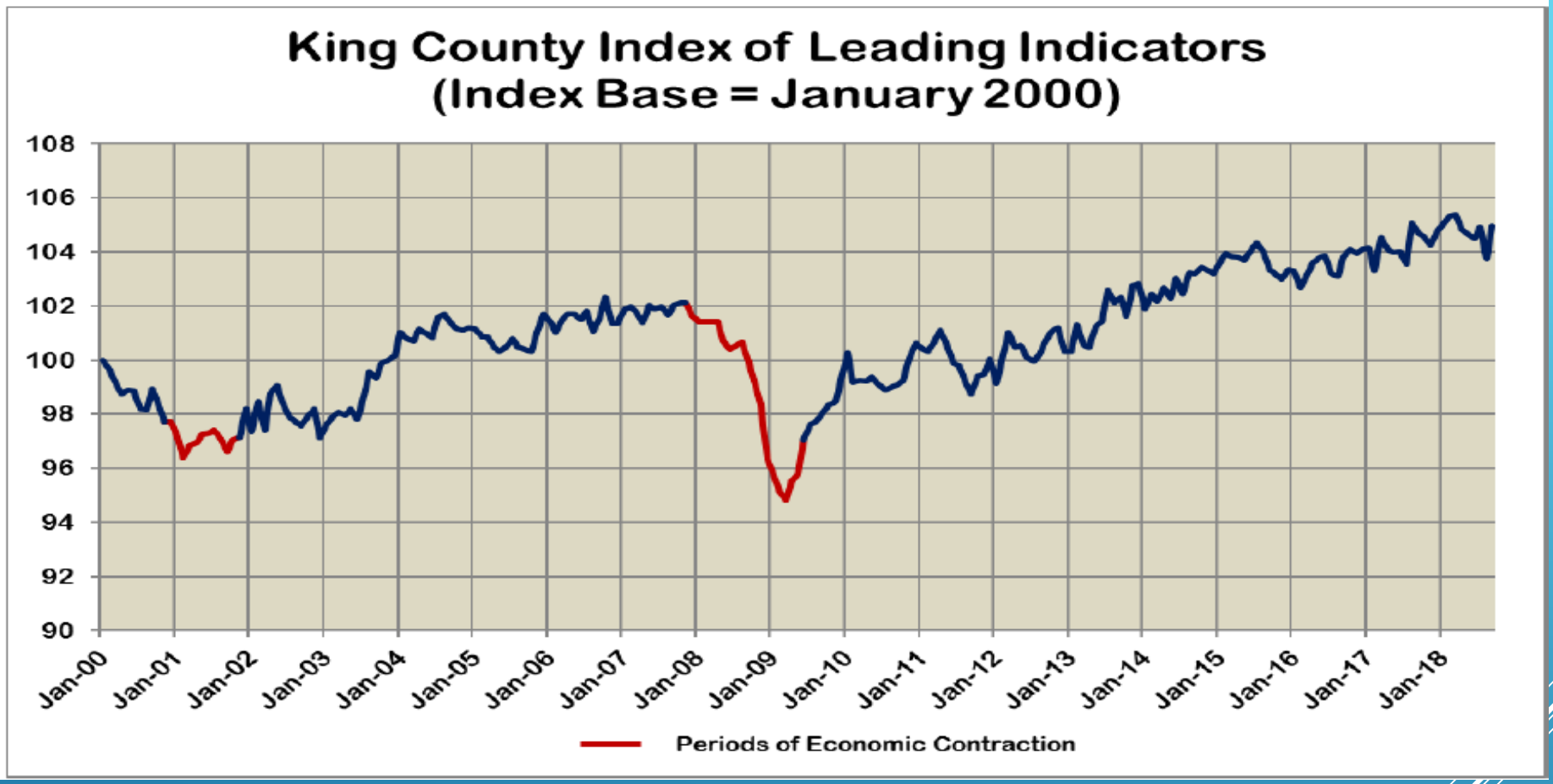
REGIONAL ECONOMIC DEVELOPMENT
FEBRUARY 7, 2019 IN LYNWOOD, WA

ALEXANDER RIST, ECONOMIST
KING COUNTY, SOLID WASTE DIVISION

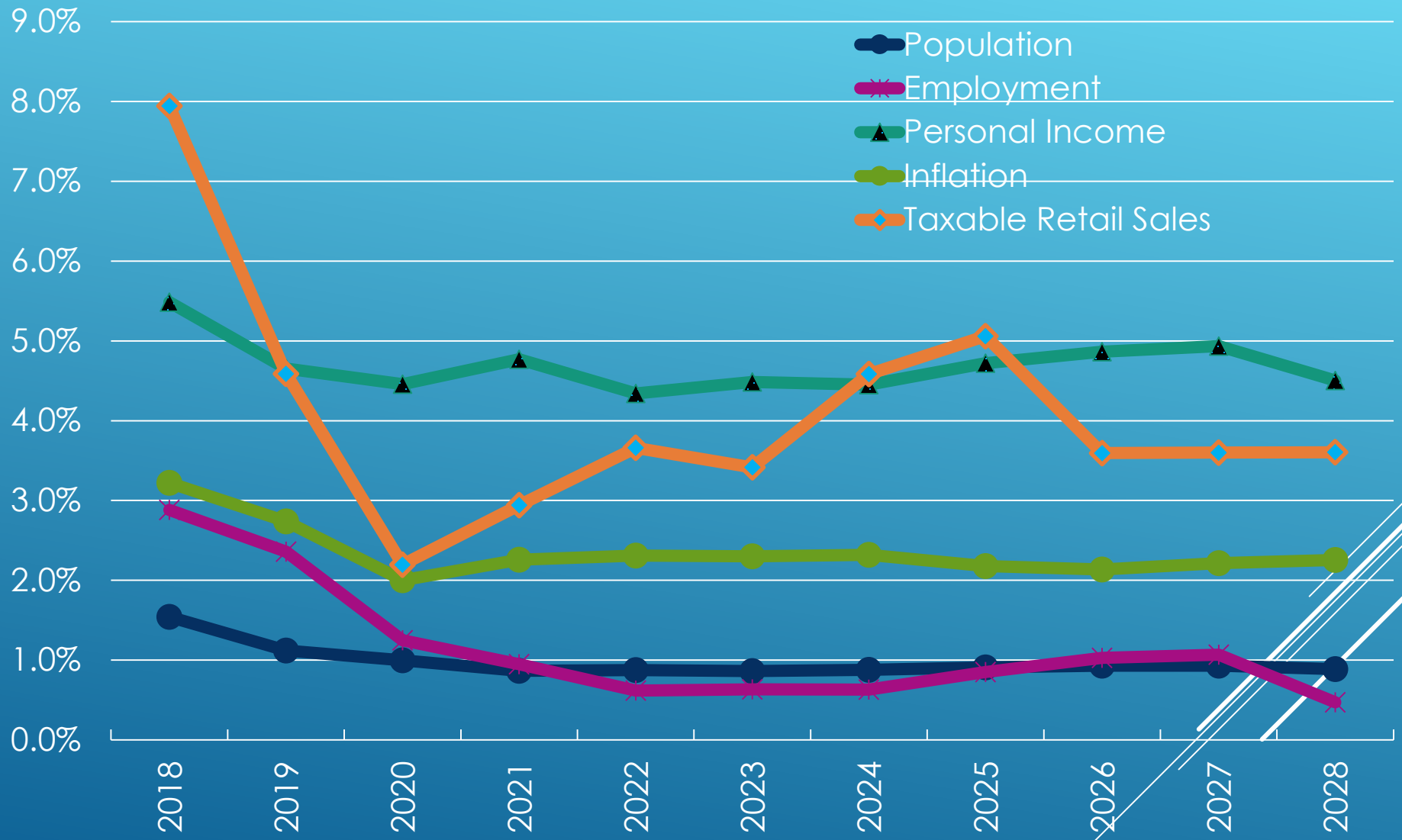
OVERVIEW

- Regional economy – beyond Amazon
  - Microsoft, Boeing, Blue Origin, google, Construction
- Labor Market, Robots
- Environment

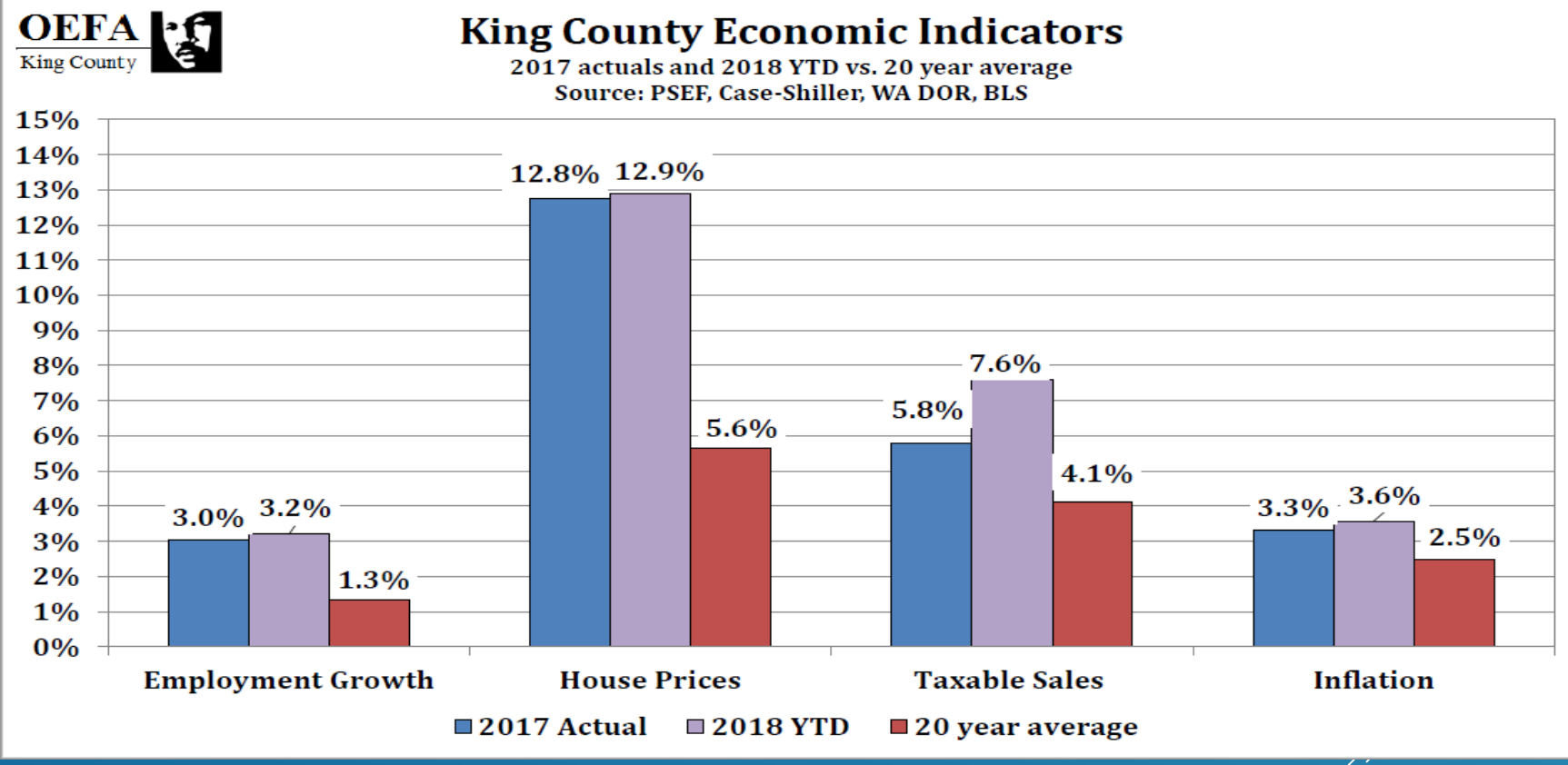


LEADING INDICATOR FOR THE REGIONAL ECONOMY – KING COUNTY

King County Growth Rate Econ Components

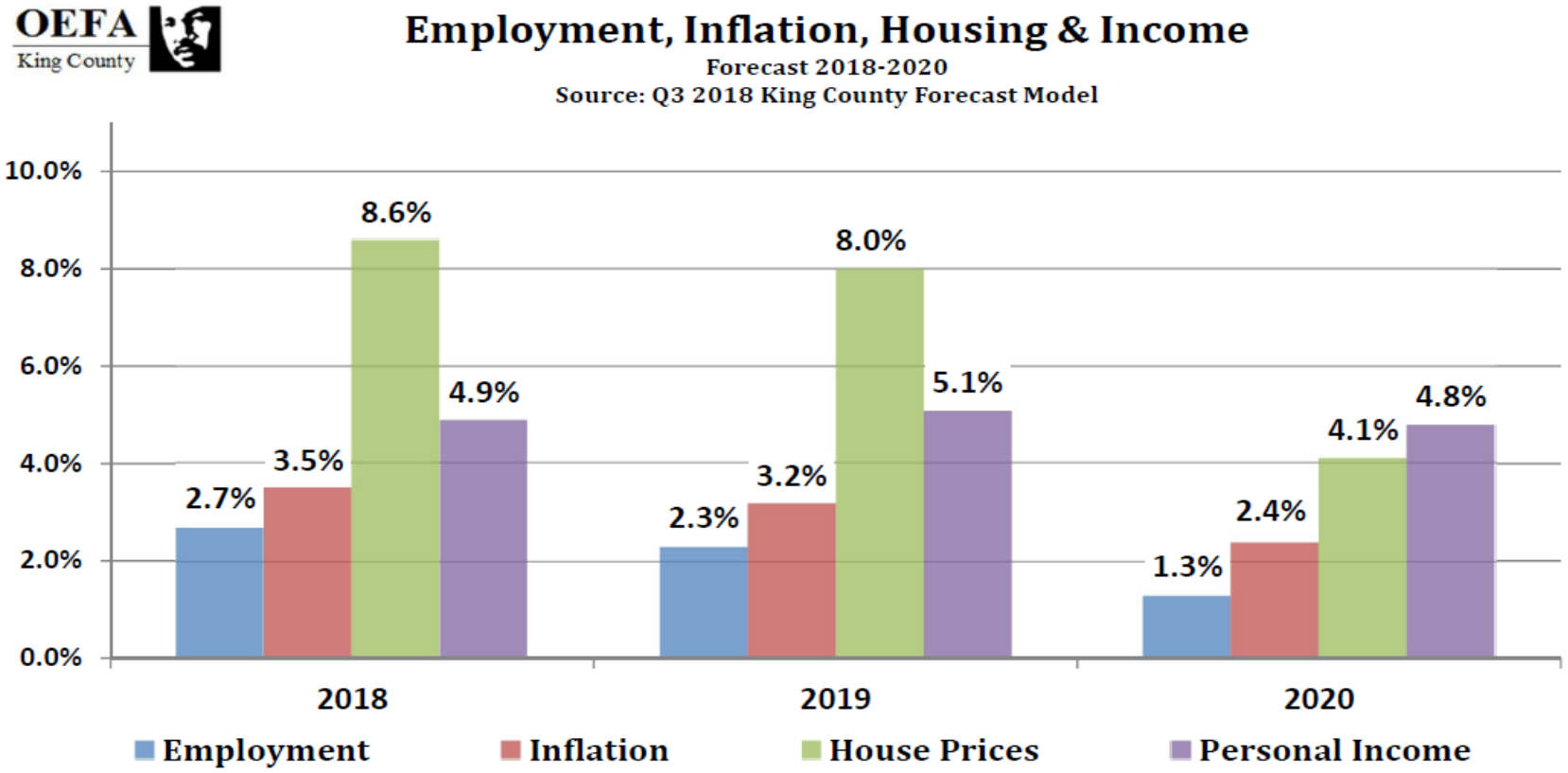


The King County indicators were strong in 2017 and are holding up thus far in 2018

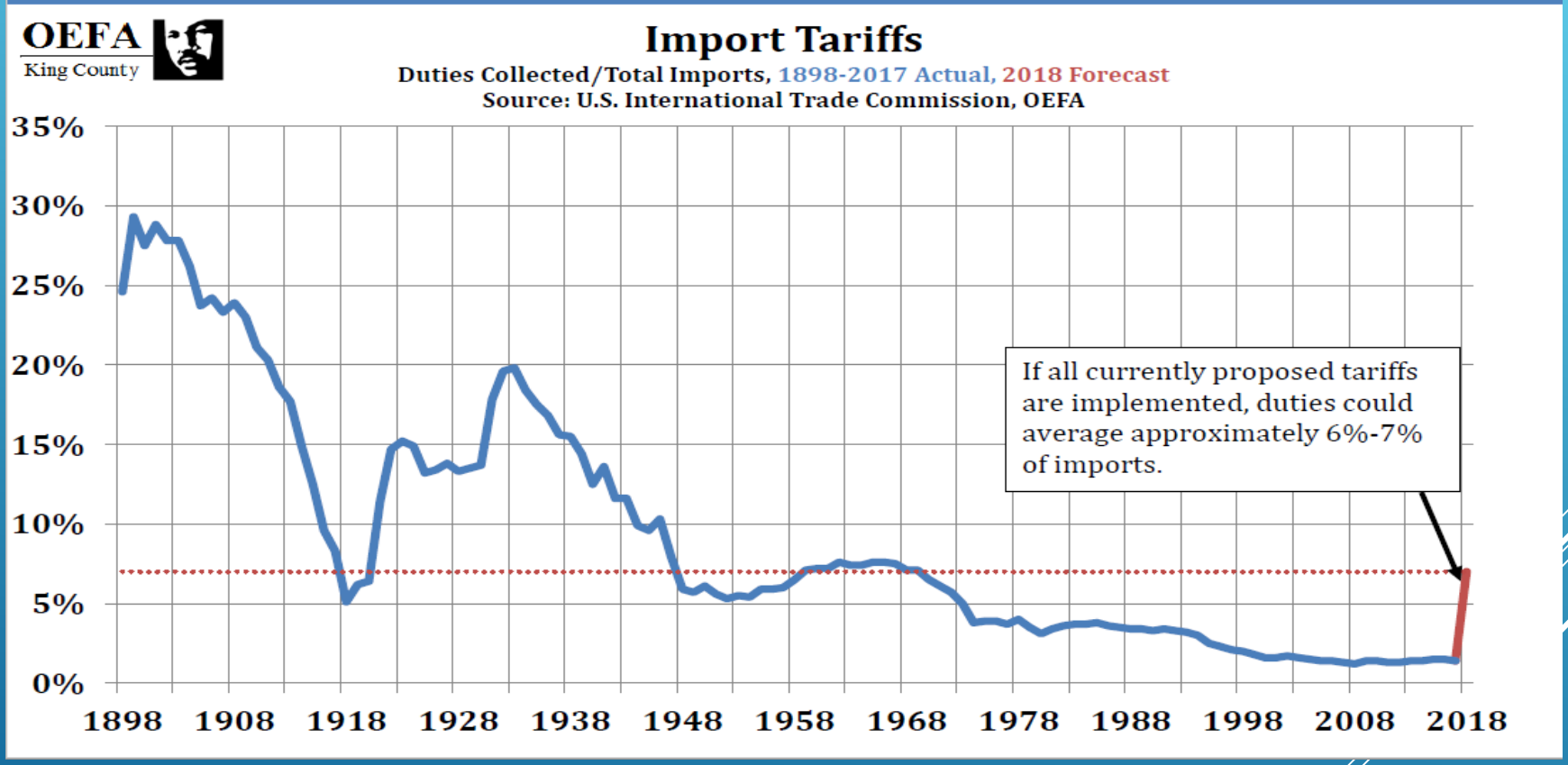


The KC forecast for 2018-2020 calls for growth but at a reduced pace

OEFA King County



Tariffs cloud the global growth picture…return to the 1960s?



Information employment overtook manufacturing for the first time in 2017

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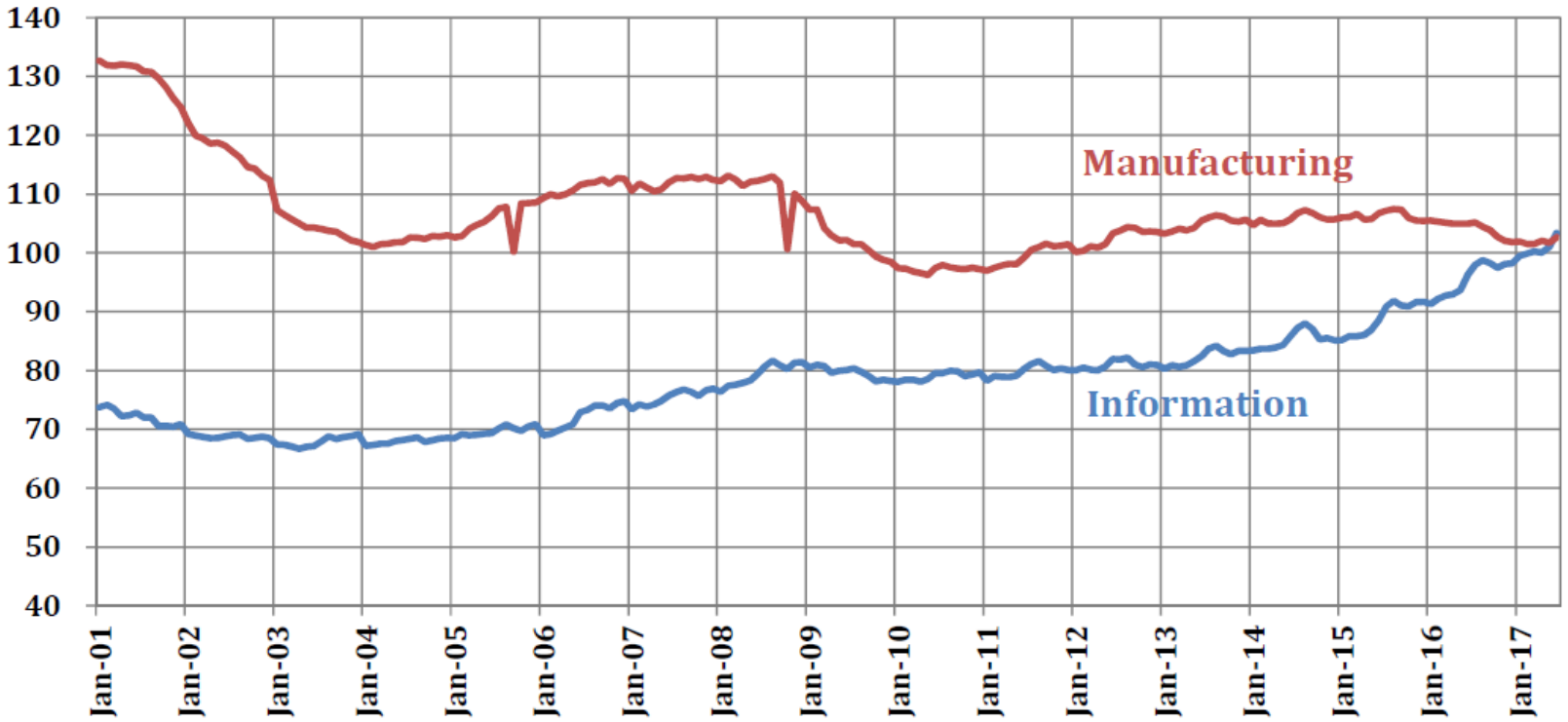
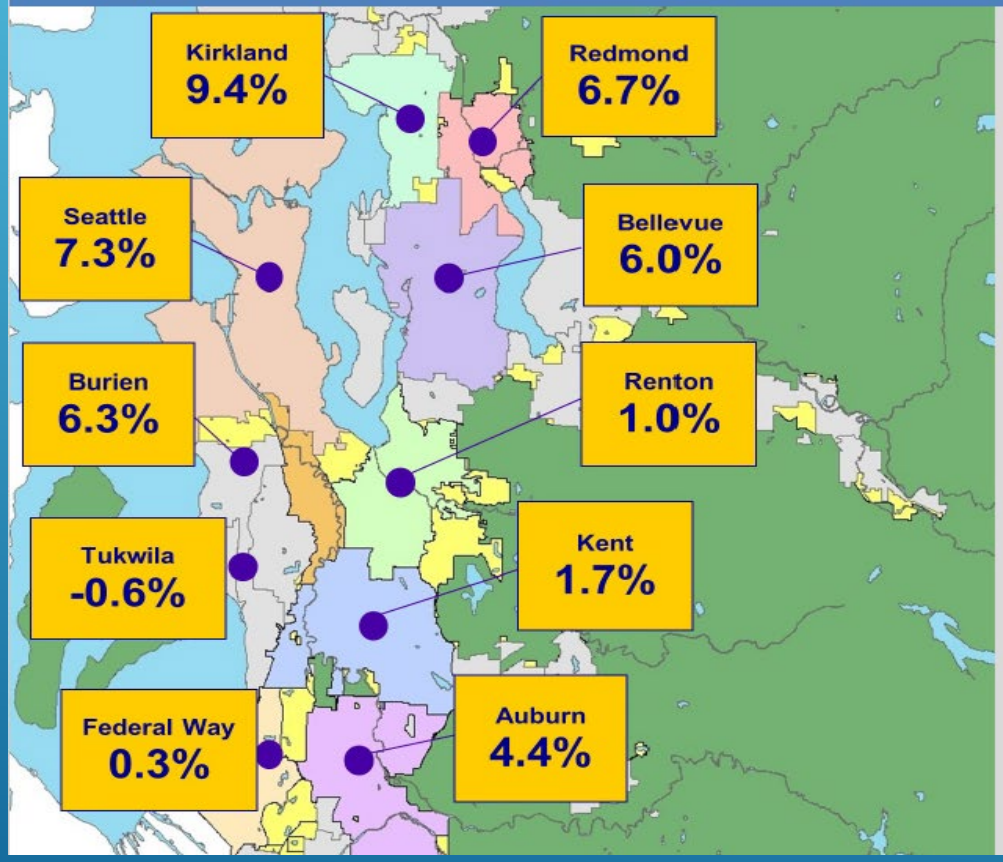
King County Manufacturing and Information Employment

Manufacturing and Information jobs in thousands

Source: Bureau of Labor Statistics



Taxable sales growth was variable around the County in 2017



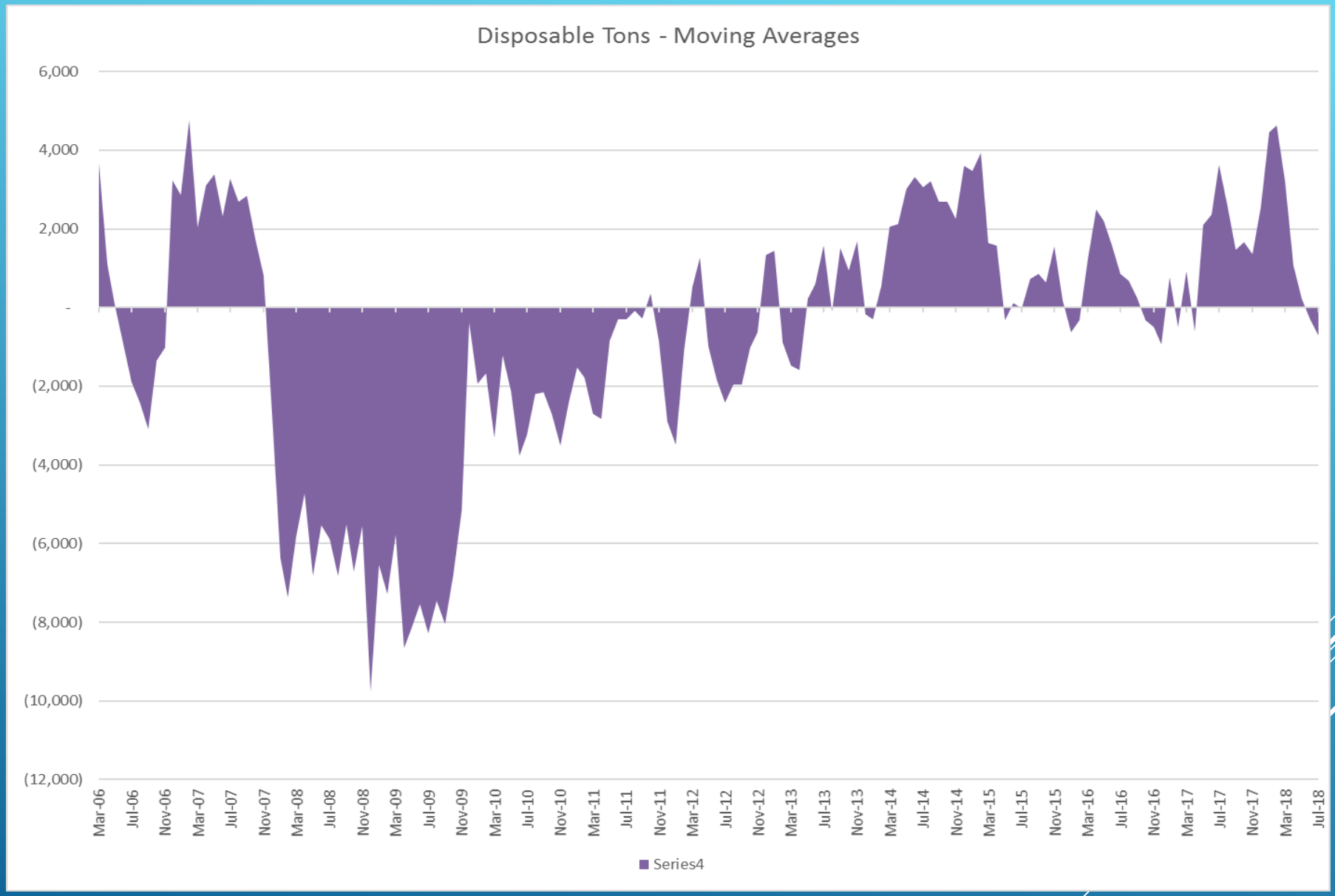
2017 Taxable Sales from select KC cities

- Strong growth in the north and east
- South growing slowly (or contracting!)

Source: WA DOR Taxable Retail Sales DB

RECESSION WATCH PUGET SOUND REGION

- We reached peak economic activity (2016)– measured in additional jobs
- About 24-36 months after peak we experienced recessions on the past cycles.
- A recession is possible – later. I expect the next recession around 2020/21. We are at the tail-end of the recovery from the 2009 recession.
- Financial markets could get jolted by any unexpected event or a too speedy monetary tightening. Credit is tightening and from there the cycle goes down.
- Check interest rates increases. Leverage will get more expensive.
- Morgan Stanley makes a US - recession call for a "shallow recession" for the time past 2018. A 20-25% drop in stock markets is expected (1/4/2018).
- Governor Brown, CA warns of recession in the near future.


Disposable Tons - Moving Averages
6,000
4,000
2,000
-
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(4,000)
(6,000)
(8,000)
(10,000)
(12,000)
Mar-06
Jul-06
Nov-06
Mar-07
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Series4

CONCLUSIONS FOR KING COUNTY BASED ON ECONOMIC DATA

- ✓ **No Recession in the very near future (2018/19)– we keep growing at a rate exceeding the national growth rate. Microsoft campus construction, Light rail construction (and hopefully more infrastructure spending) will keep region afloat**
- ✓ **Factors** working against the growth/boom story: **Interest rate increases**, Car and student loans, (Trade)- Policies out of DC, Middle East, Asian political developments (N-Korea), business cycle dynamics (inverted yield curve).

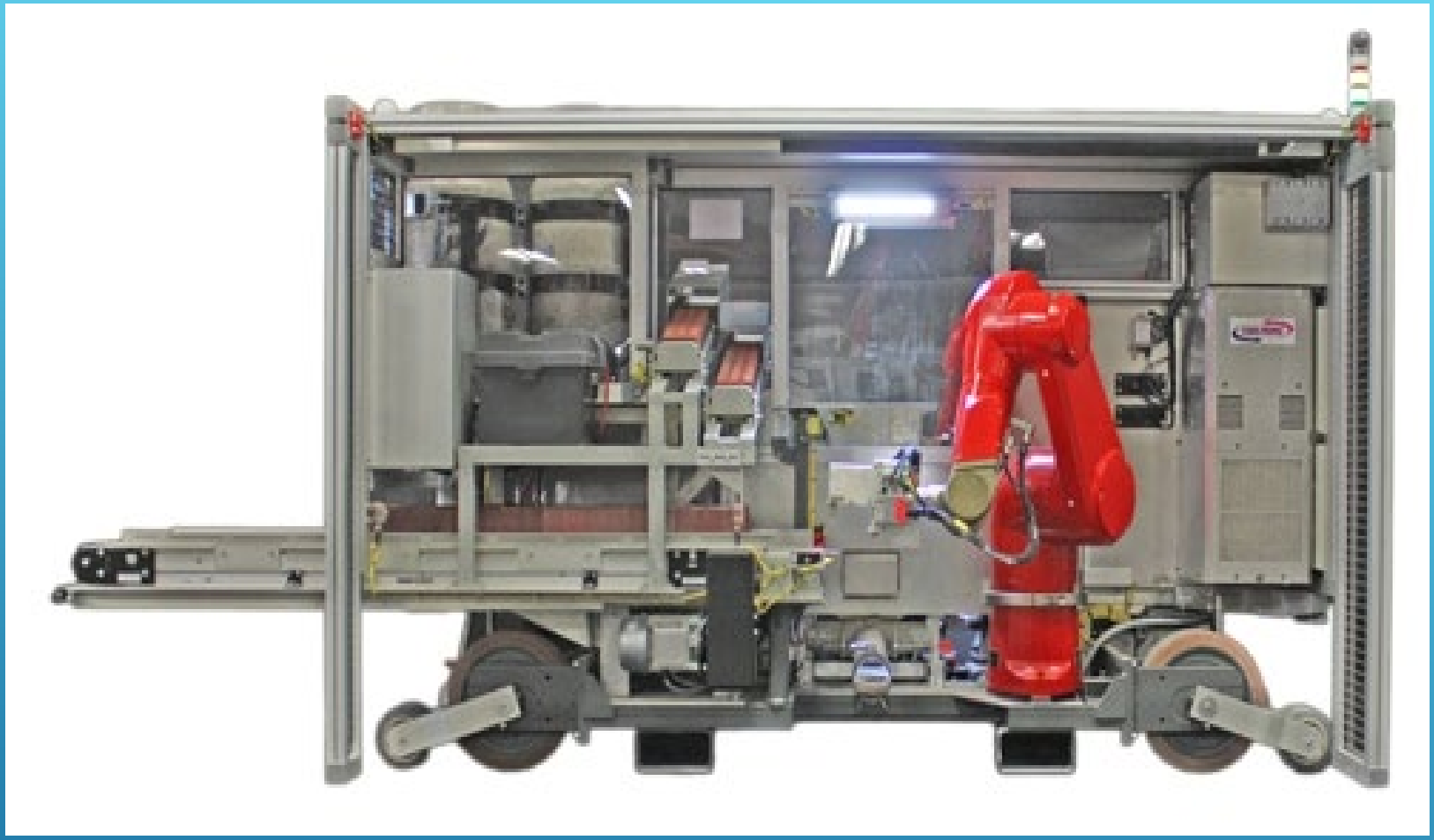
SALARIES: SEATTLE AND REST OF USA

(DATA 08/2018 BY GLASSDOOR.COM)

Area	Median Base Pay	YoY %
U.S. National	$52,461	2.4%
San Francisco	$69,887	3.2%
Los Angeles	$61,137	2.6%
Philadelphia	$55,859	2.5%
New York City	$62,338	2.5%
Atlanta	$54,237	2.4%
Seattle	$61,929	2.3%
Chicago	$56,636	2.3%
Boston	$59,712	1.7%
Houston	$55,481	1.6%
Washington DC	$59,990	1.3%

LABOR MARKET: FACTORS FOR MOVING

- **Company culture** is a **top factor** driving people to move, more so than salary, the study finds.
- A company with a 1-star higher overall Glassdoor rating is **six times** more likely to attract a candidate than a company that's offering $10,000 more in salary, but has a lower culture rating. Salary can help entice workers to move from other cities, but at a much smaller percentage. An extra $10,000 higher base salary predicts applicants are only half a percentage point more likely to move.



ROBOTICS
SAM100 – SEMI AUTOMATIC MASON

ROBOTS AND OUR FUTURE – 3 D PRINTED HOUSE

FORD TESTING CAR SEAT WITH ROBUTT

- Robots and Artificial Intelligence (AI) will shape labor markets in the years to come
- Certain tasks will be taken over by robots/AI and will redefine a job (semi-automatic mason).
- Job replacement example: Legal compliance (lawyers) in banks are being replaced by machine learning applications

WHAT TO EXPECT IN THE FUTURE?

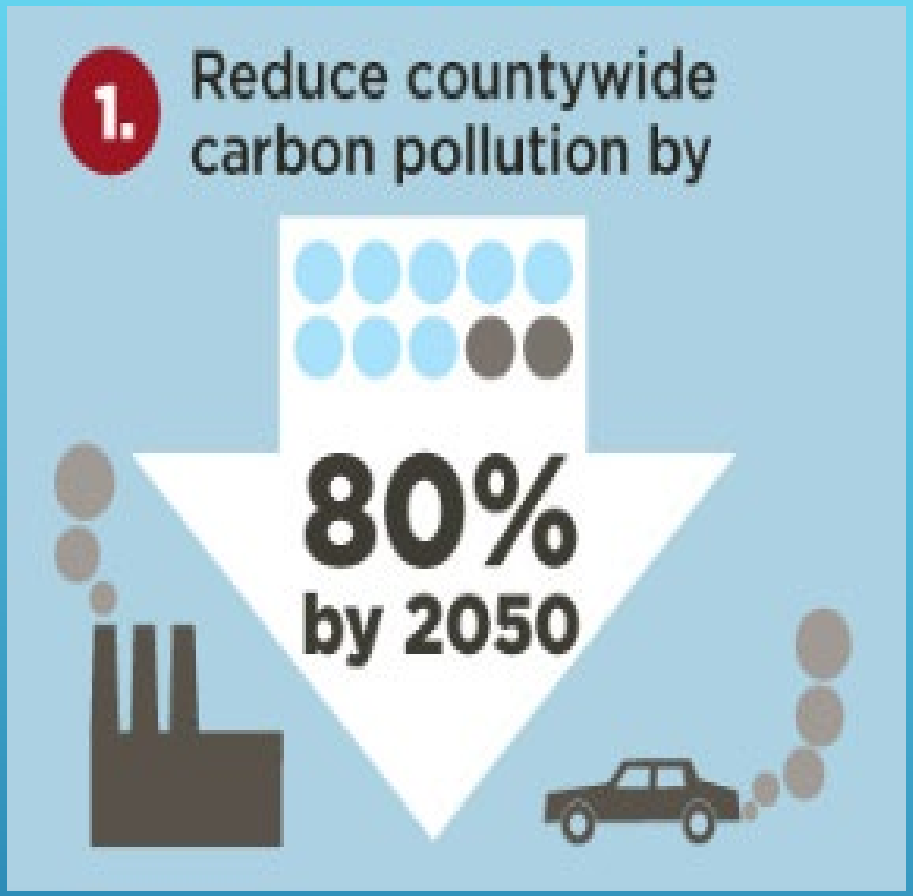
Not jobs will be replaced but some specific tasks within jobs. Consequence: Price drops – demand rises for those tasks/jobs.

EXECUTIVE DOW CONSTANTINE

"By embracing the highest green-building standards in the nation, we are taking action to meet our goal of cutting in half the climate impact of County operations. At the same time, we will save money on the energy needed to operate our facilities."

GREEN BUILDING ORDINANCE 17709

- Platinum goal for Scorecard projects
- Minimum Performance Requirements
  - Meet SCAP and Energy Plan requirements for emission and energy reductions
  - 80% C&D diversion rate by 2016, 85% C&D diversion rate by 2025
    - In 2015 we reached 84% Recycling Rate for Construction and Demolition Waste
  - Use of King County Stormwater Design Manual
- Green building reporting
- LCCA
- Green O&M
- Ecocharrette



2015 STRATEGIC CLIMATE ACTION PLAN

ZERO ENERGY CERTIFICATION

Petal Certification

LIVING BUILDING CHALLENGE

<u>SCAP Priority Action:</u> By 2020, build/develop/sponsor 10 Net Zero Energy or Living Building Challenge projects.

- **15 Projects have been identified**
- **5 Registered Projects**
- **6 divisions:** Parks, WTD, Transit, SWD, DCHS, KCIA
- **Project types:** Office/Workshop, industrial, affordable housing, infrastructure, classroom, comfort station, bus station

THE END

- **Questions?**
- **Answers….**

From 2016-2026, U.S. job growth will be highest amongst those with advanced degrees, but…

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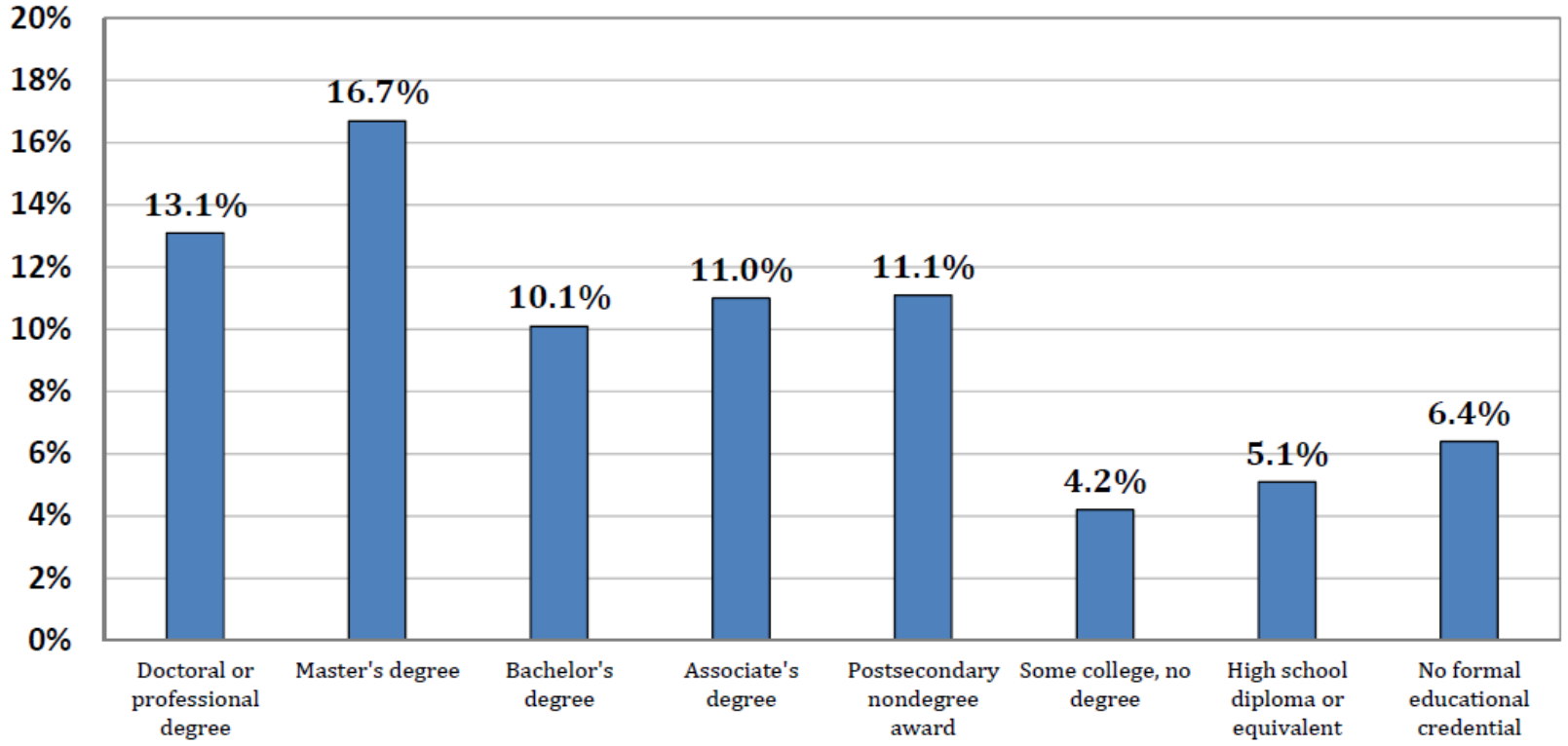
U.S. Occupational Growth by Educational Attainment

Forecasted employment growth by education from 2016-2026
Source: BLS



Likely reflecting the productivity of local workers

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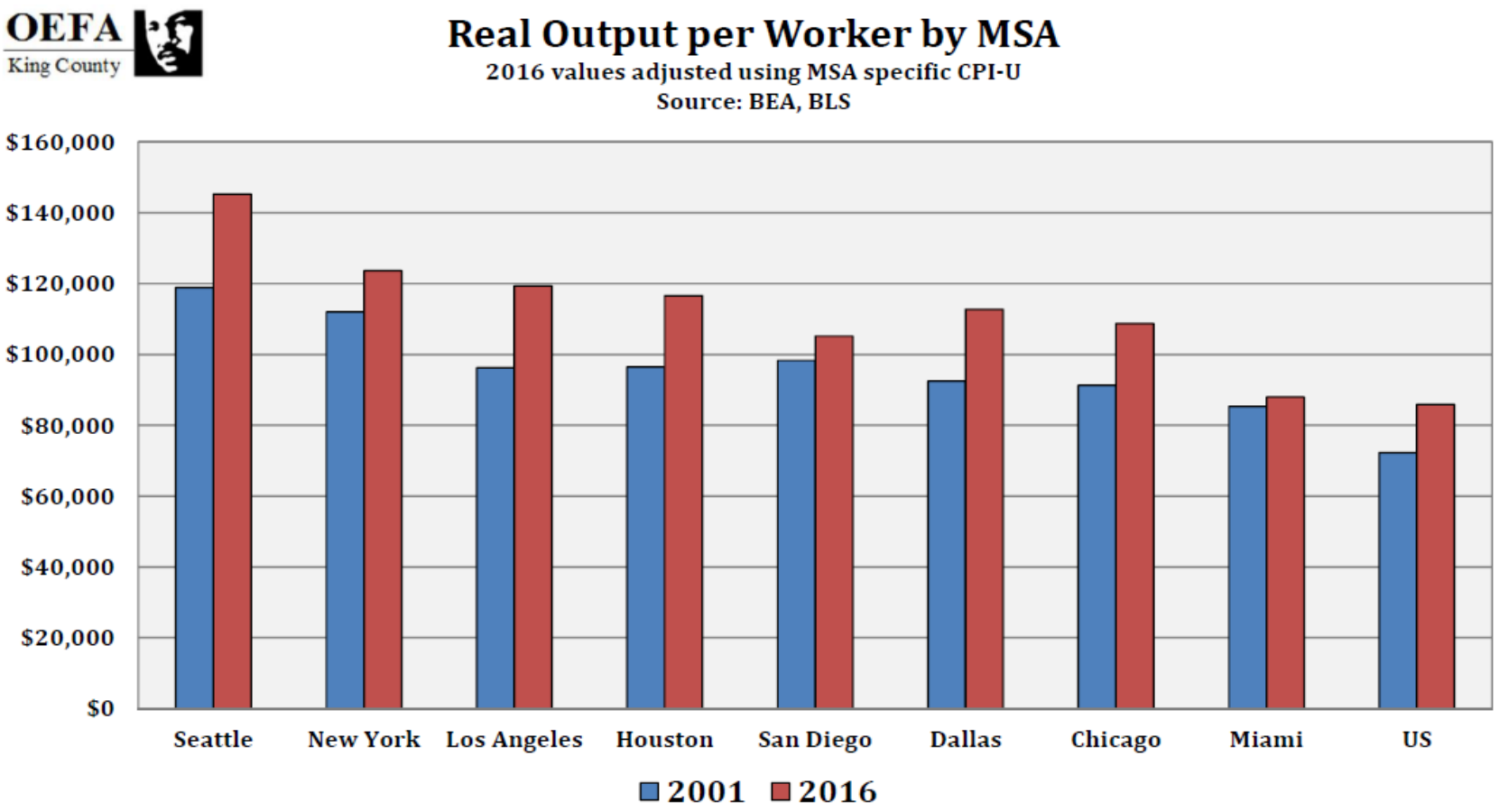

Seattle area home prices reach new highs, though they have slowed of late

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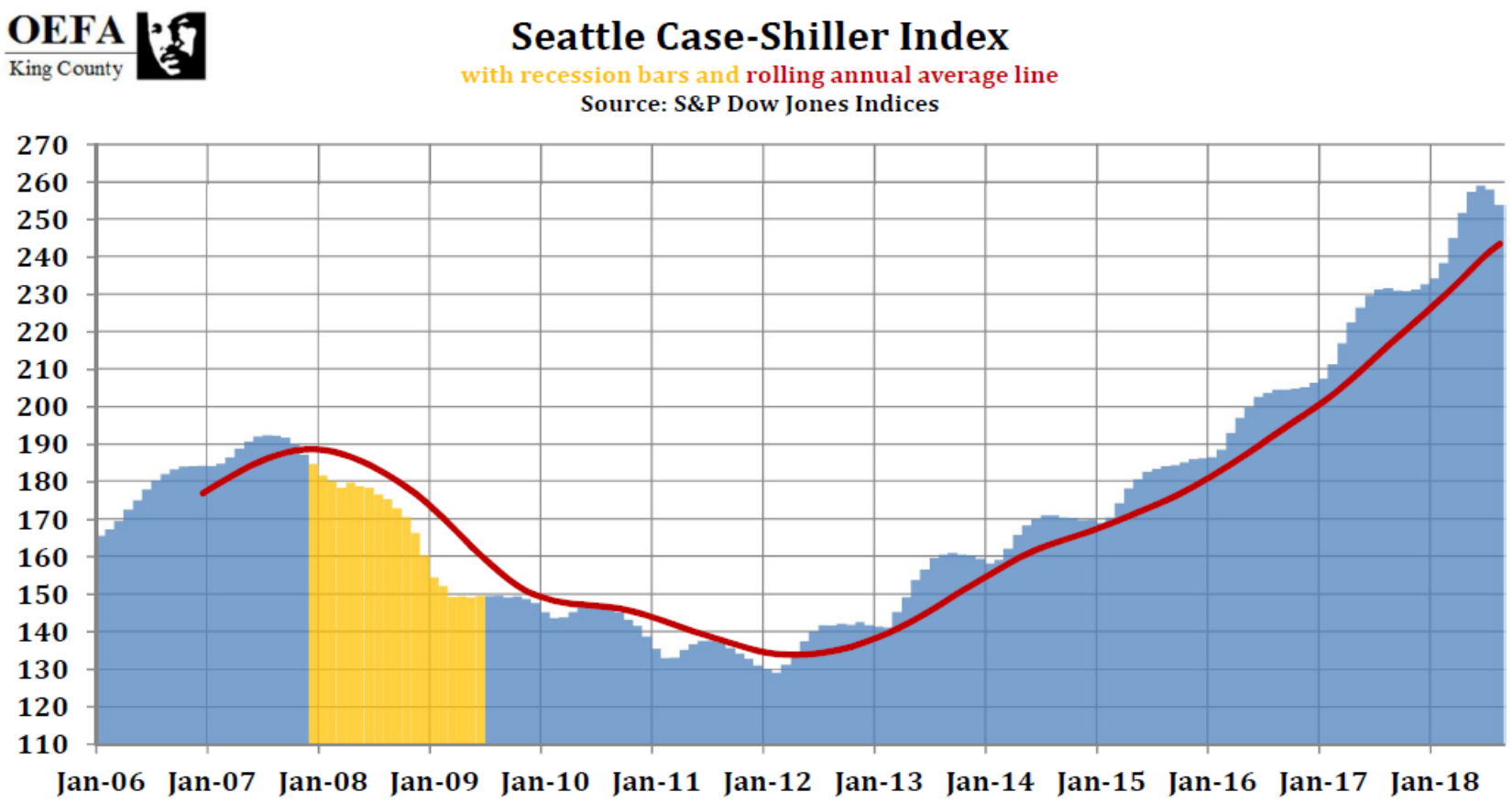

Tax Revenue-Taxable Sales to Income Ratio Falling

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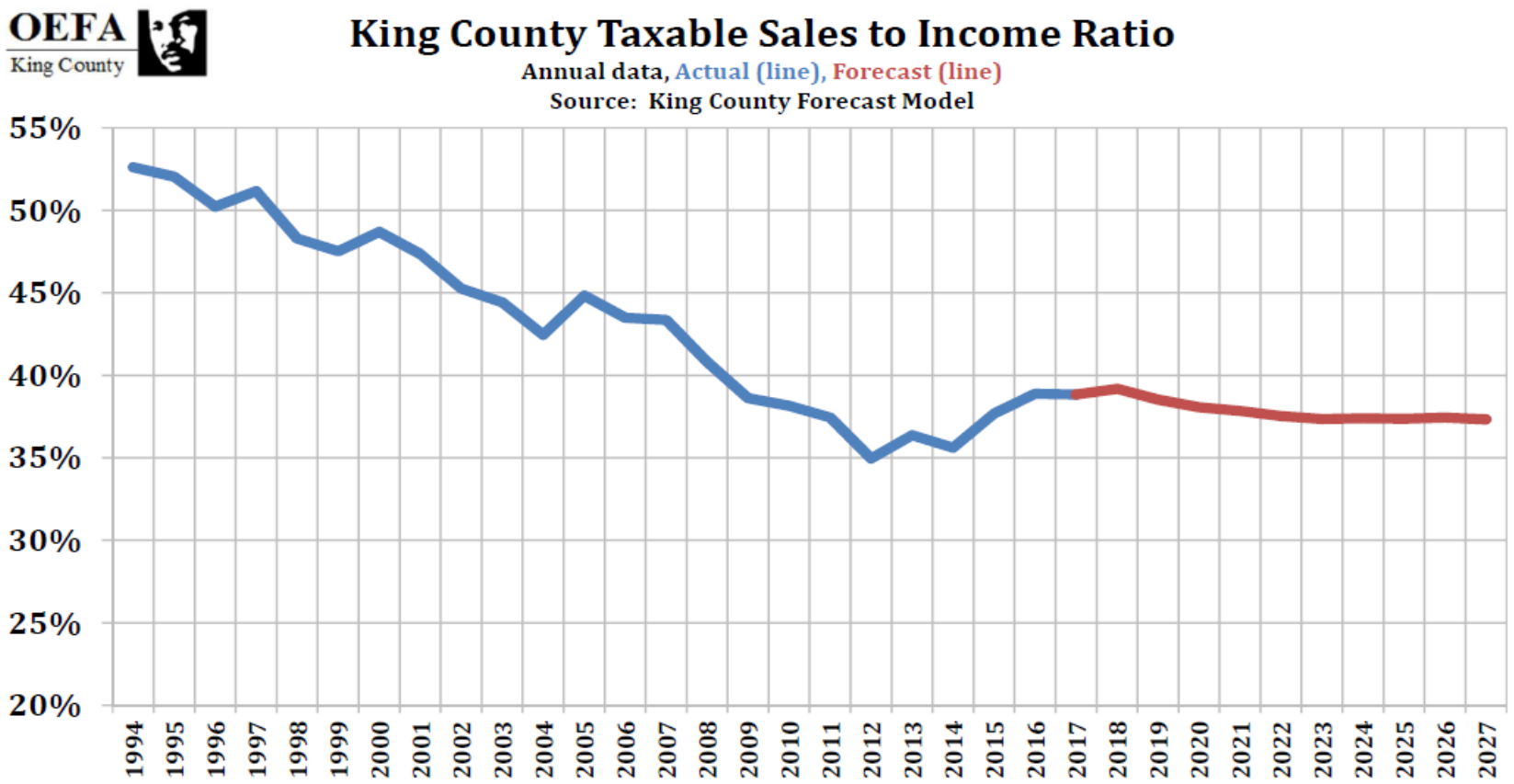
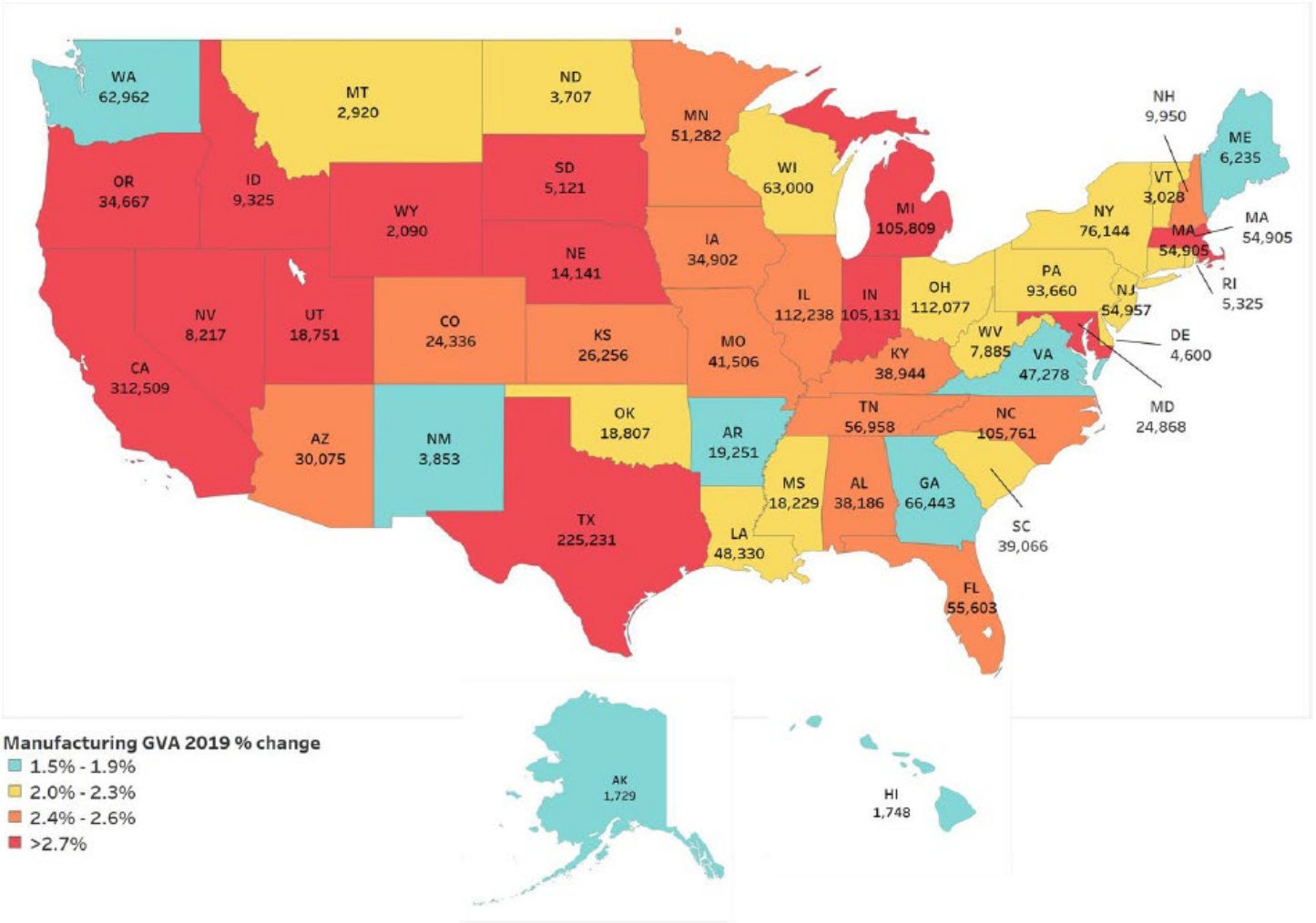


US manufacturing boosted by energy, investment & technology

US - Top 12 Fastest Growing out of 254 Granular Industries (2019 Real Gross Output Growth Forecast)		
NAICS Code		Annual Growth (%)
211111C	Crude oil extraction	9.2
51913	Internet publishing, broadcasting & web search portals	8.8
33313	Mining and oil and gas field machinery	8.5
32512	Industrial gases	8.0
211112	Natural gas liquid extraction	7.7
32513	Synthetic dyes & pigment	7.3
5174, 5719	Satellite broadcasting, telecom resellers, & all other	6.9
33612	Heavy duty trucks	6.9
51121	Software publishers	6.9
33422	Broadcast and wireless communications equipment	6.8
5182	Data processing, hosting & related services	6.5
211111G	Natural gas extraction	6.2

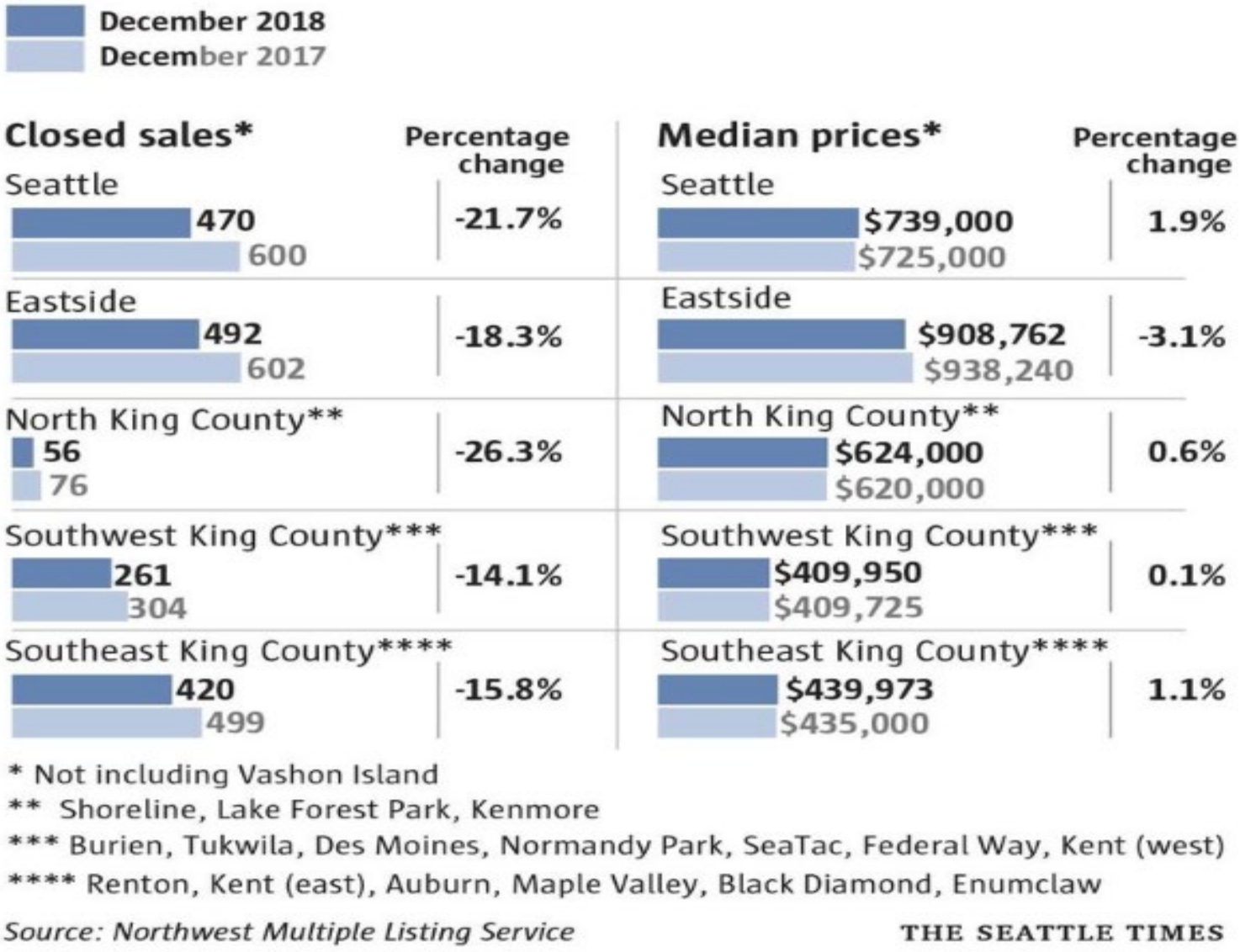
Source: Oxford Economics

What is the location of fastest manufacturing growth?



OXFORD ECONOMICS

December home sales in King County



* Not including Vashon Island

** Shoreline, Lake Forest Park, Kenmore

*** Burien, Tukwila, Des Moines, Normandy Park, SeaTac, Federal Way, Kent (west)

**** Renton, Kent (east), Auburn, Maple Valley, Black Diamond, Enumclaw

Source: Northwest Multiple Listing Service

THE SEATTLE TIMES

Washington Exports to China

Leading exports to China, 2017 and as share (%) of total WA product exports

Product	Exports to China (mils $)	Share of All Markets
Civilian Aircraft, Engines, And Parts	$10,435.7	25.1%
Wood In The Rough, Stripped Or Not Of Sapwood Etc	$363.0	19.3%
Medical, Surgical, Dental Or Vet Inst, No Elec, Pt	$303.5	19.6%
Wheat And Meslin	$248.4	22.3%
Copper Ores And Concentrates	$139.0	17.3%
Chemical Woodpulp, Dissolving Grades	$119.2	15.2%
Apricots, Cherries, Peaches, Plums & Sloes, Fresh	$105.1	13.7%
Rutabagas, Hay, Clover & Other Forage Products	$103.9	14.6%
Fish, Frozen (no Fish Fillets Or Other Fish Meat)	$89.7	17.7%
Grain Sorghum	$89.0	17.7%

Source: U.S. Census Bureau, Foreign Trade Division, 2018; St. Louis Federal Reserve, 2018; Community Attributes Inc., 2018.

- Leading products, after removing those only consolidated in state but not produced here (e.g., soybeans) or with minimal value-added (e.g., cars).
- More than a quarter of aircraft sales to China in 2017.

Current Situation

Value of Imports	Additional Duty	Status	Number of Products	China's Actions
$48 billion	25% for steel, 10% for aluminum	June 1		Reciprocal tariffs on 128 products
$34 billion	25%	Imposed July 6	818	Reciprocal tariffs on 545 products
$16 billion	25%	Imposed August 23	279	Reciprocal tariffs on 333 products
$200 billion	10% (25% beginning January 1, 2019)	Took effect September 24	6,031	Tariffs of 5-10% on 5,207 products worth $60 billion and non-tariff actions

- U.S. has now imposed tariffs on 7,128 Chinese products.
- China has imposed retaliatory tariffs on 6,213 products.
- Chinese government imposed tariffs on goods worth 6% of all U.S. exports.

Table 1

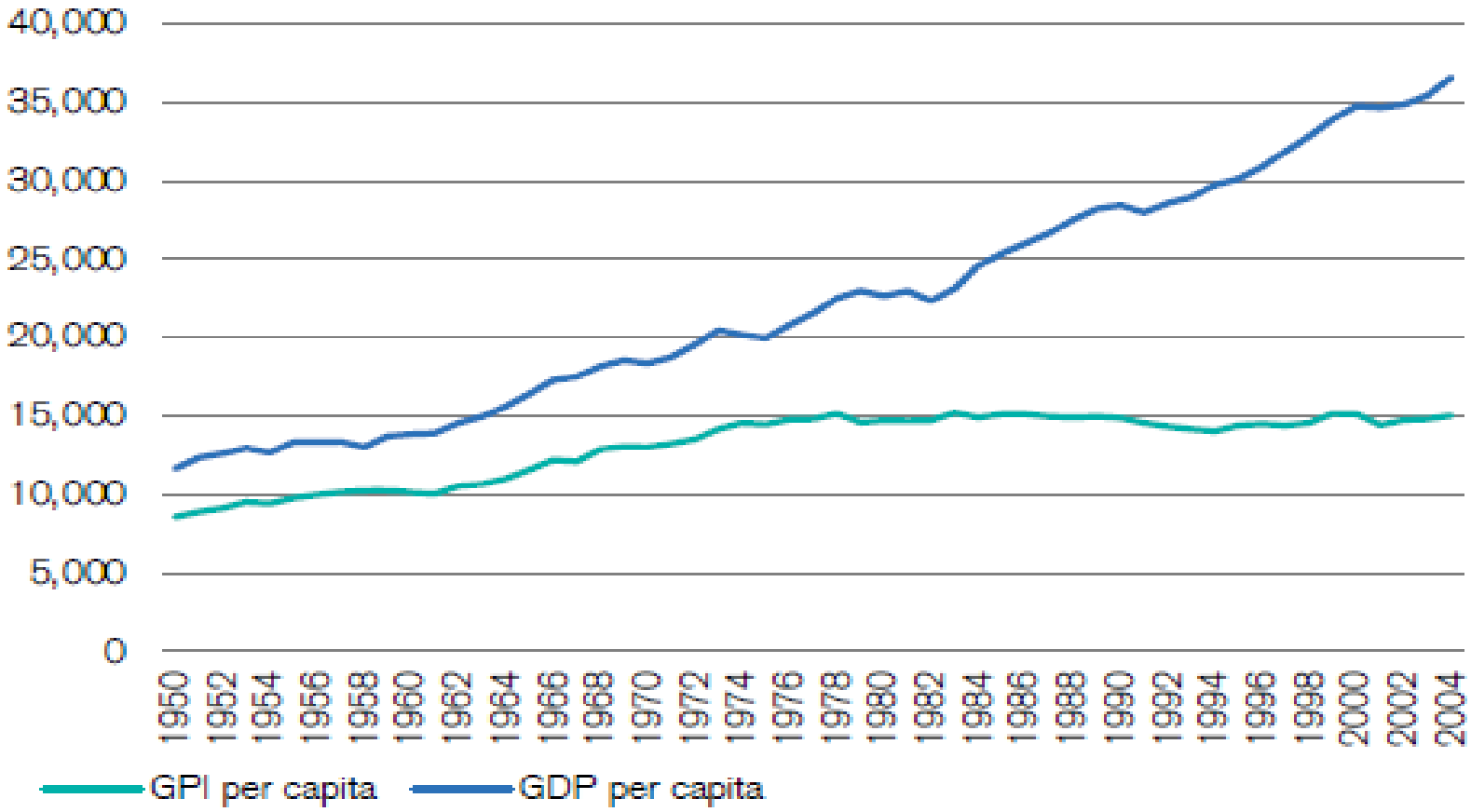
Real income measures, per capita and per household, in the USA: annual percentage rates of growth, 1959–2007

	1959–1972	1972–1982	1982–1989	1989–2000	2000–2004	2004–2007	1959–2007
Deflated by CPI-U							
1. Median CDI	1.22	-0.29	2.16	0.88	0.62	0.16	0.85
2. Median PFI	1.55	-0.38	2.16	1.00	0.69	0.65	0.98
3. Median LIMEW	0.36	-0.68	2.82	0.93	0.96	0.22	0.67
4. Equivalent median LIMEW	0.94	-0.13	3.22	0.97	0.84	0.42	1.01
5. Mean LIMEW	0.53	-0.41	2.87	1.90	0.22	0.73	0.97
6. Equivalent mean LIMEW	1.11	0.14	3.27	1.94	0.10	0.93	1.31
Deflated by GDP or PCE deflator							
7. Equivalent mean LIMEW (deflated by GDP deflator)	1.02	1.26	3.64	2.74	0.25	0.94	1.76
8. Equivalent mean LIMEW (deflated by PCE deflator)	1.35	1.16	3.25	2.55	0.47	1.29	1.77
9. GDP per capita	2.73	1.34	3.37	2.03	1.26	1.58	2.18
Memo items							
10. CPI-U deflator less GDP deflator	-0.09	1.12	0.37	0.80	0.14	0.00	0.45
11. PCE deflator less GDP deflator	-0.32	0.10	0.39	0.19	-0.22	-0.36	-0.01
12. CPI-U deflator less PCE deflator	0.23	1.02	-0.02	0.61	0.37	0.36	0.46

Notes:
CDI: Comprehensive Disposable Income. CDI equals LIMEW less the value of household production and public individual consumption, per household.
PFI: Post Fiscal Income. PFI equals LIMEW less the value of household production, per household.
LIMEW: Levy Institute Measure of Economic Well-Being, which is income less taxes plus cash and non-cash benefits plus individual public consumption plus household production, with property income valued on an annuity basis, per household.
Equivalent median LIMEW: median LIMEW per equivalent household, i.e. after adjusting for household size and composition.
Equivalent mean LIMEW: calculated as growth of equivalent median LIMEW plus growth of mean LIMEW minus growth of median LIMEW.
In lines 1-6, the deflator is the CPI-U. GDP per capita (line 9) is deflated by the GDP deflator.

Figure 1

Real GDP and GPI per capita, 1950–2004 (in 2000 USD)



Source: Talberth, J., Cobb, C. W., & Slattery, N. (2007). The Genuine Progress Indicator, 2006: A tool for sustainable development. Redefining progress

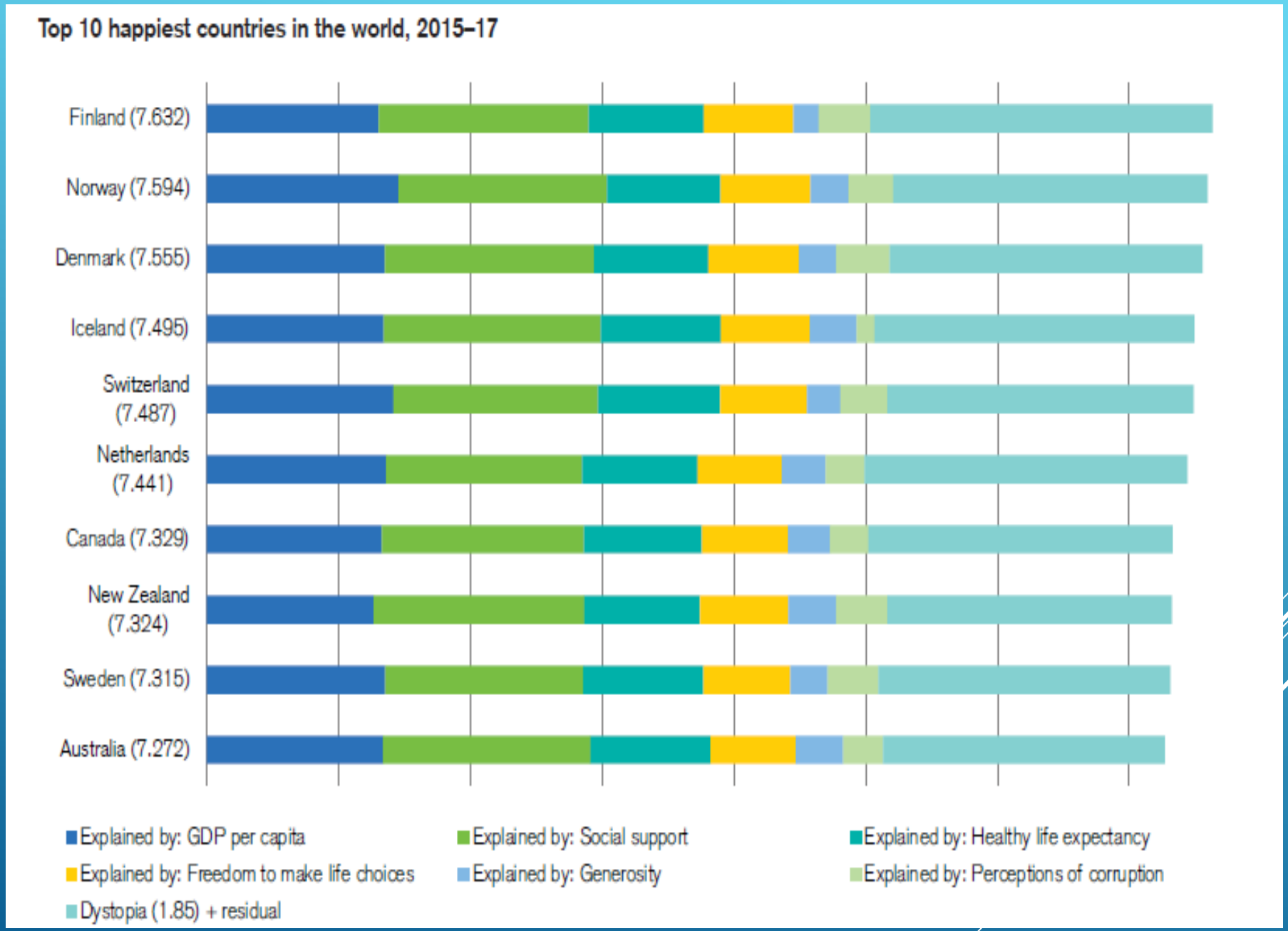
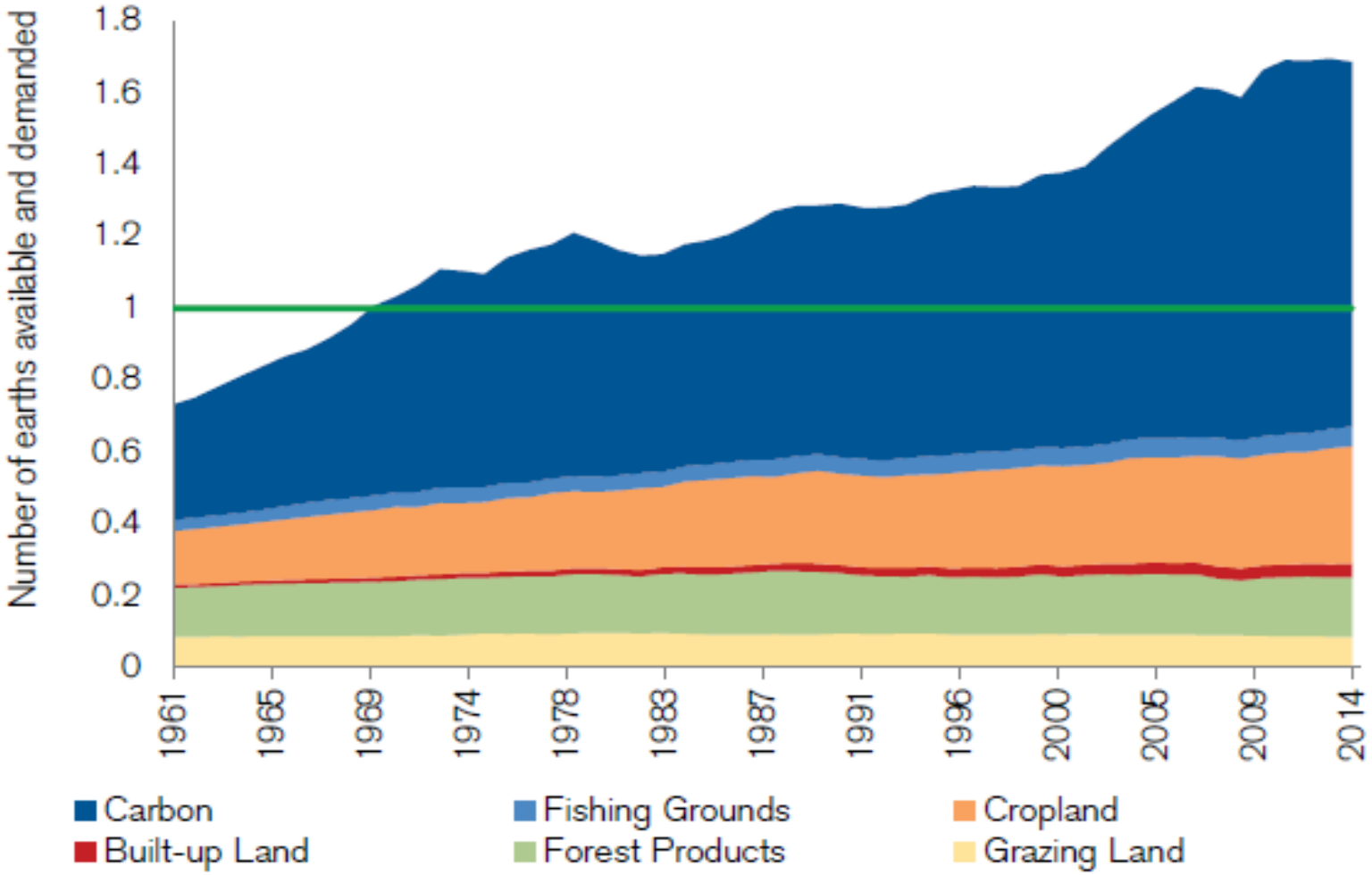

Top 10 happiest countries in the world, 2015–17
Finland (7.632)
Norway (7.594)
Denmark (7.555)
Iceland (7.495)
Switzerland (7.487)
Netherlands (7.441)
Canada (7.329)
New Zealand (7.324)
Sweden (7.315)
Australia (7.272)
Explained by: GDP per capita
Explained by: Social support
Explained by: Healthy life expectancy
Explained by: Freedom to make life choices
Explained by: Generosity
Explained by: Perceptions of corruption
Dystopia (1.85) + residual

Figure 3

World ecological footprint by component



Source: Global Footprint Network