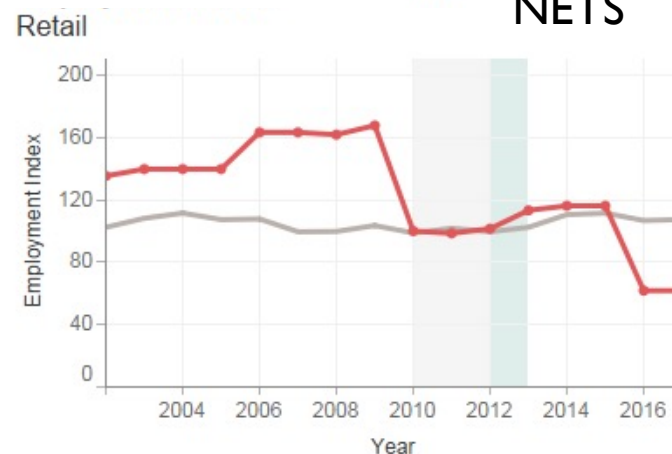
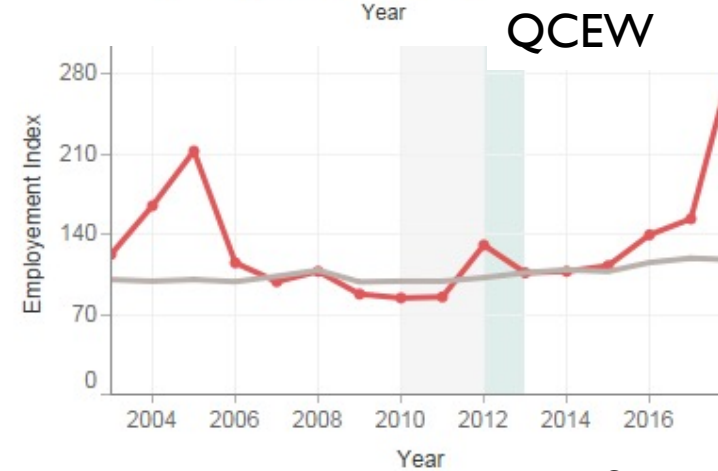
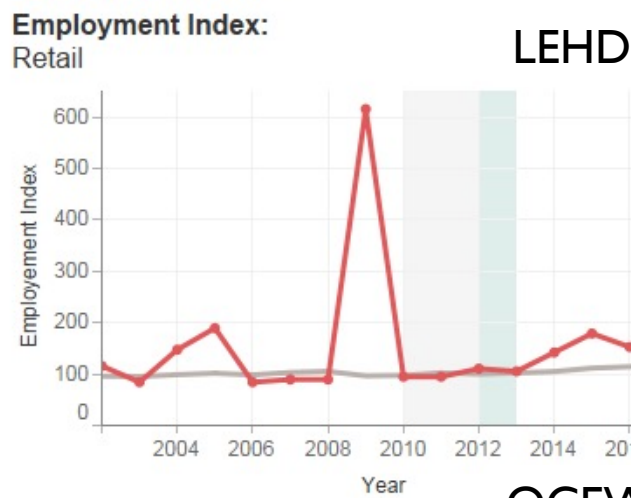
# NE Hood Ave, Gresham (2013)



# NE Hood Ave, Gresham (2013)

Positive impacts in retail sector employment and wages using trend and ITS analysis (QCEW data). Mixed results when compared with LEHD or NETS data.

Positive impacts on food sector wages using trend and ITS analysis (QCEW data), and on food sector employment using trend analysis (2 data sources).







# McLoughlin Blvd Oregon City (2009, left) & Milwaukie (2006, right)



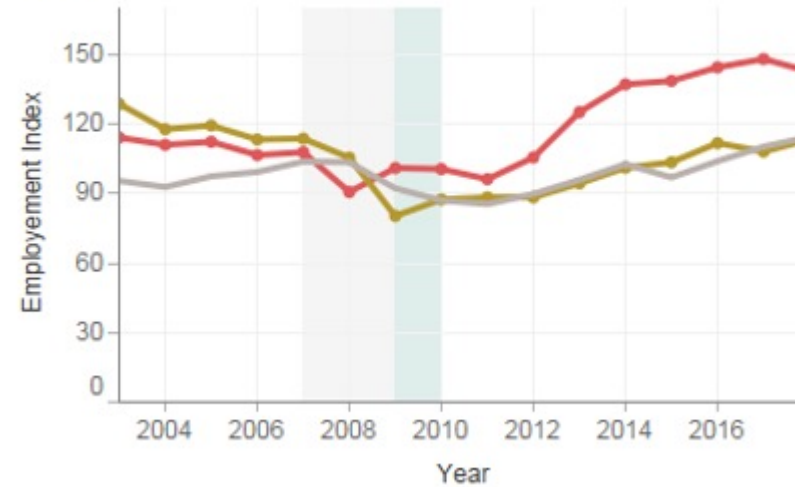
# McLoughlin Blvd, Oregon City (2009)

Positive impacts (mostly) on retail employment and wages using trend, DID & ITS analysis (3 data sources)

No clear impacts on food employment using trend and ITS analysis using QCEW & LEHD data. Positive findings on wages using DID & ITS analysis (QCEW data).

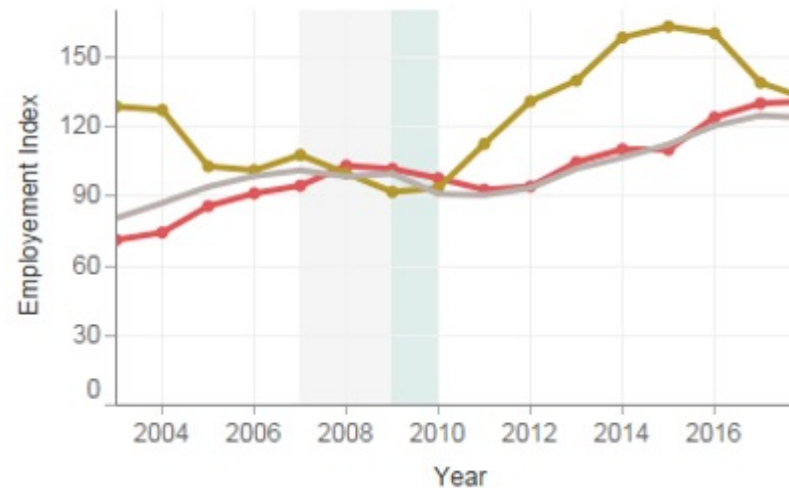
Employment Index:

Retail

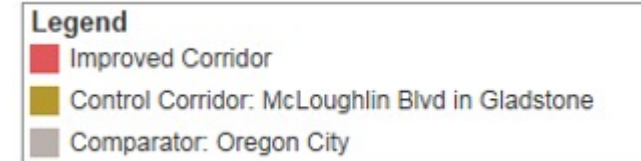


Employment Index:

Food & Accommodations



QCEW data



Note1. Gray shaded area is pre-construction period

Note2. Blue shaded area is construction period

Note3. Total wage index is employment indexed to the 3 years pre-construction

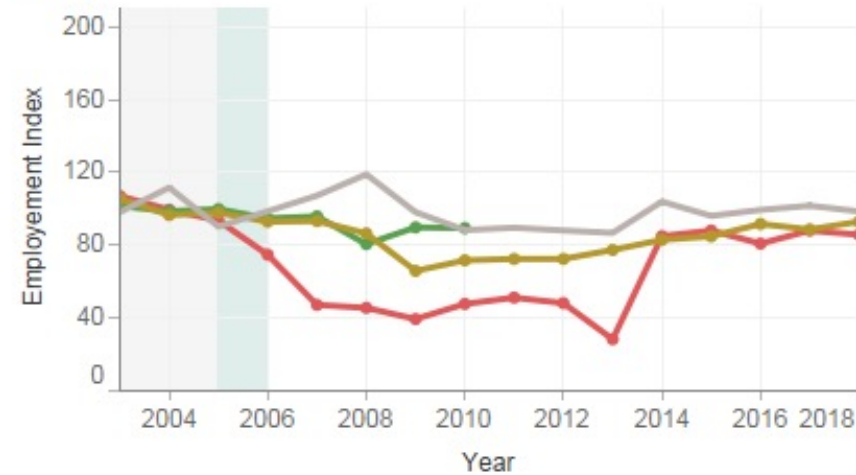
# McLoughlin Blvd, Milwaukie (2006)

Some positive impacts on food employment and wages.

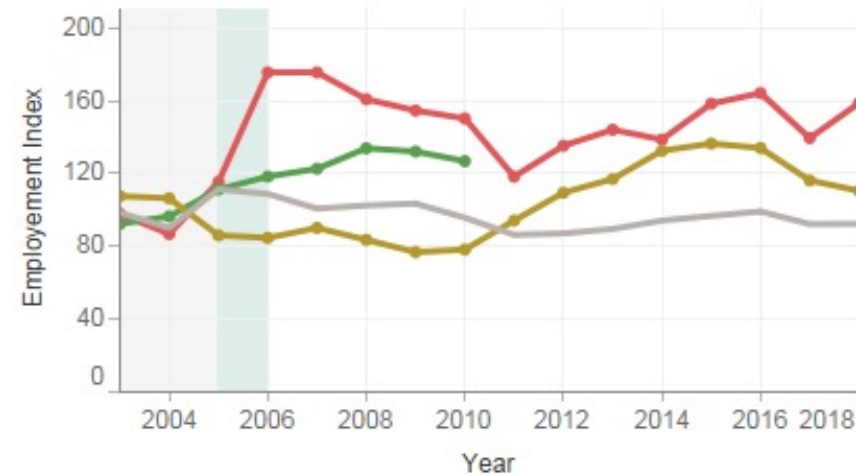
Mixed impacts on retail employment, wages and sales.

Positive when compared to McLoughlin in Gladstone, but negative when compared to McLoughlin in Oregon City.

**Employment Index:**  
Retail



**Employment Index:**  
Food & Accomodations



QCEW data

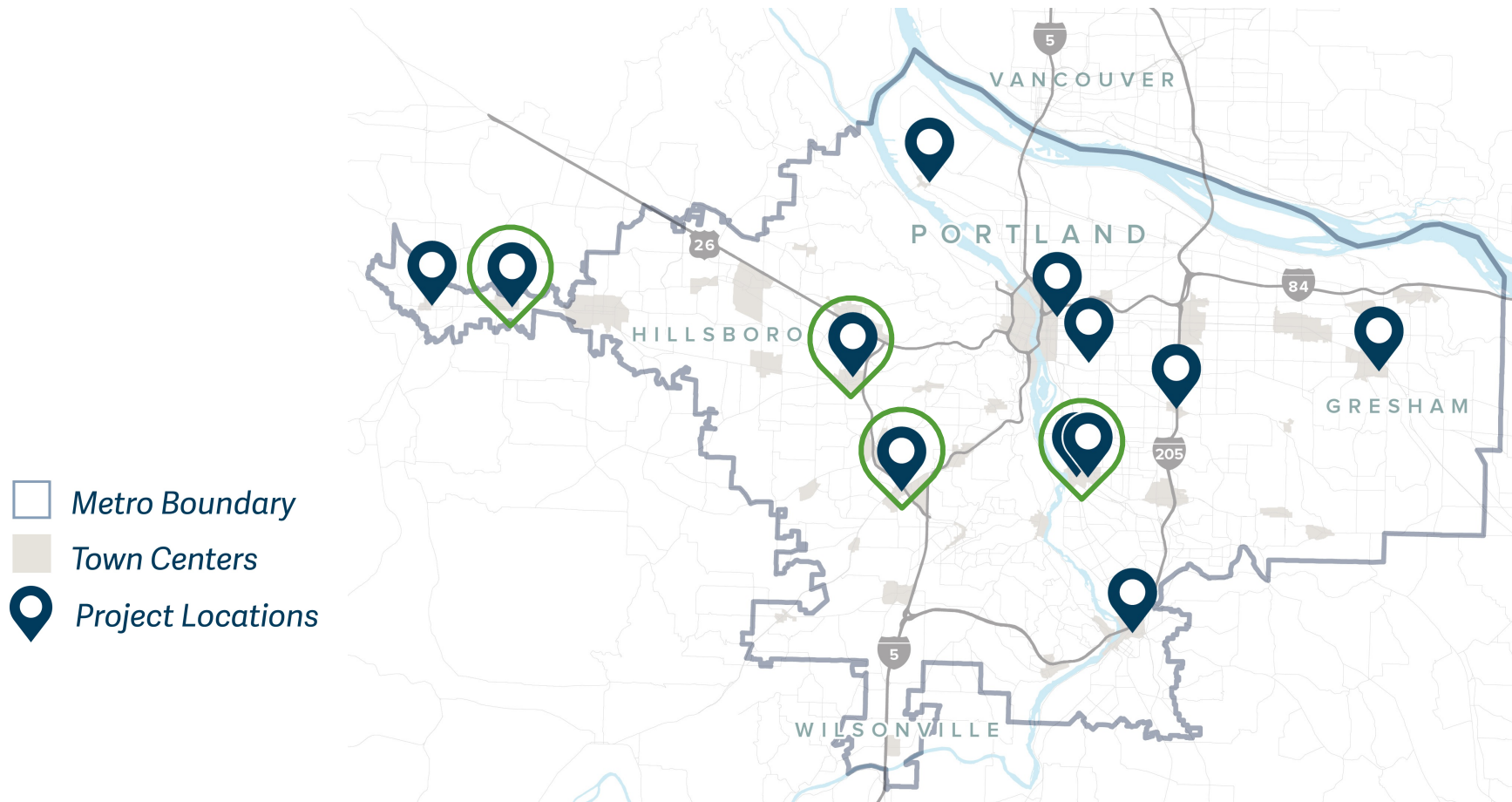


Note1. Gray shaded area is pre-construction period  
 Note2. Blue shaded area is construction period  
 Note3. Employment index is employment indexed to the 3 years pre-construction  
 Note4. Trend lines of McLoughlin Blvd in Oregon City are limited to before improvement

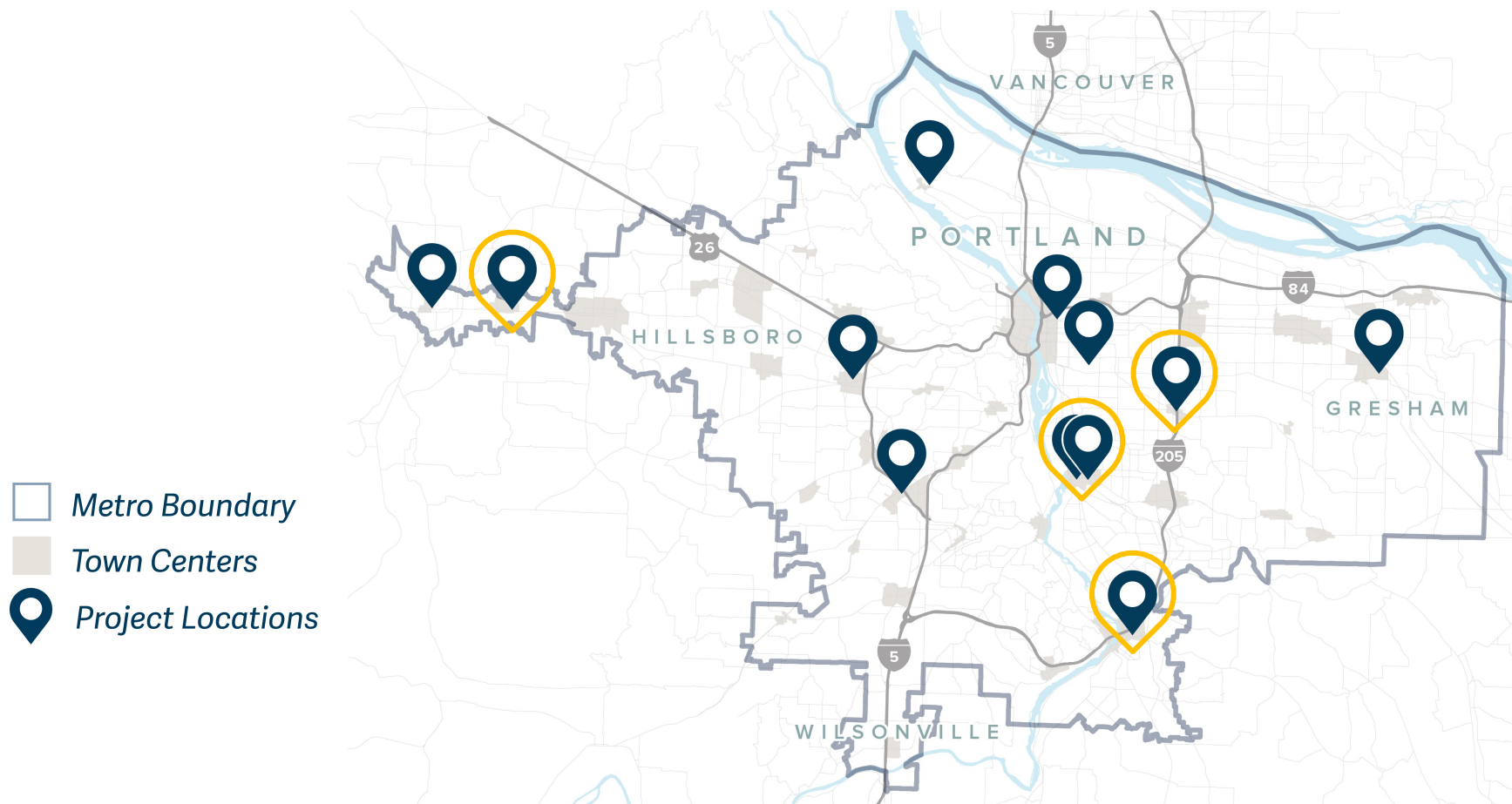
# Conclusions and Takeaways

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- Multiple data sources & multiple methods approach
- Business impacts → only retail and food & accommodations sectors
- Race and ethnicity analysis of employment (LEHD)
- Complementary or cumulative impacts of other planning or investment activities



# Town centers may take time



Limited business impacts on road corridors with high traffic volume or high speed

# More information

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Link to project page at Metro site:

<https://www.oregonmetro.gov/active-transportation-return-investment-study>

- Thanks to our Metro partners (John Mermin, Tom Kloster, Joe Broach)
- Full report on all phases of the project expected early next year.

Link to project page at TREC site:

<https://trec.pdx.edu/research/project/1543>

- Task I technical report is available there