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Is It Working? Are the Region's and City's Transportation Policies and Actions Moving Us in Their Desired Directions?

Roger Geller
City of Portland, Oregon

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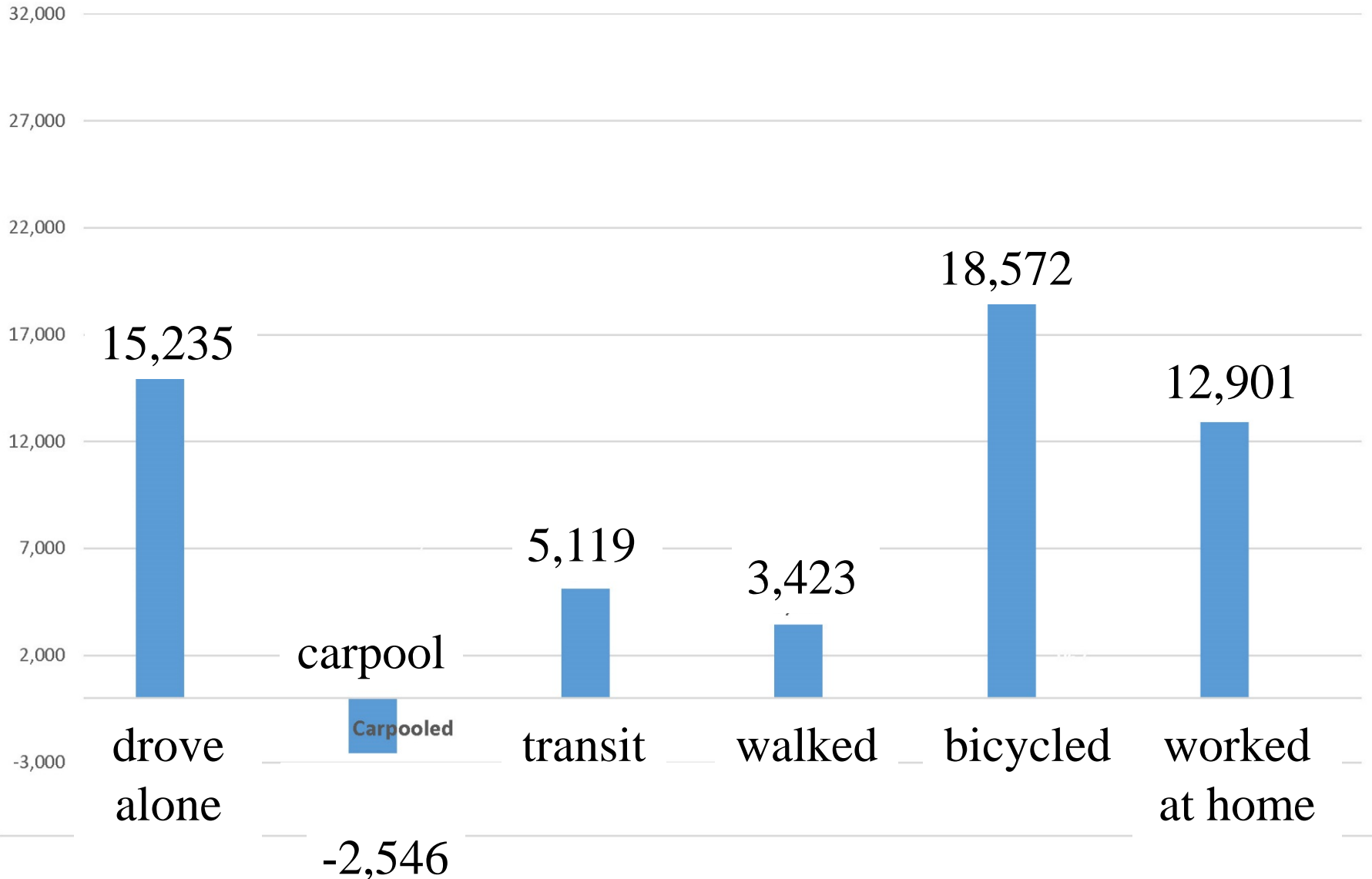
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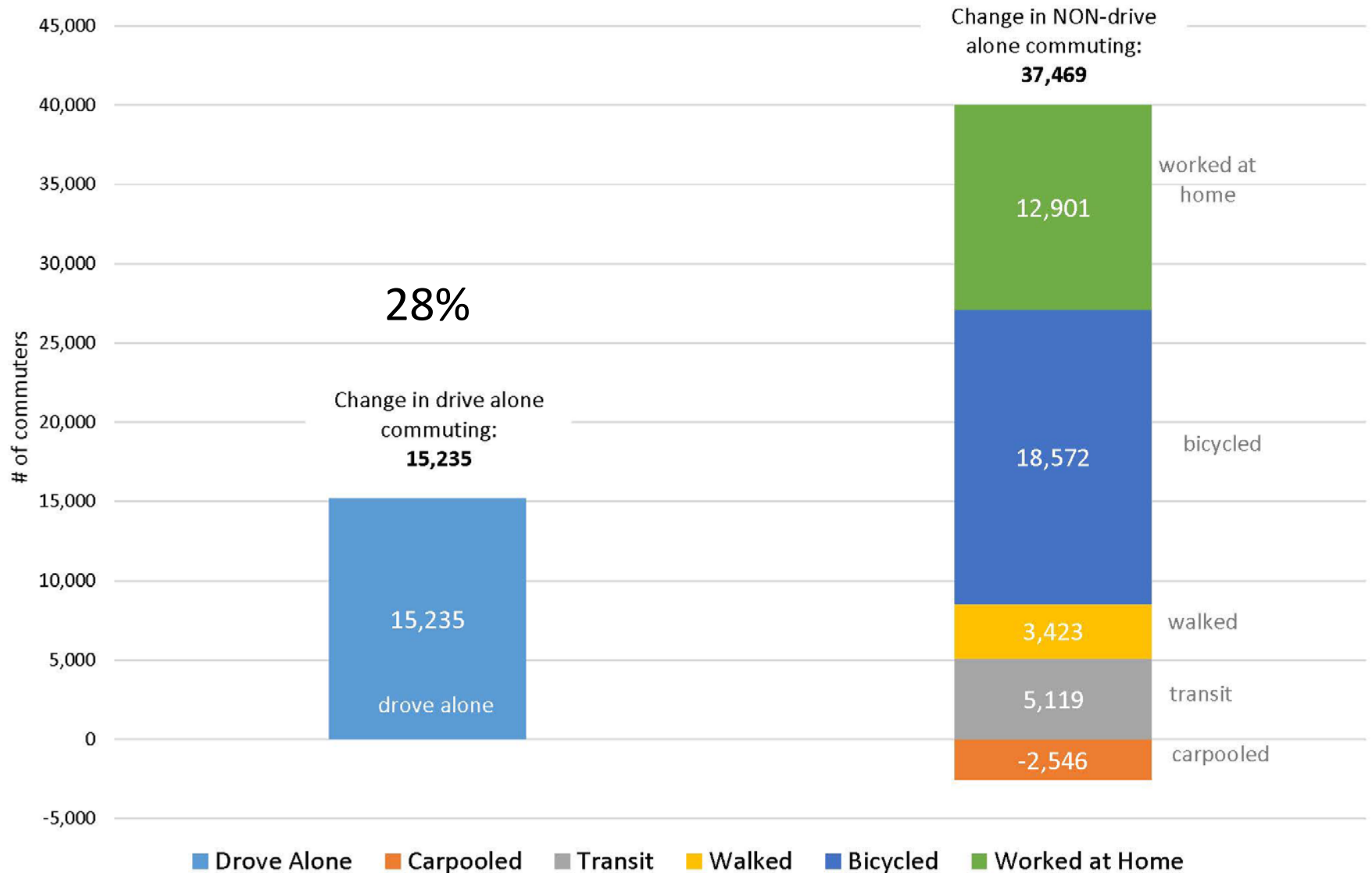
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Portland commuters: change in mode 2000-2014

The distribution by primary means of transportation to work for the 54,673 increase in Portland commuters since 2000 using actual mode splits (blue)

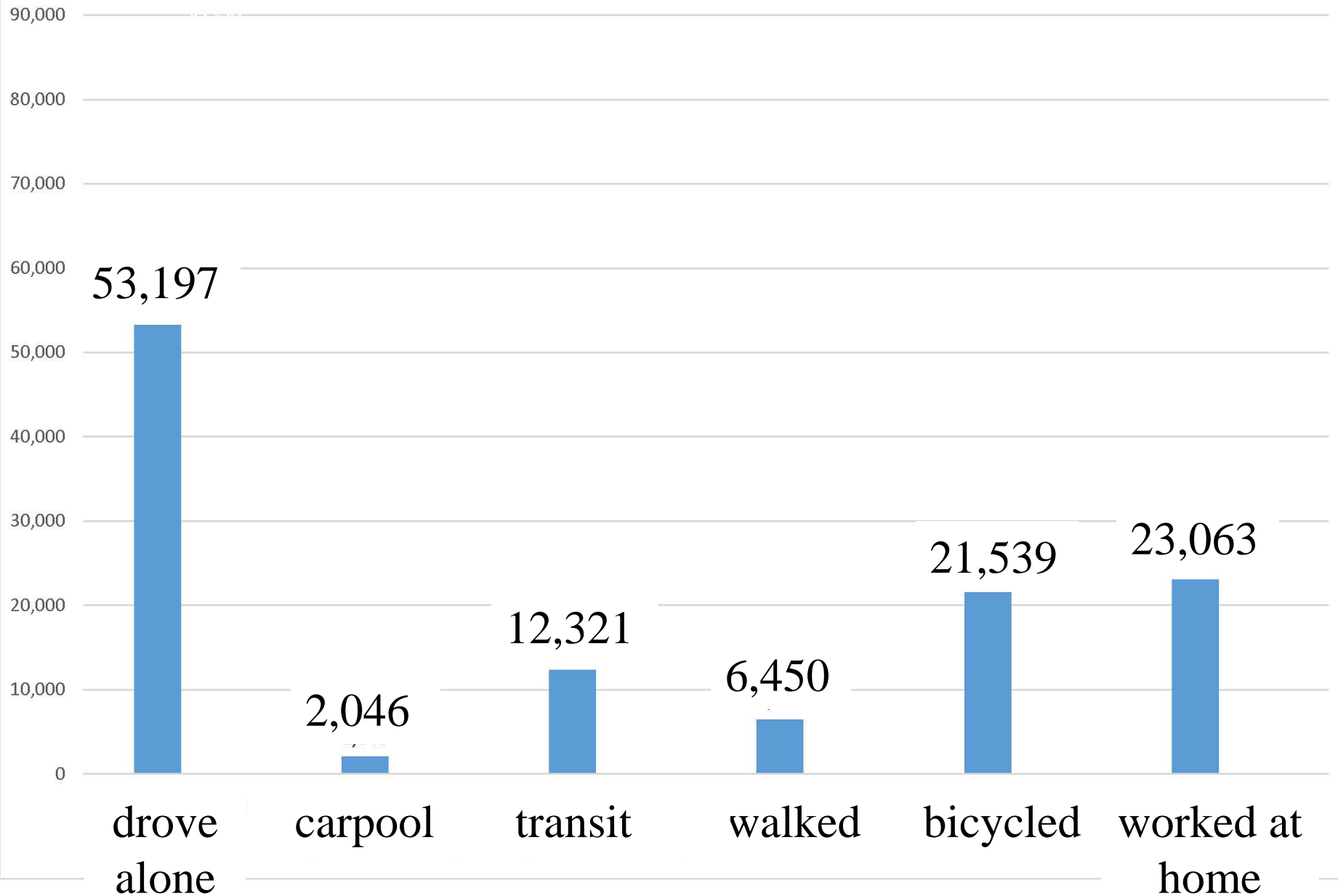


Change in number of Portland commuters 2000-2014: Drive alone v. non-drive alone

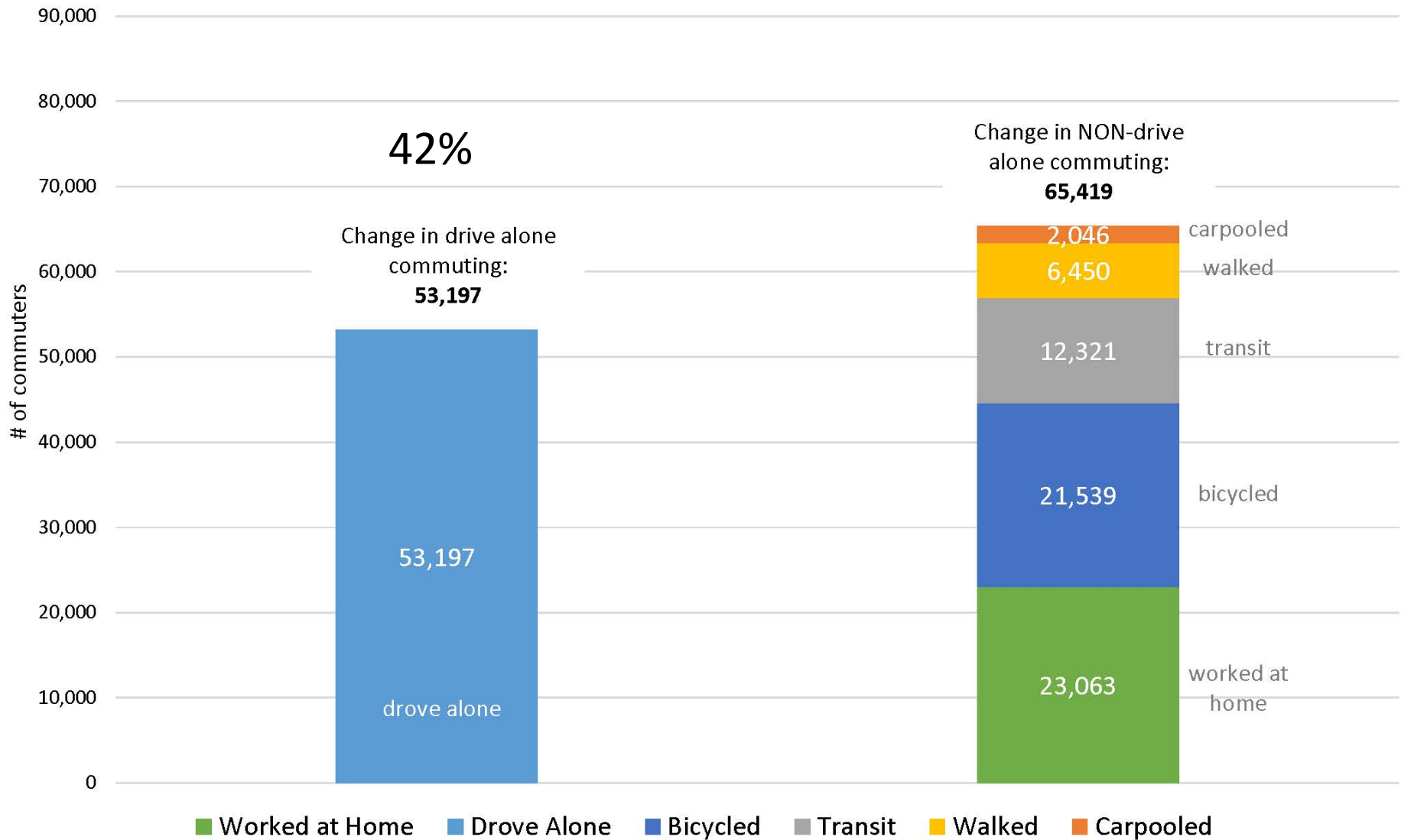


Regional commuters: change in mode 2000-2014

The distribution by primary means of transportation to work for the 122,441 increase in Regional commuters since 2000 using actual mode splits (blue) and



Change in number of regional commuters 2000-2014: Drive alone v. non-drive alone



Is it working?

An analysis of the growth in regional and local commuters 2000-2014 to determine if regional and local policies are moving us in our desired policy direction



TREC

Friday Transportation Seminar

May 13, 2016

Roger Geller

Bicycle Coordinator

City of Portland, Oregon

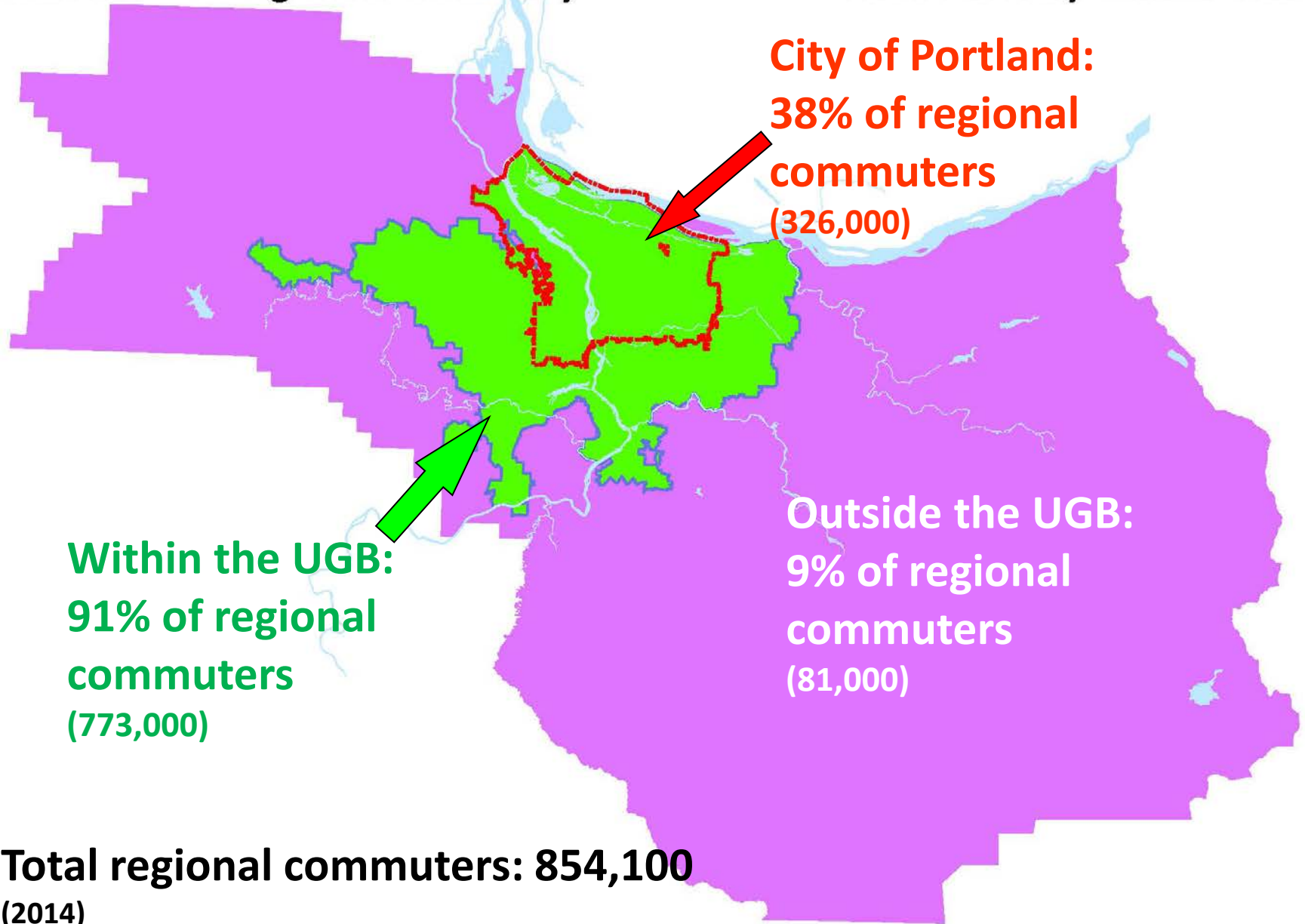
Questions

- Which are the census tracts where the number of commuters is increasing the most?
- Which are the census tracts where drive alone commuters are growing more slowly than the overall growth in total commutes?
- In those census tracts, what is taking the place of drive-alone commuters?
- What are the overall characteristics of those census tracts where drive alone commuting is not growing as fast as overall growth in commuting?
- What has been the relationship between bus transit and rail transit?

Regional Data

**Portland Metropolitan Region
within the urban growth boundary**

**Change in Commute behavior
2000-2014 by Census Tract**



**City of Portland:
38% of regional
commuters
(326,000)**

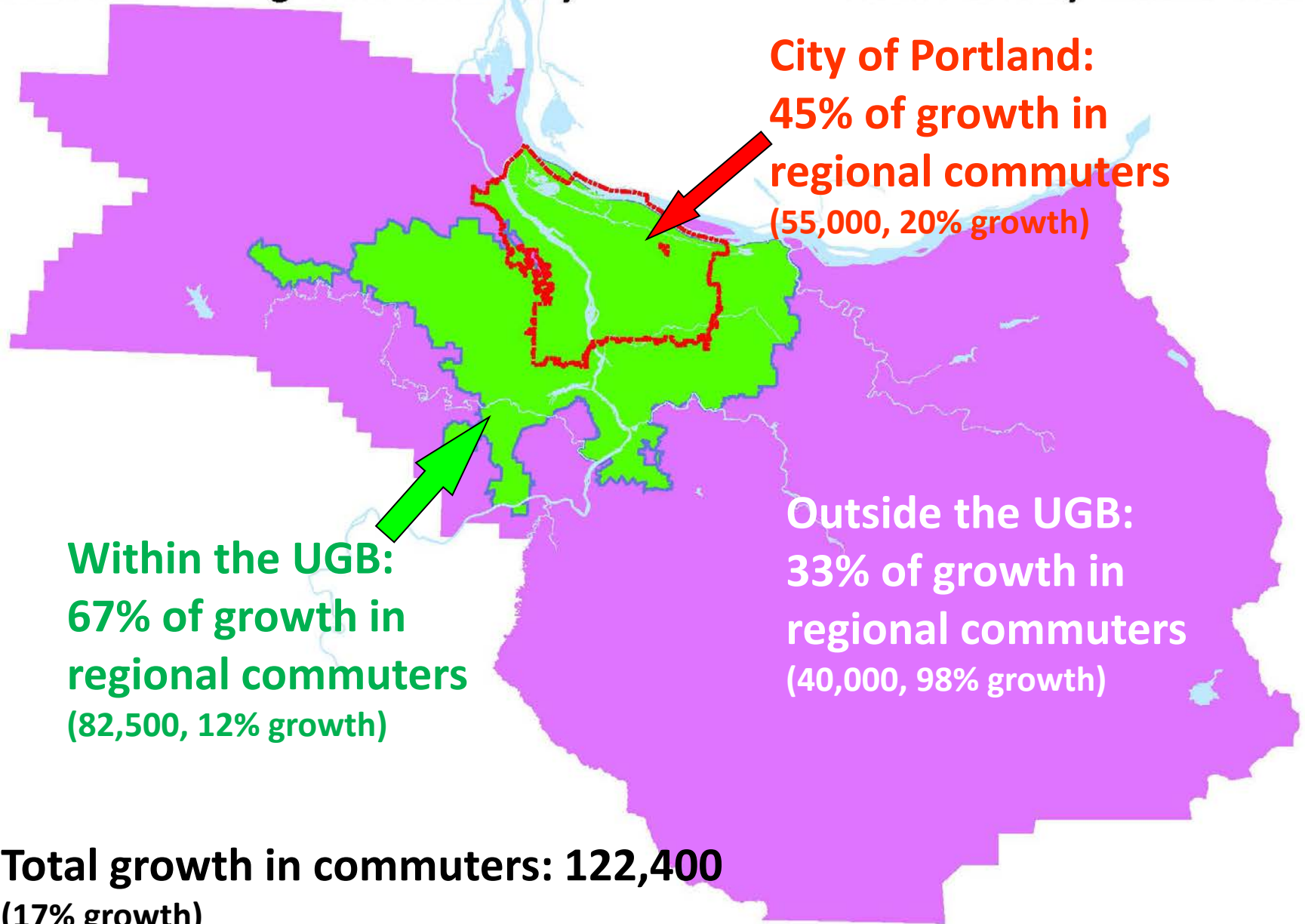
**Within the UGB:
91% of regional
commuters
(773,000)**

**Outside the UGB:
9% of regional
commuters
(81,000)**

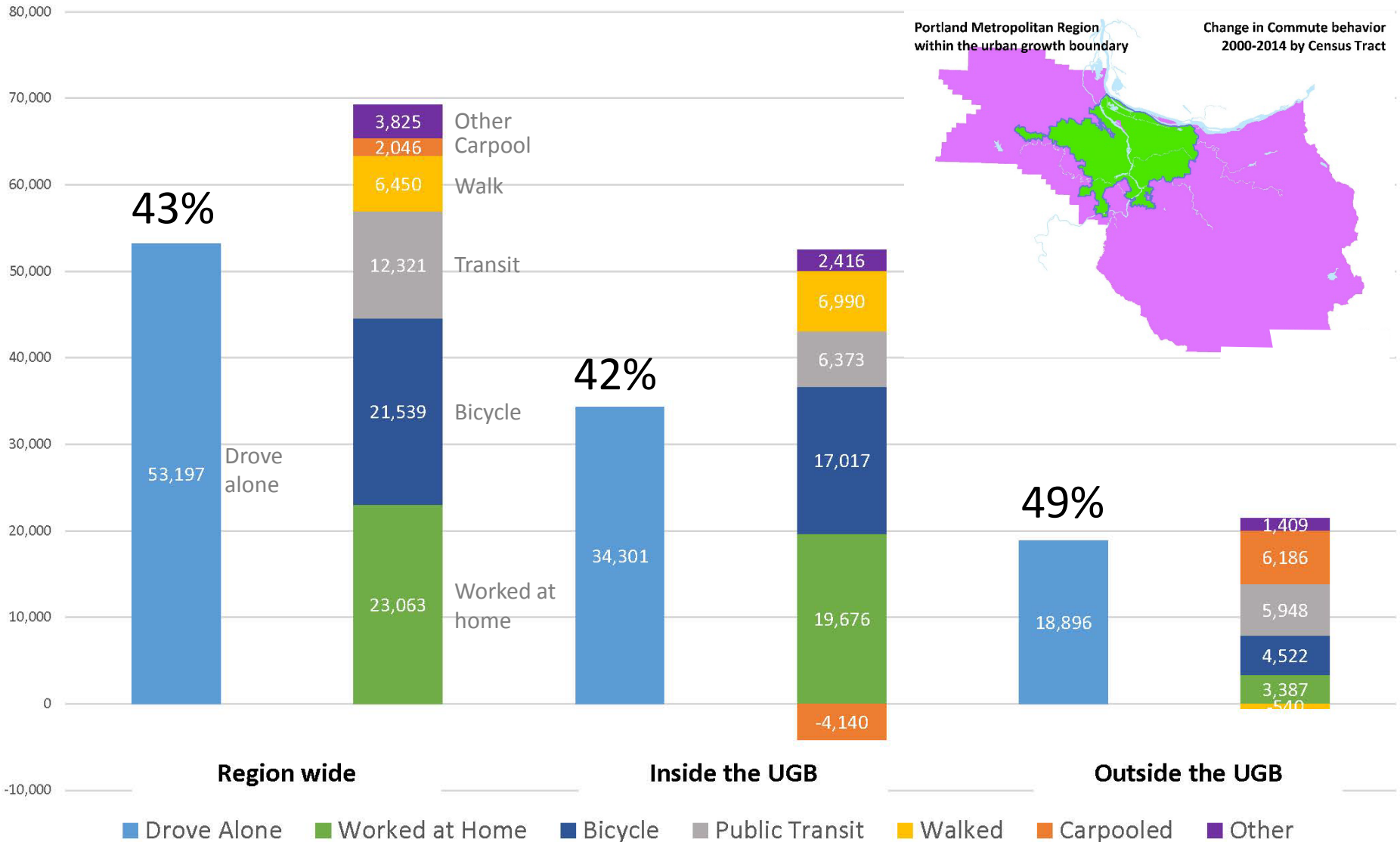
**Total regional commuters: 854,100
(2014)**

**Portland Metropolitan Region
within the urban growth boundary**

**Change in Commute behavior
2000-2014 by Census Tract**

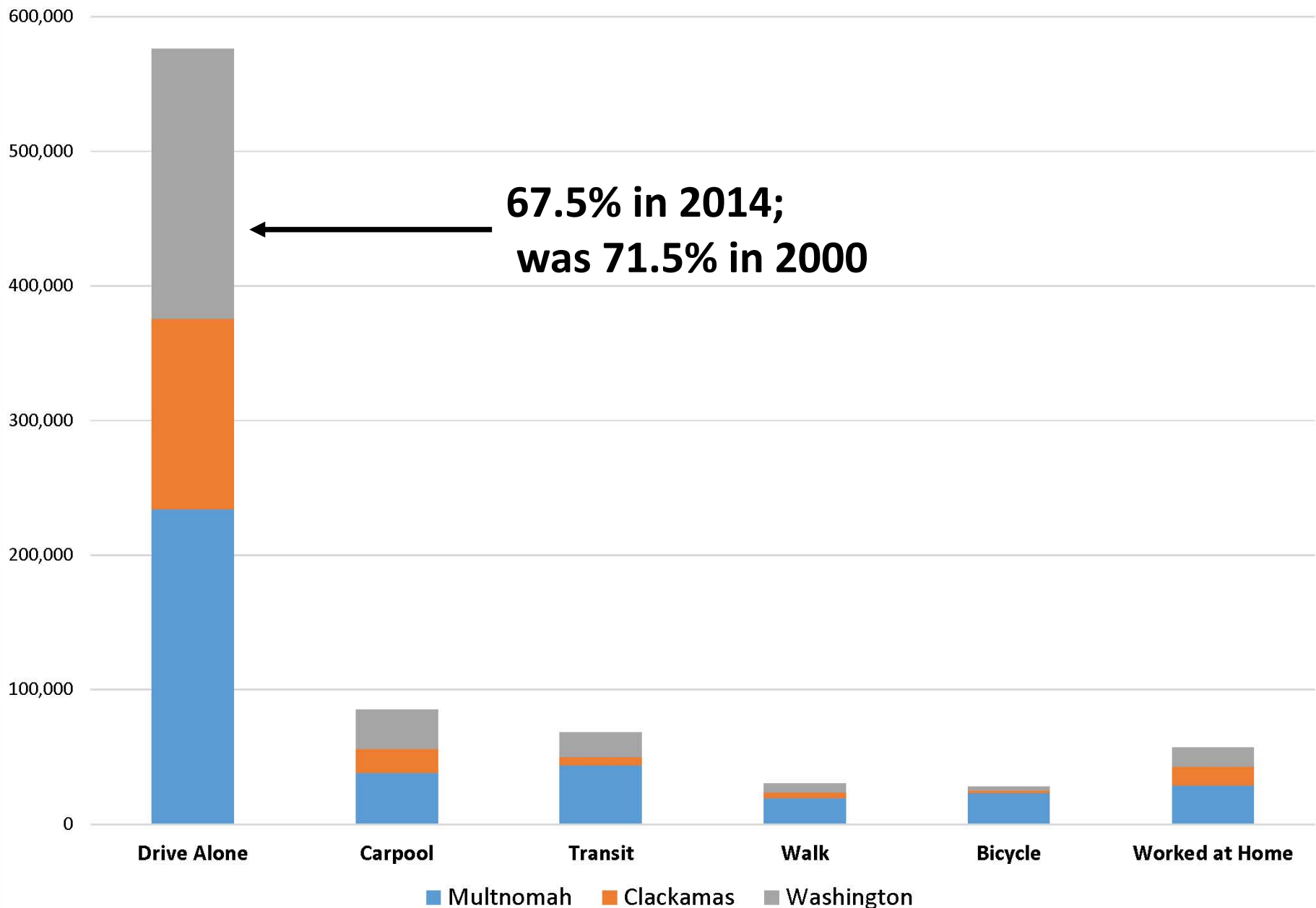


Change in number of commuters by mode: Region-wide, within the UGB and outside the UGB 2000 (decennial census) to 2010-2014 5-year ACS data

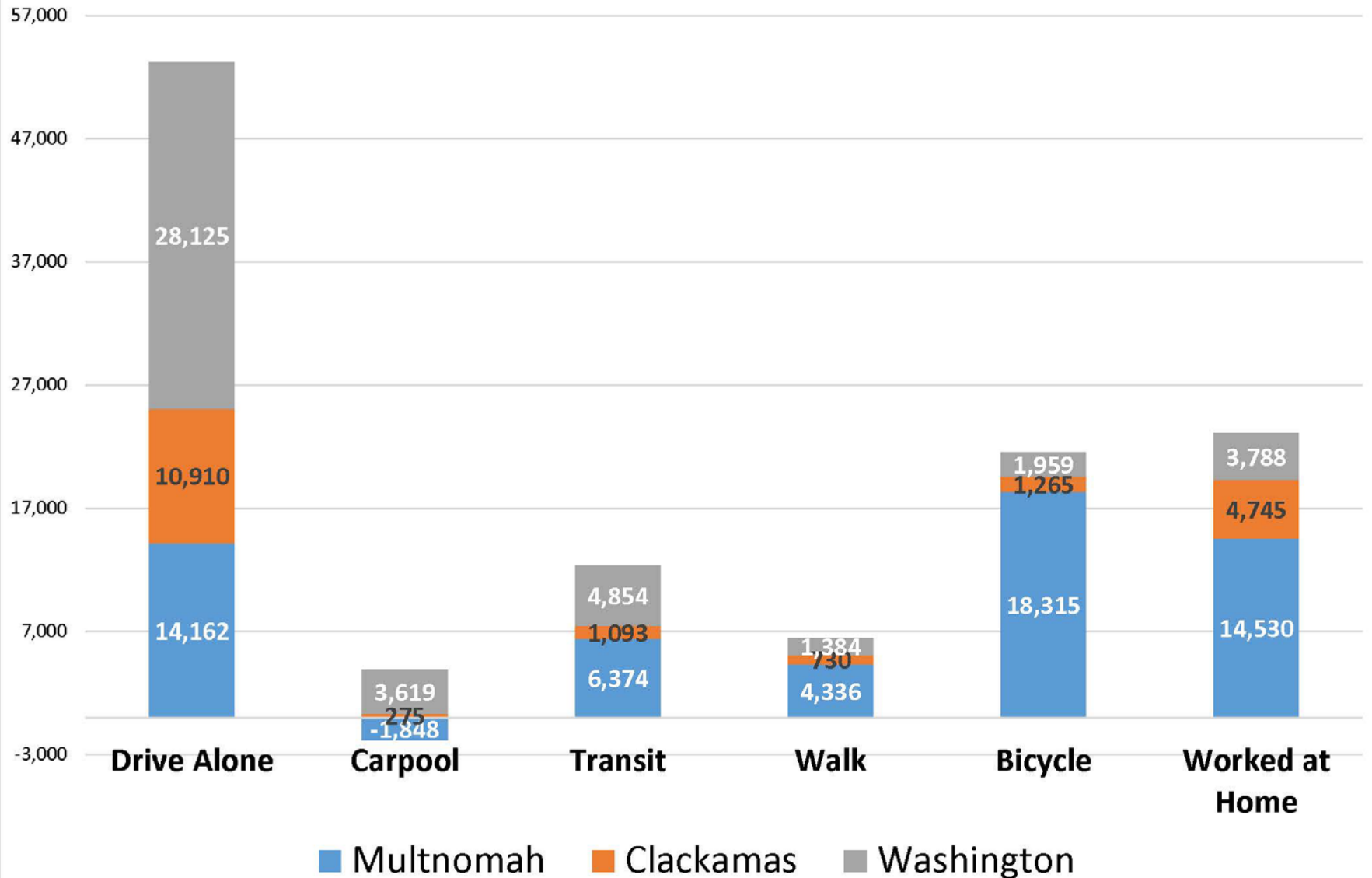


Counties

Regional commuters: total by mode 2014



Change in number of regional commuters by mode 2000-2014



Change in number of regional commuters by mode 2000-2014

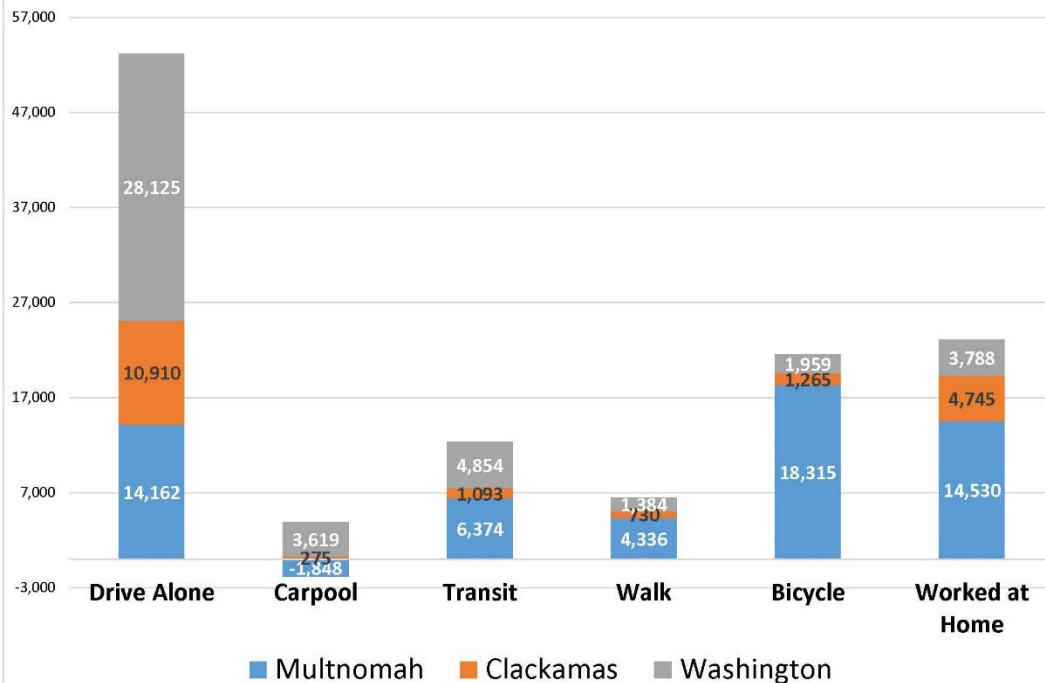


Table 2. Change in Regional Commute Behavior by county 2000-2014

Percentage change by mode relative to 2000

	Drive Alone	Carpool	Transit	Walk	Bicycle	Worked at Home	Other	Change in total commuters
Multnomah	6%	-5%	17%	28%	365%	100%	-	17%
Clackamas	8%	2%	21%	21%	265%	52%	-	12%
Washington	16%	14%	36%	28%	210%	37%	-	19%
Region	10%	2%	22%	27%	335%	68%	-	17%

This table shows the percentage change by county and mode in commute behavior 2000-2014. Cells shaded in red indicate growth was less than the overall growth in the number of commuters. Cells shaded in green show where the growth has been equal to or greater than the overall growth in the number of commuters.

Table 1. Change in Regional Commute Behavior 2000-2014

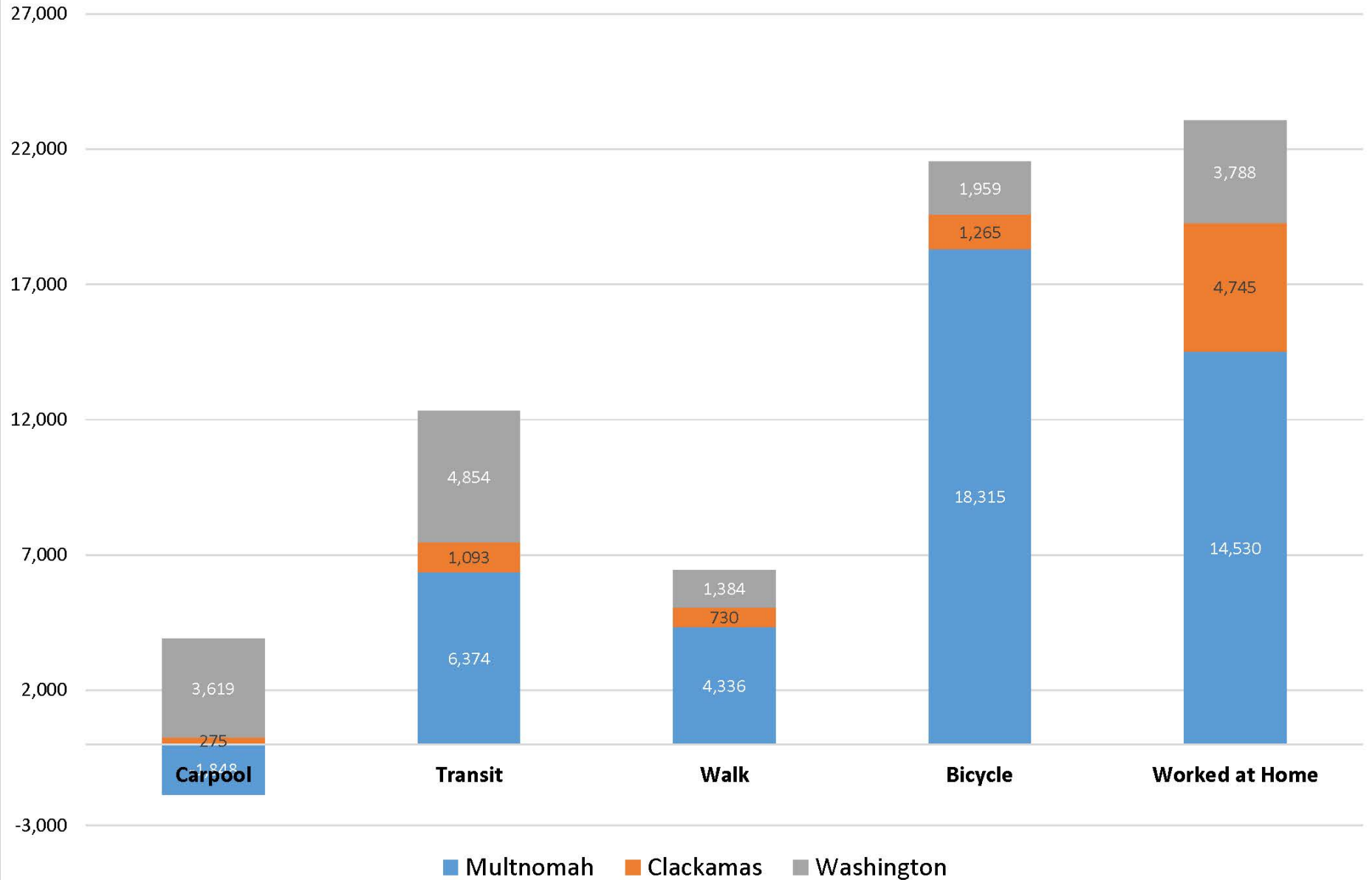
Percentage of change in commute trips by mode

	Drive Alone	Carpool	Transit	Walk	Bicycle	Worked at Home	Other	Total
Multnomah	24.4%	-3.2%	11.0%	7.5%	31.6%	25.0%	3.7%	100.0%
Clackamas	54.9%	1.4%	5.5%	3.7%	6.4%	23.9%	4.3%	100.0%
Washington	63.1%	8.1%	10.9%	3.1%	4.4%	8.5%	1.9%	100.0%
Region	43.4%	1.7%	10.1%	5.3%	17.6%	18.8%	3.1%	100.0%

Change in number of commute trips by mode

	Drive Alone	Carpool	Transit	Walk	Bicycle	Worked at Home	Other	Total
Multnomah	14,162	-1,848	6,374	4,336	18,315	14,530	2,144	58,013
Clackamas	10,910	275	1,093	730	1,265	4,745	850	19,868
Washington	28,125	3,619	4,854	1,384	1,959	3,788	831	44,560
Region	53,197	2,046	12,321	6,450	21,539	23,063	3,825	122,441

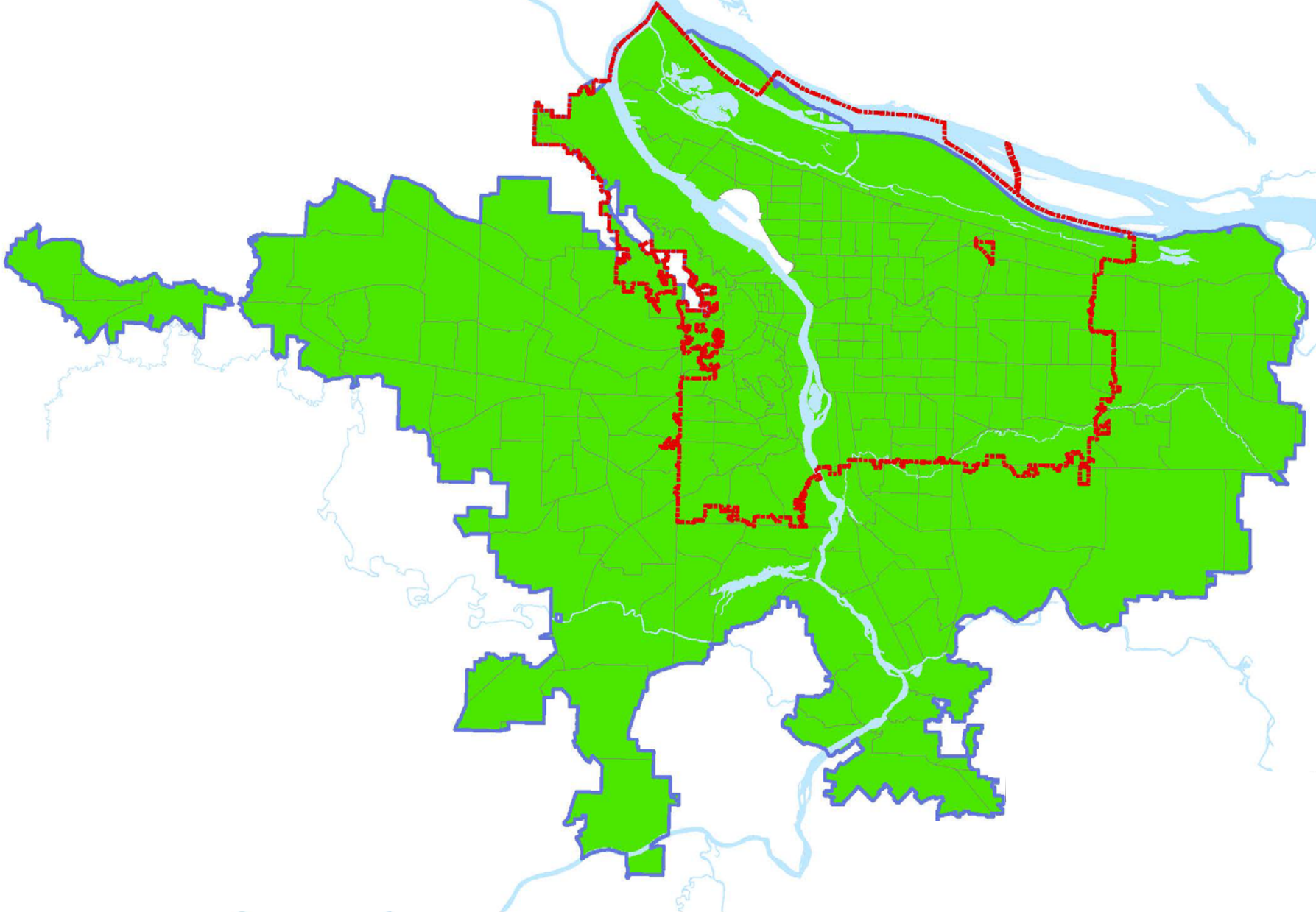
Change in number of regional commuters by non-SOV mode 2000-2014



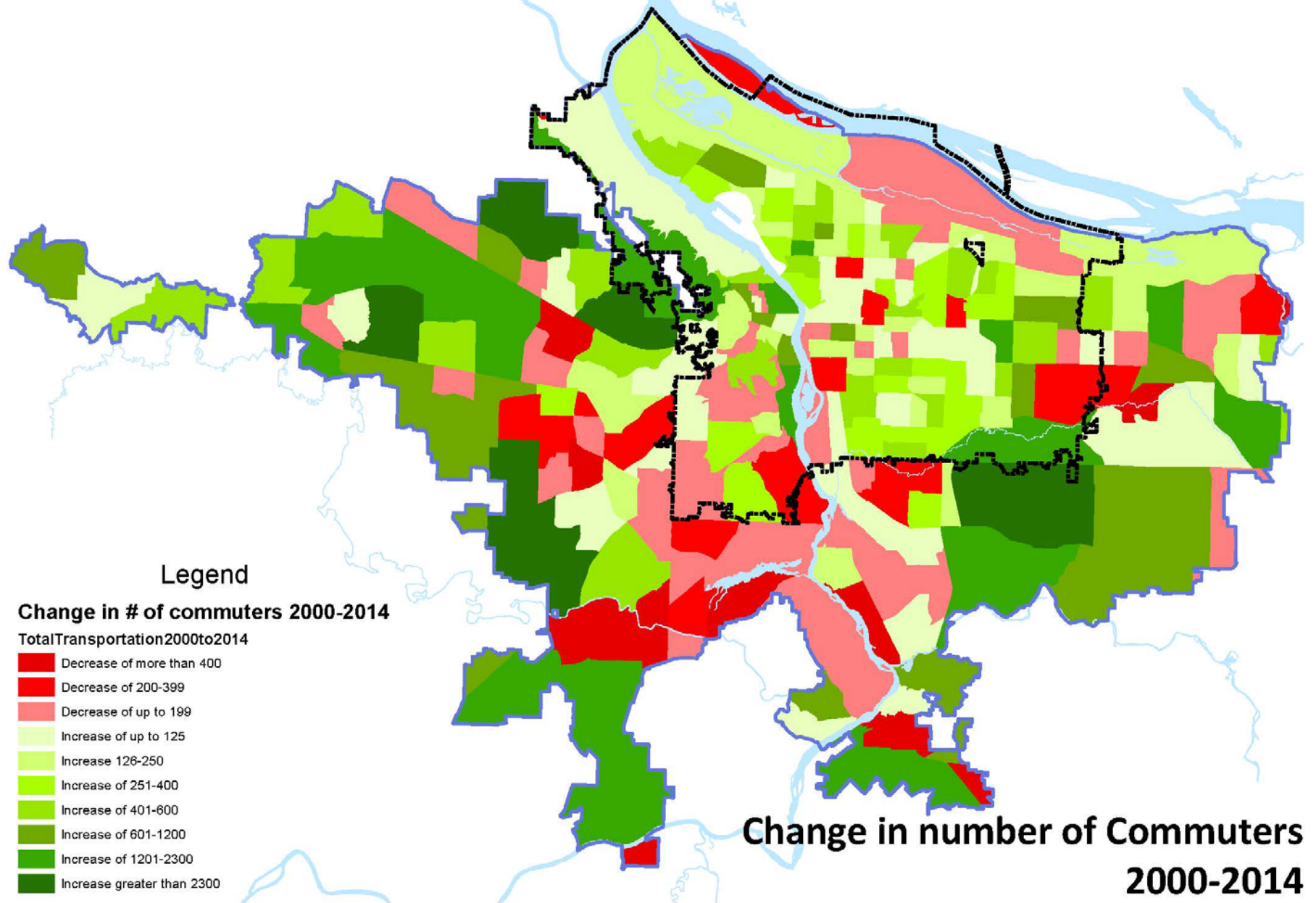
Maps

**Portland Metropolitan Region
within the urban growth boundary**

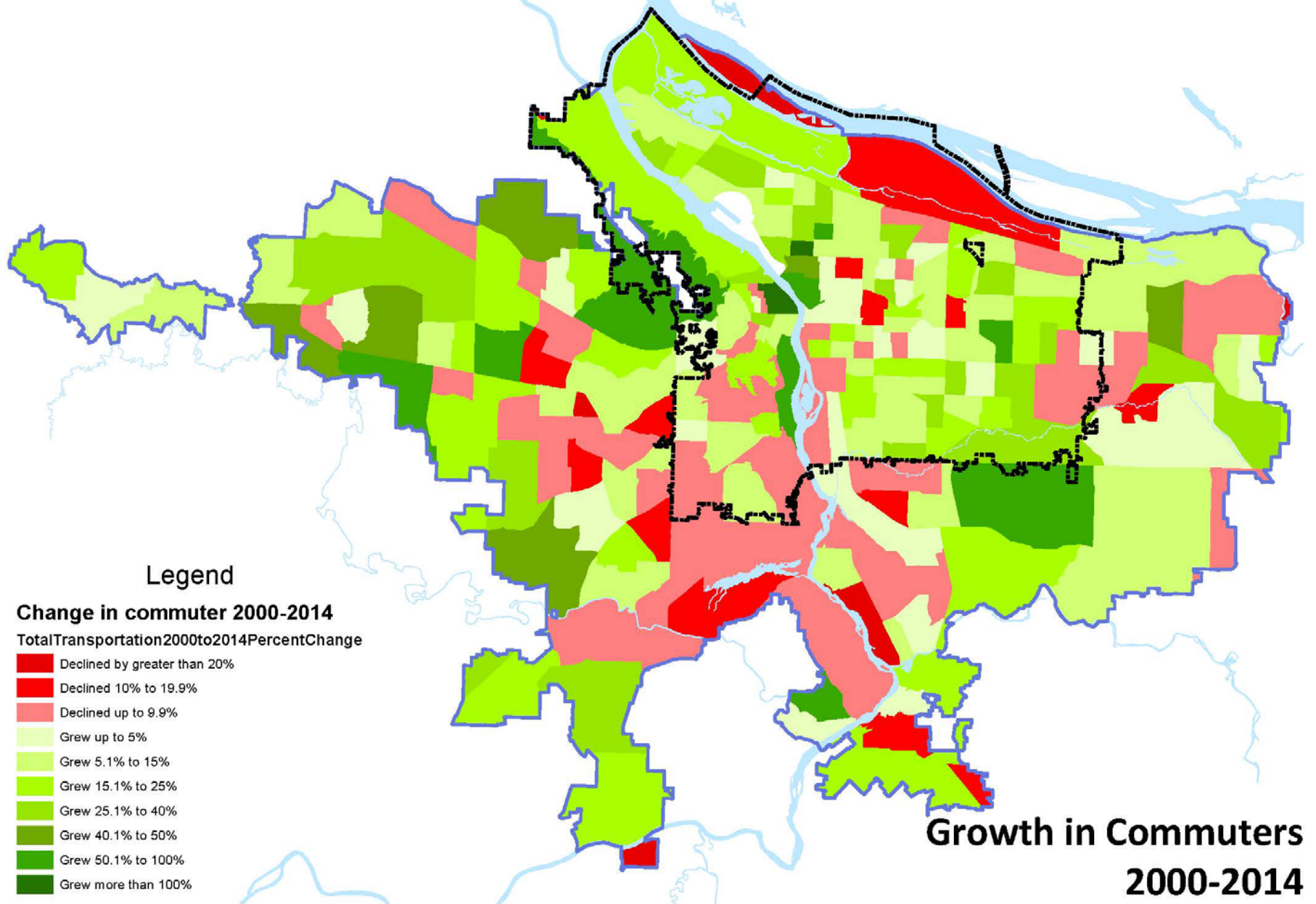
**Change in Commute behavior
2000-2014 by Census Tract**



Portland Metropolitan Region within the urban growth boundary

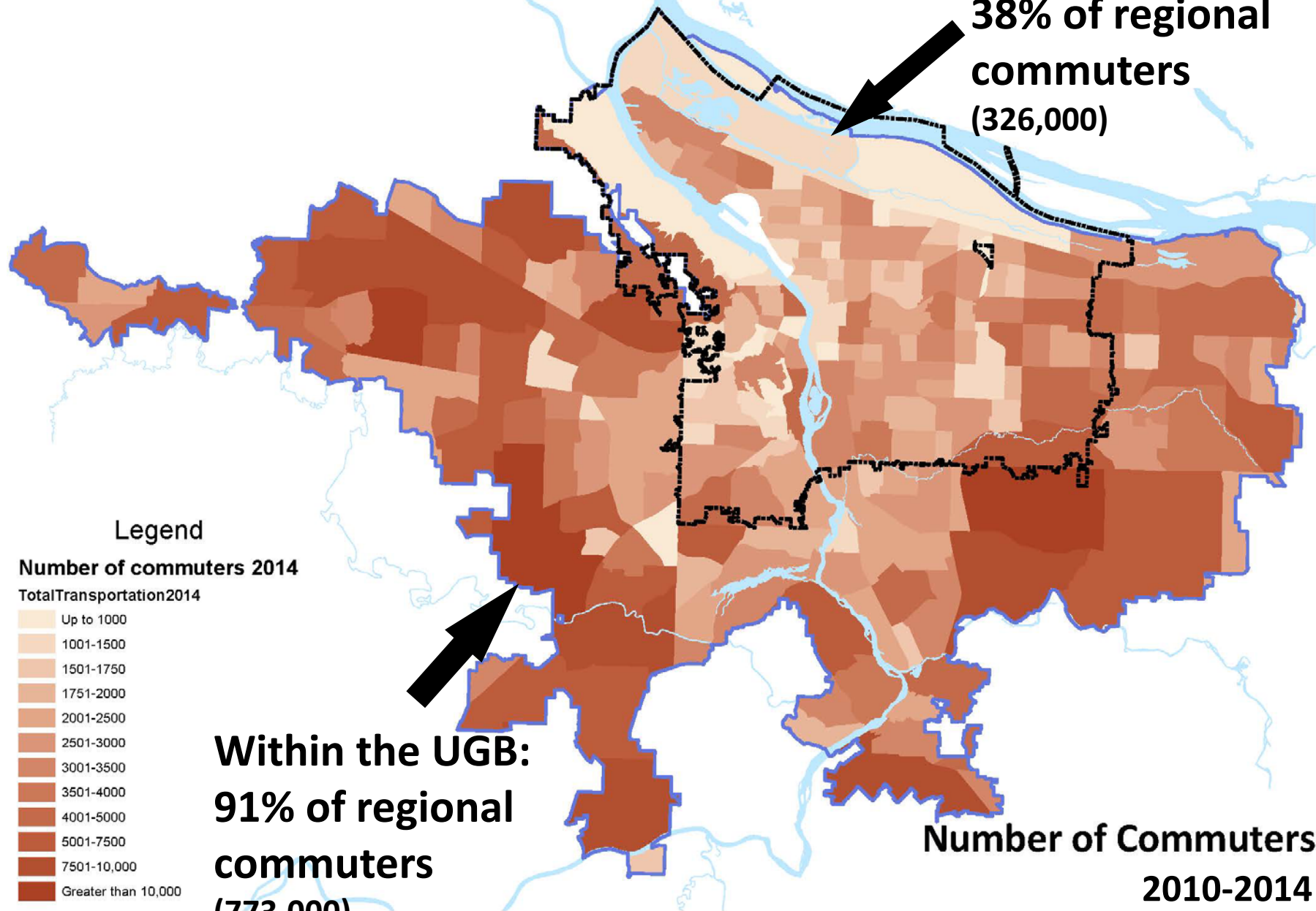


Portland Metropolitan Region within the urban growth boundary



**Portland Metropolitan Region
within the urban growth boundary**

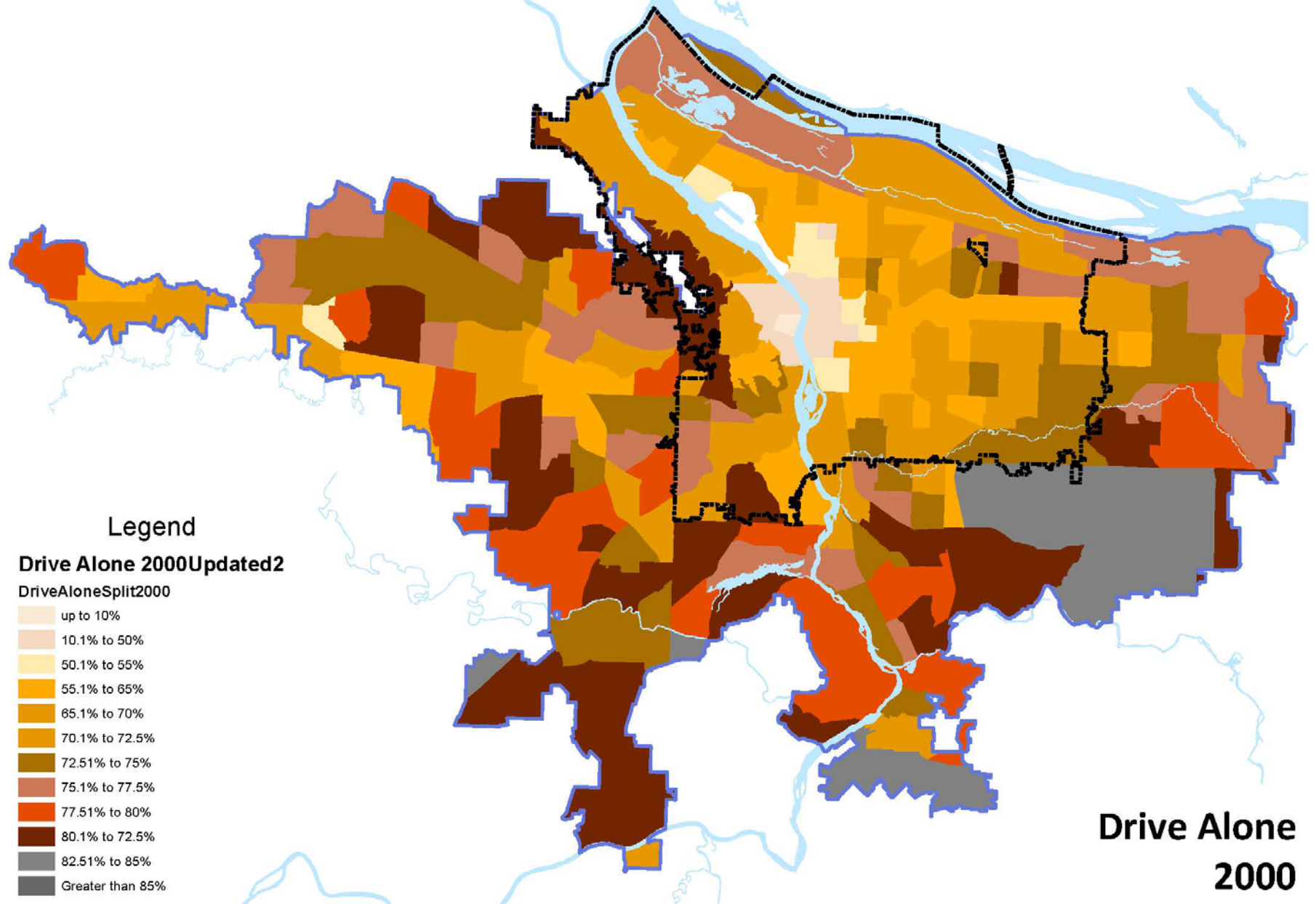
**City of Portland:
38% of regional
commuters
(326,000)**



Drive Alone Maps

Portland Metropolitan Region within the urban growth boundary

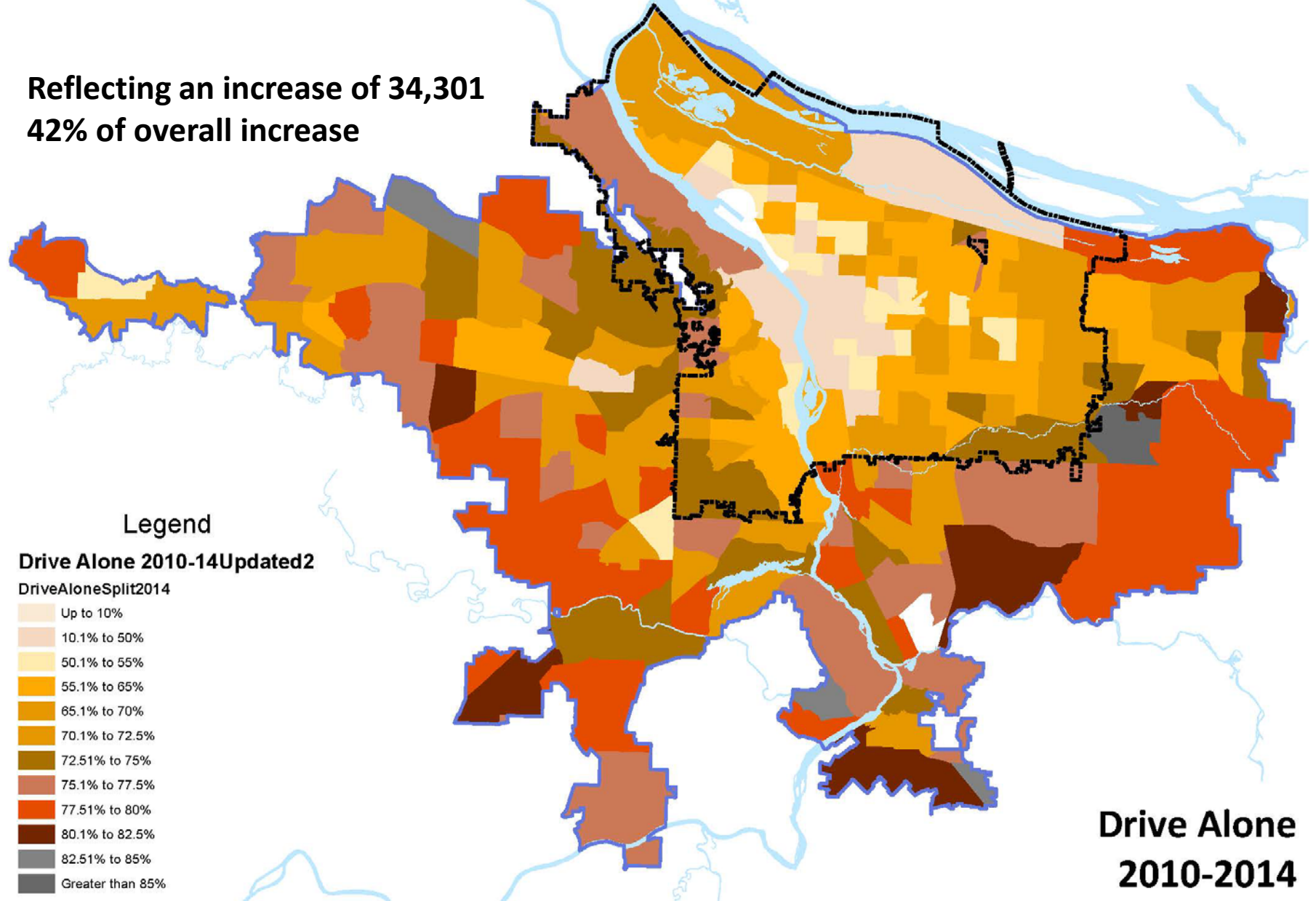
Commute behavior by Census Tract



Portland Metropolitan Region within the urban growth boundary

Commute behavior by Census Tract

Reflecting an increase of 34,301
42% of overall increase



Legend

Drive Alone 2010-14 Updated2

DriveAloneSplit2014

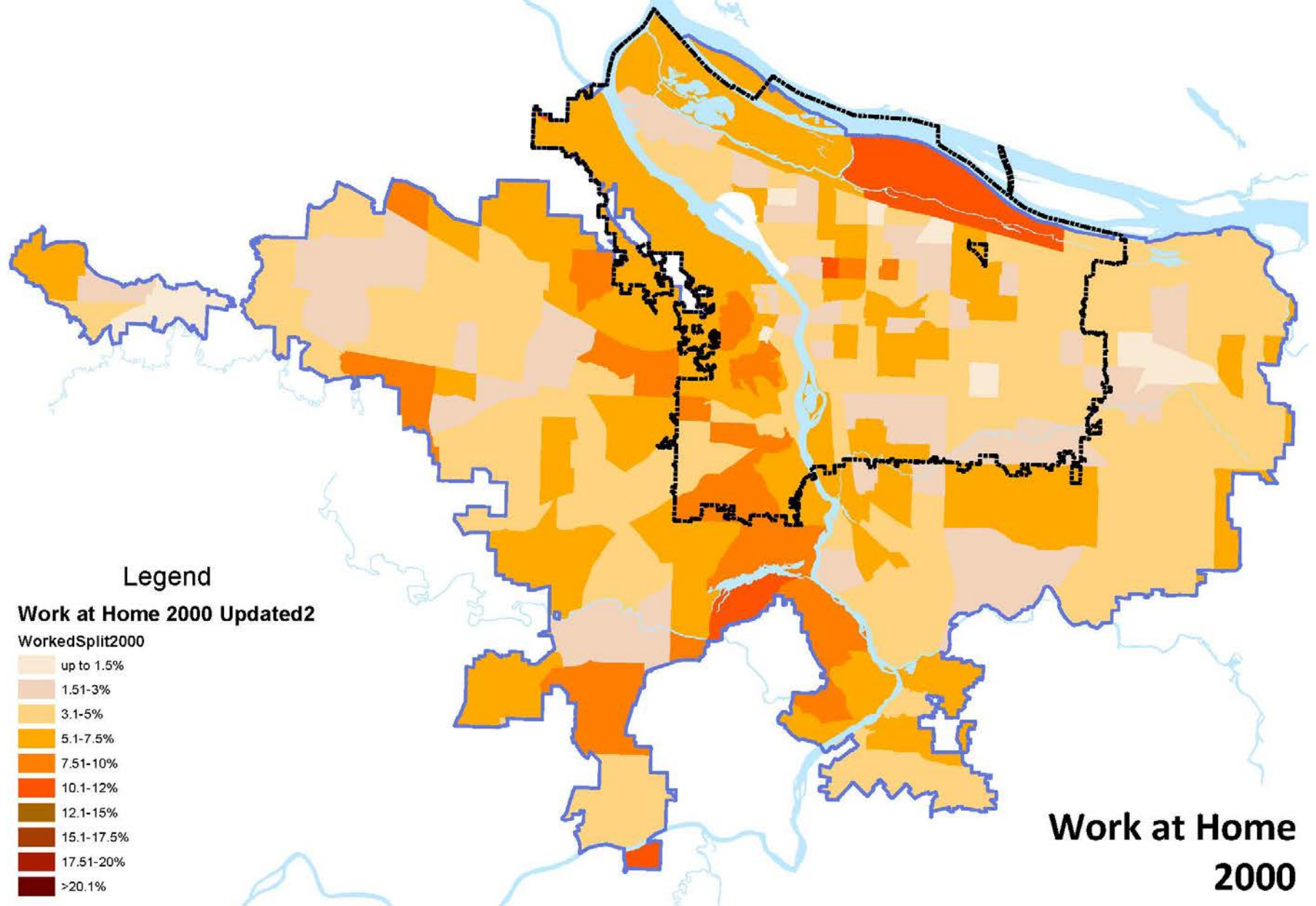
- Up to 10%
- 10.1% to 50%
- 50.1% to 55%
- 55.1% to 65%
- 65.1% to 70%
- 70.1% to 72.5%
- 72.51% to 75%
- 75.1% to 77.5%
- 77.51% to 80%
- 80.1% to 82.5%
- 82.51% to 85%
- Greater than 85%

Drive Alone
2010-2014

Work at Home Maps

Portland Metropolitan Region within the urban growth boundary

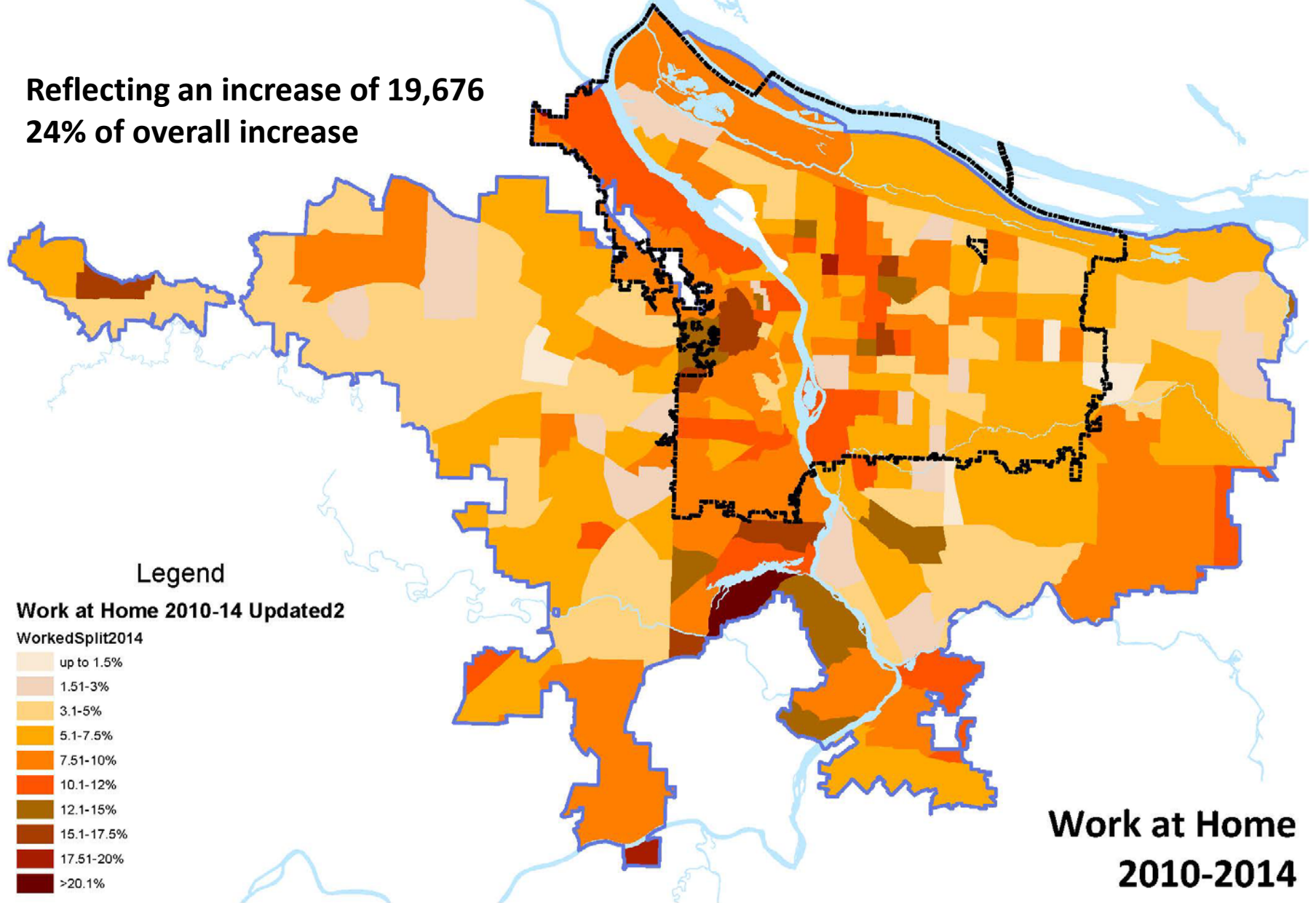
Commute behavior by Census Tract



Portland Metropolitan Region within the urban growth boundary

Commute behavior by Census Tract

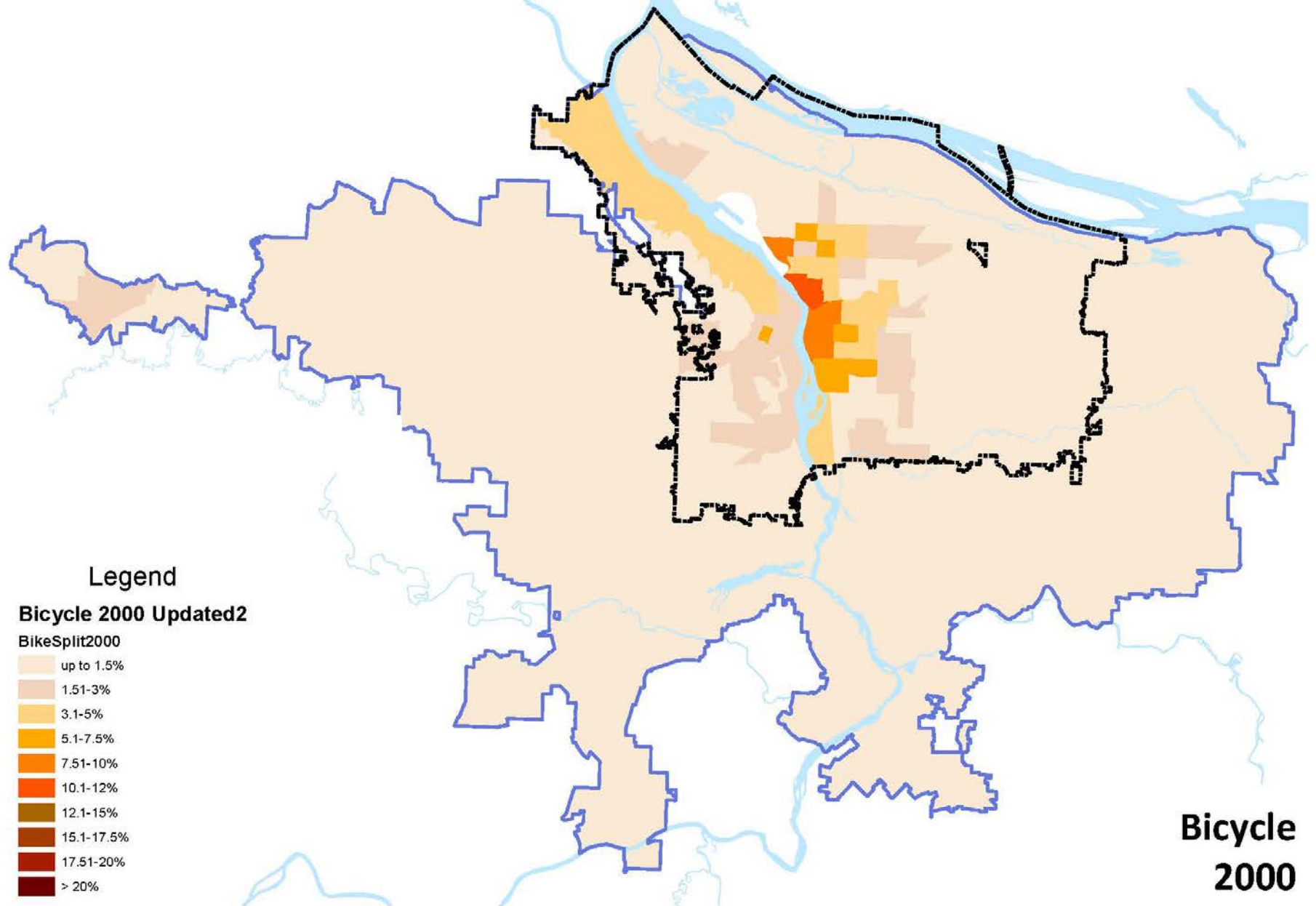
Reflecting an increase of 19,676
24% of overall increase



Bicycling Maps

Portland Metropolitan Region within the urban growth boundary

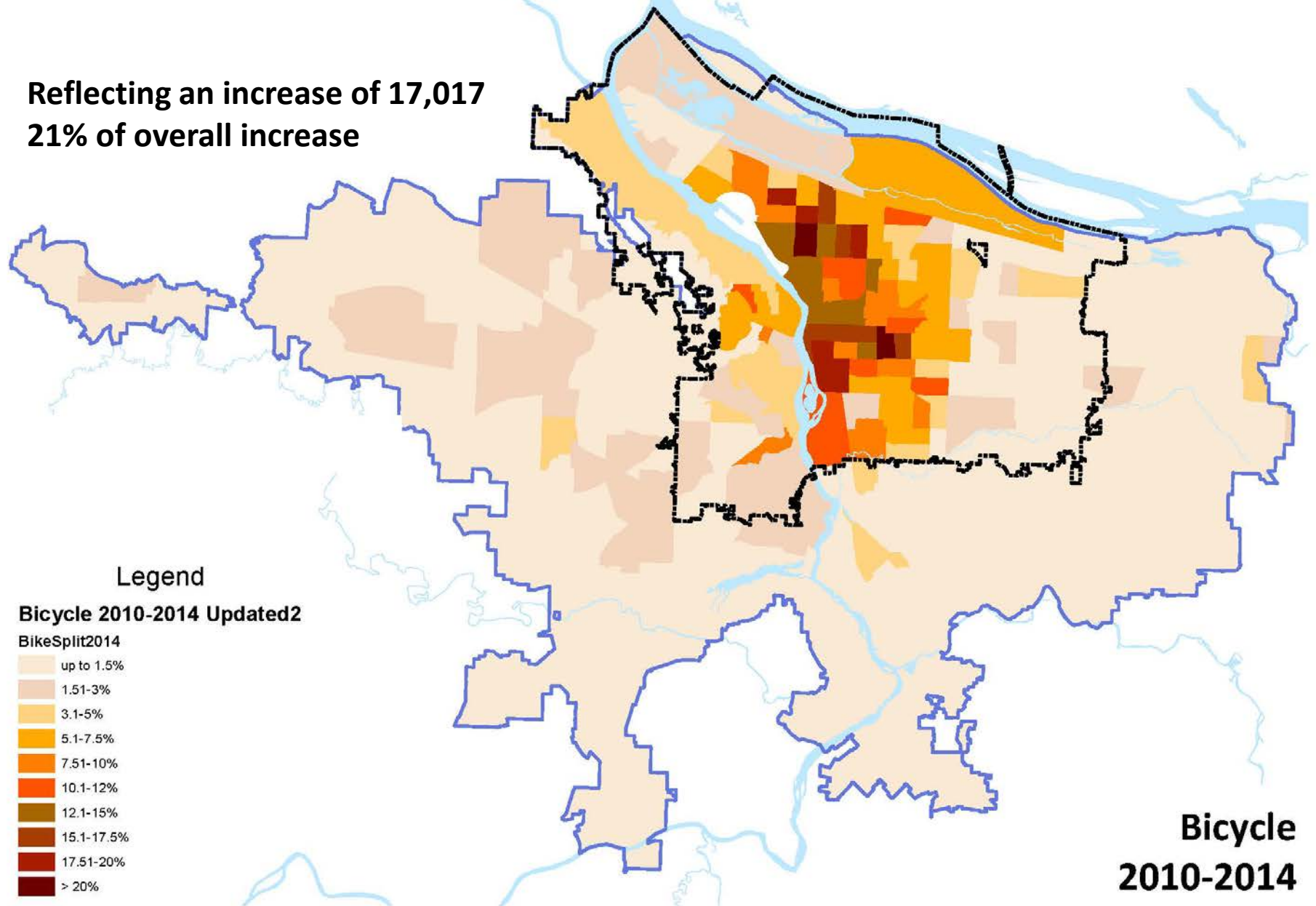
Commute behavior by Census Tract



Portland Metropolitan Region within the urban growth boundary

Commute behavior by Census Tract

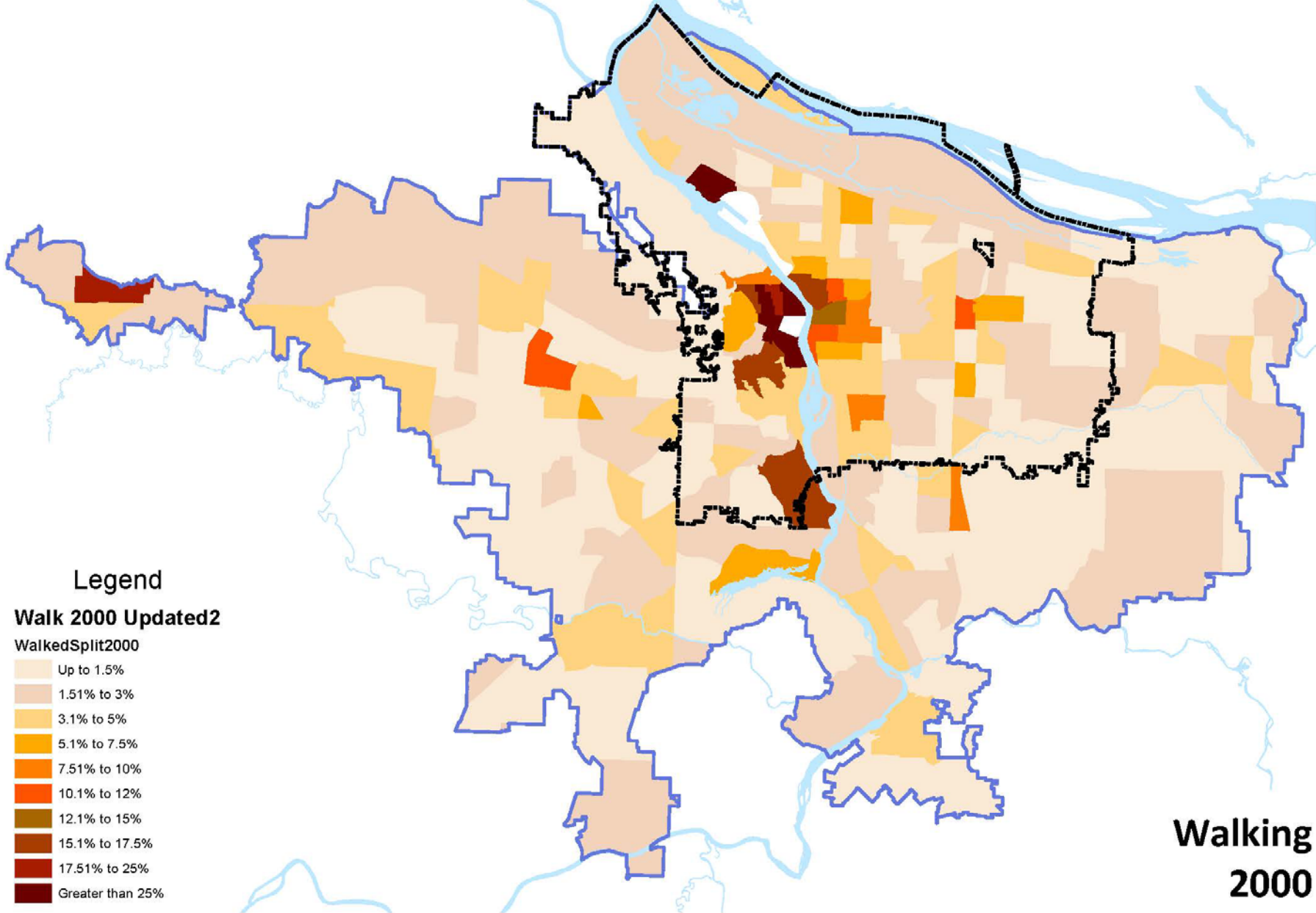
Reflecting an increase of 17,017
21% of overall increase



Walking Maps

Portland Metropolitan Region within the urban growth boundary

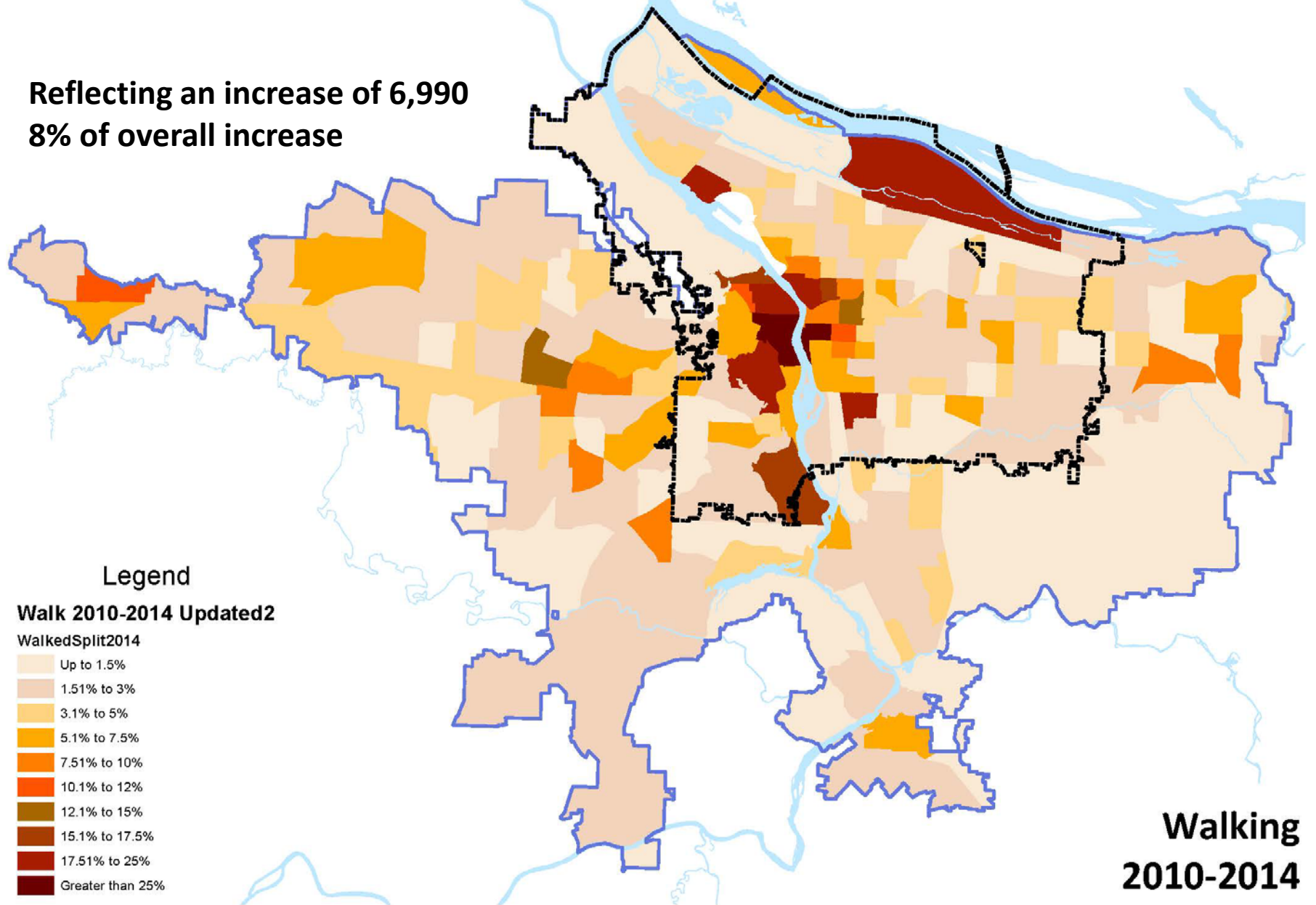
Commute behavior by Census Tract



Portland Metropolitan Region within the urban growth boundary

Commute behavior by Census Tract

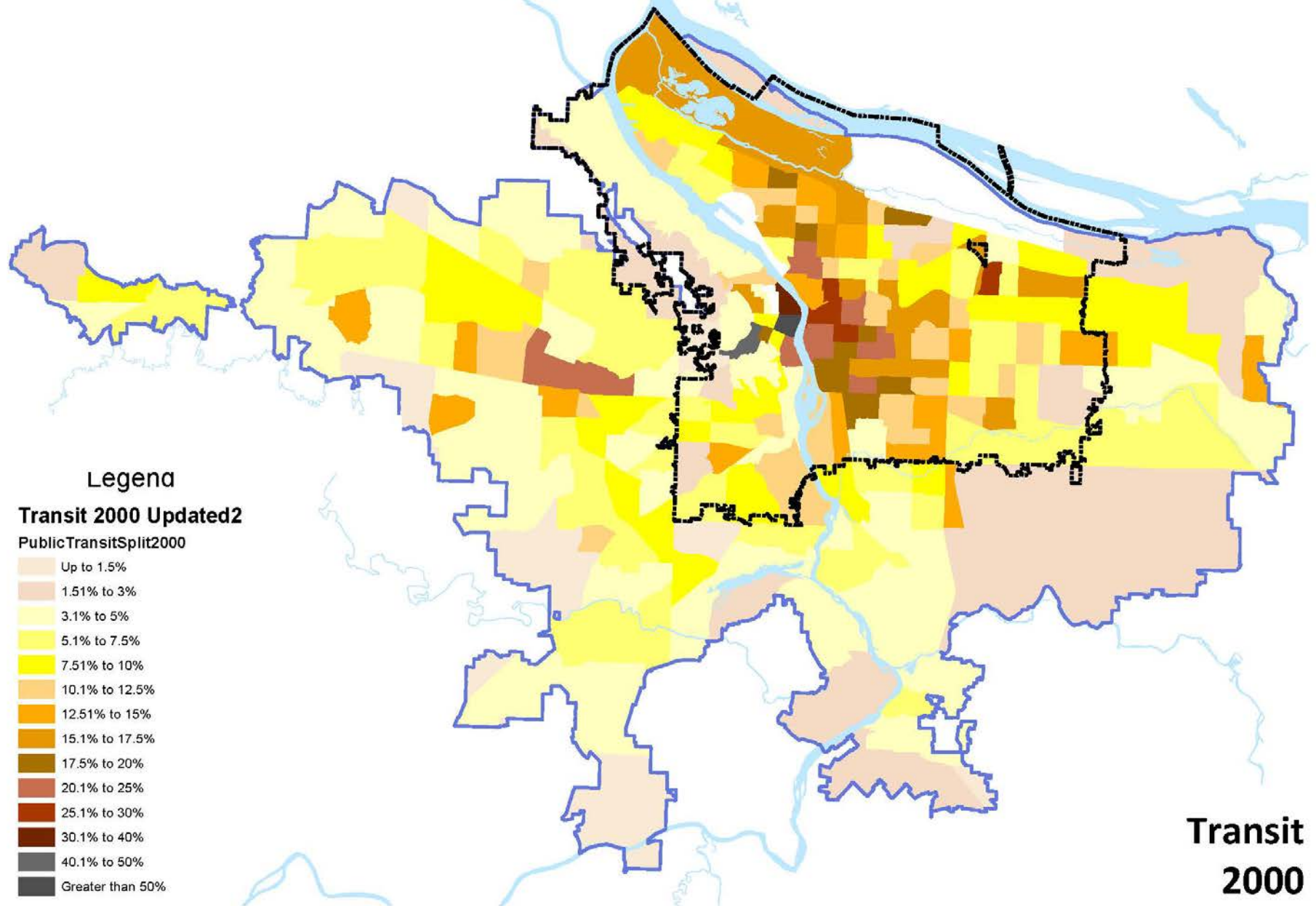
Reflecting an increase of 6,990
8% of overall increase



Transit Maps

Portland Metropolitan Region within the urban growth boundary

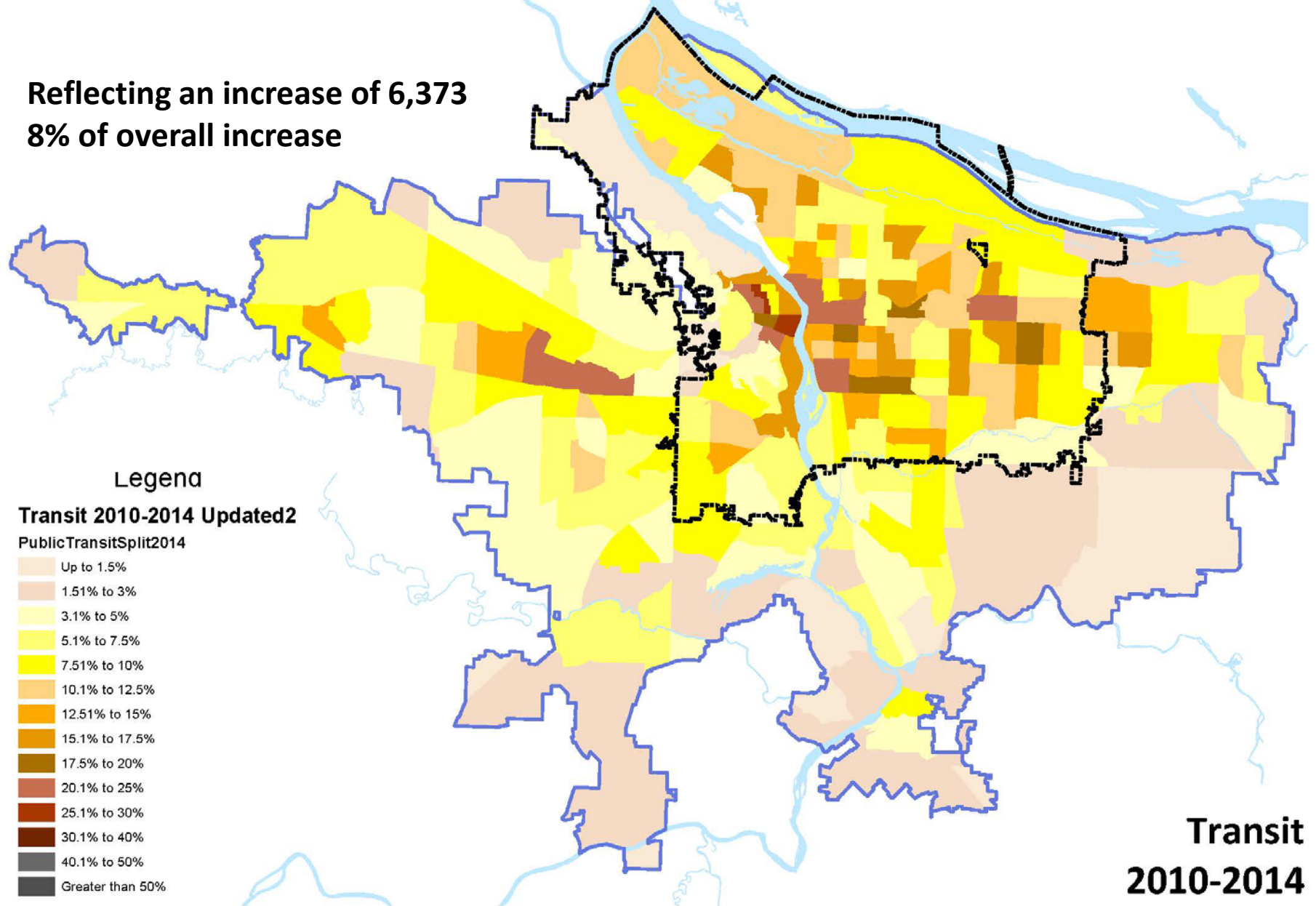
Commute behavior by Census Tract



Portland Metropolitan Region within the urban growth boundary

Commute behavior by Census Tract

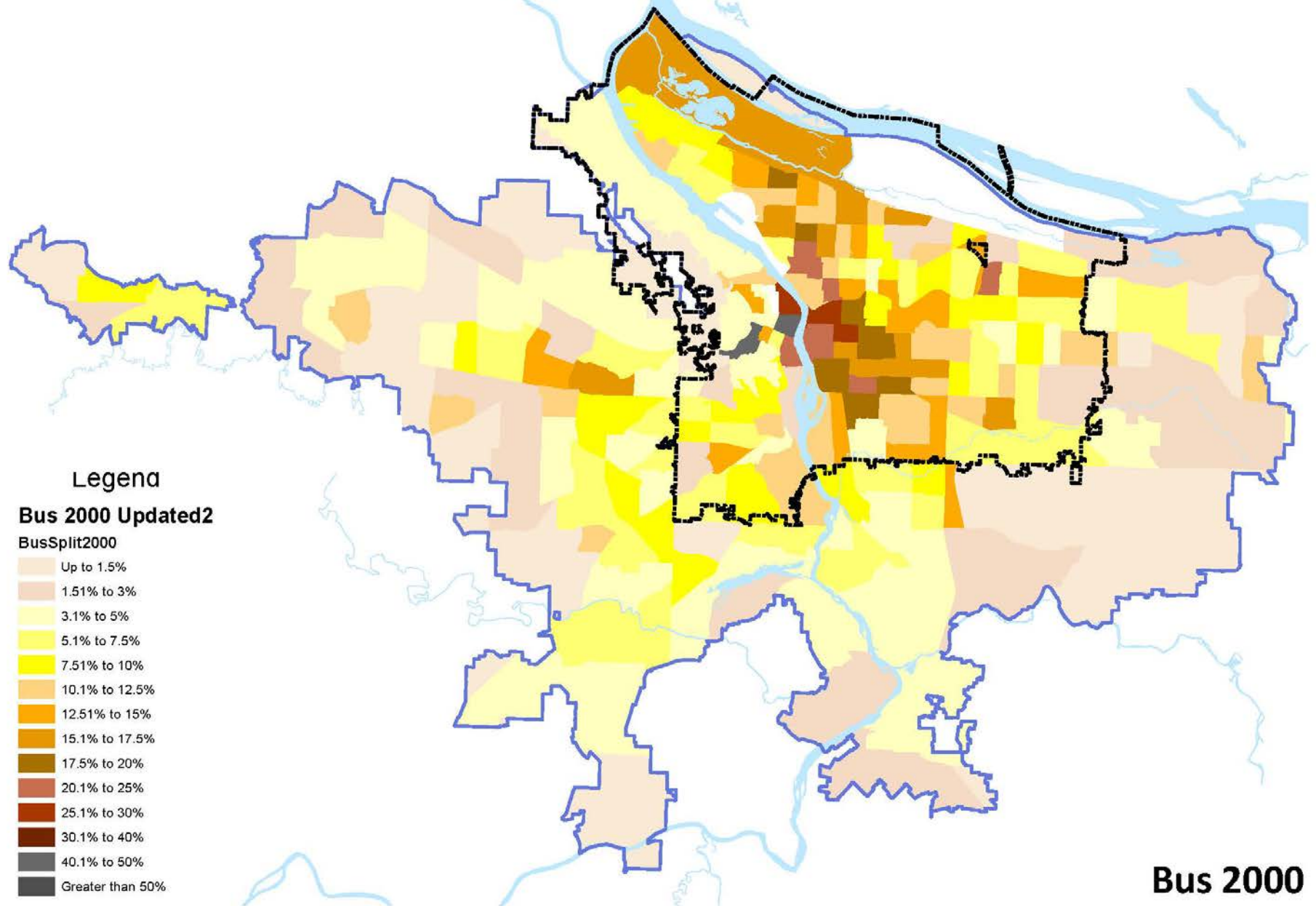
Reflecting an increase of 6,373
8% of overall increase



**Transit
2010-2014**

Portland Metropolitan Region within the urban growth boundary

Commute behavior by Census Tract

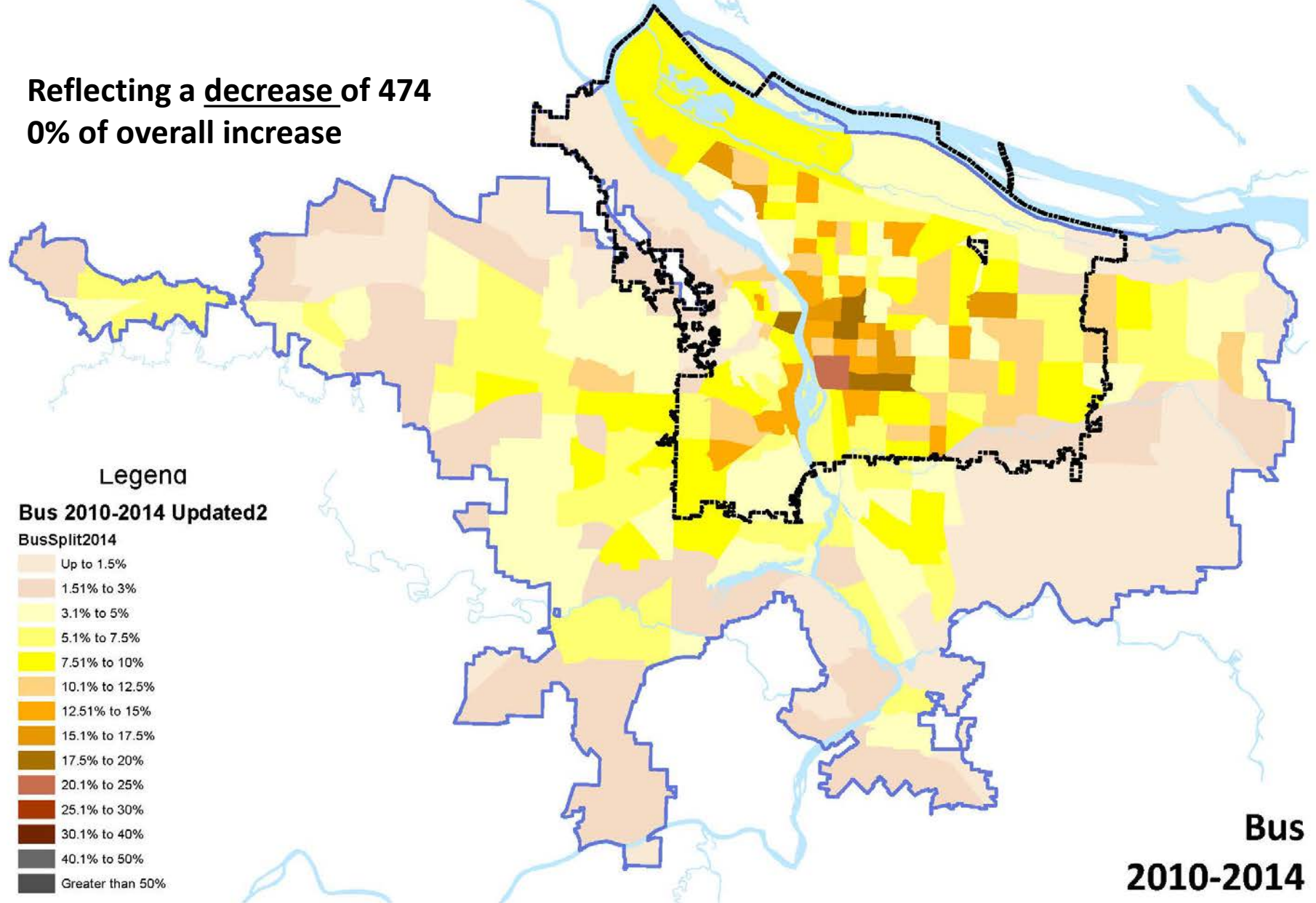


Bus 2000

Portland Metropolitan Region within the urban growth boundary

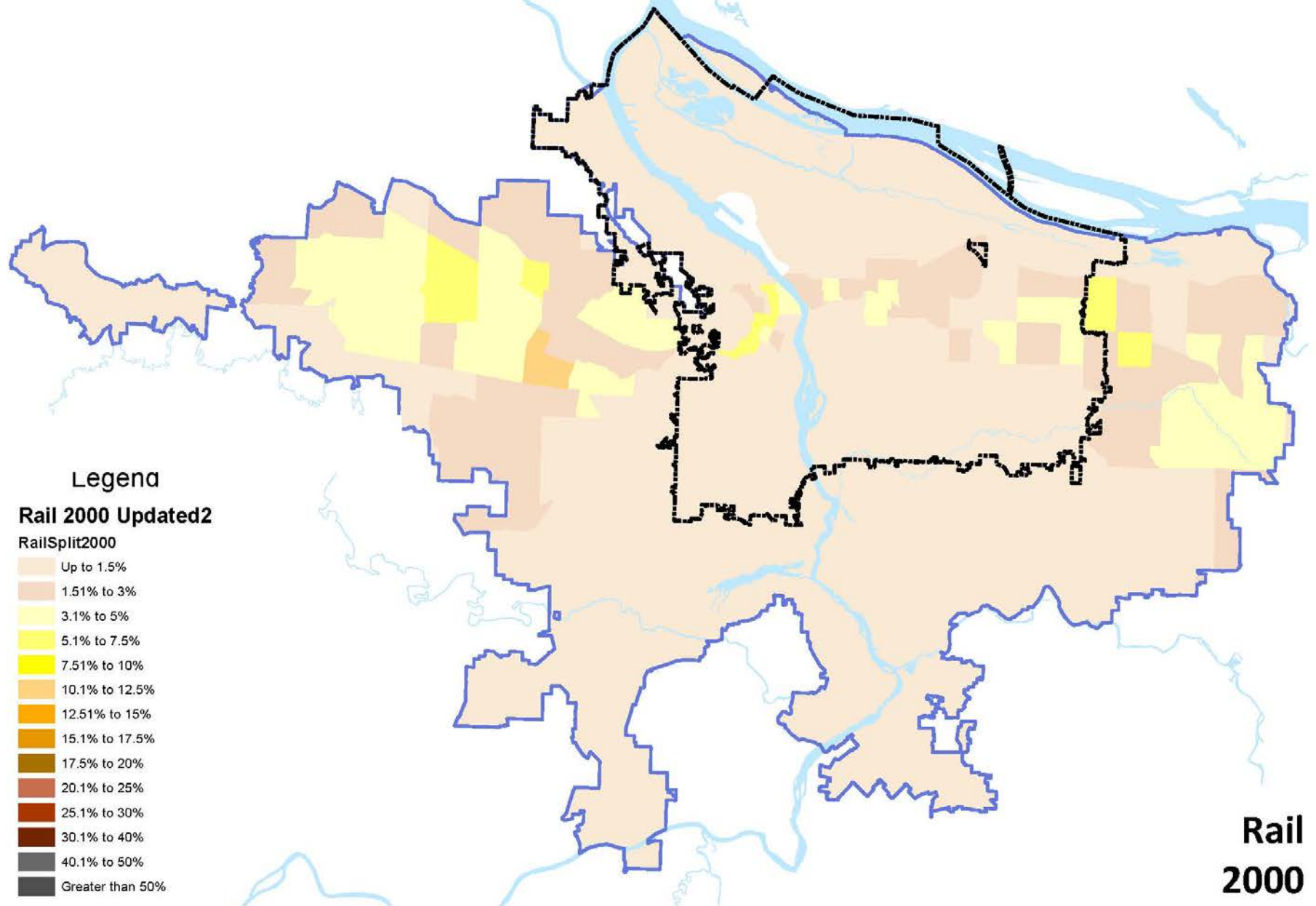
Commute behavior by Census Tract

Reflecting a decrease of 474
0% of overall increase



Portland Metropolitan Region within the urban growth boundary

Commute behavior by Census Tract

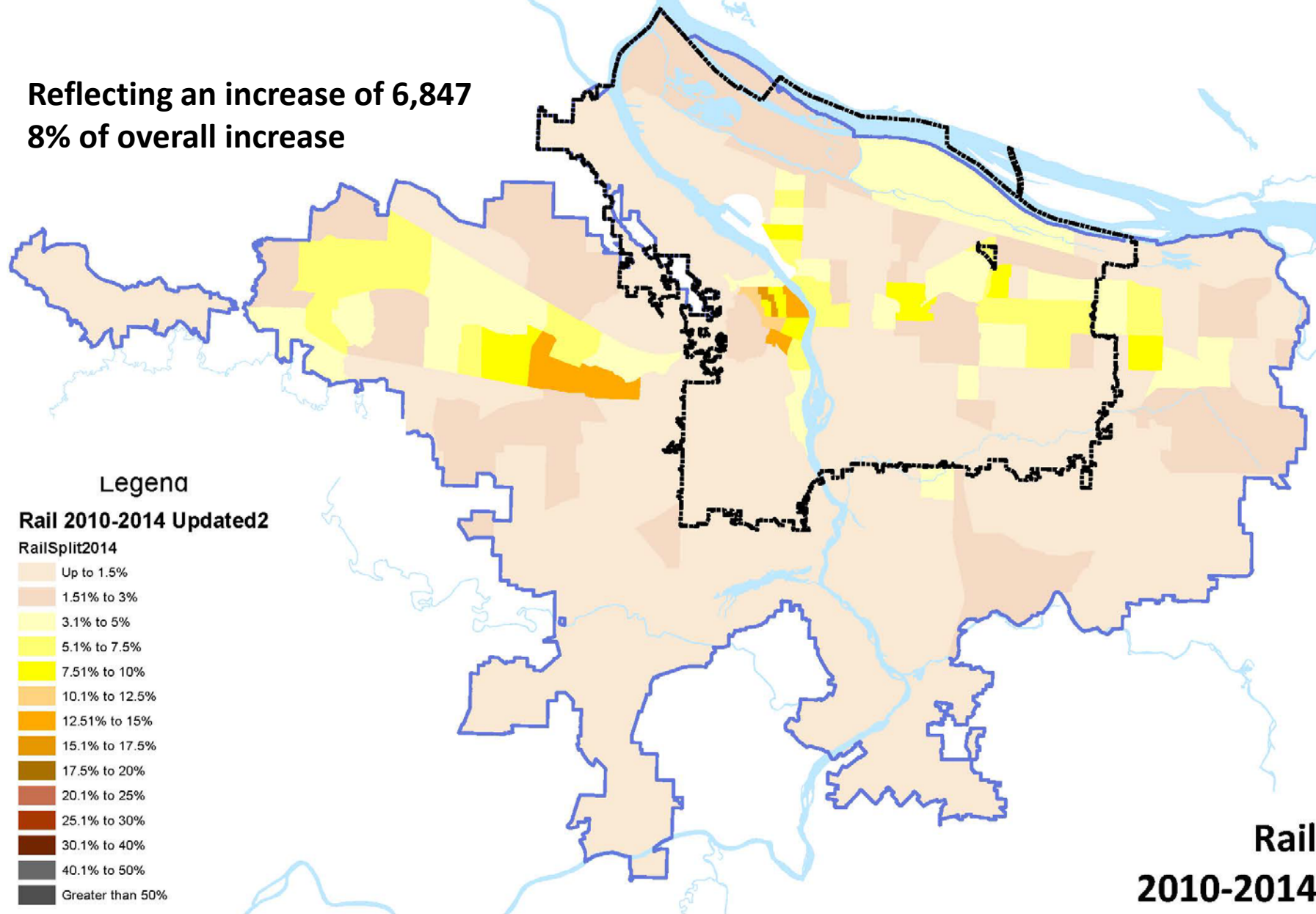


**Rail
2000**

Portland Metropolitan Region within the urban growth boundary

Commute behavior by Census Tract

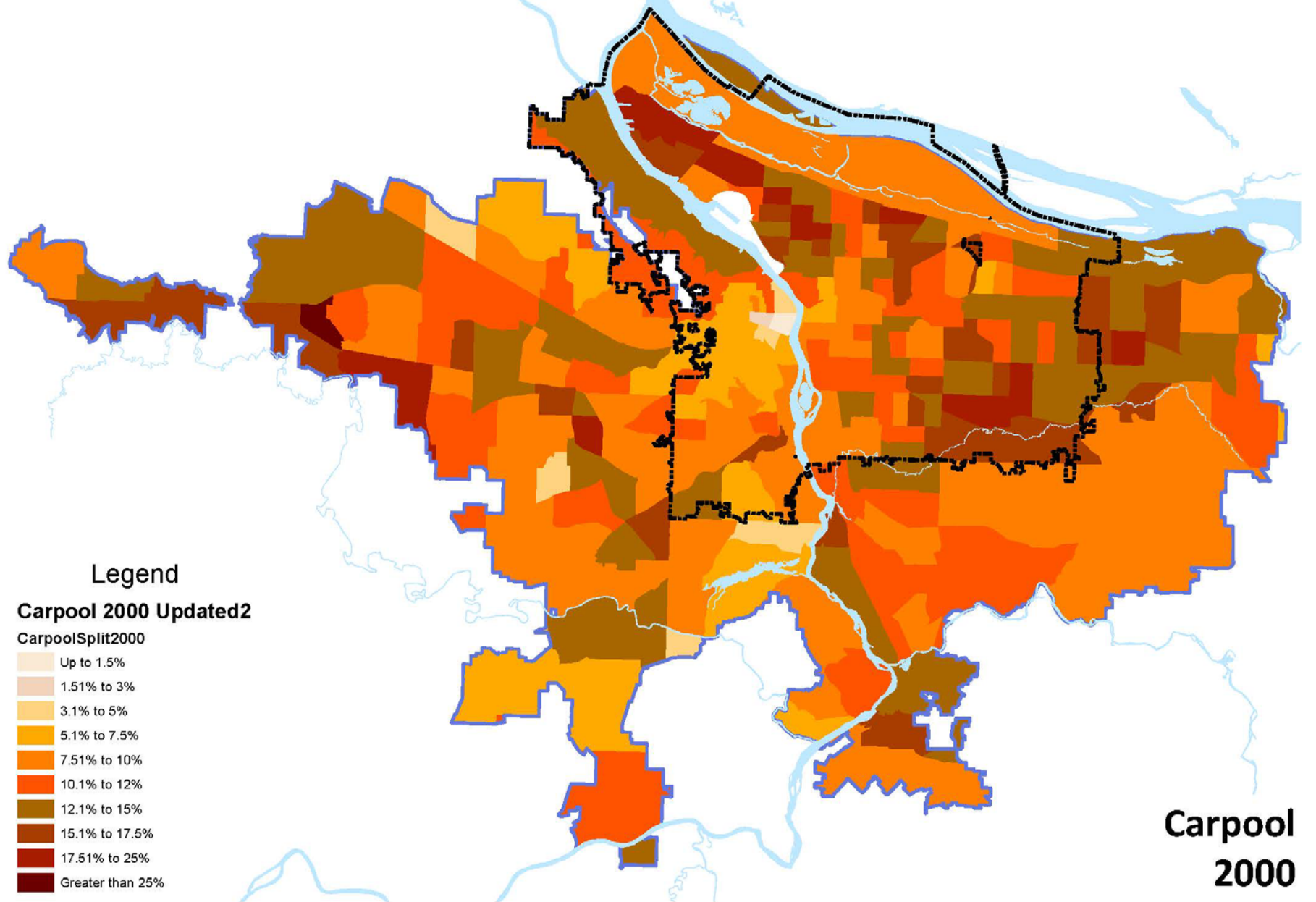
Reflecting an increase of 6,847
8% of overall increase



Carpool Maps

Portland Metropolitan Region within the urban growth boundary

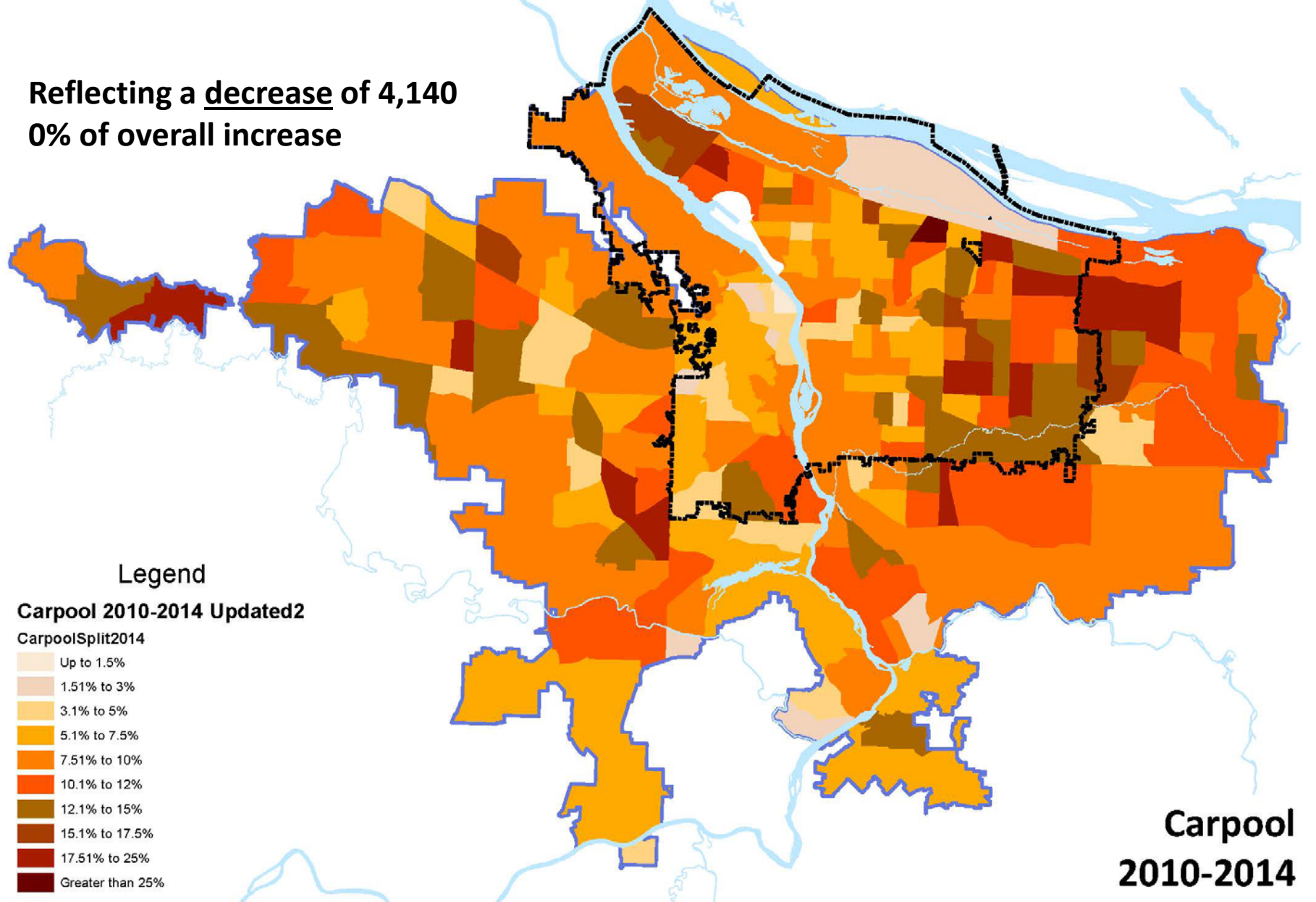
Comute behavior by Census Tract



Portland Metropolitan Region within the urban growth boundary

Comute behavior by Census Tract

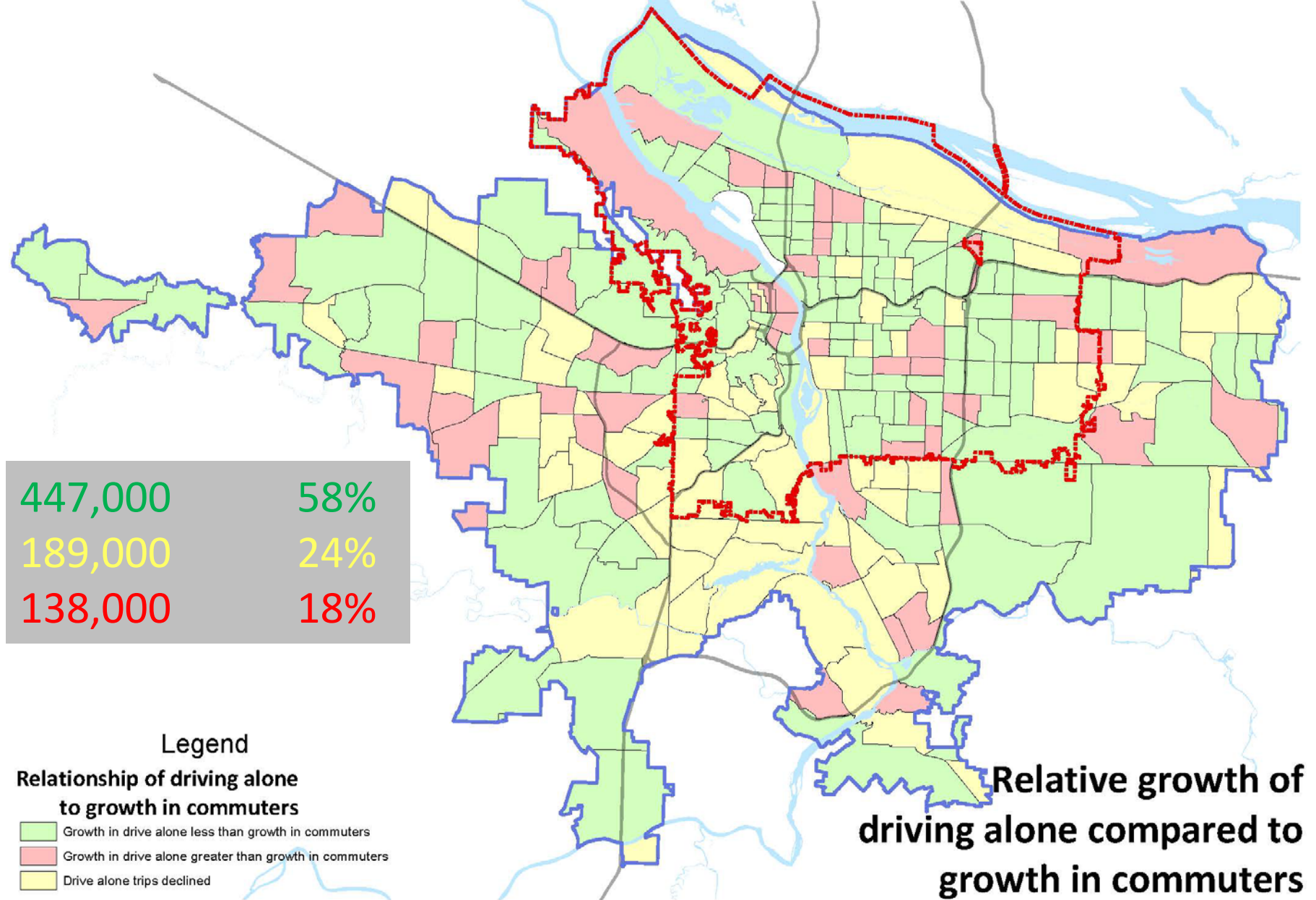
Reflecting a decrease of 4,140
0% of overall increase



Tract Analysis Maps

Portland Metropolitan Region within the urban growth boundary

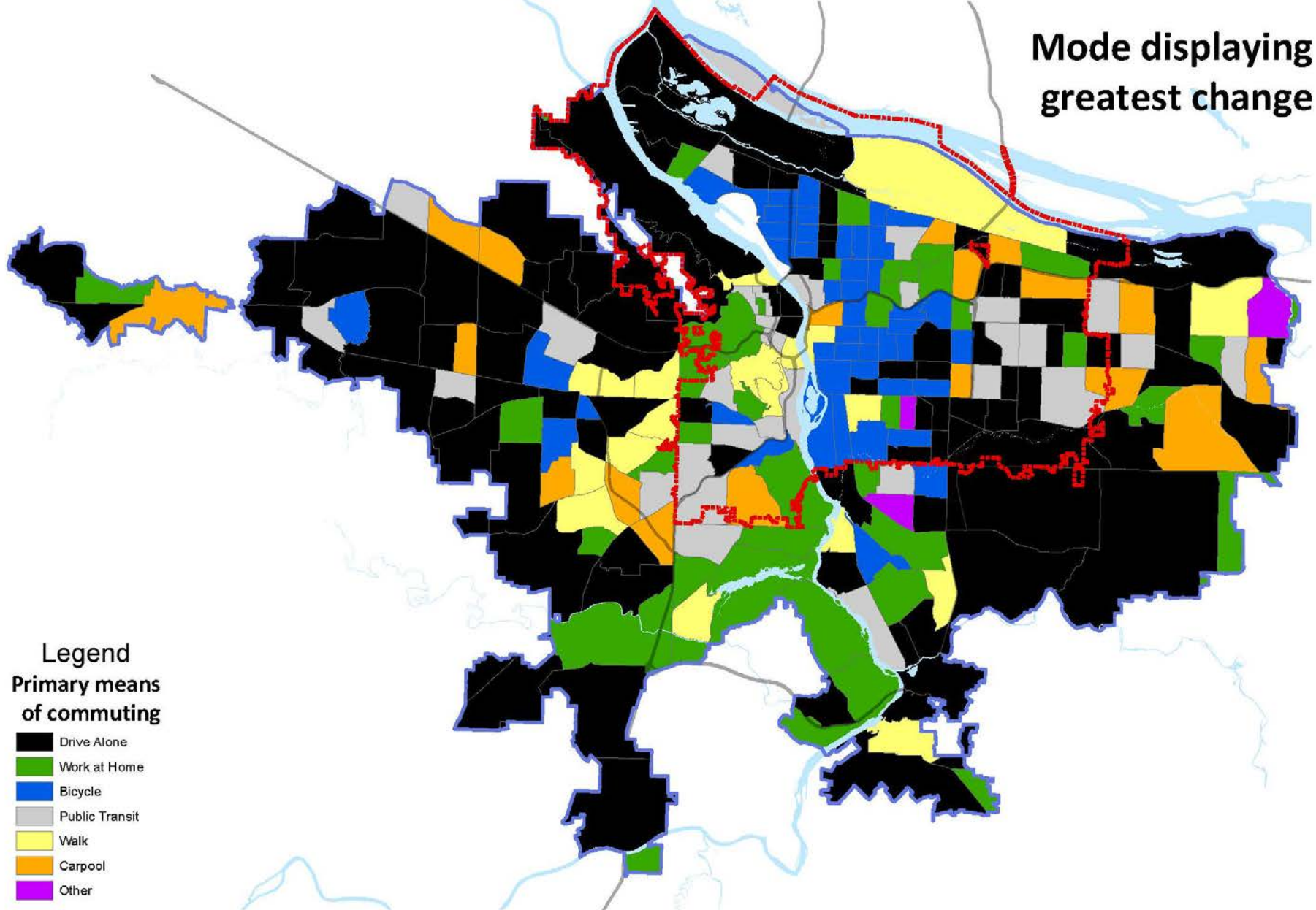
Change in Commute behavior 2000-2014 by Census Tract



Portland Metropolitan Region within the urban growth boundary

Change in Commute behavior 2000-2014 by Census Tract

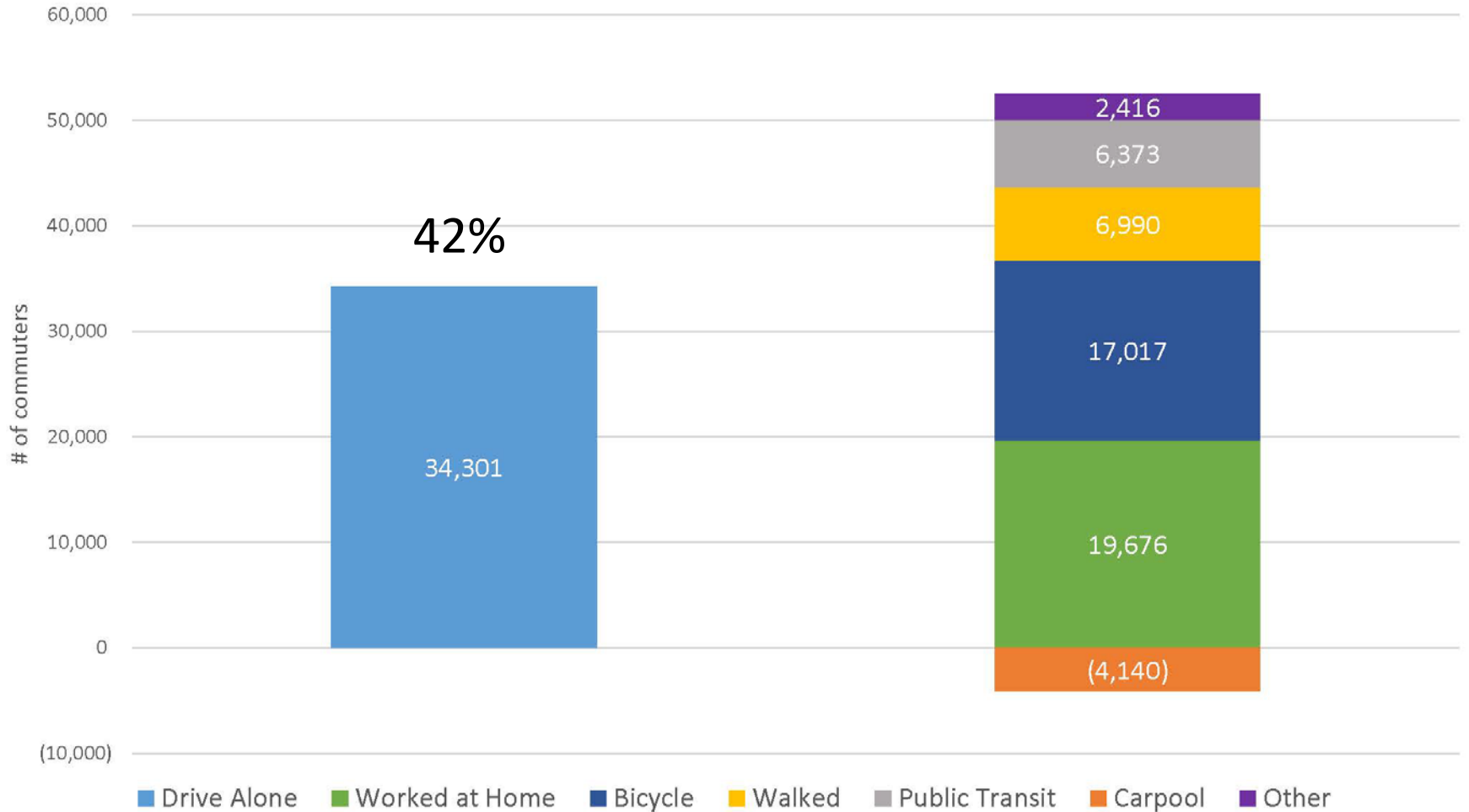
Mode displaying
greatest change



- Legend
Primary means
of commuting
- Drive Alone
 - Work at Home
 - Bicycle
 - Public Transit
 - Walk
 - Carpool
 - Other

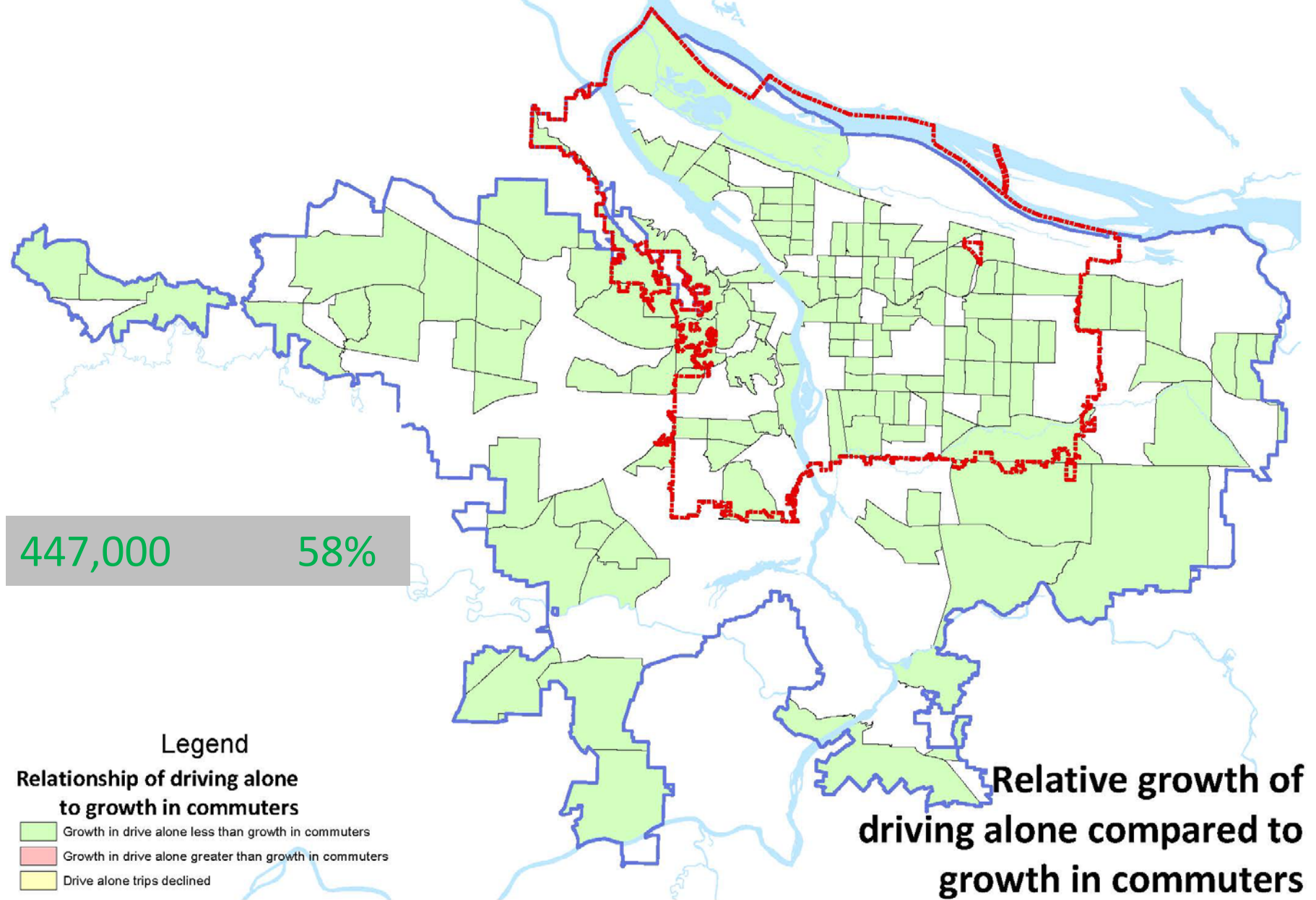
Change in number of commuters by mode in the Urban Growth Boundary (UGB)

2000 (decennial census) to 2010-2014 5-year ACS data



Portland Metropolitan Region within the urban growth boundary

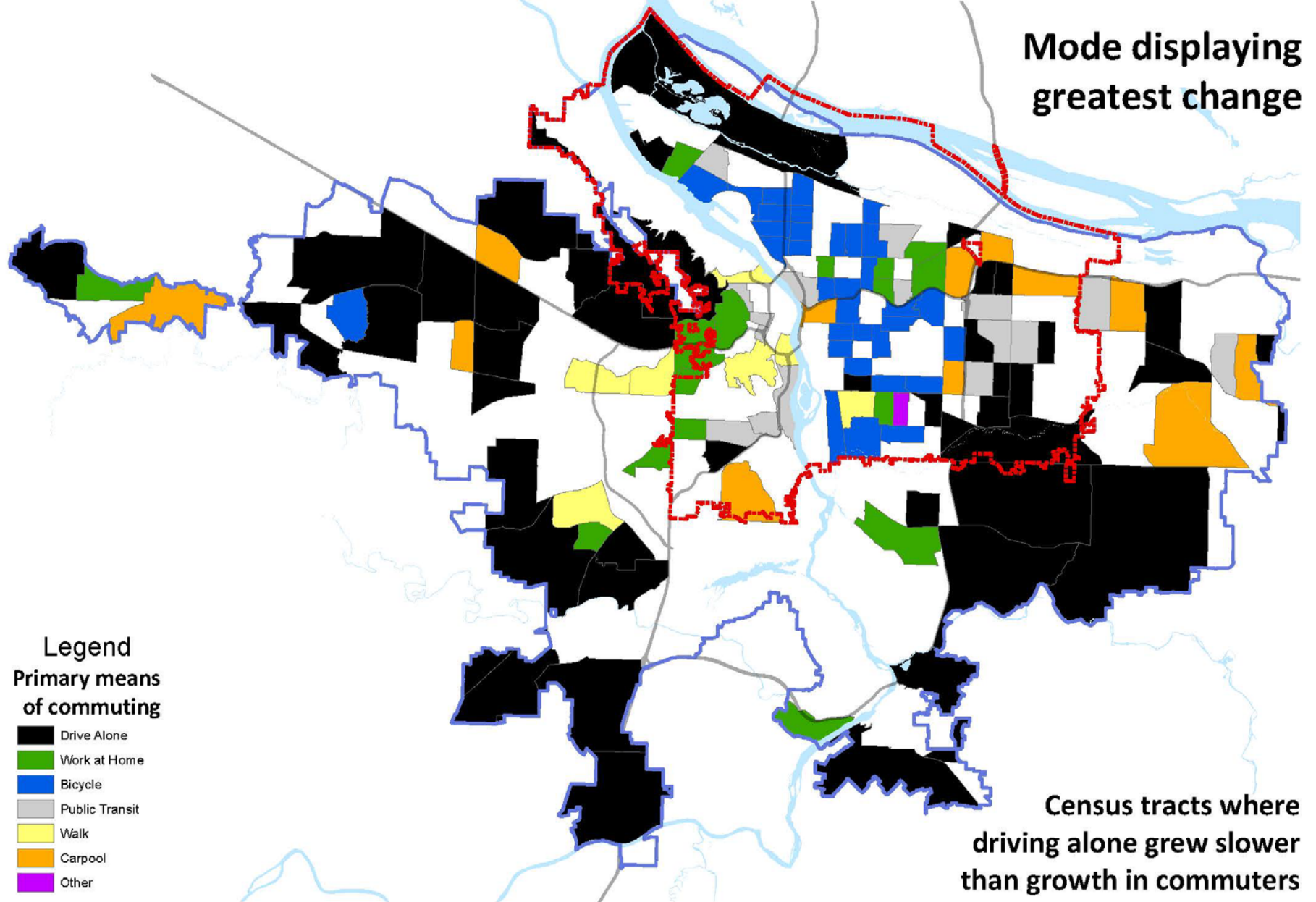
Change in Commute behavior 2000-2014 by Census Tract



Portland Metropolitan Region within the urban growth boundary

Change in Commute behavior 2000-2014 by Census Tract

Mode displaying
greatest change



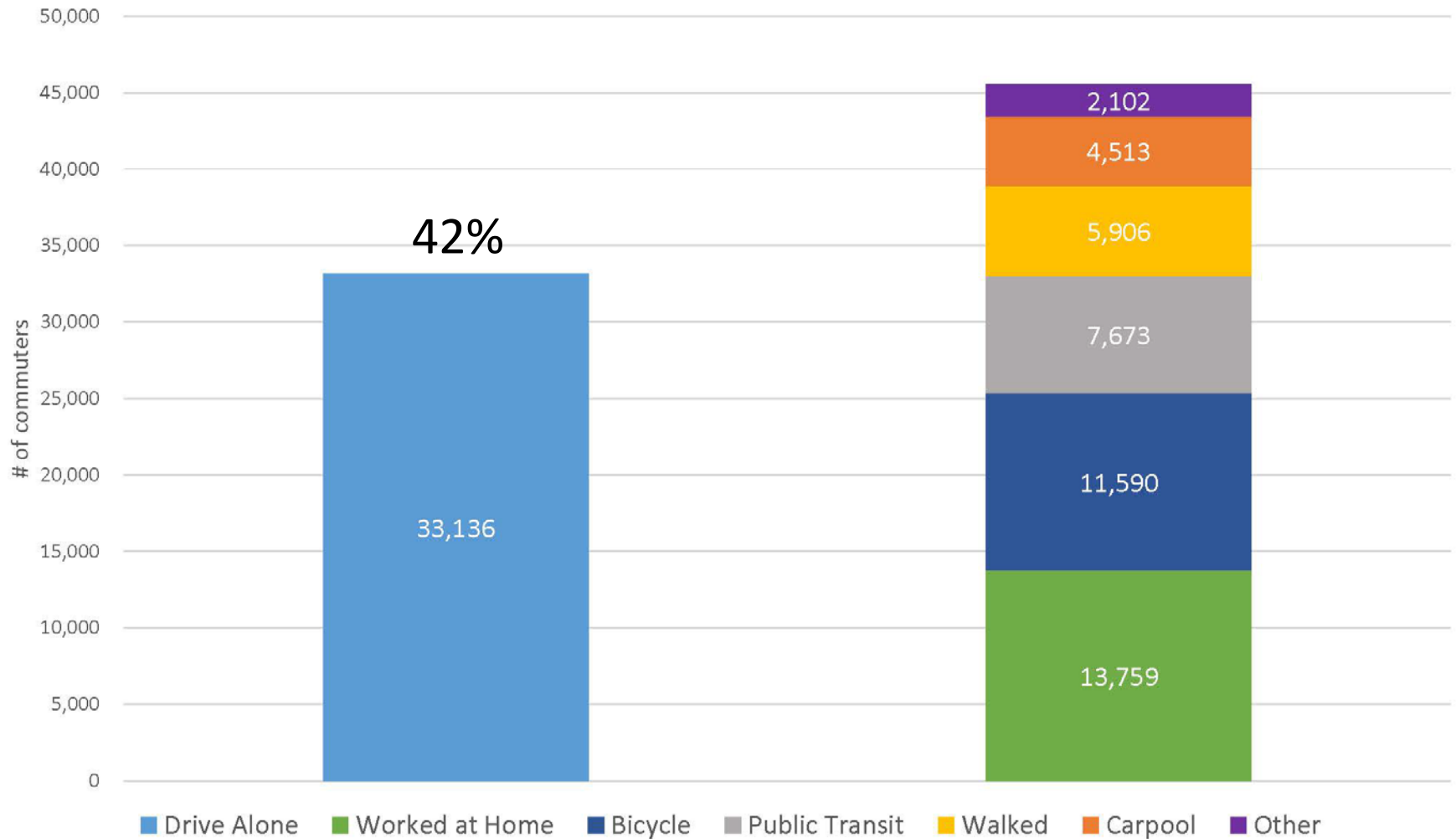
Legend
Primary means
of commuting

- Drive Alone
- Work at Home
- Bicycle
- Public Transit
- Walk
- Carpool
- Other

Census tracts where
driving alone grew slower
than growth in commuters

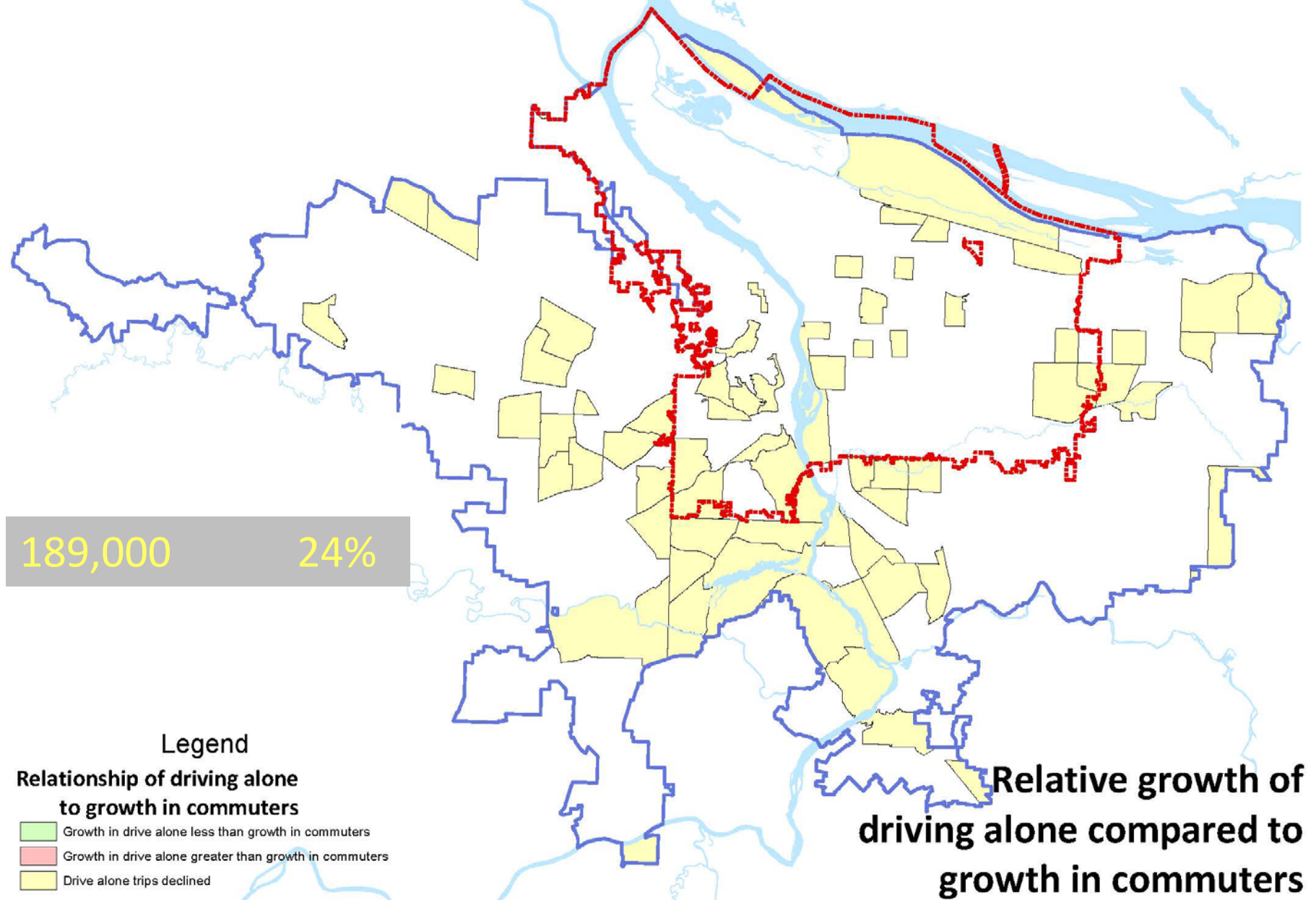
Change in number of commuters by mode in the UGB in the 129 census tracts where drive alone trips grew slower than number of commuters

2000 (decennial census) to 2010-2014 5-year ACS data



Portland Metropolitan Region within the urban growth boundary

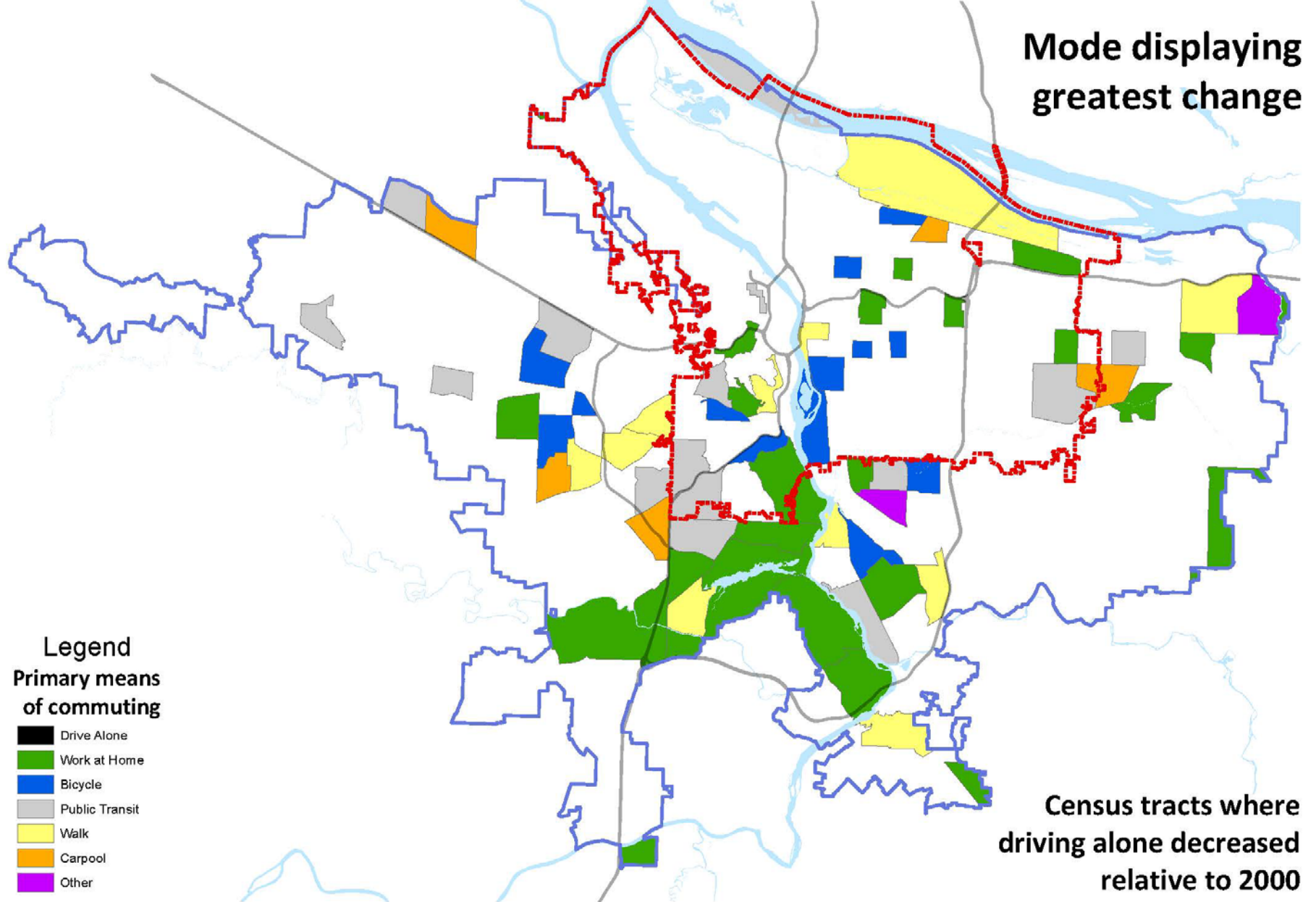
Change in Commute behavior 2000-2014 by Census Tract



Portland Metropolitan Region within the urban growth boundary

Change in Commute behavior 2000-2014 by Census Tract

Mode displaying
greatest change



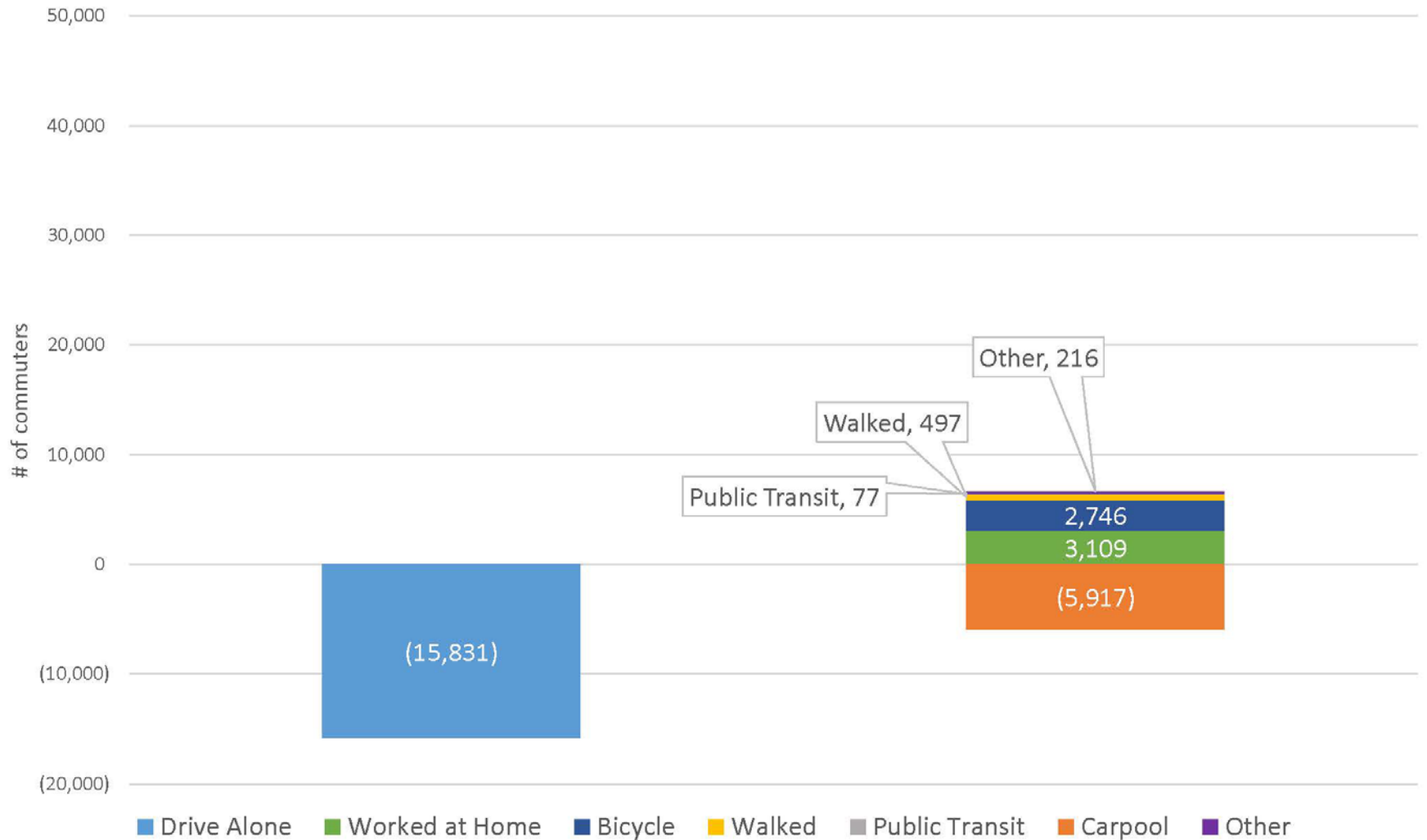
Legend
Primary means
of commuting

- Drive Alone
- Work at Home
- Bicycle
- Public Transit
- Walk
- Carpool
- Other

Census tracts where
driving alone decreased
relative to 2000

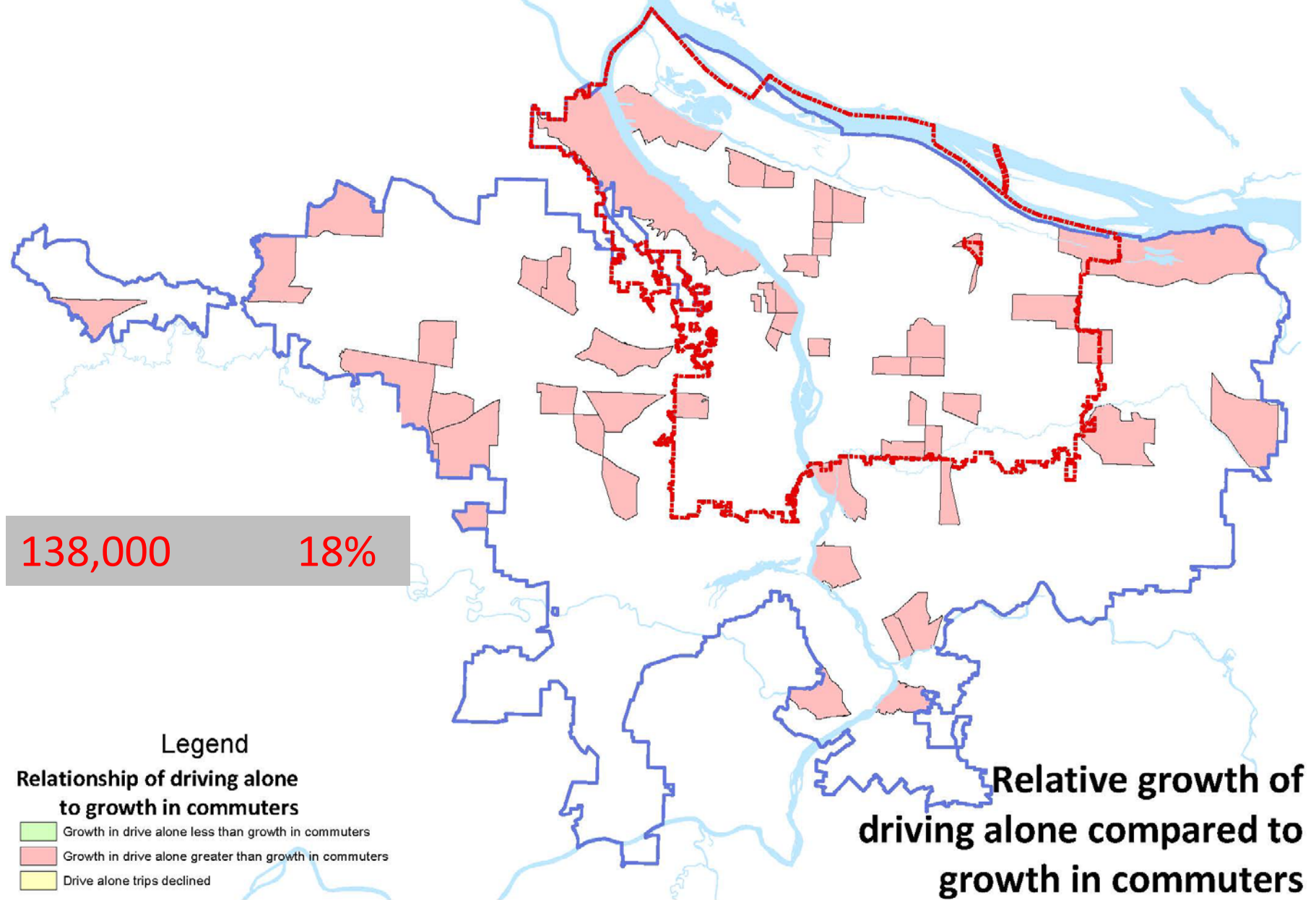
Change in number of commuters by mode in the UGB in the 74 census tracts where drive alone trips declined

2000 (decennial census) to 2010-2014 5-year ACS data



Portland Metropolitan Region within the urban growth boundary

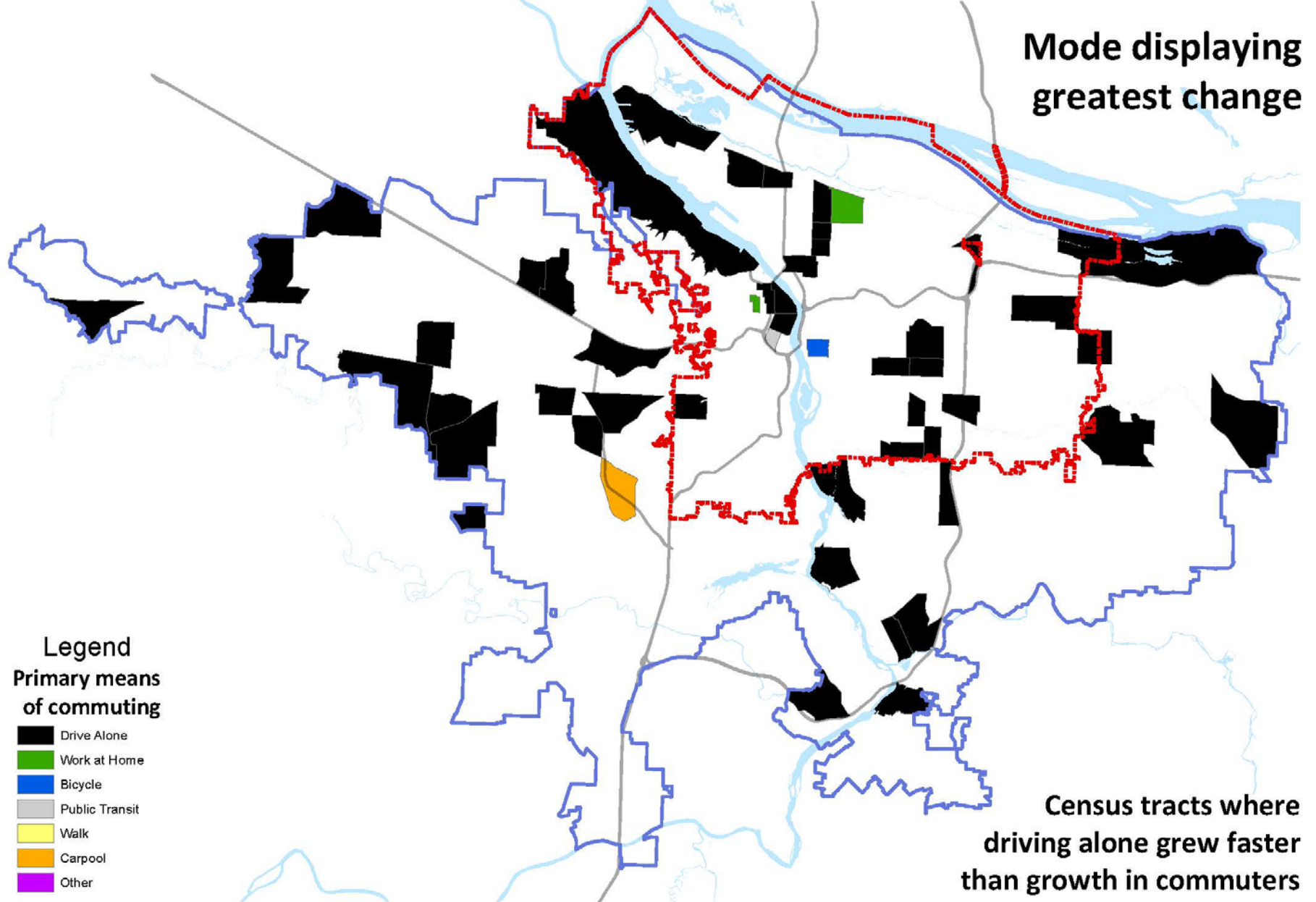
Change in Commute behavior 2000-2014 by Census Tract



Portland Metropolitan Region within the urban growth boundary

Change in Commute behavior 2000-2014 by Census Tract

Mode displaying
greatest change



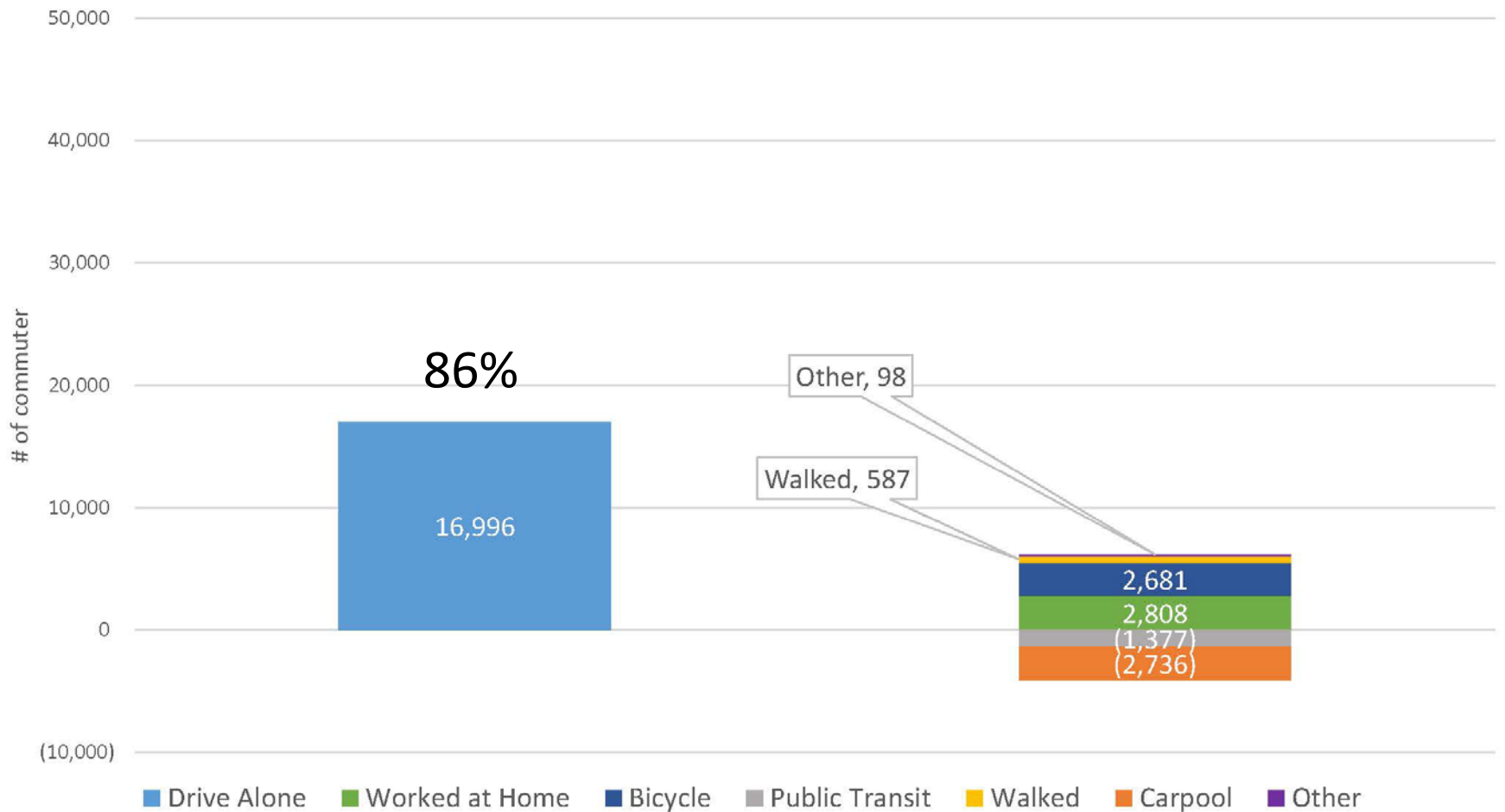
Legend Primary means of commuting

- Drive Alone
- Work at Home
- Bicycle
- Public Transit
- Walk
- Carpool
- Other

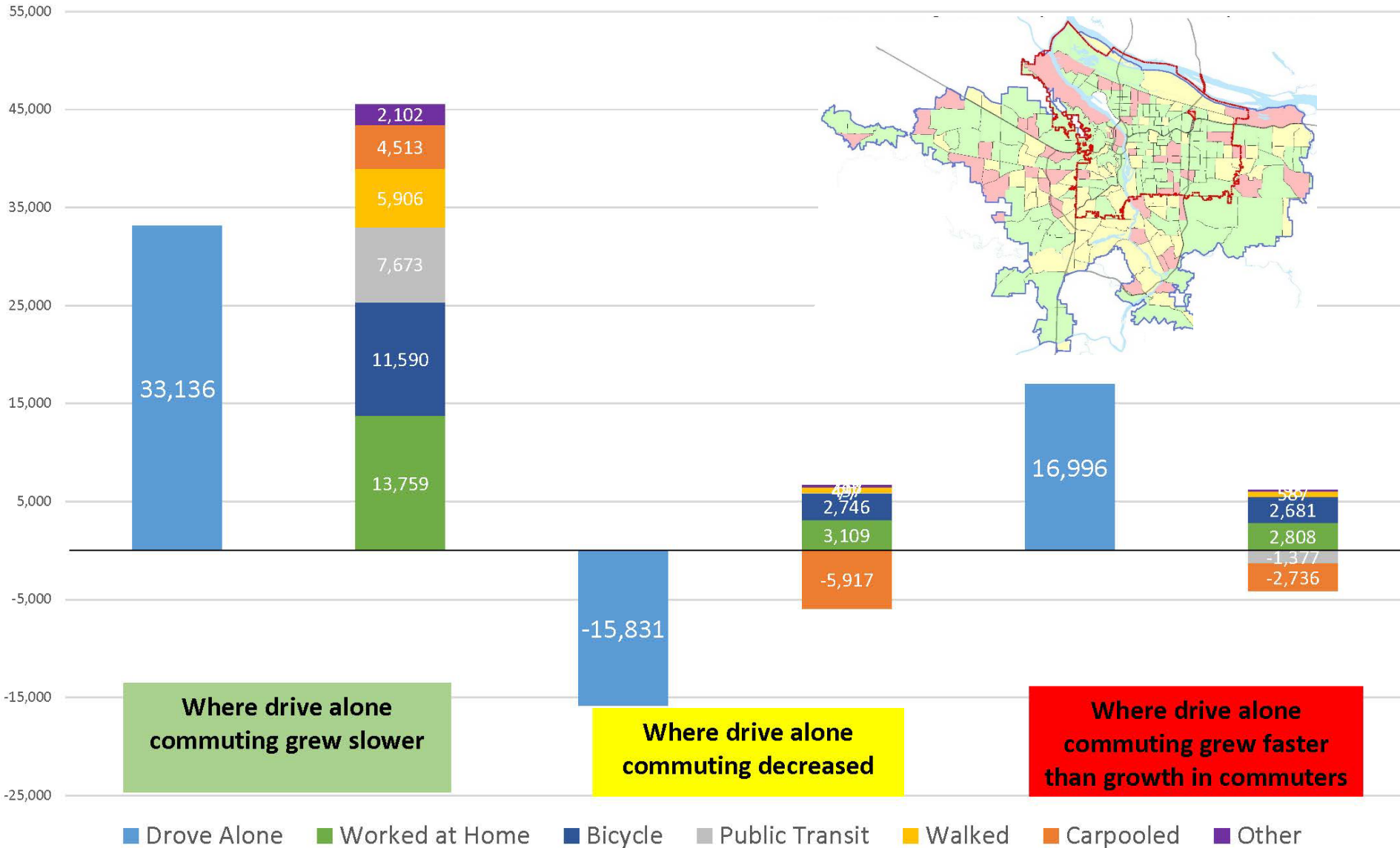
Census tracts where
driving alone grew faster
than growth in commuters

Change in number of commuters by mode in the UGB in the 50 census tracts where drive alone trips grew faster than overall commuters

2000 (decennial census) to 2010-2014 5-year ACS data

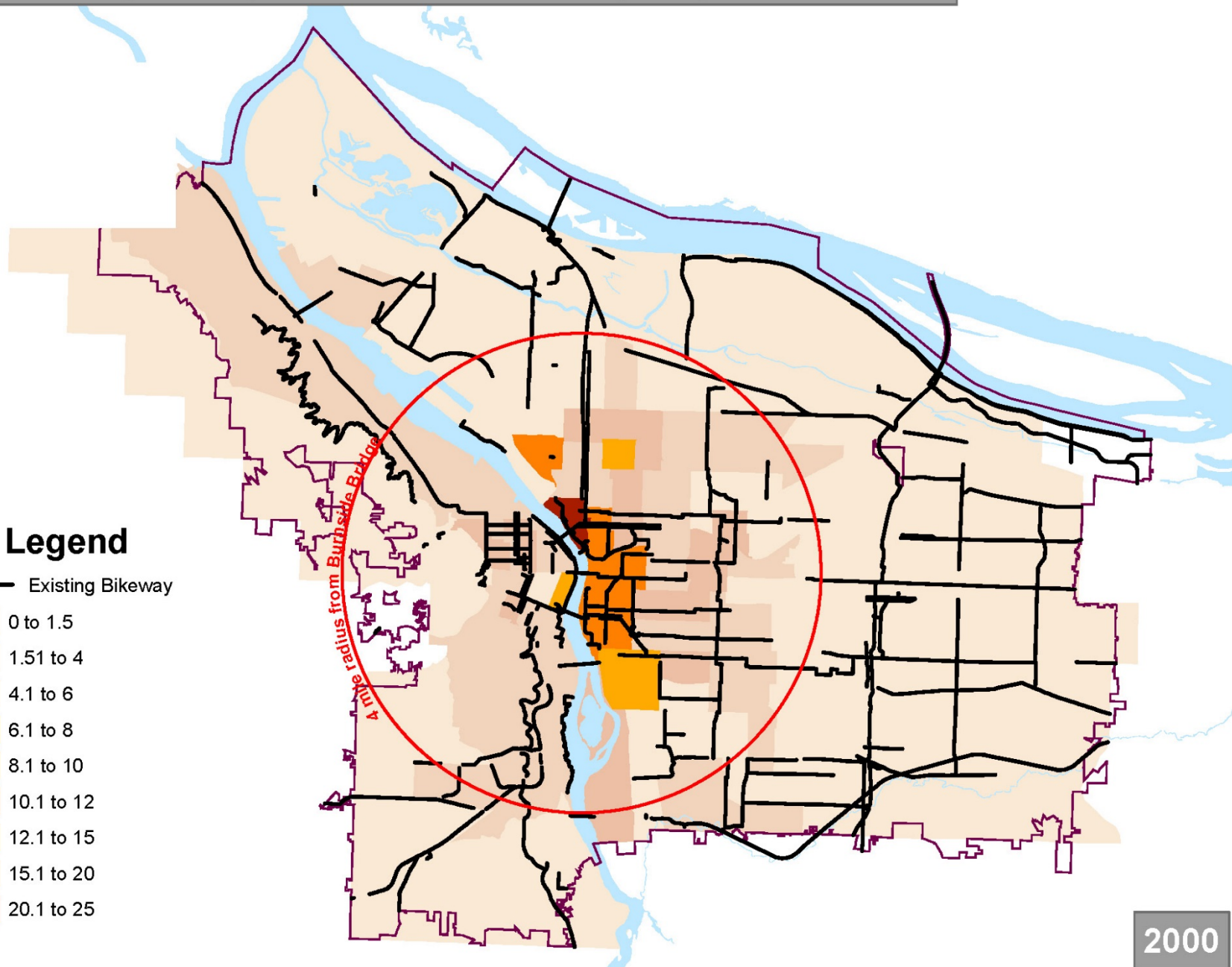
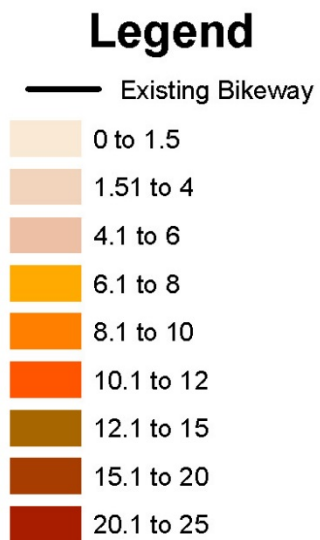


Change in number of commuters by mode within the UGB by drive alone behavior in census tracts 2000 (decennial census) to 2010-2014 5-year ACS data



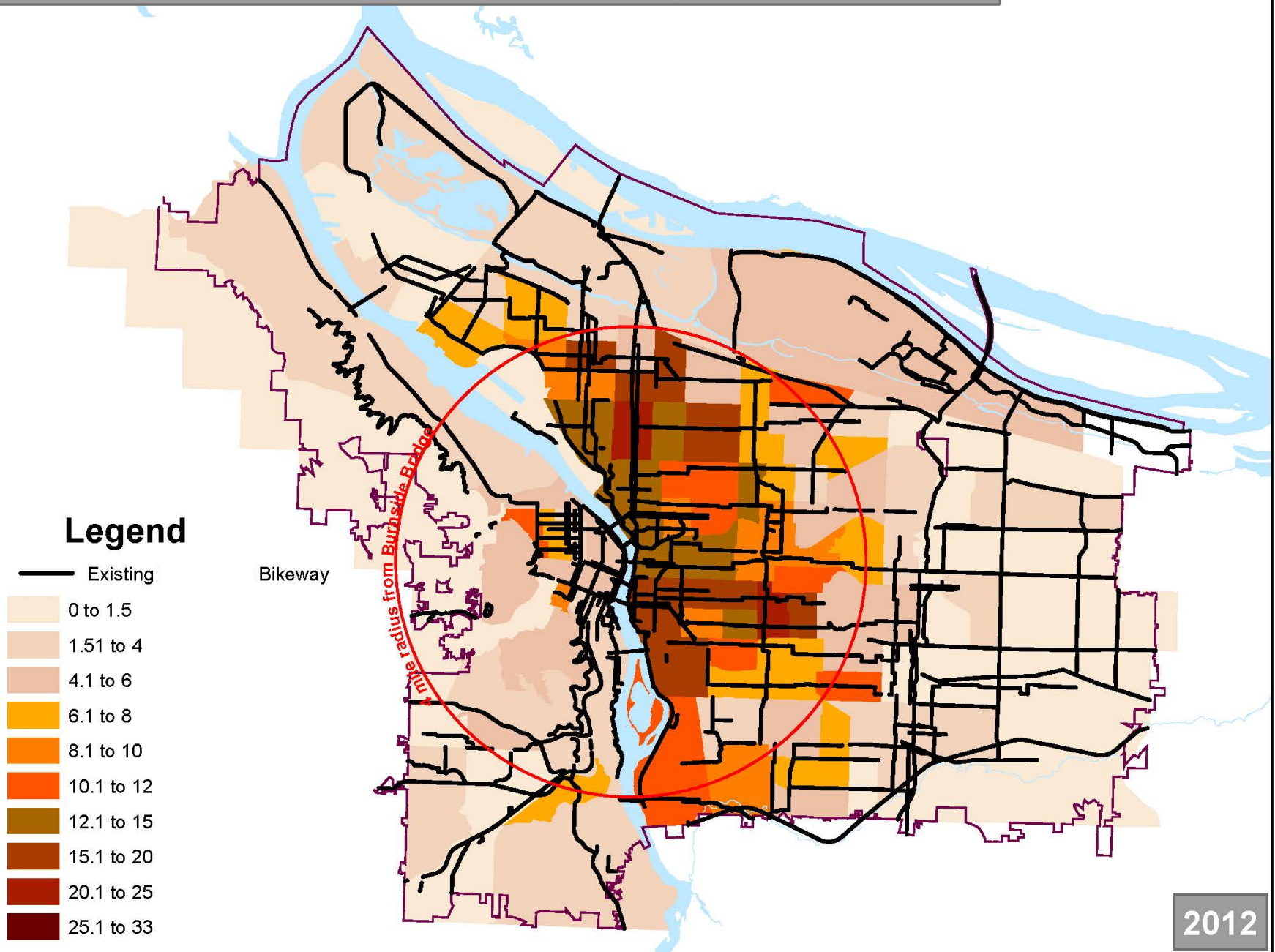
Portland

Portland Oregon Bicycle Commute Mode Split by Census Tract

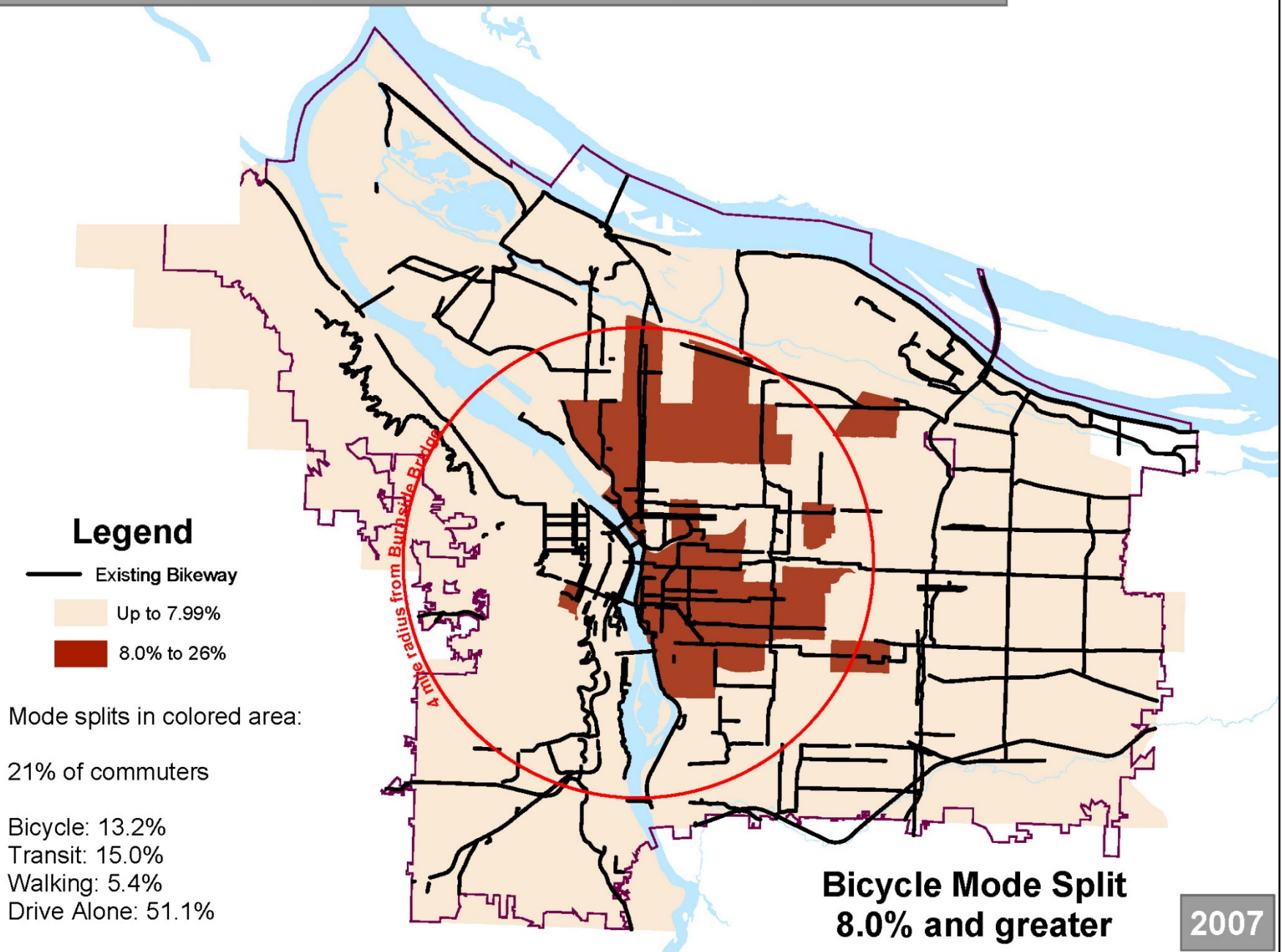


2000

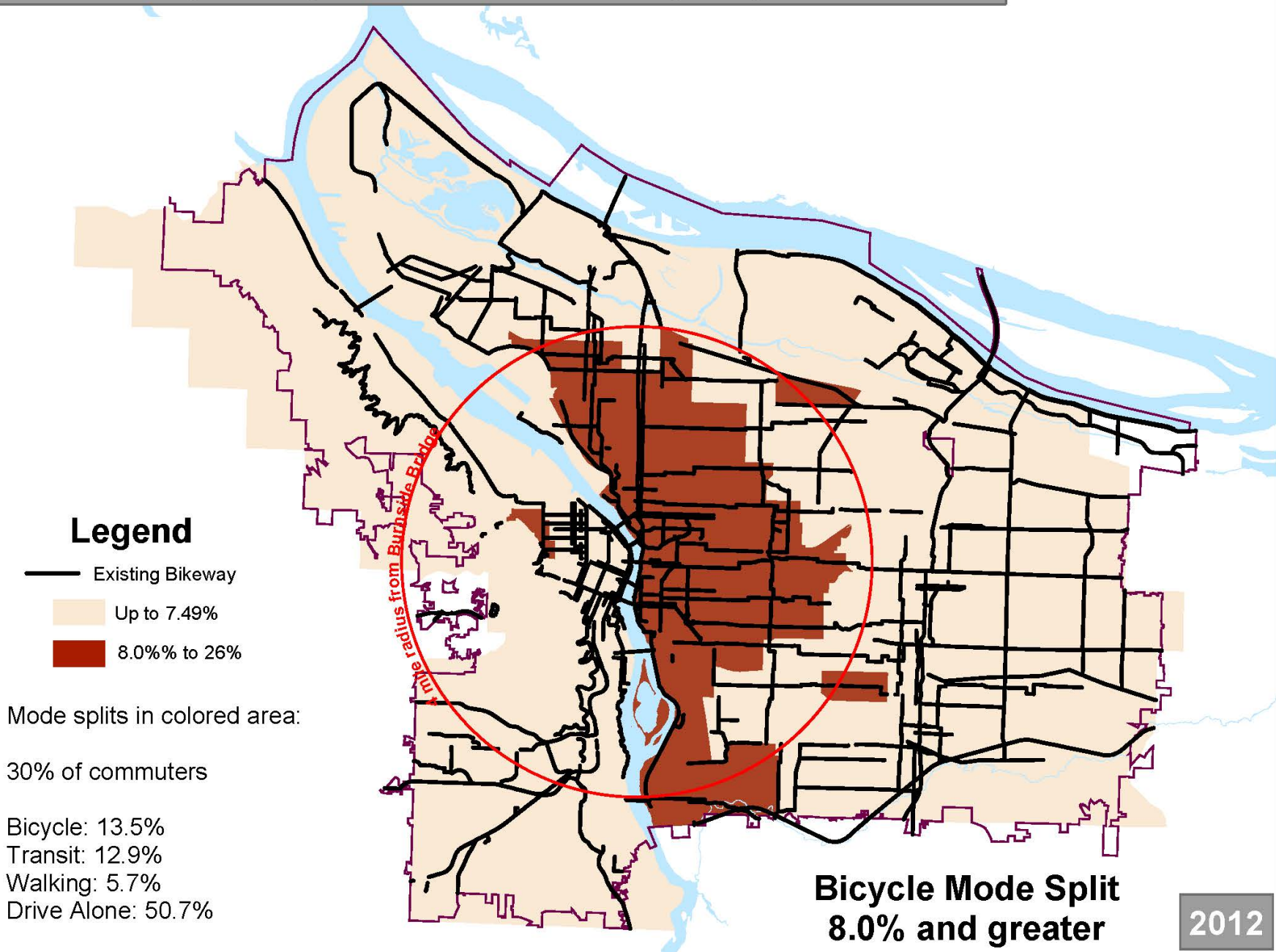
Portland Oregon Bicycle Commute Mode Split by Census Tract



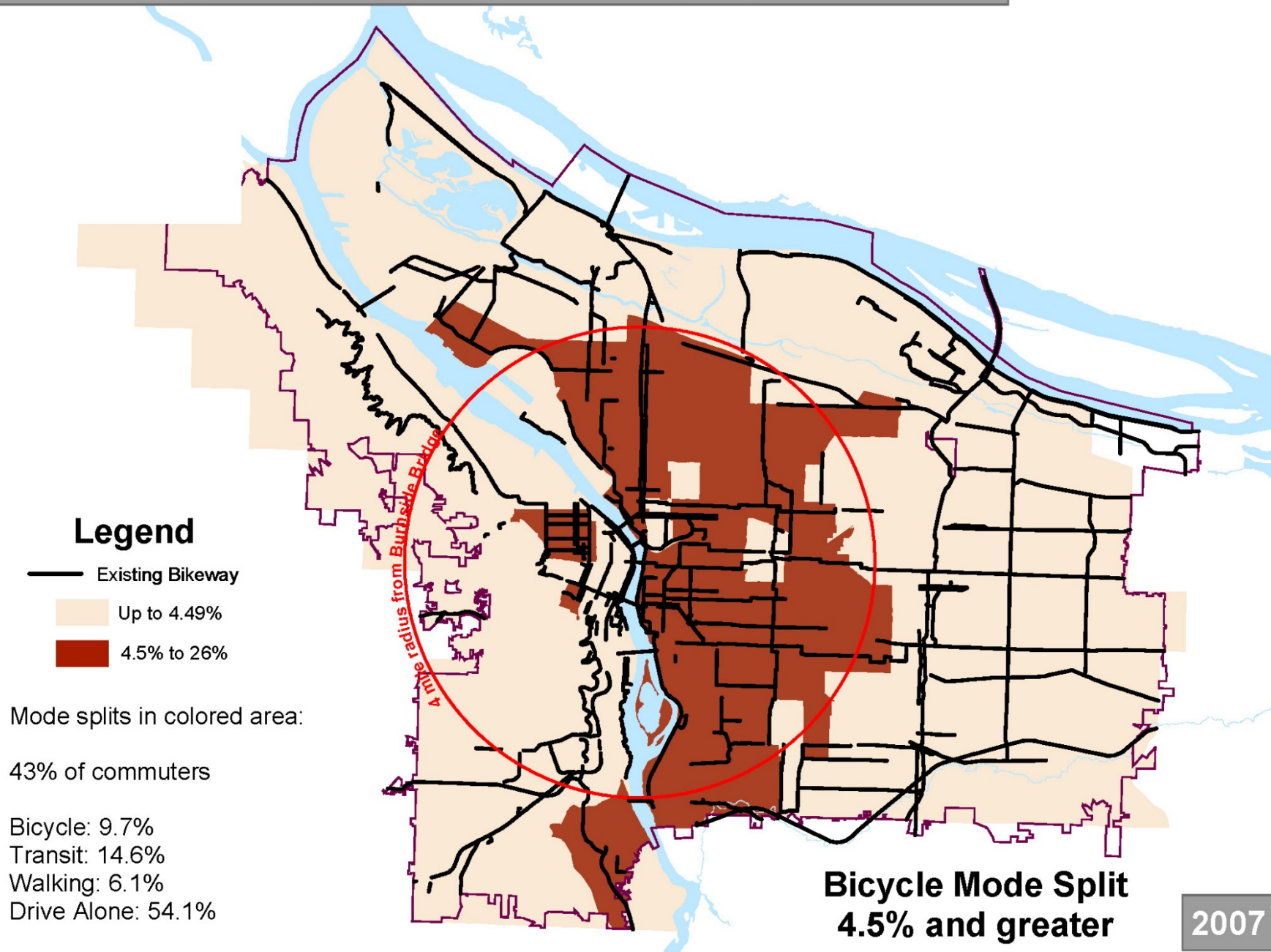
Portland Oregon Bicycle Commute Mode Split by Census Tract



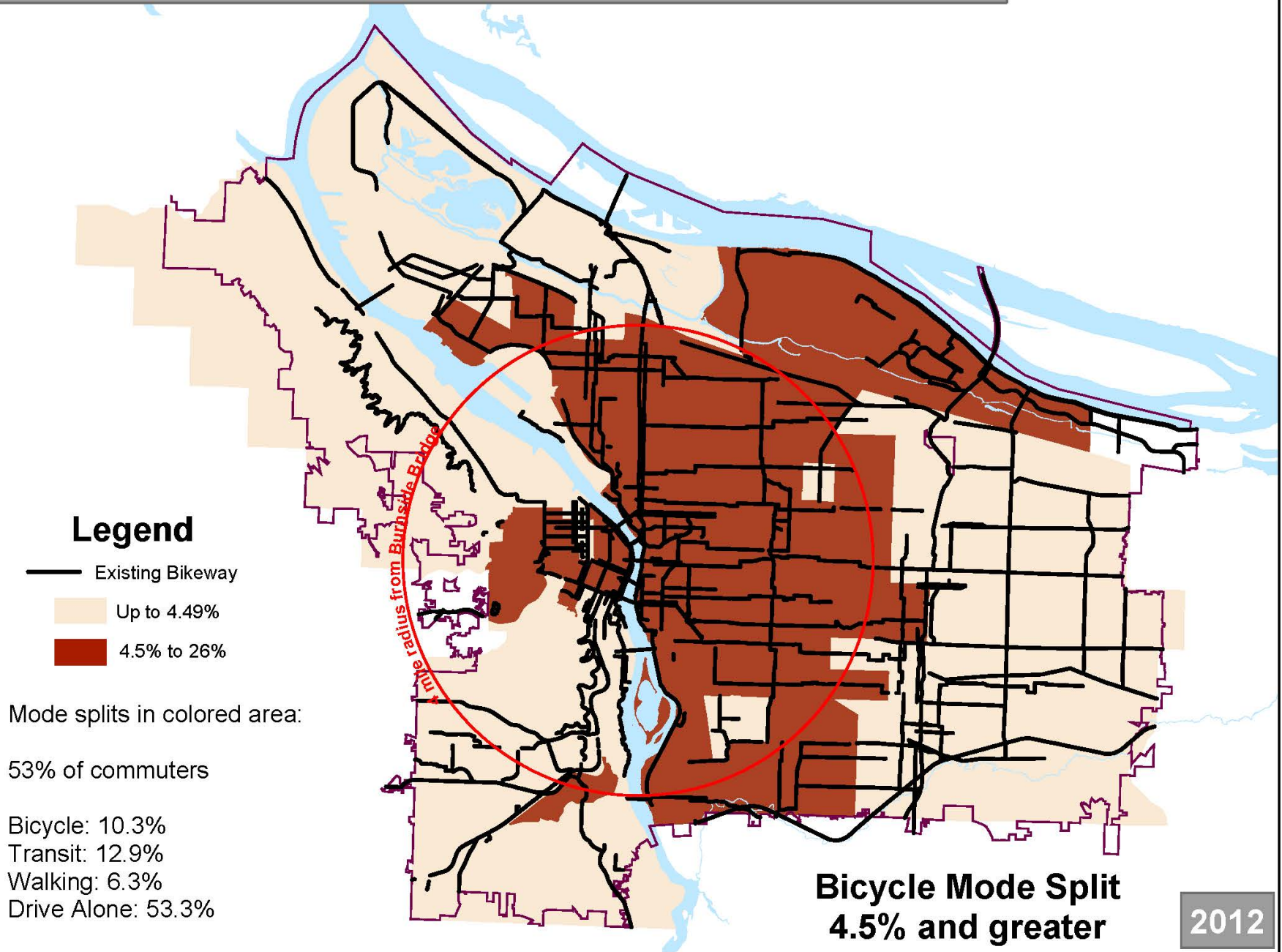
Portland Oregon Bicycle Commute Mode Split by Census Tract



Portland Oregon Bicycle Commute Mode Split by Census Tract



Portland Oregon Bicycle Commute Mode Split by Census Tract



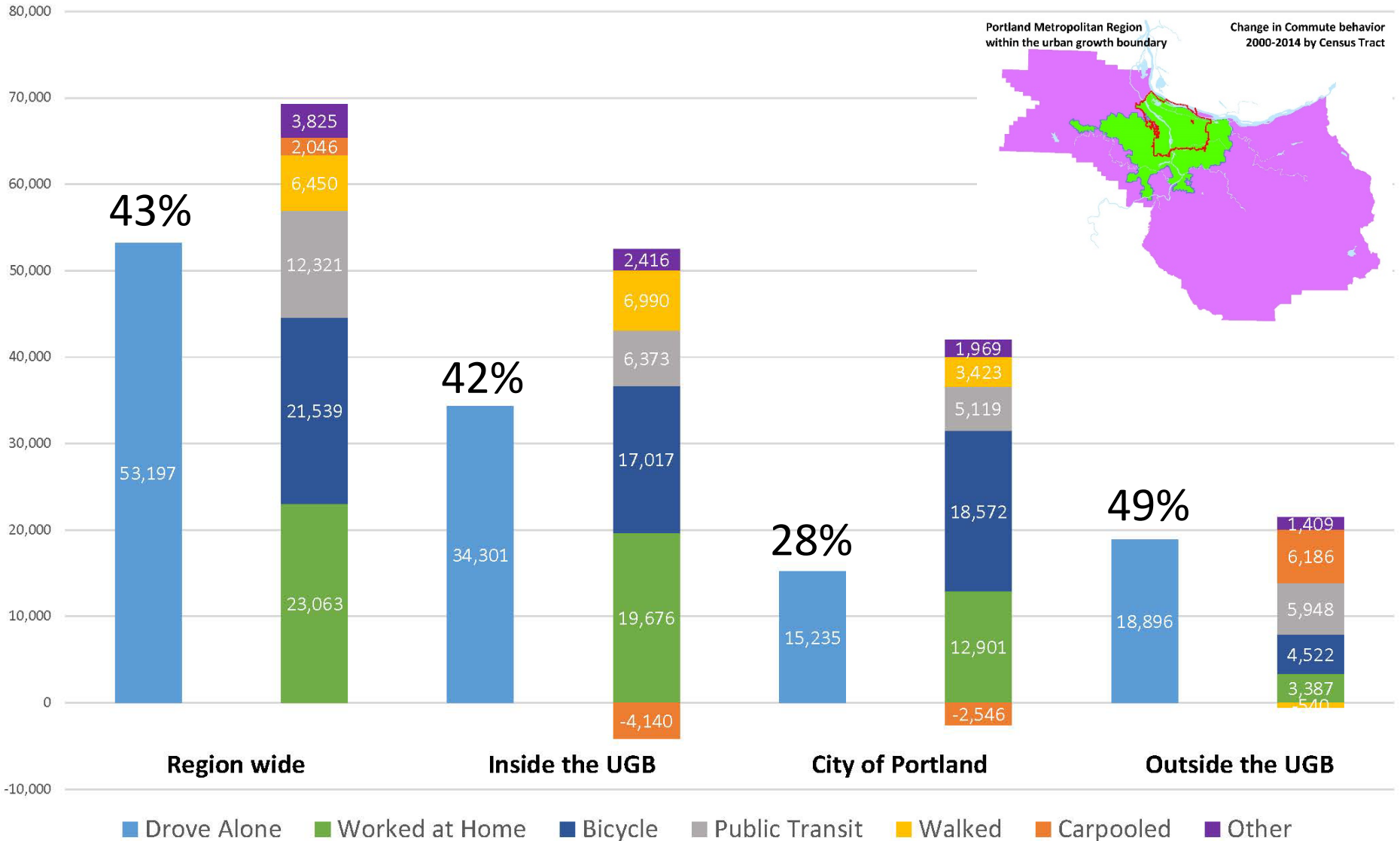
Change in commuting by Portland residents 2000 to 2014

			Growth in mode since 2000		
			# of commuters		Percentage Growth
			2000	2014	
	Change in commuters relative to 2000	Percentage of change			
Bicycled	18,572	34%	4,775	23,347	389%
Drove Alone	15,235	28%	172,491	187,726	9%
Worked at Home	12,901	24%	11,780	24,681	110%
Transit	5,119	9%	33,410	38,529	15%
Walked	3,423	6%	14,192	17,615	24%
Carpooled	-2,546	-5%	32,197	29,651	-8%
Total growth in commuters*:	54,673				
Total commuters*			271,234	325,907	20%

*Not all modes are represented, hence the discrepancy between totals and sum of numbers in columns. Modes not represented include: taxicab, motorcycle and "other means".

Source: US Census Bureau, American Community Survey

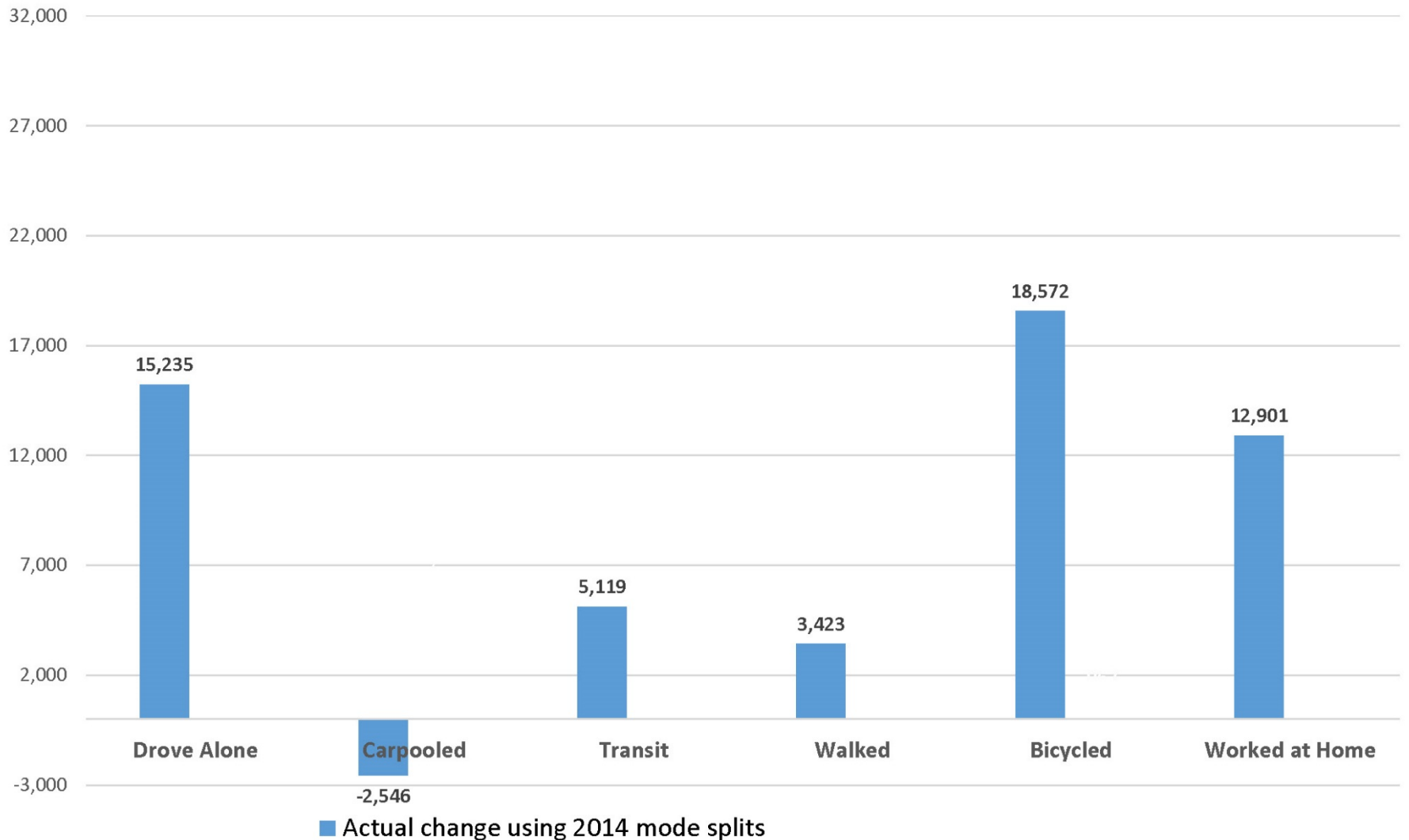
Change in number of commuters by mode: Region-wide, within the UGB and outside the UGB 2000 (decennial census) to 2010-2014 5-year ACS data



If we had...

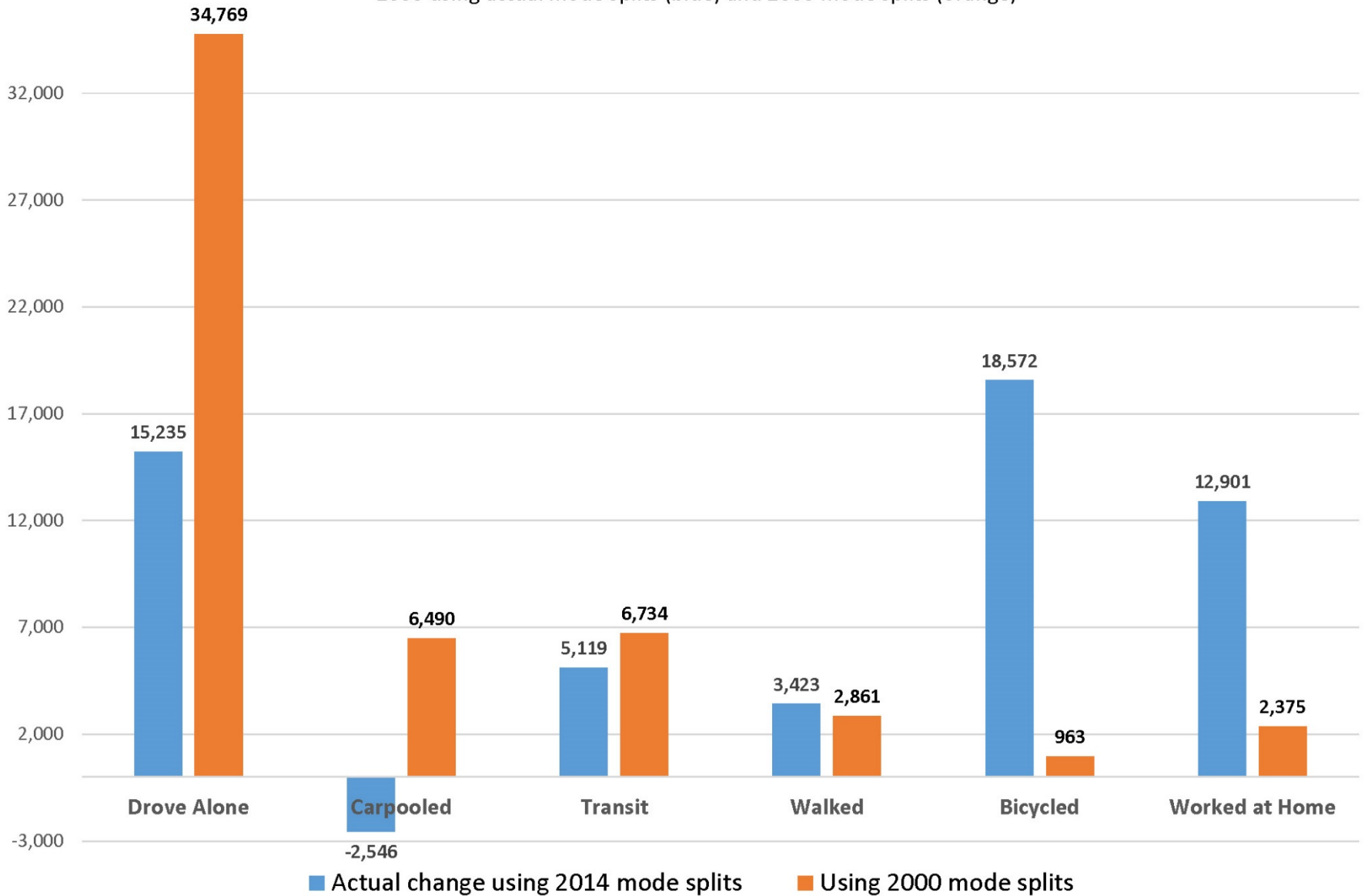
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The distribution by primary means of transportation to work for the 54,673 increase in Portland commuters since 2000 using actual mode splits (blue)



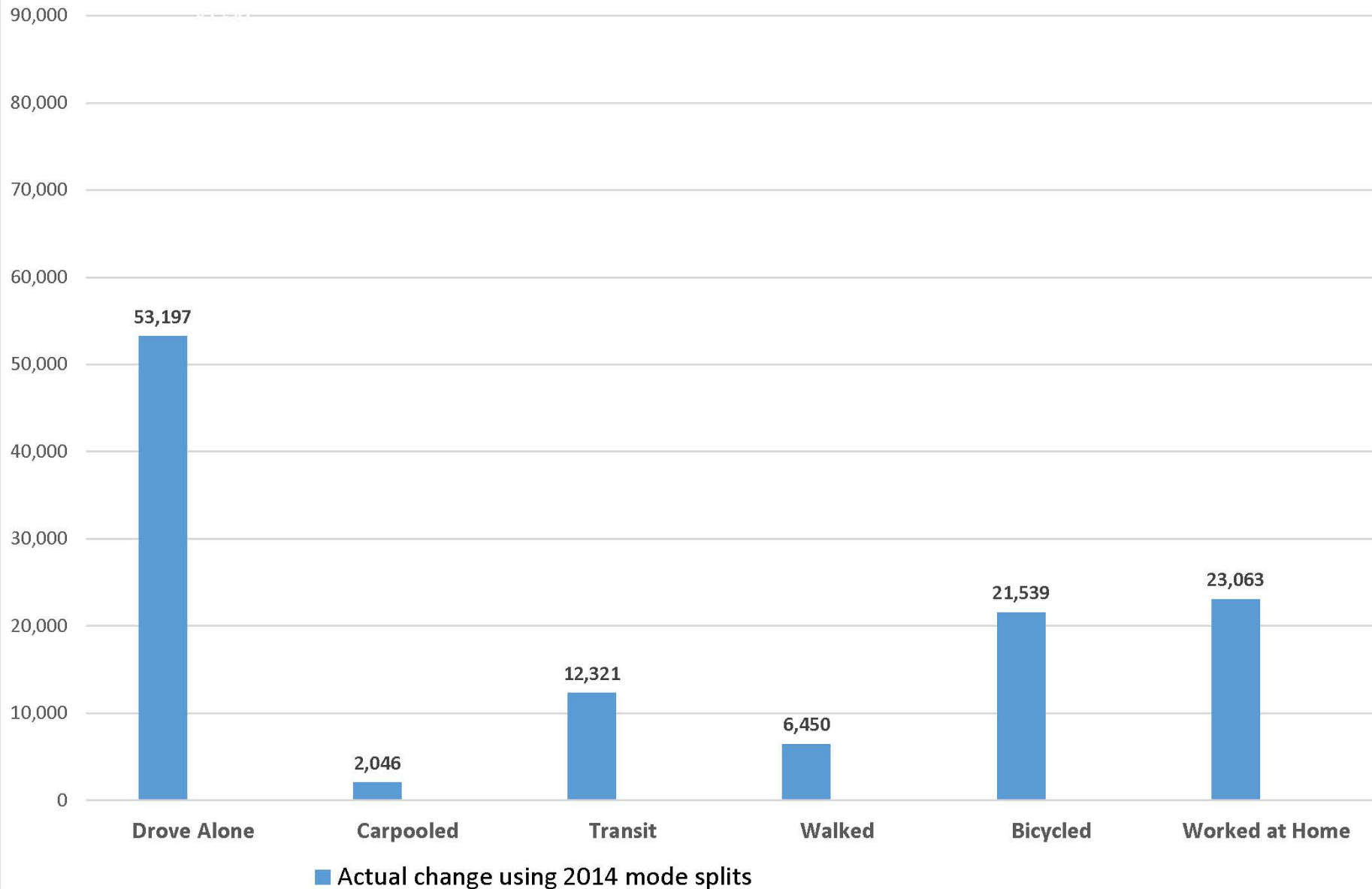
Portland commuters: change in mode 2000-2014

The distribution by primary means of transportation to work for the 54,673 increase in Portland commuters since 2000 using actual mode splits (blue) and 2000 mode splits (orange)



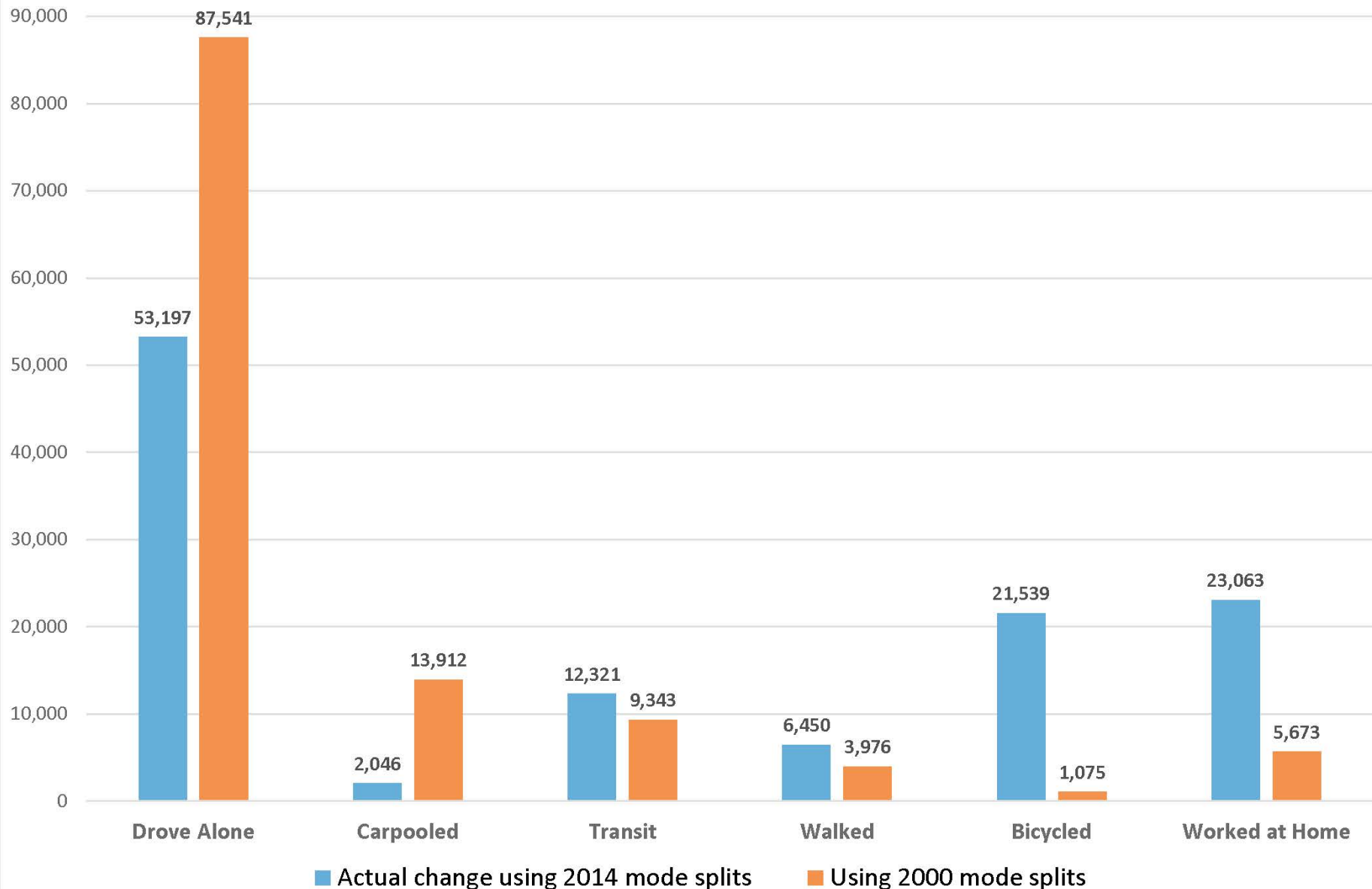
Regional commuters: change in mode 2000-2014

The distribution by primary means of transportation to work for the 122,441 increase in Regional commuters since 2000 using actual mode splits (blue) and



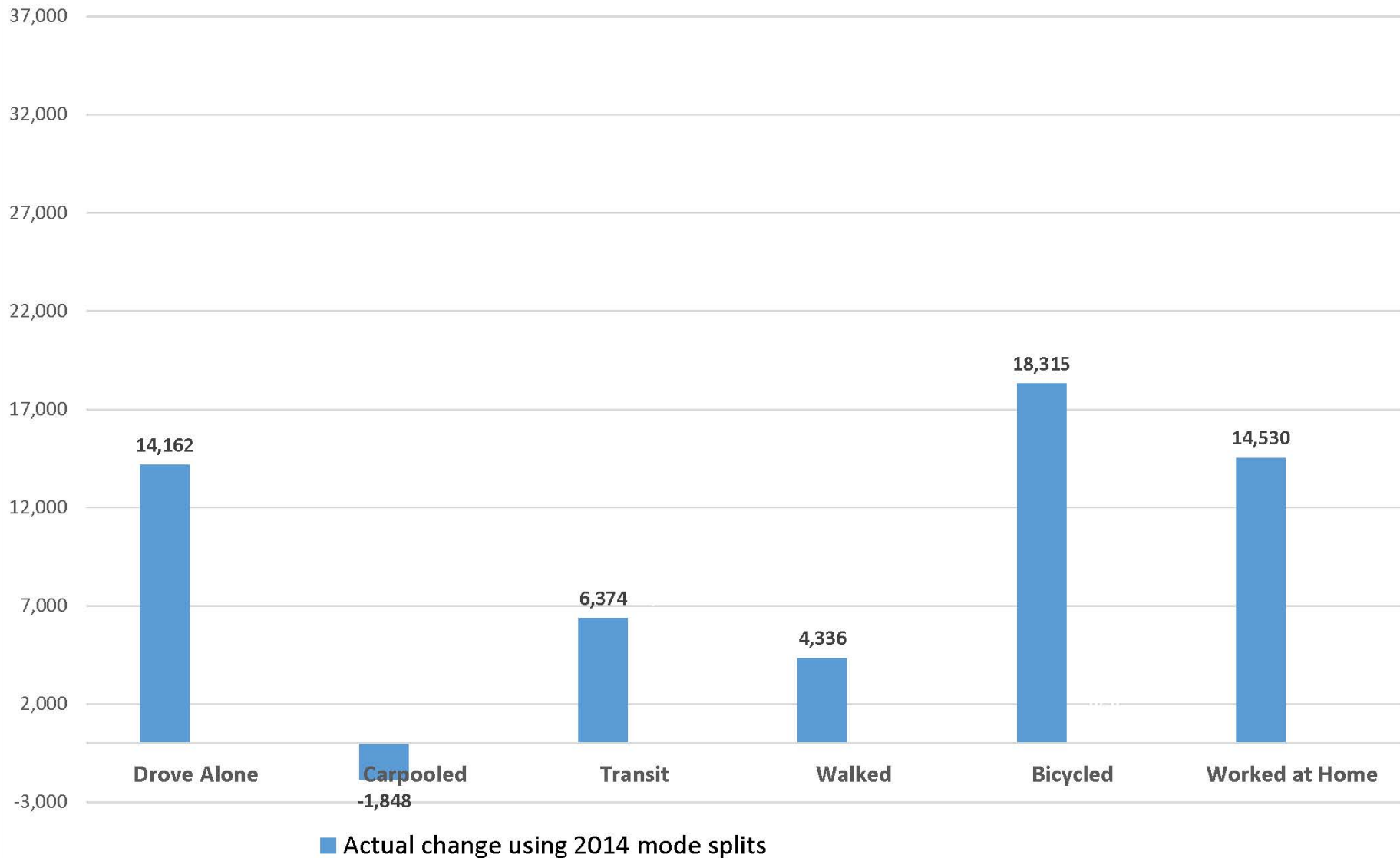
Regional commuters: change in mode 2000-2014

The distribution by primary means of transportation to work for the 122,441 increase in Regional commuters since 2000 using actual mode splits (blue) and 2000 mode splits (orange)



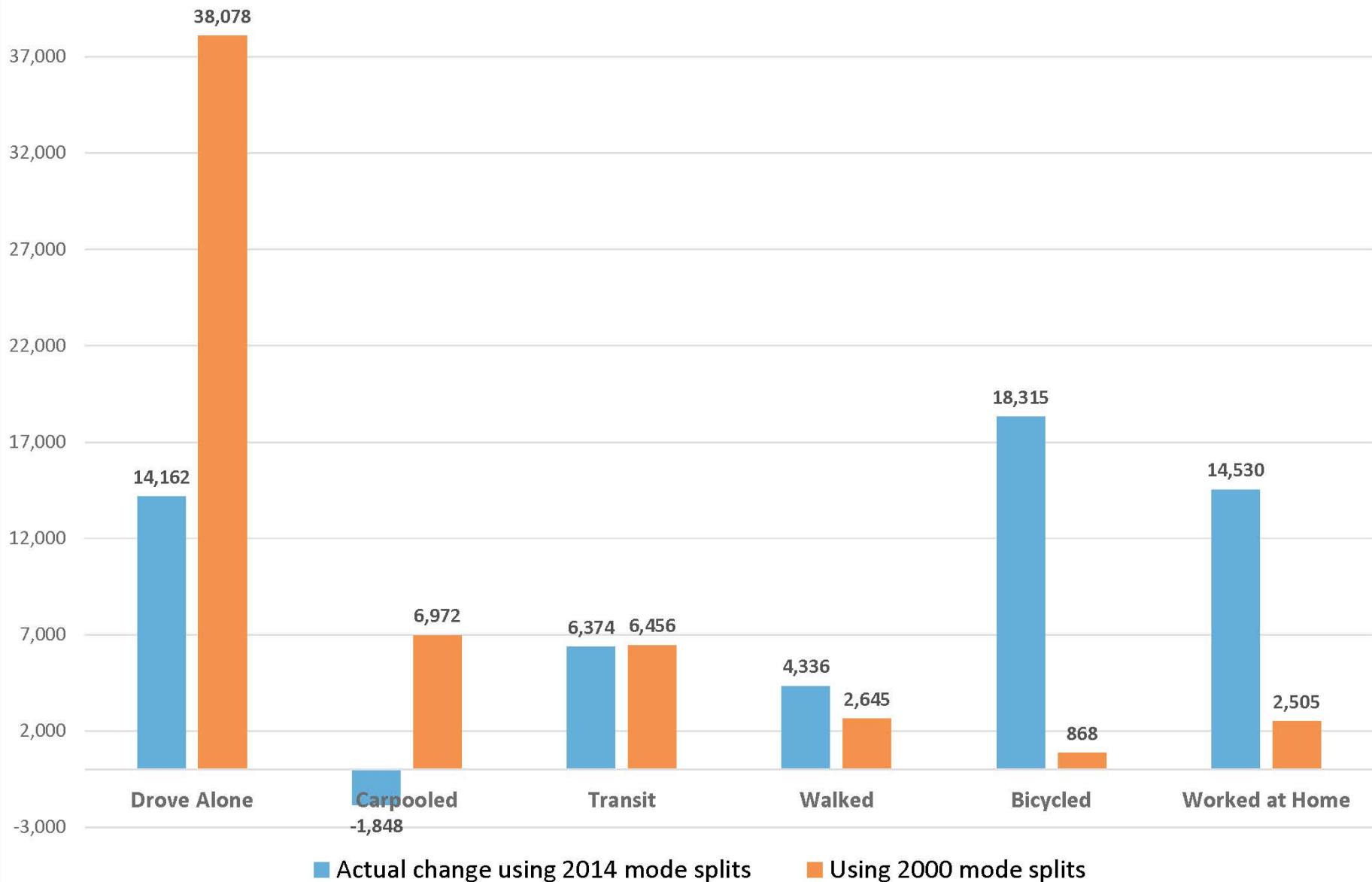
Multnomah County commuters: change in mode 2000-2014

The distribution by primary means of transportation to work for the 58,014 increase in Multnomah County commuters since 2000 using actual mode splits (b)



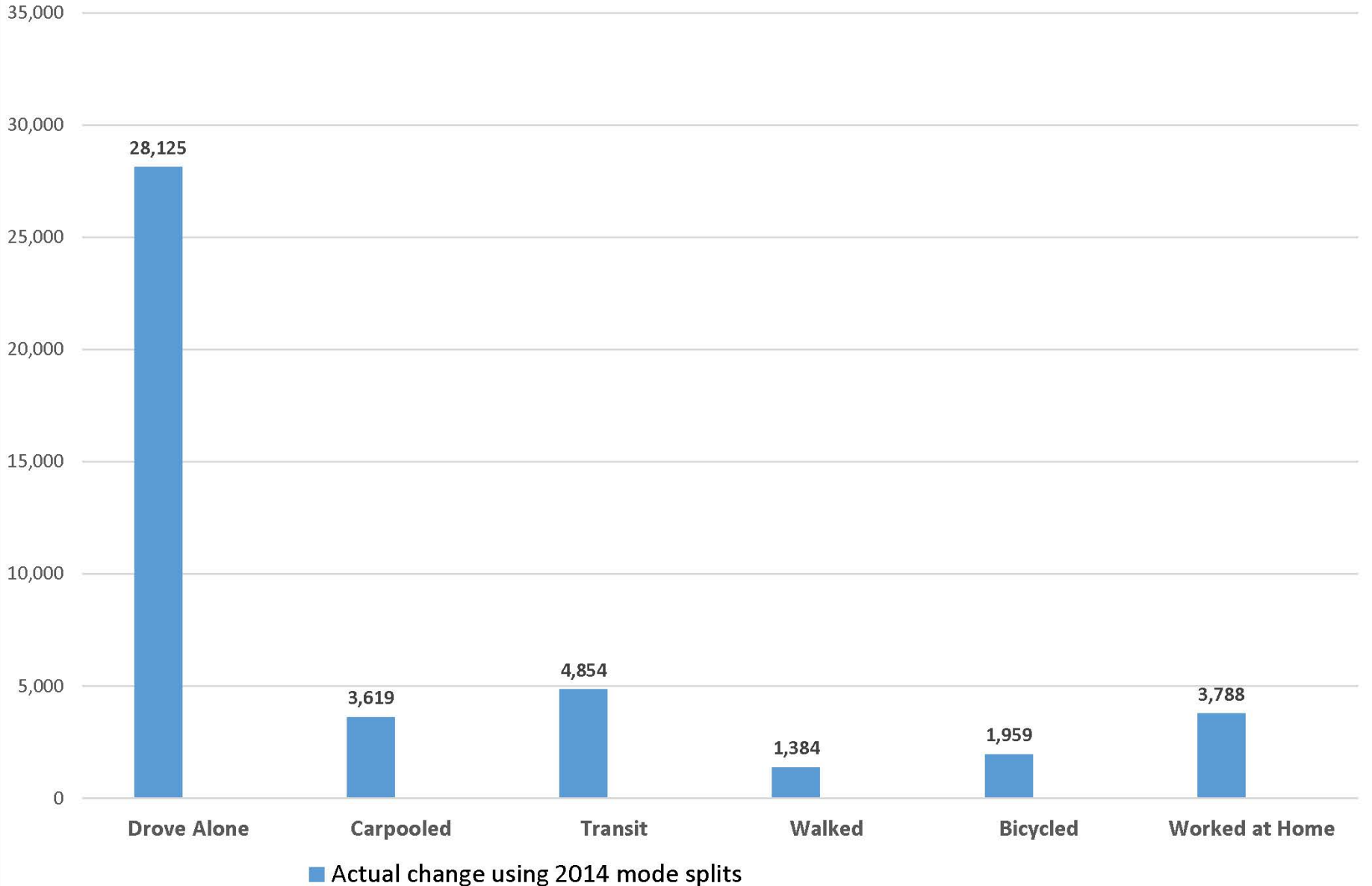
Multnomah County commuters: change in mode 2000-2014

The distribution by primary means of transportation to work for the 58,014 increase in Multnomah County commuters since 2000 using actual mode splits (blue) and 2000 mode splits (orange)



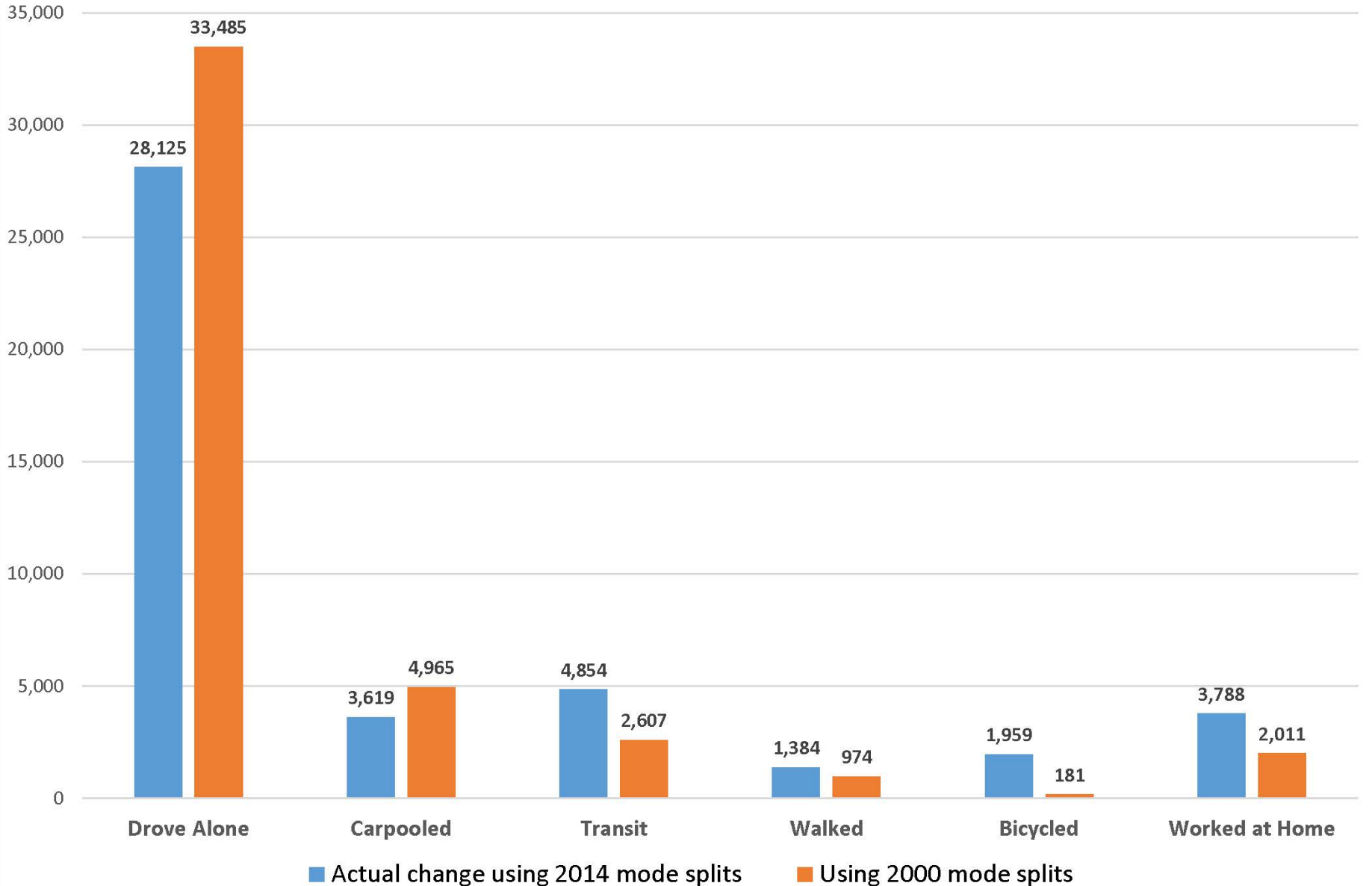
Washington County commuters: change in mode 2000-2014

The distribution by primary means of transportation to work for the 44,560 increase in Washington County commuters since 2000 using actual mode splits (blue) and



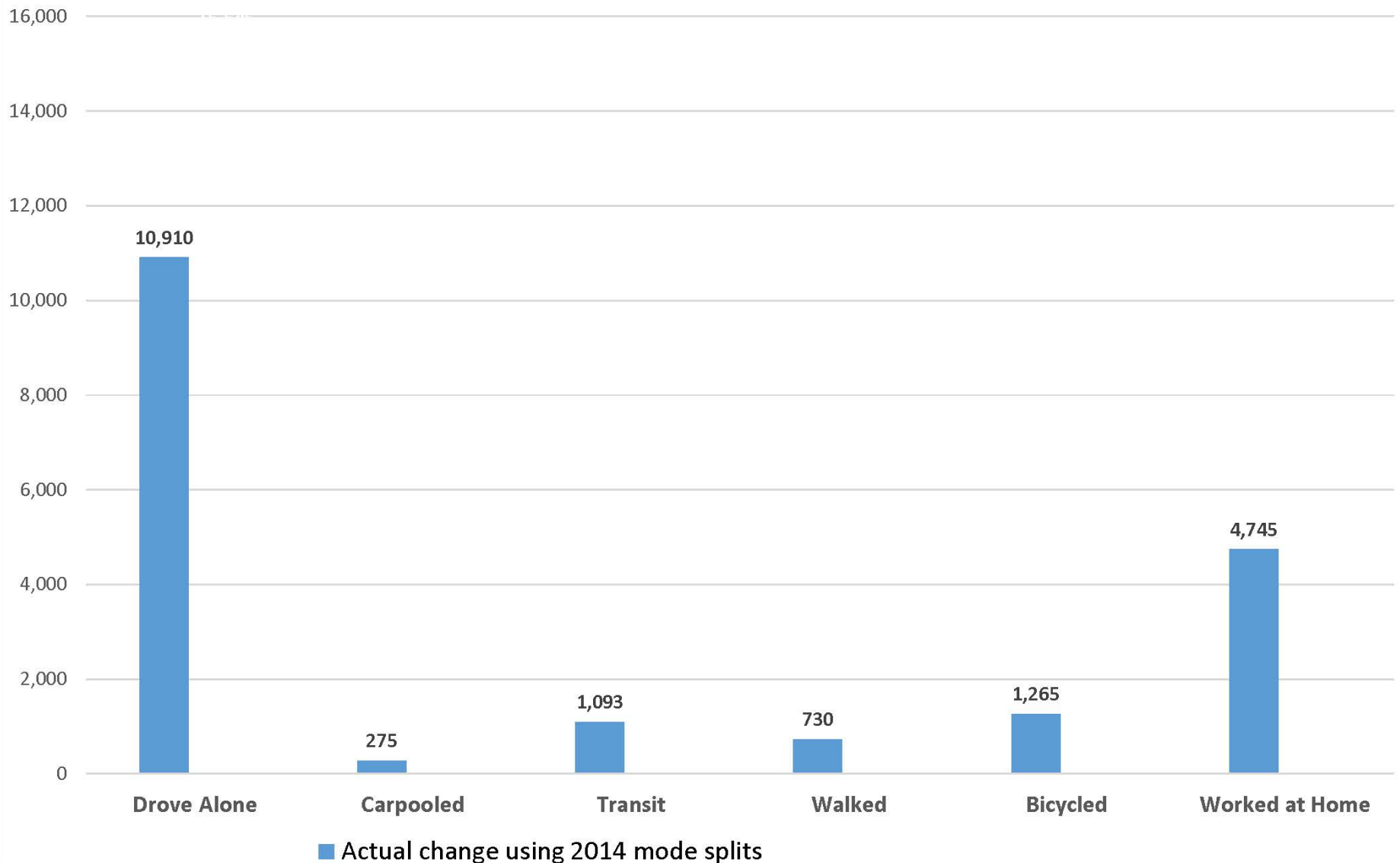
Washington County commuters: change in mode 2000-2014

The distribution by primary means of transportation to work for the 44,560 increase in Washington County commuters since 2000 using actual mode splits (blue) and 2000 mode splits (orange)



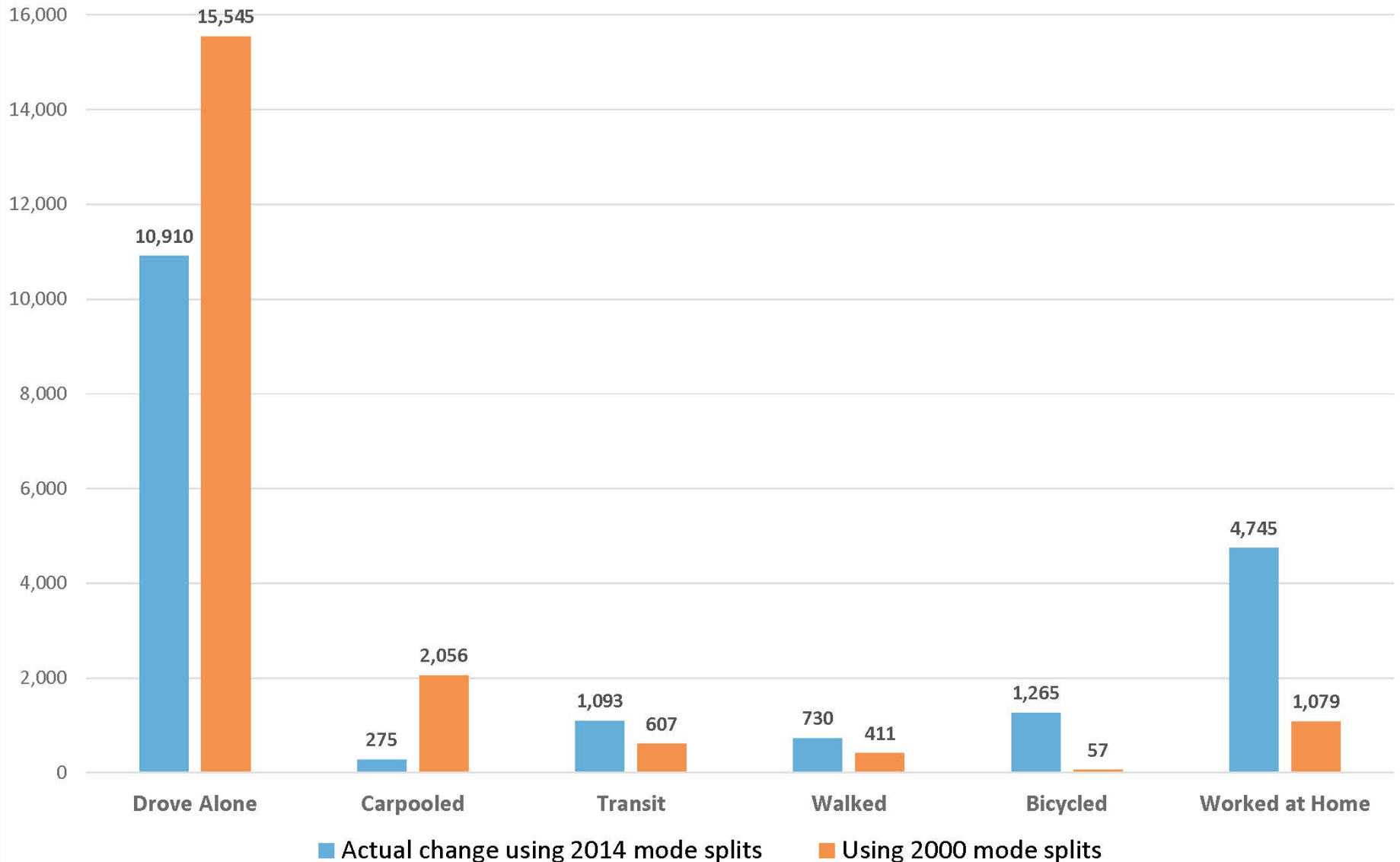
Clackamas County commuters: change in mode 2000-2014

The distribution by primary means of transportation to work for the 19,868 increase in Clackamas County commuters since 2000 using actual mode splits (b)



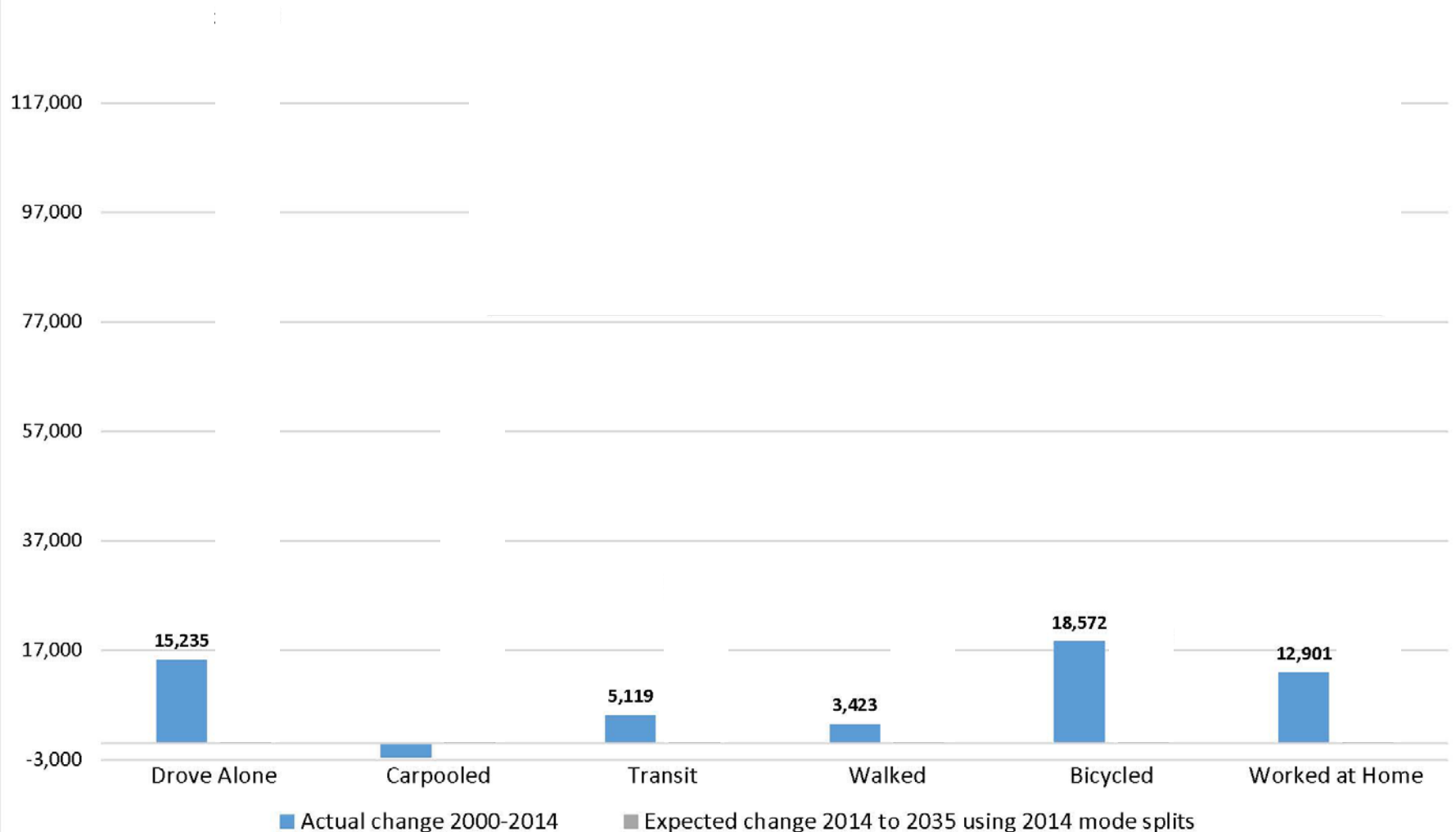
Clackamas County commuters: change in mode 2000-2014

The distribution by primary means of transportation to work for the 19,868 increase in Clackamas County commuters since 2000 using actual mode splits (blue) and 2000 mode splits (orange)



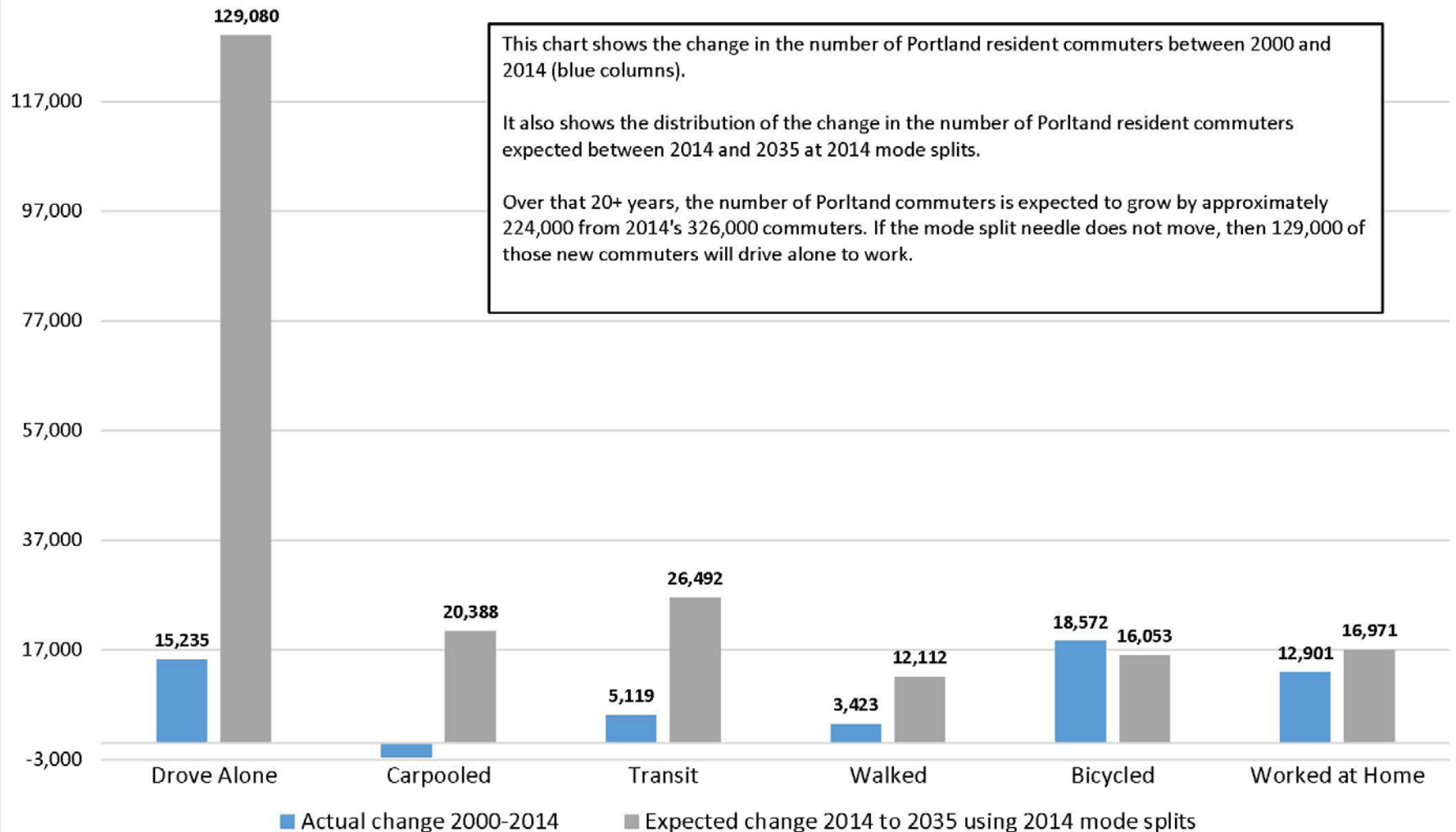
Expected change in number of Portland commuters 2014-2035

The distribution by primary means of transportation to work for the 54,673 increase in Portland commuters since 2000 using actual mode splits (blue) the distribution for the 224,000 increase in commuters between 2014 and 2035 (grey) at 2014 mode splits



Expected change in number of Portland commuters 2014-2035

The distribution by primary means of transportation to work for the 54,673 increase in Portland commuters since 2000 using actual mode splits (blue) the distribution for the 224,000 increase in commuters between 2014 and 2035 (grey) at 2014 mode splits

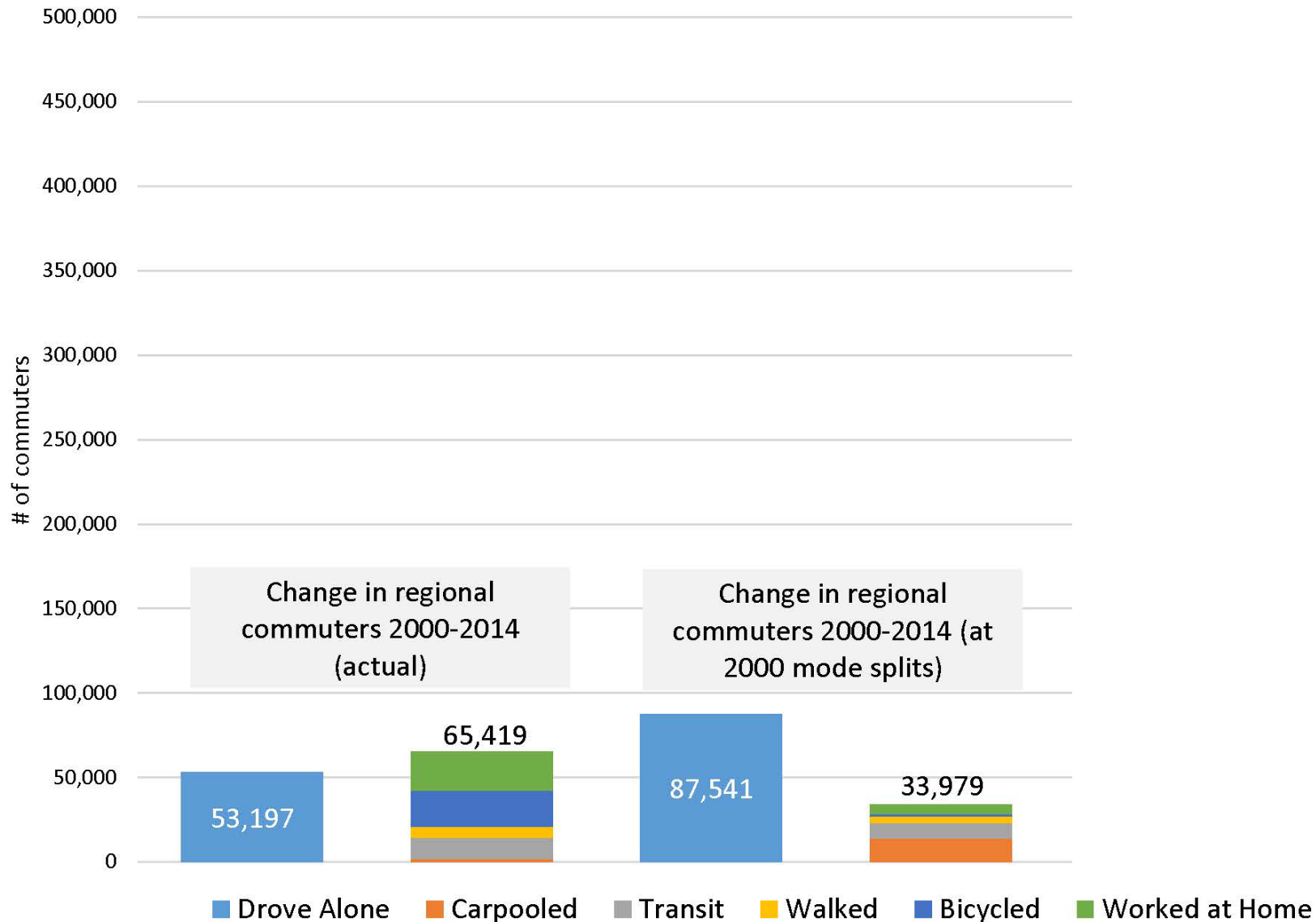


Change in number of regional commuters:

2000-2014 (actual)

2000-2014 (with 2000 mode splits)

2014-2035 (projected at 2014 mode splits)



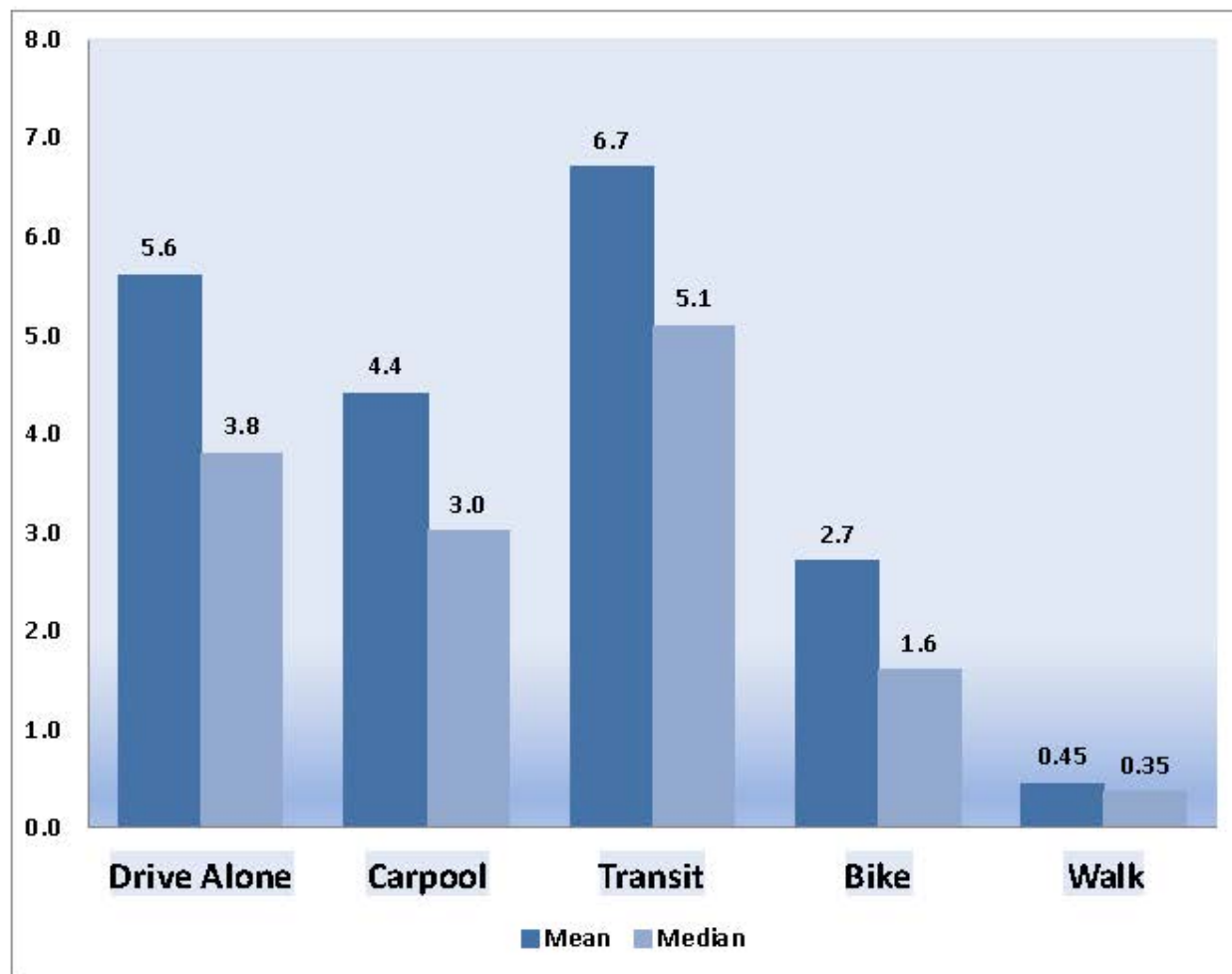
Reasons to take heart...

or not

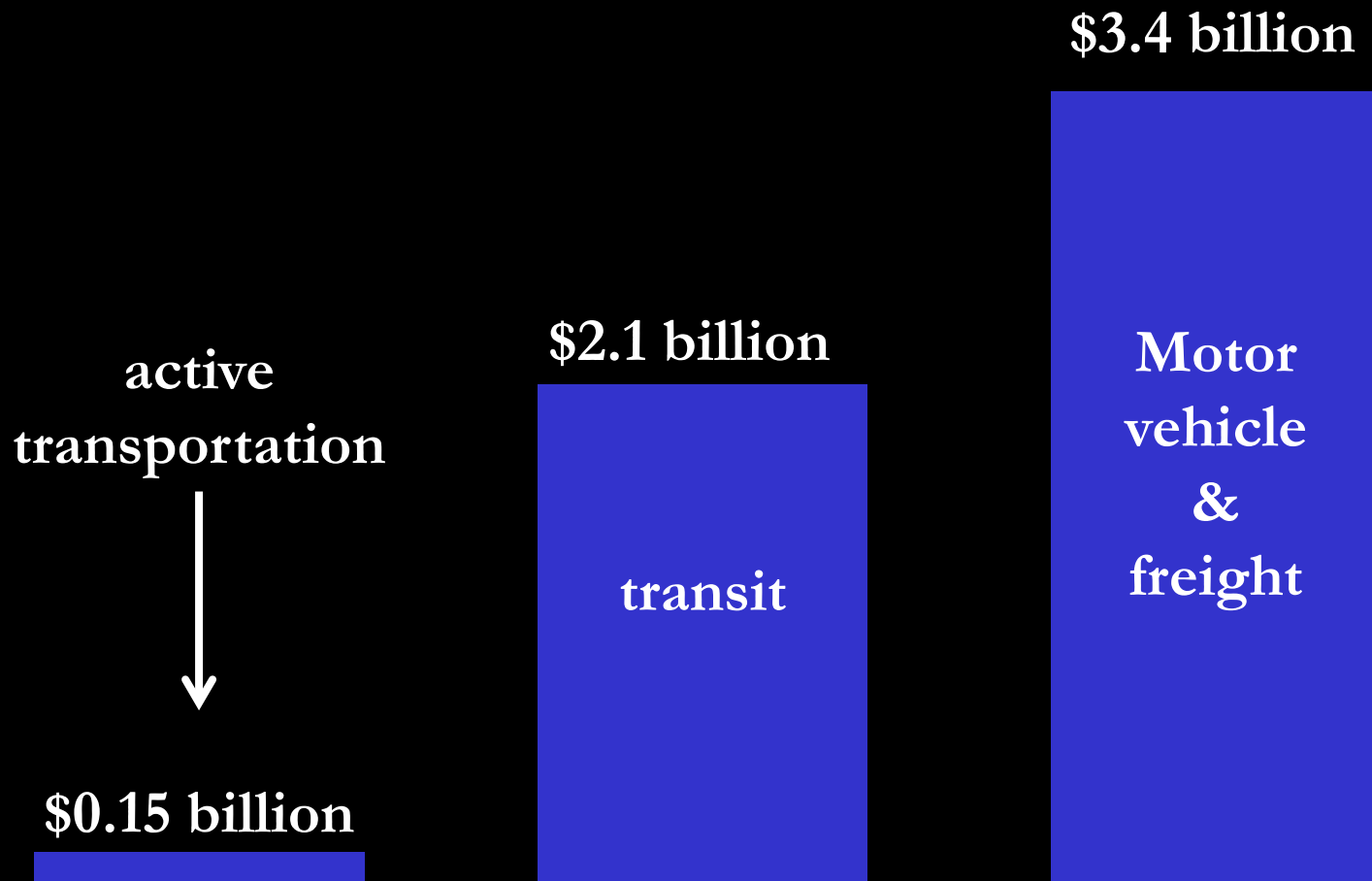
Metro:

67% of trips < 2 miles are by automobile

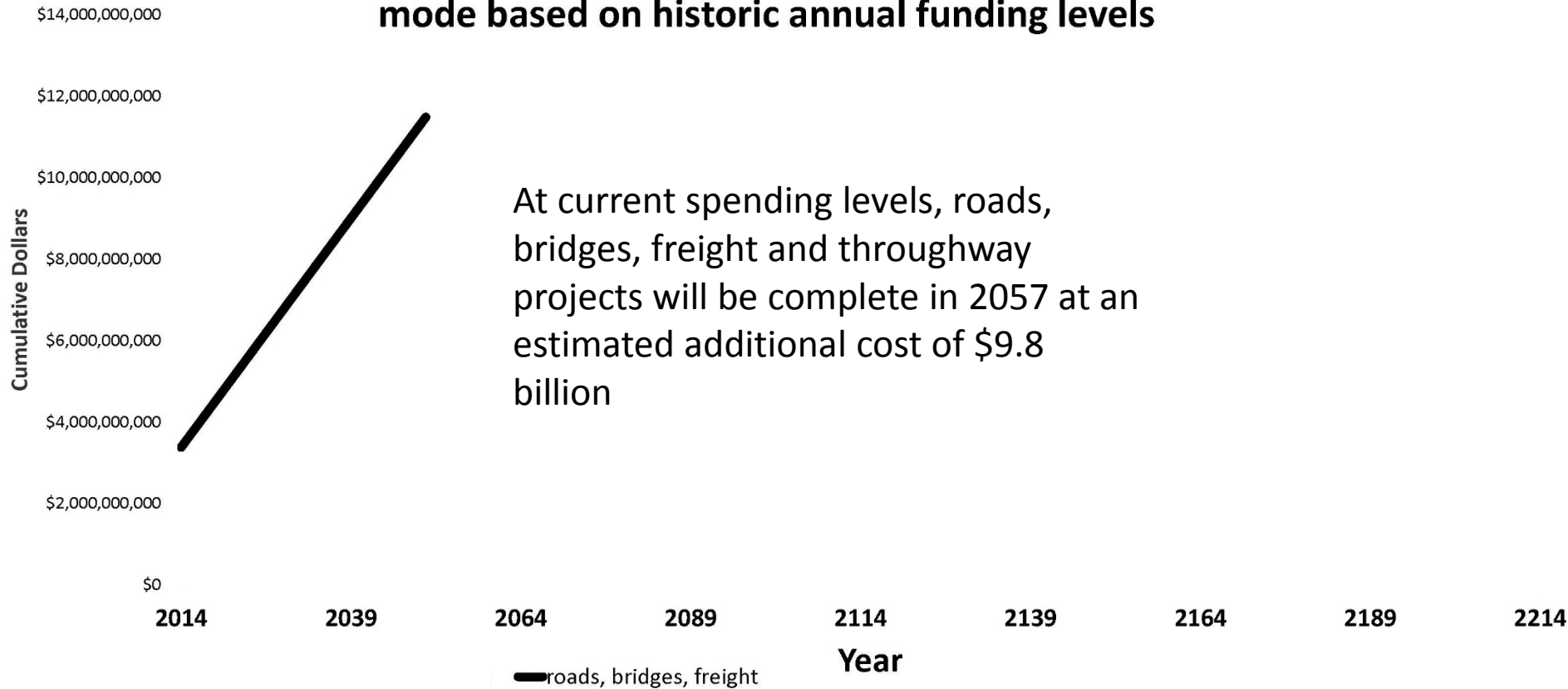
Trip Distance by Mode



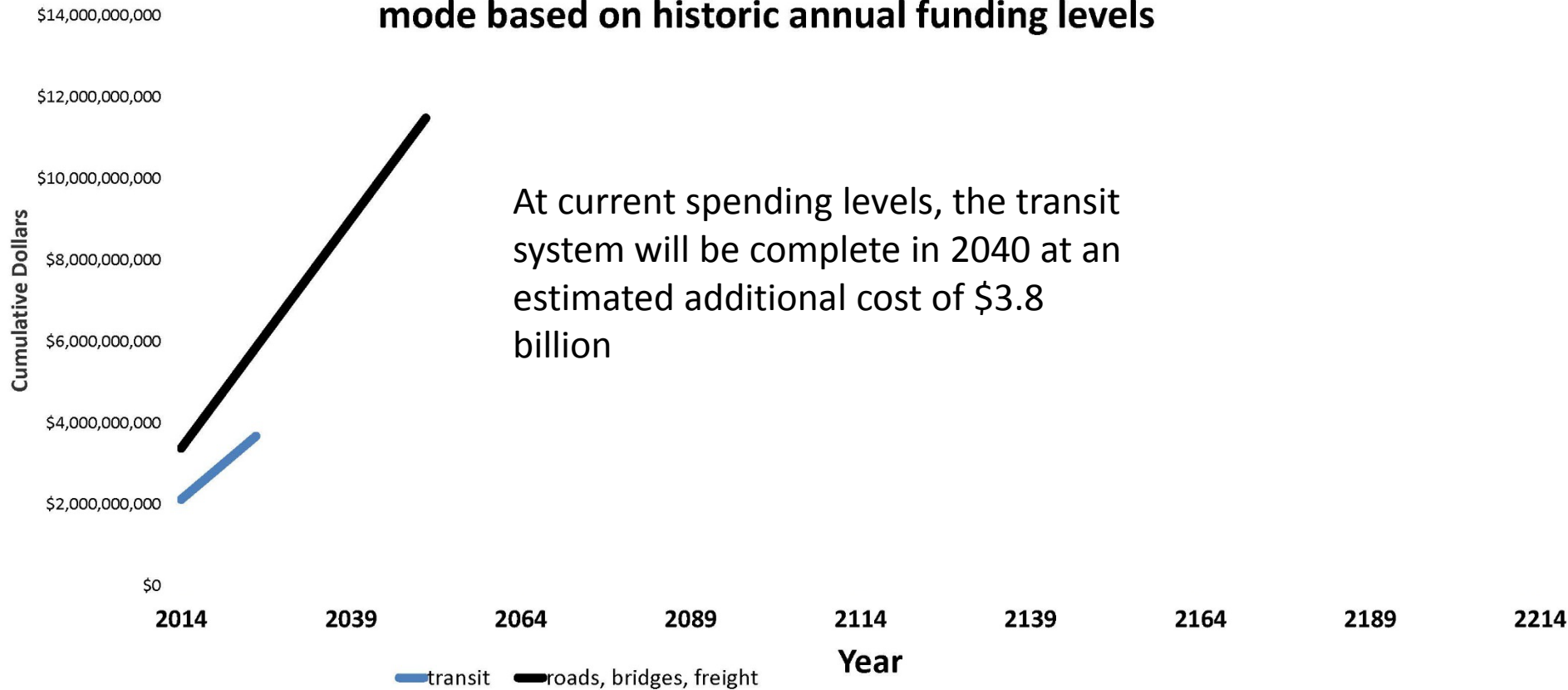
Portland Region Transportation Expenditures Cumulative 1995-2010



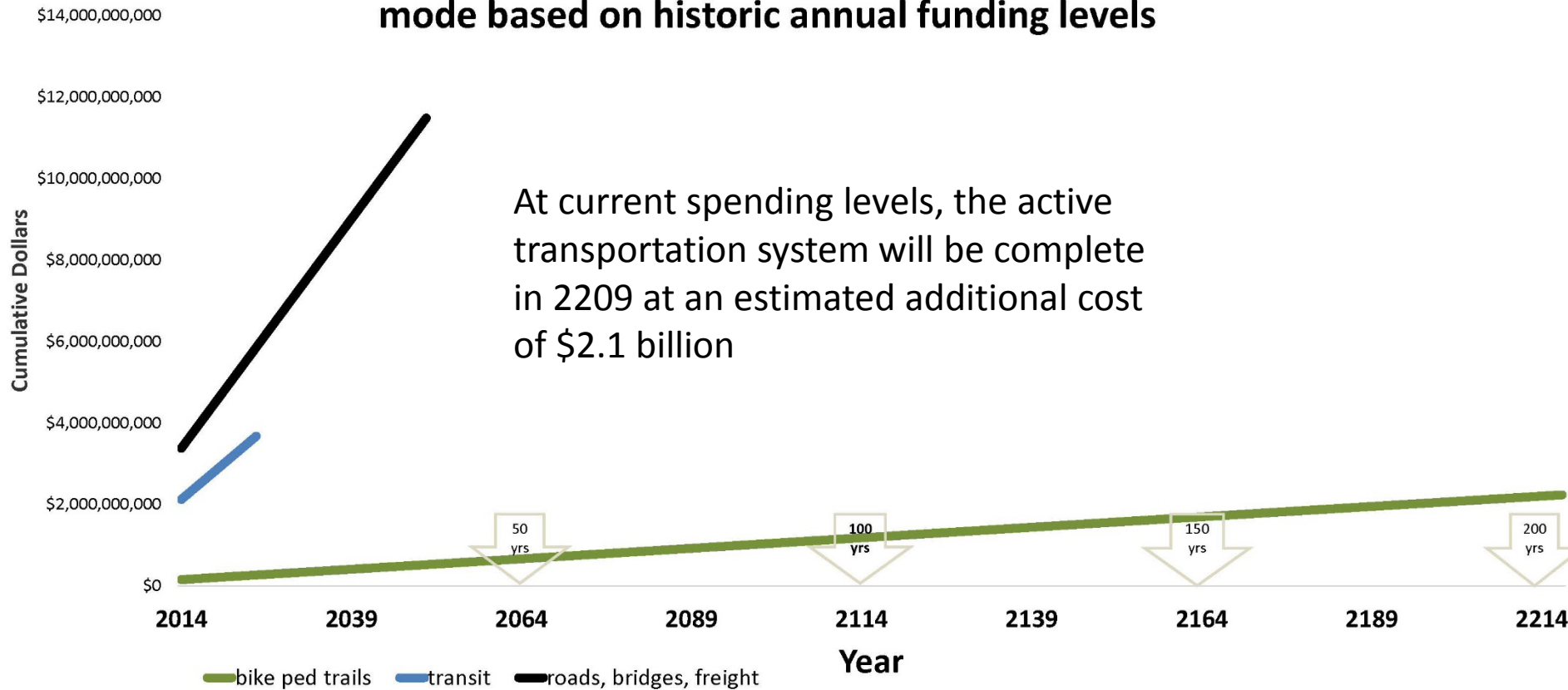
Buildout of Regional Transportation Plan financially constrained projects by mode based on historic annual funding levels



Buildout of Regional Transportation Plan financially constrained projects by mode based on historic annual funding levels



Buildout of Regional Transportation Plan financially constrained projects by mode based on historic annual funding levels



Principal takeaways 2000-2014

- The number of regional commuters grew 17% in the period 2000 to 2014
- Multnomah County accounted for 47% of the growth; Washington County for 36% and Clackamas County for 16%
- MultCo has least growth in drive-alone commuting (6%); WashCo had most growth (16%); ClackCo was at 8%
- Regionally, drive alone commuters increased 10% and accounted for 43% of the growth in commuters

Principal takeaways 2000-2014

- None of the counties saw the number of driving alone commuters increase faster than total growth in commuters
- In MultCo bicycling contributed the most; in WashCo transit contributed the most; in ClackCo working at home contributed the most
- For the region, absolute growth in non-SOV modes collectively exceeded the growth in SOV commuting
- Regionally driving alone dropped from 71.5% in 2000 to 67.5% in 2014

Principal takeaways 2000-2014

- The number of commuters within the UGB grew 12% in the period 2000 to 2014
- Driving alone represented only 42% of growth in UGB commuters
- Most UGB commuters (58%) live in areas where driving alone grew slower than the growth of commuters
- Eighteen percent (18%) of UGB commuters live in areas where driving alone grew faster than the growth of commuters; in those areas driving alone accounted for 86% of the growth in commuting

Principal takeaways 2000-2014

- The number of Portland commuters grew 20% in the period 2000 to 2014
- Driving alone dropped from 64% of all commute trips in 2000 to 58% in 2014
- Driving alone increased 9%, well less than the 20% growth in Portland commuters
- Driving alone represented only 28% of growth in Portland commuters
- Increase in Portland commuters accounted for 45% of growth in regional commuters

Principal takeaways 2000-2014

- It is Portland's significant growth in bicycling and working at home that have been the principal reasons why the region is moving in a positive direction in achieving its transportation policies.

Questions

- Which are the census tracts where the number of commuters is increasing the most?
- Which are the census tracts where drive alone commuters are growing more slowly than the overall growth in total commutes?
- In those census tracts, what is taking the place of drive-alone commuters?
- **What are the overall characteristics of those census tracts where drive alone commuting is not growing as fast as overall growth in commuting?**
- What has been the relationship between bus transit and rail transit?

**Policy leads to investment leads
to desired outcomes.**