

WORKING DRAFT

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Washington State Competitiveness



Department of Commerce

Innovation is in our nature.

Final report

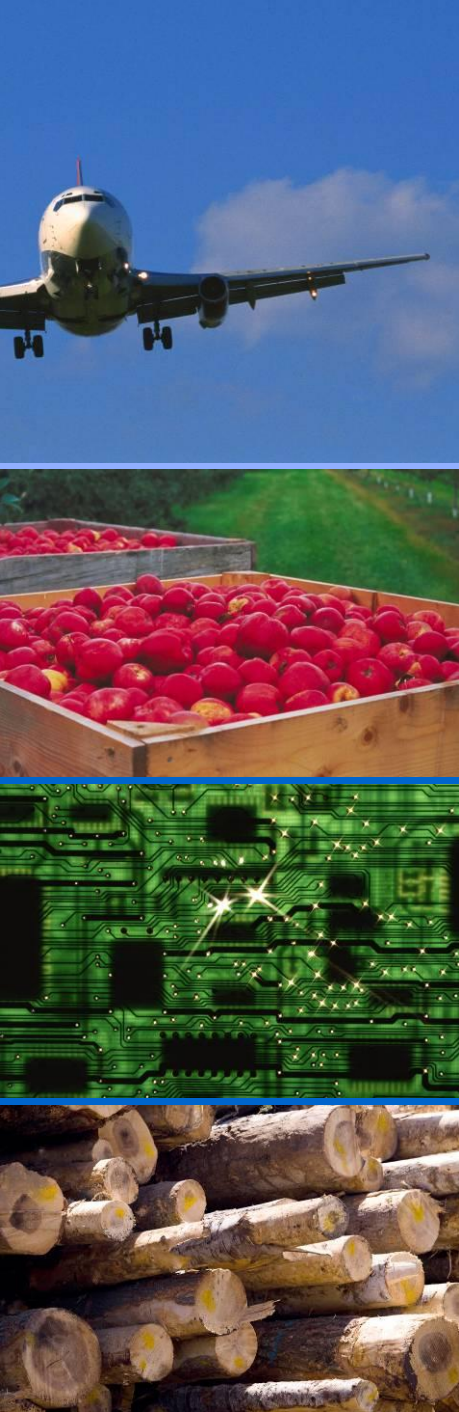
November 19 2009

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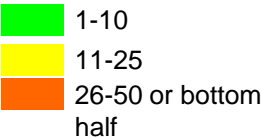
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Contents

- **Evaluation of state competitiveness indices**
- Value chain analysis
- Proposed Commerce scorecard and key metrics
- Key actions for Commerce to focus on



We categorized 16 state ranking indices by purpose; Washington's rankings vary significantly, even within groups



Ranking based on...	Index/ report	Overall rank ¹	Trend
1 Overall attractiveness to businesses	<ul style="list-style-type: none"> • CEO Magazine • CNBC • Forbes • Site Selection 	40 th	-10 (30 th in 2008)
		16 th	+6 (22 nd in 2007)
		2 nd	+1 (3 rd in 2006)
		Bottom half	? (bottom half in 2007)
2 Cost of doing business	<ul style="list-style-type: none"> • Milken Institute • Moody's Economy.com • Small Business / Entrepreneurship Council 	15 th	-3 (12 th in 2004)
		29 th	+6 (35 th in 2006)
		5 th	-1 (4 th in 2007)
3 Tax and labor costs to businesses	<ul style="list-style-type: none"> • ALEC-Laffer • Fraser Institute • Tax Foundation 	25 th	+5 (30 th in 2008)
		42 nd	TBD
		9 th	+3 (12 th in 2008)
4 Broad economic development	<ul style="list-style-type: none"> • Beacon Hill • CFED • WA Economic Climate study 	6 th	+1 (7 th in 2007)
		18 th	-- (18 th in 2004)
		16 th	Improved or same in 19/29 indicators
5 Degree to which they foster innovation in business	<ul style="list-style-type: none"> • Innovation Benchmarks² • ITIF / Kauffman 	2 nd out of 5	n/a
		2 nd	+2 (4 th in 2002, 2007)
6 Attractiveness to a specific industry	<ul style="list-style-type: none"> • Deloitte² 	3 rd out of 5	n/a (one-time ranking)

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¹ Rankings here may not match ranking in the report exactly due to re-bucketing of indicators in order to analyze as seen on next page; details in Appendix
² Based on a peer group of 5 states; overall ranking based on an average of rankings across factors

Ranking differences are caused by differences in methodology, indicator choice, and indicator weights

Key difference	Description	Example
Methodology	<ul style="list-style-type: none"> Each index uses a different combination of data types, data sources and data categorization, and have disparate ways of normalizing data and ranking states Variance in any of these can affect the overall ranking 	<ul style="list-style-type: none"> Within the same grouping, Forbes uses a data-driven approach to award Washington a ranking of 2nd while CEO Magazine uses opinion surveys to arrive at a ranking of 40th
Indicator choice	<ul style="list-style-type: none"> Indicators used to represent a category are not the same across indices Indicators chosen may not provide a comprehensive view, or may provide an over-emphasis on certain issues 	<ul style="list-style-type: none"> Small Business/ Entrepreneurship Council (SBEC) uses 17 tax indicators, of which 8 are income-related, resulting in a Washington ranking of 4th because of its lack of income taxes Moody's and Milken use a single total tax burden indicator which also incorporates sales, property, and other taxes, leading to a lower ranking for Washington
Indicator weight	<ul style="list-style-type: none"> Each index's overall ranking is shaped by the weight placed on both individual indicators and categories Placing greater weight on an area where Washington performs poorly will lead to a lower overall ranking 	<ul style="list-style-type: none"> Milken weights the labor cost sub-index at 50% of the total score for each state and gives Washington a ranking of 15th, while Moody's places a weight of 75% leading to a ranking of 29th

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Out of these 16 indices/ reports, three warrant continued attention going forward



Rationale

Has the potential to influence decision-makers in the business world, despite a less-than-robust methodology

- The magazine targets business professionals and decision-makers; this is the most widely disseminated of the three private-sector business attractiveness rankings
- They do not publicly release details of their methodology, including specific indicator list for each sub-index, weights and normalization methods
- However, they are indicator-based and were willing to divulge a descriptive list of indicators, which makes them more transparent than the other publications in their group (CNBC, CEO Magazine, Site Selection)



Provides the most exhaustive and methodologically sound business perspective on state-level attractiveness

- The most transparent, reasonable and thorough methodology, including top-down indicator choice for each sub-index, and sub-index weighting (specific to each state)
- Covers the top three factors that Washington businesses believe are important for growing and improving jobs in the state (cost of business inputs, tax structure, employment costs)



Provides the most exhaustive and methodologically sound view of attractiveness from a social/ non-business perspective

- Is the closest we have seen to a mutually-exclusive, collectively-exhaustive list of factors and metrics for overall economic development at state level
- Although it does not cover many of the factors important to businesses, it can be seen as a proxy for ranking based on overall social and economic outcomes for residents

In-depth one-pager on each index/ report available in appendix

The indices identify 12 different key factors that affect state competitiveness (1/2)



Key factors and WA's average ranking

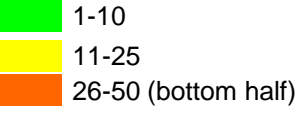
Example metrics (out of over 200)

Key Factor	WA's Average Ranking	Example Metrics
Access to Capital	6 th	<ul style="list-style-type: none"> Venture capital investments per capita IPOs as share of GSP
Cost of Energy	9 th	<ul style="list-style-type: none"> Electricity costs Natural gas costs
Research & innovation	9 th	<ul style="list-style-type: none"> Patents per capita Scientists and engineers per capita
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Economy	16 th	<ul style="list-style-type: none"> Unemployment rate GSP growth rate
Education & Skills	16 th	<ul style="list-style-type: none"> K-12 test scores Workforce education attainment
Quality of life	18 th	<ul style="list-style-type: none"> Crime rate Air/ water quality State health index
Cost of Taxes	19 th	<ul style="list-style-type: none"> State and local taxes (businesses) Sales tax
Infrastructure	23 rd	<ul style="list-style-type: none"> Highway cost effectiveness Adoption of broadband services
Regulatory Environment	25 th	<ul style="list-style-type: none"> Public employees per capita State legal liability costs
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Cost of Living	29 th	<ul style="list-style-type: none"> Housing costs CPI
Cost of Labor	40 th	<ul style="list-style-type: none"> Unit labor costs Worker's compensation premium
Cost of Real Estate	43 rd	<ul style="list-style-type: none"> Industrial rent cost Office rent cost

• WA tends to rank in the top 10 of all states in access to capital, cost of energy and research & innovation
• However, it is in the bottom half of all states in factors such as the cost of labor, the cost of living, and the cost of real estate;
• Others such as infrastructure and the regulatory environment are on the cusp of being in the bottom half

SOURCE: Various indices/ reports; team analysis

The indices identify 12 different key factors that affect state competitiveness (2/2)



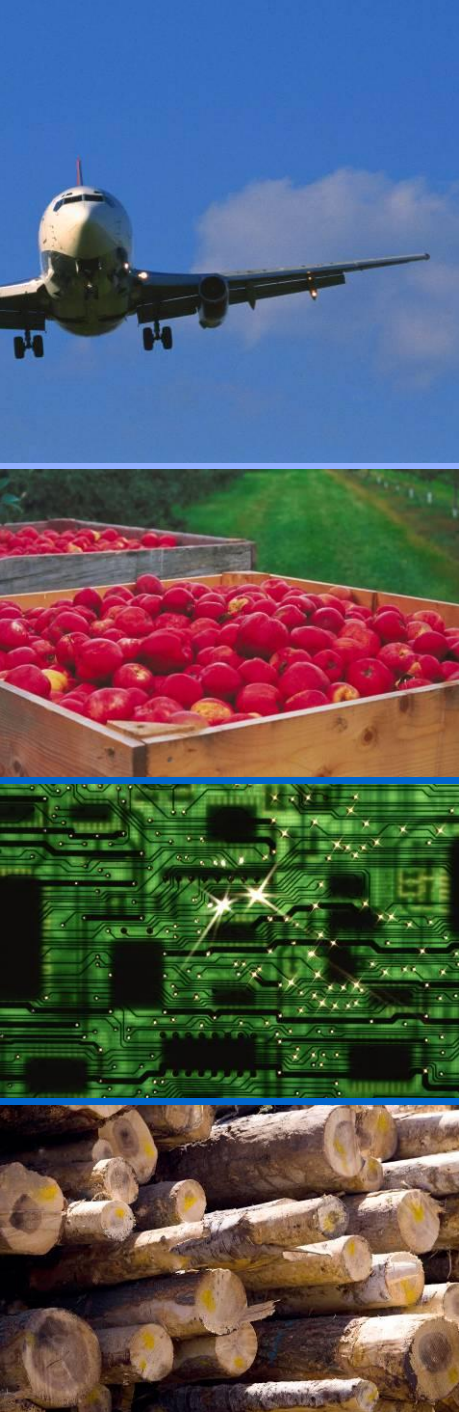
Key factors

Ranking/ Index	Cost of doing business											Access to capital	
	Overall	Labor	Energy/ water	Taxes	Real estate	Regulatory environment	Research & innovation	Education & skills	Cost of living	Quality of life	Infra-structure		Economy
Average ranking	17	40	9	19	43	25	9	16	29	18	23	16	6
CEO Magazine	40	35				34	6	27	n/a	9	22	11	4
CNBC	16	32				37	6	29	34	11	30	18	5
Forbes Magazine	2	27				5	n/a	2	n/a	24	n/a	3	n/a
Site Selection Magazine	26+	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Milken Institute	15	41	11	27	43	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Moody's	29	41	8	36	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Small Business / Entrepreneurship Council	5	50	8	4	n/a	27	n/a	n/a	n/a	46	39	n/a	n/a
ALEC	25	38	n/a	22	n/a	28	n/a	n/a	n/a	n/a	n/a	14	n/a
Fraser Institute	42	46	n/a	31	n/a	28	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Tax Foundation	9	n/a	n/a	9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Beacon Hill	6	39	11	15	n/a	17	15	13	35	17	26	12	6
CFED	18	n/a	n/a	n/a	n/a	n/a	10	18	19	11	18	39	7
WA State Econ. Climate	16	23	8	12	n/a	n/a	9	16	n/a	16	34	13	n/a
Innovation Benchmarks (based on ranking out of 5)	2.3	n/a	n/a	n/a	n/a	n/a	2.7	3.0	n/a	n/a	1.0	1.7	3.0
ITIF/Kauffman	2	n/a	n/a	n/a	n/a	n/a	6	8	n/a	13	12	17	3
Deloitte Consulting (based on ranking out of 5)	3/5	4.5	3.5	2.5	5.0	n/a	n/a	1.0	3.3	1.6	n/a	1.0	n/a

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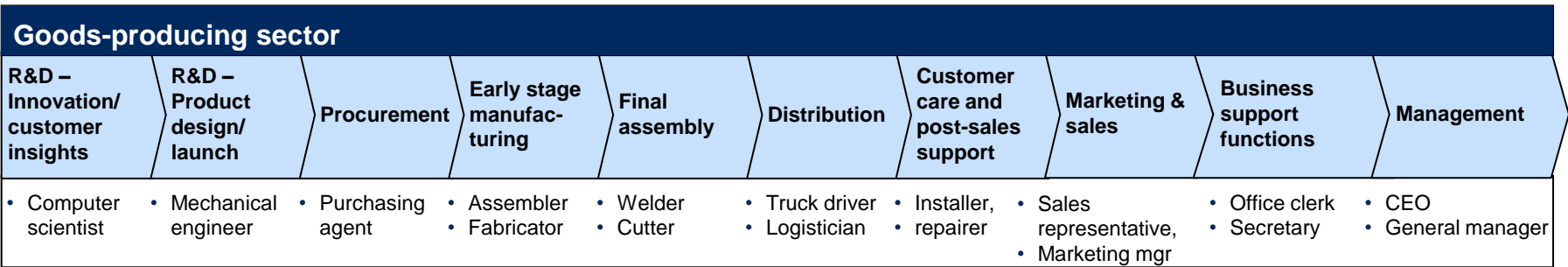
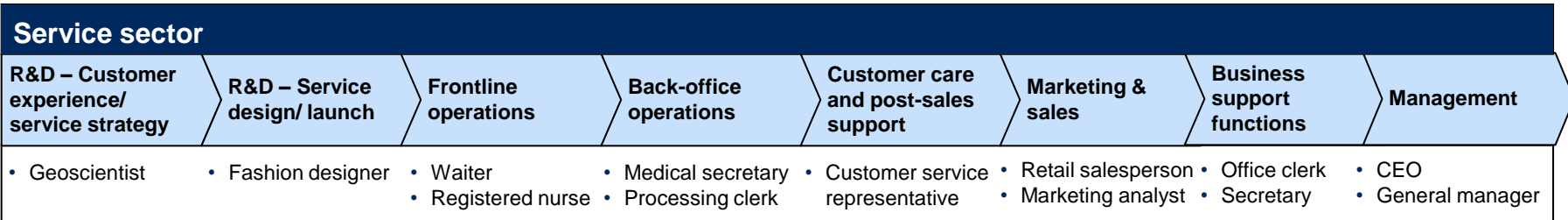
A quick overview of the value chain mapping analysis

Objective for analysis

- Provide **insight by understanding key employment trends by type of function within different sectors** of the economy
- Provide a **more granular snapshot** than simply focusing on sector or occupational trends separately

Methodology

- **Mapped ~800 specific occupations from the BLS data to each step of the services sector and goods-producing sector value chains**



Data Sources

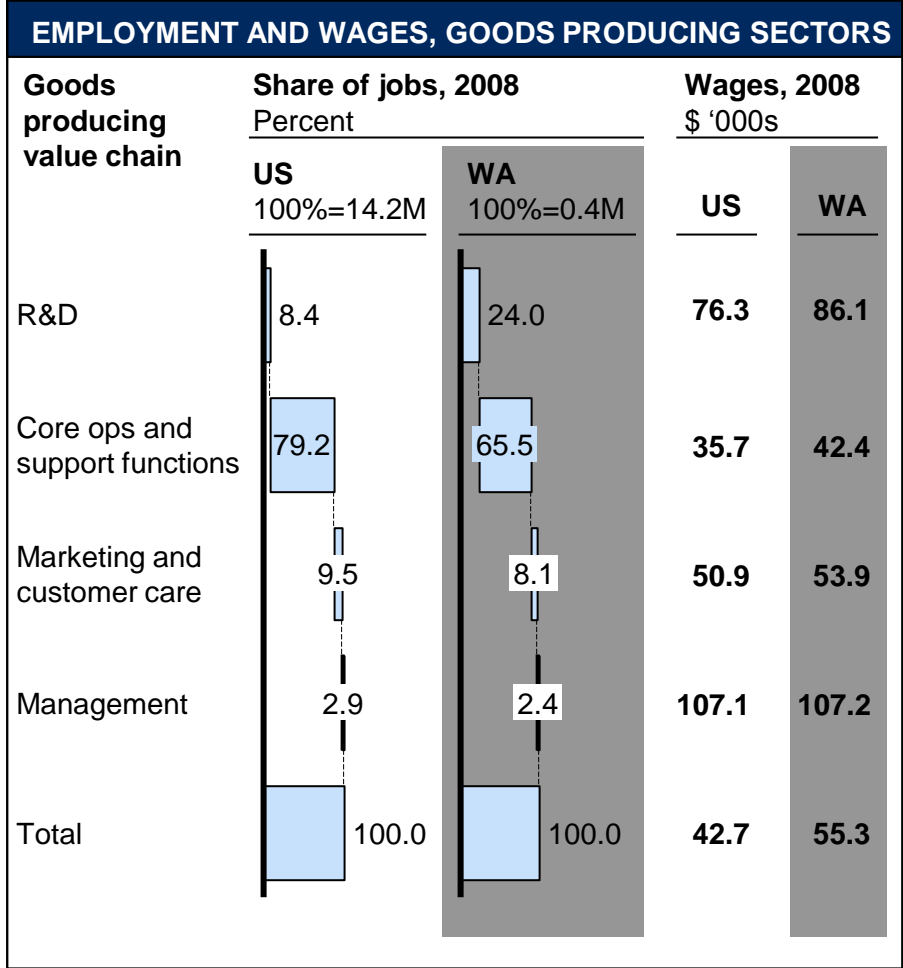
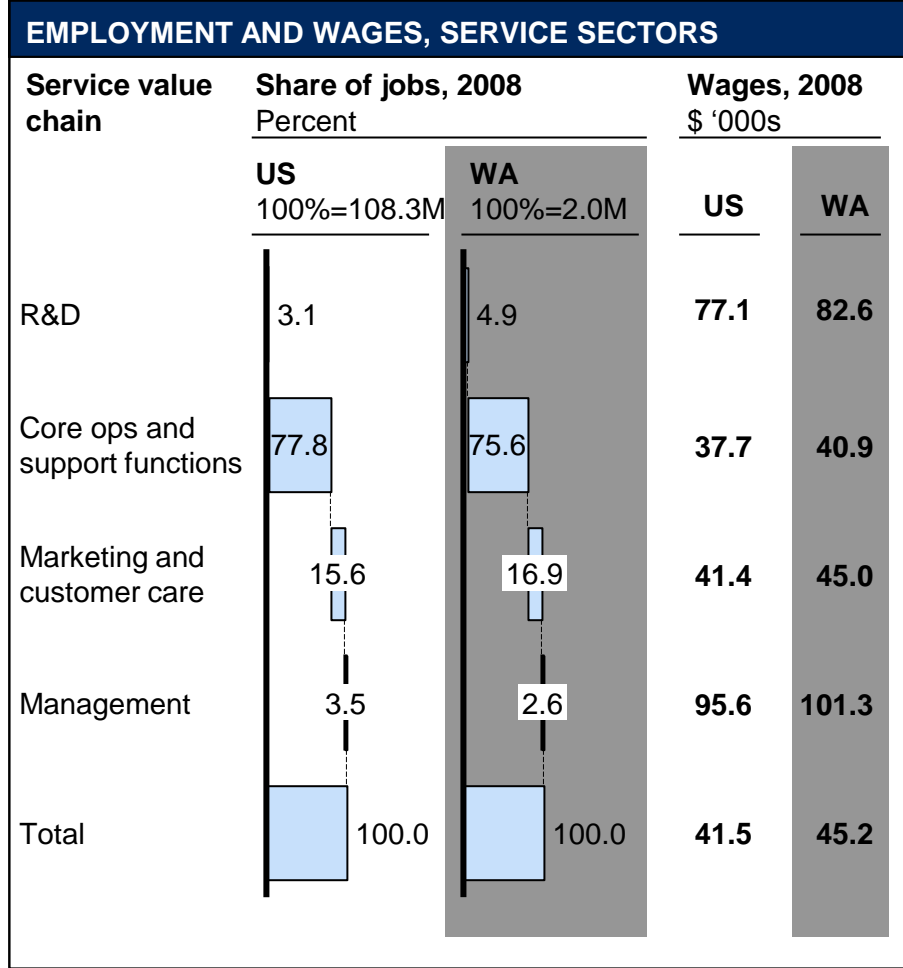
- Employment and wage figures are from **Bureau of Labor Statistics (BLS)**
- Sectors identified using **4-digit NAICS codes**

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WA aggregate economy

Employment and wages, 2008

PRIVATE SECTOR JOBS



- Core ops and support functions form the bulk of all jobs
- R&D in WA is overweighted compared to the US as a whole, especially in the goods-producing sectors
- Wages in WA are uniformly higher than the US average across all functions; R&D and management tend to be the higher-paying jobs

Key findings from WA aggregate economy 2004-08 value chain analysis

Service sectors job growth (04-08)

Goods-producing sectors job growth (04-08)

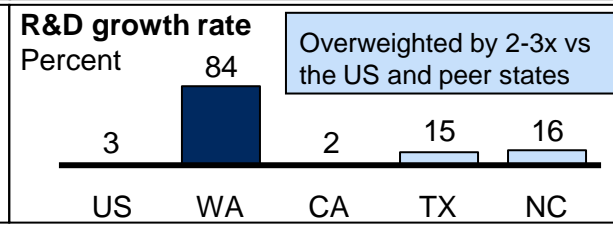
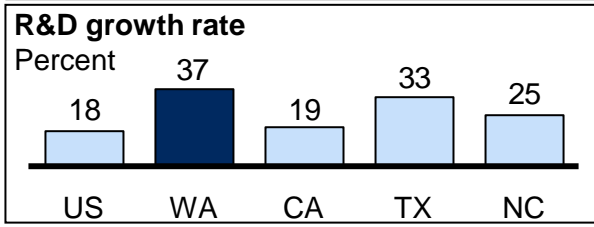
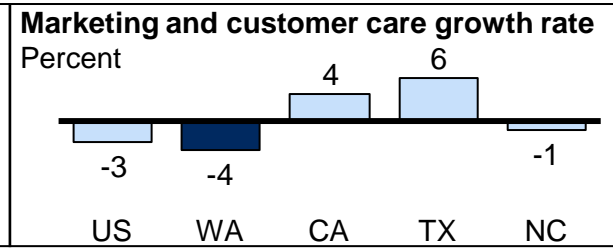
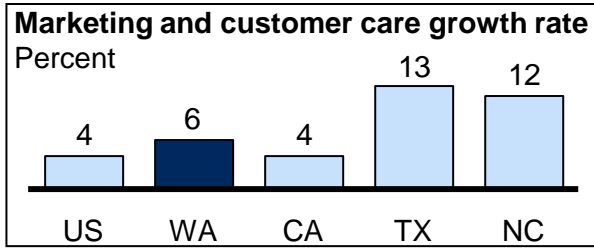
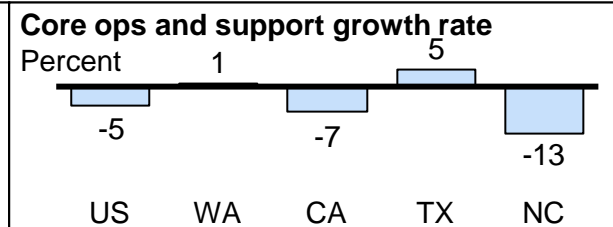
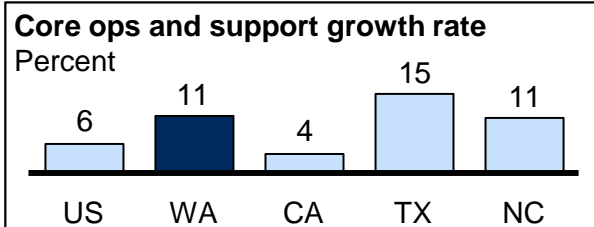
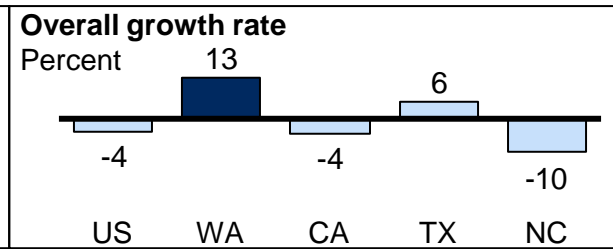
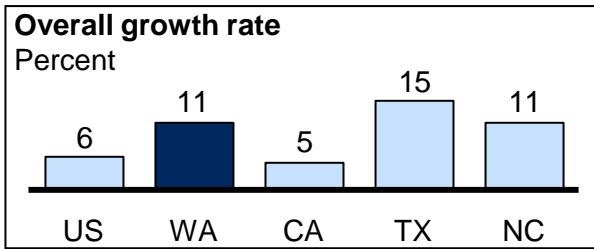
Both WA's services and goods-producing sectors have grown robustly, unlike the US and peer states like CA and NC

Growth in core operations and support jobs has been better than the US but lags TX

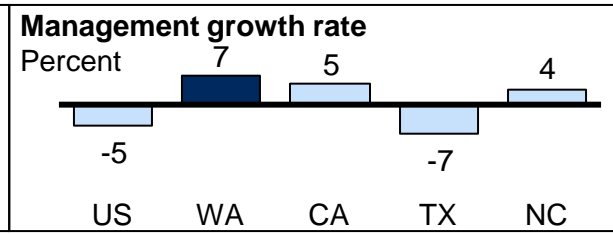
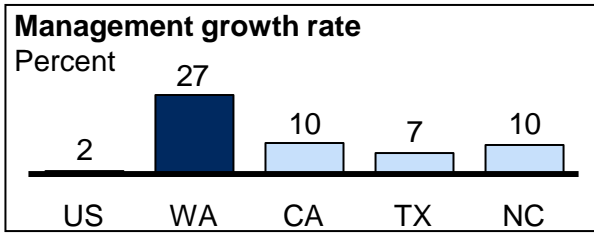
Marketing and customer care job growth has underperformed peer states in general

R&D has been the strongest growth sector, far outstripping the growth of the US and peer states

Management has also grown significantly



Overweighted by 2-3x vs the US and peer states



Computer software engineering is the first of 3 value chain deep-dives

Planned deep-dives

Functional: Examine WA's computer software engineering as an example of the R&D function

Geographical: Analyze distribution of jobs across WA's rural and urban regions

Sector-based: Investigate WA's aerospace sector functional strengths and weaknesses

Reasons for focus on computer software engineering

- 1 **Clear strength for WA**

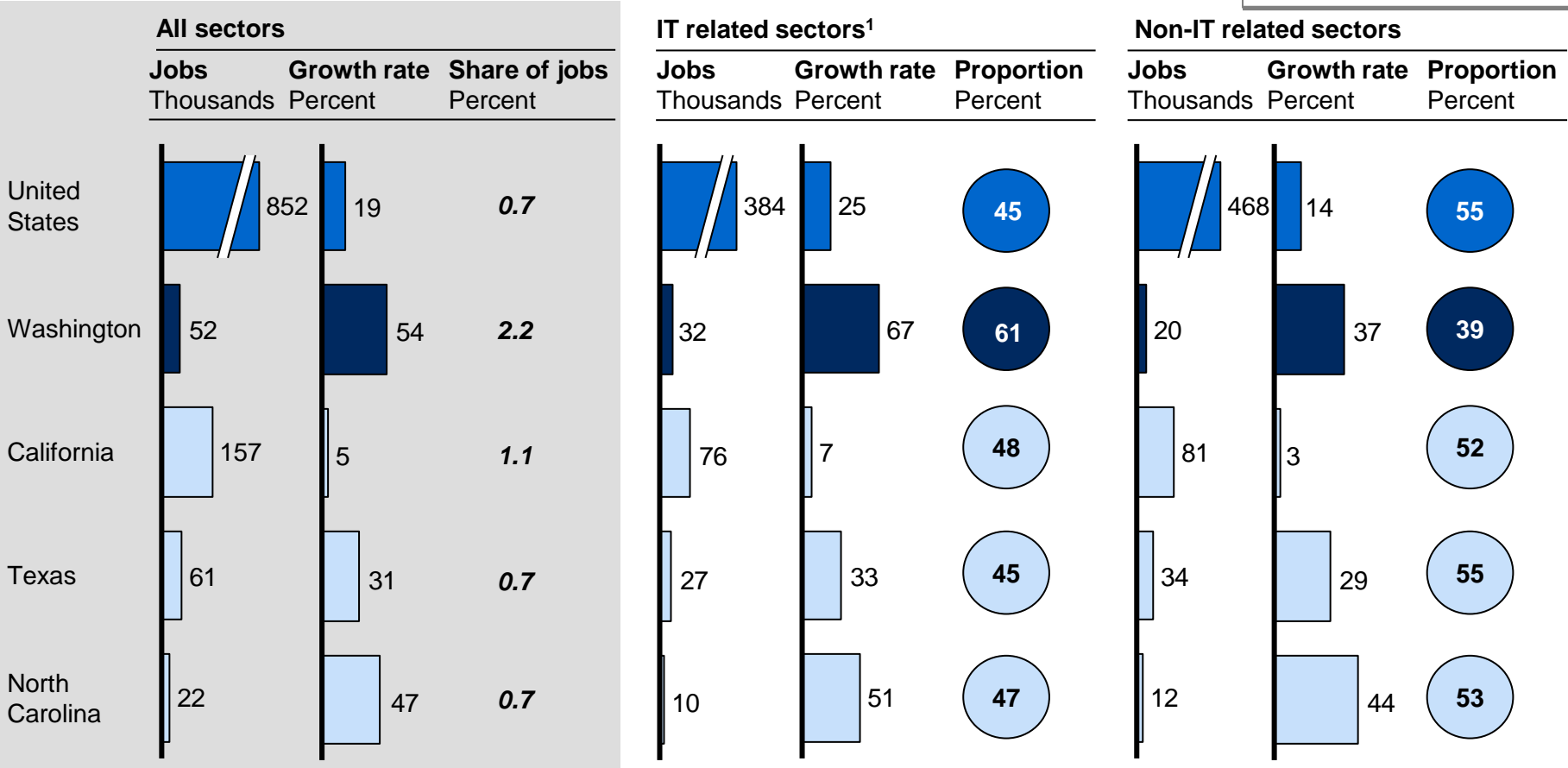
- 2 **Strong national job growth of 37% through 2016 projected** by BLS resulting in over 300K additional jobs due to:
 - Increased Internet usage and automation in non-IT sectors
 - Rise of cyber security as a key issue

- 3 **Increasingly competitive** because:
 - Other states also developing this resource
 - More offshoring of these jobs to other countries such as India, which has developed a low-cost high-skill workforce

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WA has exhibited stronger growth in software engineering jobs than the US as a whole, and has also performed well when compared to CA, TX and NC

PRIVATE SECTOR JOBS



- US has seen healthy growth in computer software engineers across both IT-related (25%) and non-IT related sectors (14%)
- WA has seen even stronger growth, at 67% and 37% respectively across IT-related and non-IT related sectors, and is overweighted in these jobs at 2.2% of all employment versus 0.7% for the US and 0.7%-1.1% for the comparator states
- However, WA's proportion of computer software engineers in non-IT related sectors (versus IT-related sectors) at 39% is significantly below the comparator states (52-55%) and the US average (55%)

¹ IT related sectors include software publishers, computer systems design and computer manufacturing

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However, a small number of companies such as Microsoft and Amazon drive a significant amount of the growth

Microsoft

Key assumptions:

- 1/3 of employees in Puget Sound area (40,000 in 2008) are computer software engineers
- Fraction of US employees in Puget Sound area (73%) has remained the same 2004-08
- Same number of employees added in 2005 as in 2006

Number of computer software engineers

Year	Number of computer software engineers
2004	8,000
2008	13,000

- 42% of IT-related sector base
- 40% of IT-related sector growth

Amazon

Key assumptions:

- 1/6 of employees in Puget Sound area (assumed 9,000 in 2008) are computer software engineers
- Fraction of worldwide employees in Puget Sound area is similar to Microsoft (44% in 2008)
- Same number of employees added in 2005 as in 2006

Number of computer software engineers

Year	Number of computer software engineers
2004	800
2008	1,300

- 8% of non-IT related sector base
- 13% of non-IT related sector growth

WA's growth would have fallen from 54 to 38% if Microsoft's and Amazon's contributions were removed

A look at other states offers examples of potential initiatives to promote higher value-add functions such as R&D

Type of initiative	Action	State
Education and workforce training	<ul style="list-style-type: none"> • Offer 0% interest loans to engineering and technology students and maintain a 0% rate as long as the student is studying or working in the state 	<ul style="list-style-type: none"> • Michigan
Tax credits	<ul style="list-style-type: none"> • Offer up to 3.25% tax credit annually for qualified research expenses¹ • Establish a technology tax credit program, and allow unused tax credits to be carried forward 	<ul style="list-style-type: none"> • North Carolina • New Jersey
Access to capital	<ul style="list-style-type: none"> • Establish a state venture capital fund • Establish a 'deal-closing' fund used to attract new businesses to the state or facilitate the substantial expansion of an existing business • Provide financial assistance for new expansion or location of new operations in the state for businesses that also have offers from at least one another state • Award state matching funds to companies that have received a Federal Small Business Innovation Research or Small Business Technology Transfer award • Start a fund to provide research and commercialization support for emerging technologies 	<ul style="list-style-type: none"> • Colorado • Texas • North Carolina • North Carolina • Texas (\$235M), Massachusetts

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¹ NC's after tax price of a marginal dollar of R&D is \$0.384-0.457 versus WA's \$0.520 (highest in the nation) as WA has no R&D tax credit although a low corporate tax burden overall

Rural versus urban split is the second of 3 value chain deep-dives

Planned deep-dives

Functional: Examine WA's computer software engineering as an example of the R&D function

Geographical: Analyze distribution of jobs across WA's rural and urban regions

Sector-based: Investigate WA's aerospace sector functional strengths and weaknesses

Reasons for focus on a rural/urban split

- 1 **Conditions and economic performance vary considerably** between rural and urban areas
- 2 **Fits with Commerce's rural focus-** Policies should lead to shared prosperity across different geographies
- 3 **Potential shift towards business decentralization** due to advances connectivity and communication

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To perform the rural-urban analysis, we divided WA into groups of varying urbanization based on county and Metropolitan Statistical Area (MSA) data

MSA

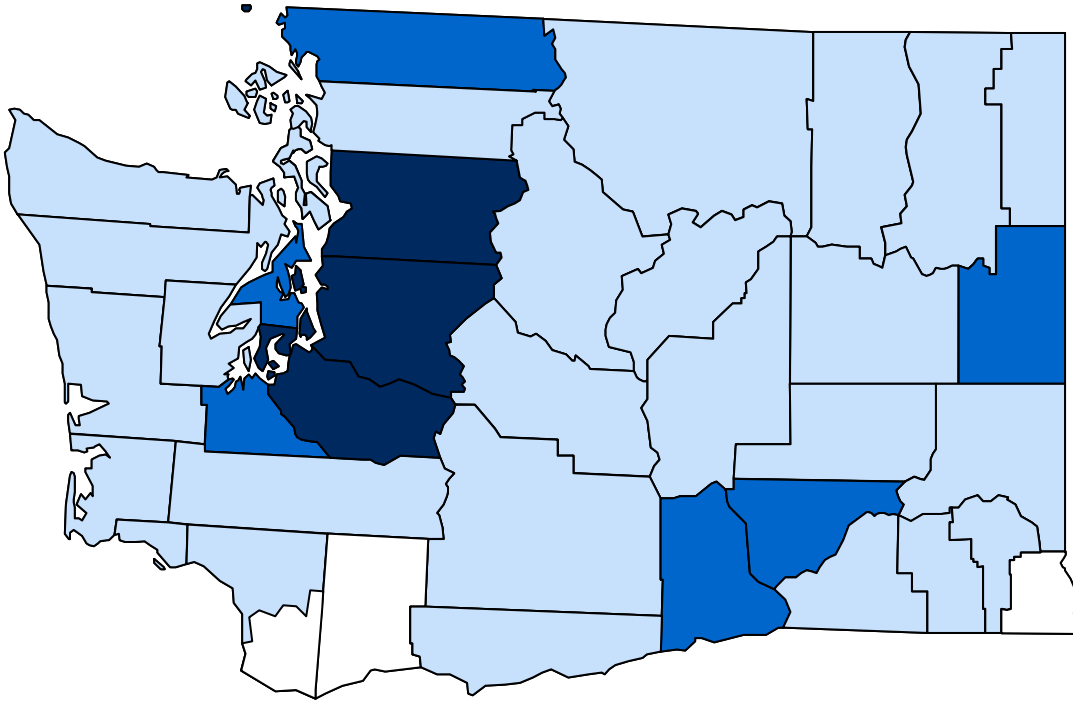
- Contiguous region of high population density
- Includes surrounding areas that have strong social and economic ties
- Produced by the US Office of Management and Budget
- Utilized by both the Bureau of Labor Statistics and the Census Bureau

PRIVATE SECTOR JOBS

Washington's 11 MSAs and 4 non-MSA regions map to our three distinct categories¹

Region	No of jobs (thousands)	% of jobs
Large Urban		
▪ Seattle-Bellevue-Everett	1,453	53
▪ Tacoma	275	10
Small Urban		
▪ Spokane	210	8
▪ Olympia	96	4
▪ Kennewick-Richland-Pasco	91	3
▪ Bremerton-Silverdale	83	3
▪ Bellingham	80	3
Rural		
▪ Non-MSA regions	241	9
▪ Yakima	80	3
▪ Mount Vernon-Anacortes	45	2
▪ Wenatchee	40	1
▪ Longview	36	1

- Large Urban
- Small Urban
- Rural

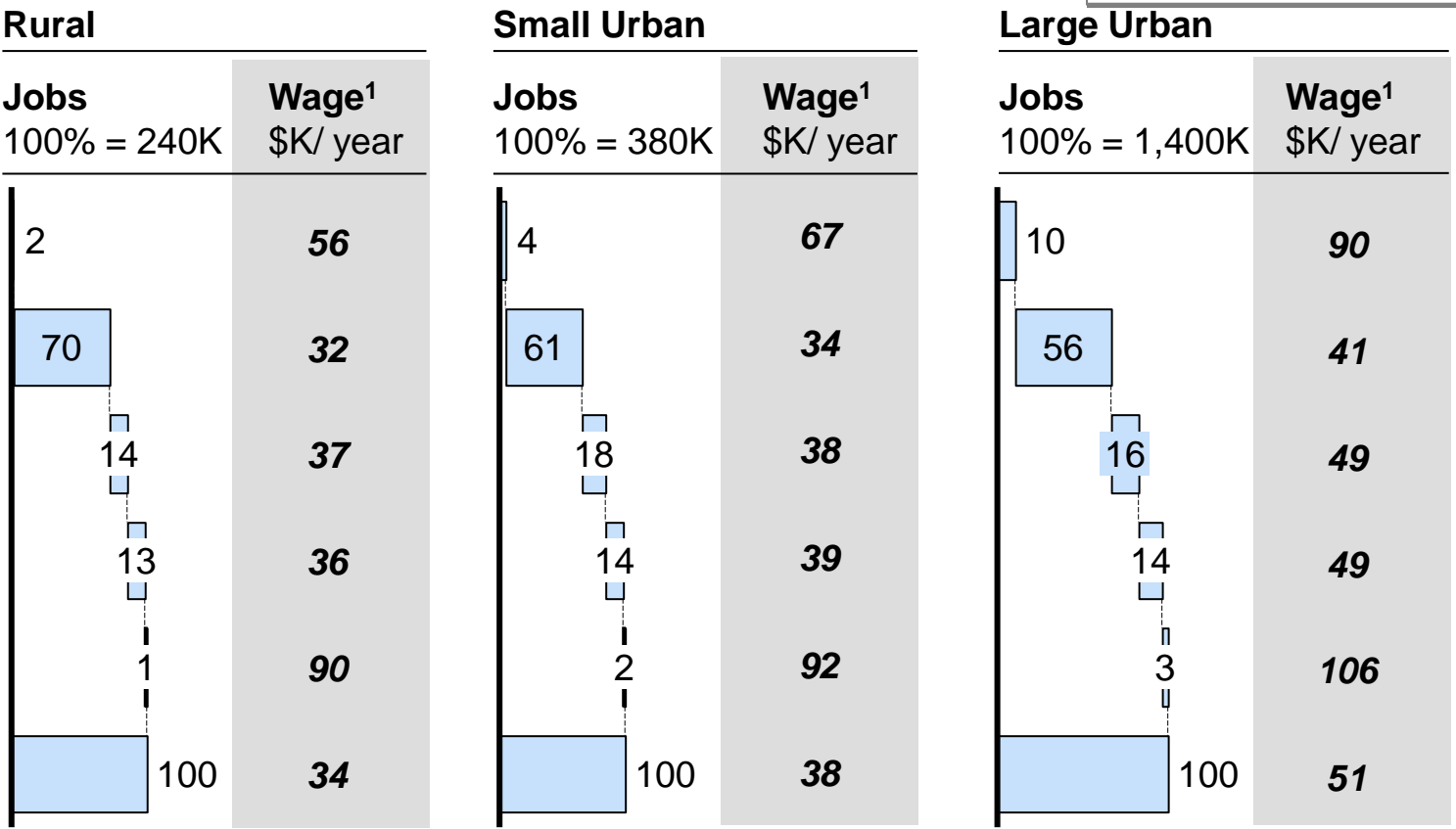


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Jobs and wages in WA across rural, small urban and large urban areas

PRIVATE SECTOR JOBS

WA, 2008



Jobs

- The bulk of all jobs tend to be in lower value-add functions such as core ops, with rural areas the most concentrated in them
- Urban areas have the highest concentration of higher value-add functions such as R&D and management

Wages

- Wages in large urban areas are significantly higher than in both small urban and rural areas
- Higher value-add functions such as R&D and management have the highest wages

¹ Wages higher than \$166k are not reported by the BLS, and have been assumed to be \$166K
 SOURCE: BLS; team analysis

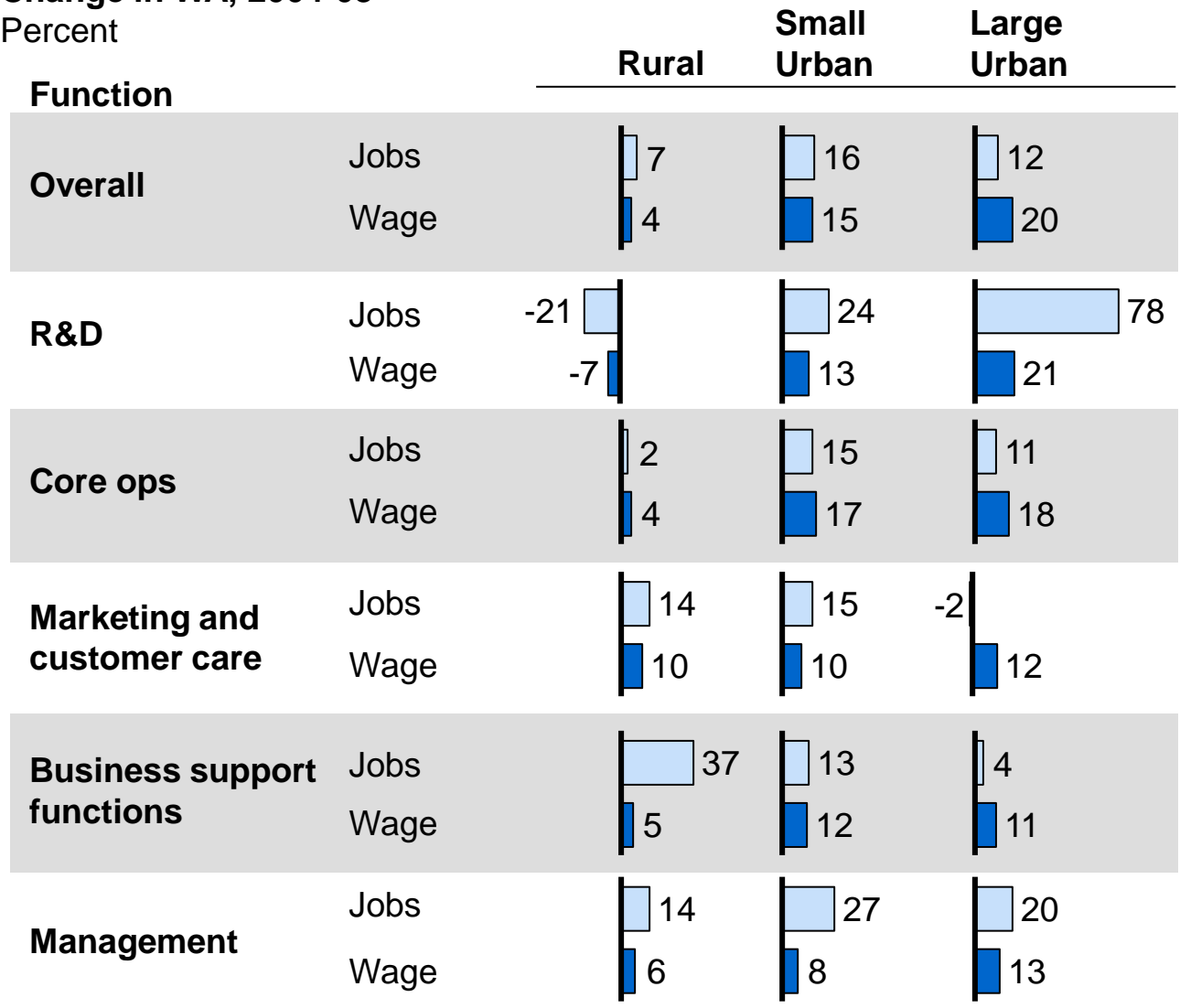
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Change in number of jobs and wages in WA across rural, small urban and large urban areas

PRIVATE SECTOR JOBS

Change in WA, 2004-08

Percent



Key takeaways

- Robust job growth across all areas
- R&D growth is strongest in urban areas; higher wage R&D jobs are leaving rural areas
- Marketing and customer care jobs are only growing in rural and small urban areas, possibly driven by a rise in call centers
- Business support jobs are booming in rural areas, where wages are lowest

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Policies to stimulate attractive jobs in rural economies

Key examples

Encourage companies to locate R&D jobs in urban areas and core ops jobs in nearby rural areas

- Urban and rural areas each have strengths across different steps of the value chain- Companies should consider locating R&D in WA's urban areas and leveraging the lower wages that exist in rural areas to bring back parts of their offshored manufacturing value chain if there is value in 1) greater quality control 2) having R&D close to production or production close to the final market
- **Result:** SunPower of California recently moved manufacturing from Asia to Mexico in an effort to make their supply chain more efficient and to be more responsive to customers in North America

Partner rural education institutions with private enterprise

- Oklahoma State University-Okmulgee helped manufacturers in northeast Oklahoma gain the capacity and certification for Defense Department contracts by helping firms re-engineer and reproduce the parts wanted
- **Result:** Oklahoma vendors increased their share of contracts at Tinker Air Base in Oklahoma City from 3% in 1995 to 20% in 2002

Ensure broadband access exists in rural areas as a business enabler

- Different studies have shown this to be a key determinant of success for rural areas; Garrett County (in rural Maryland), helped supply high-speed access to the region's businesses and individuals through the Garrett Rural Information Co-operative
- **Result:** Several businesses chose to locate in the county because of communications capabilities

Form business incubators to nurture small rural-based knowledge-driven companies

- As a result of broadband access, Garrett County was also able to launch an information incubator to house up to 20 start-up firms on the community college campus, providing office space, information services, grants and access to interns
- **Result:** Incubated many companies that focus on areas such as software development, cloud computing and IT consulting
- Maddock (North Dakota) formed the Maddock Business and Technology Center- essentially an incubator that provides training classes, business services and computer access
- **Result:** Incubated a satellite imagery company and a multimedia firm amongst other companies

Aerospace is our final value chain deep-dive

Planned deep-dives

Functional: Examine WA's computer software engineering as an example of the R&D function

Geographical: Analyze distribution of jobs across WA's rural and urban regions

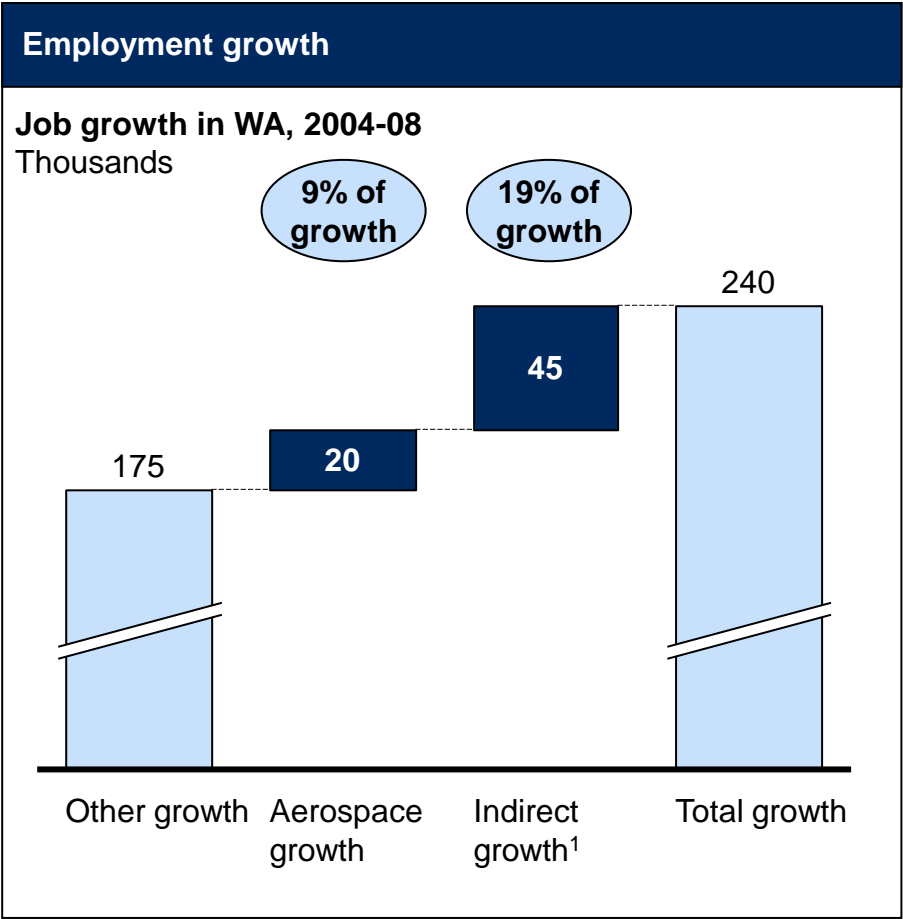
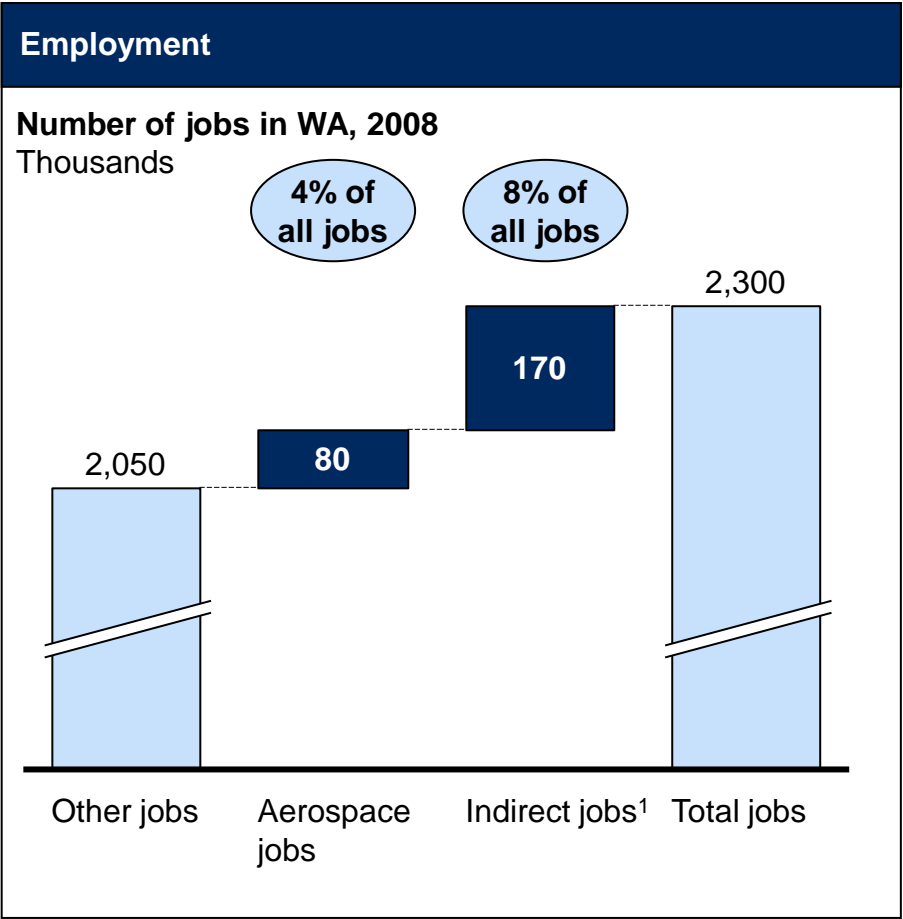
Sector-based: Investigate WA's aerospace sector functional strengths and weaknesses

Reasons for focus on aerospace

- 1 **Is an important part of Washington's economy** both historically and presently
- 2 **Is coming under severe domestic and international pressure**
- 3 **Knowledge intensive industries, such as aerospace, demonstrate a 'multiplier' effect**, where each job created in turn creates several more in support and supply of it

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When both direct and indirect employment are considered, aerospace is responsible for 12% of all jobs and 28% of new job growth

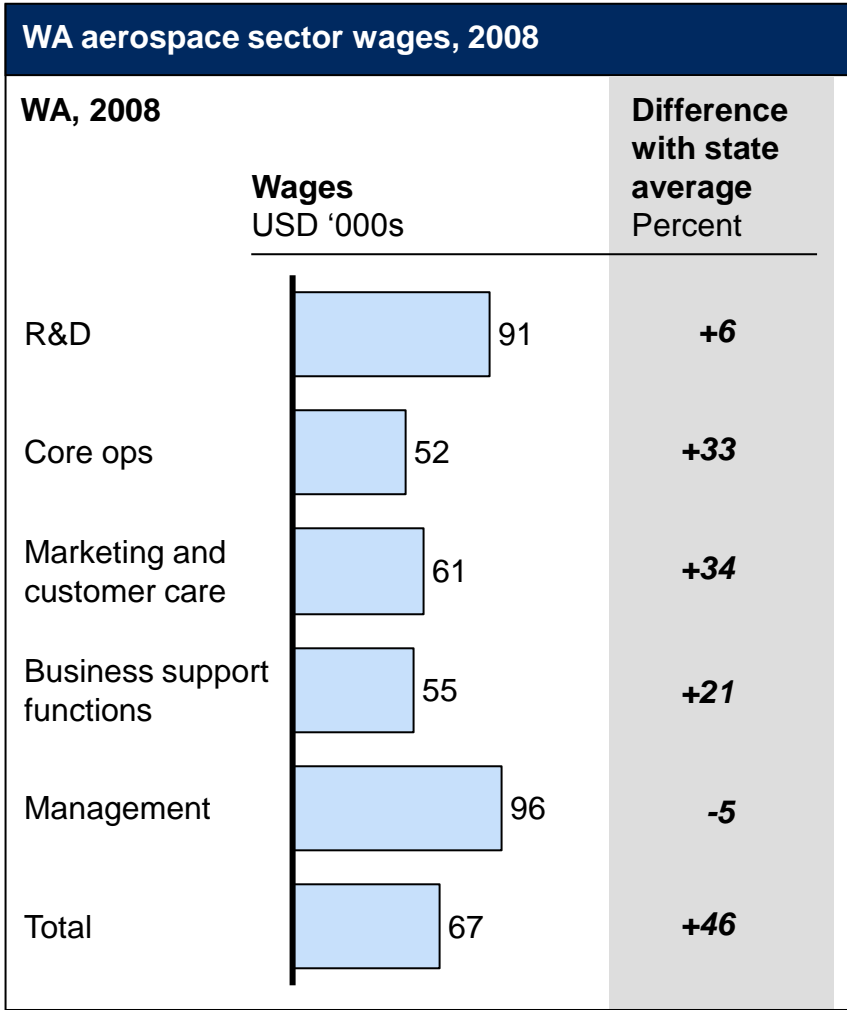
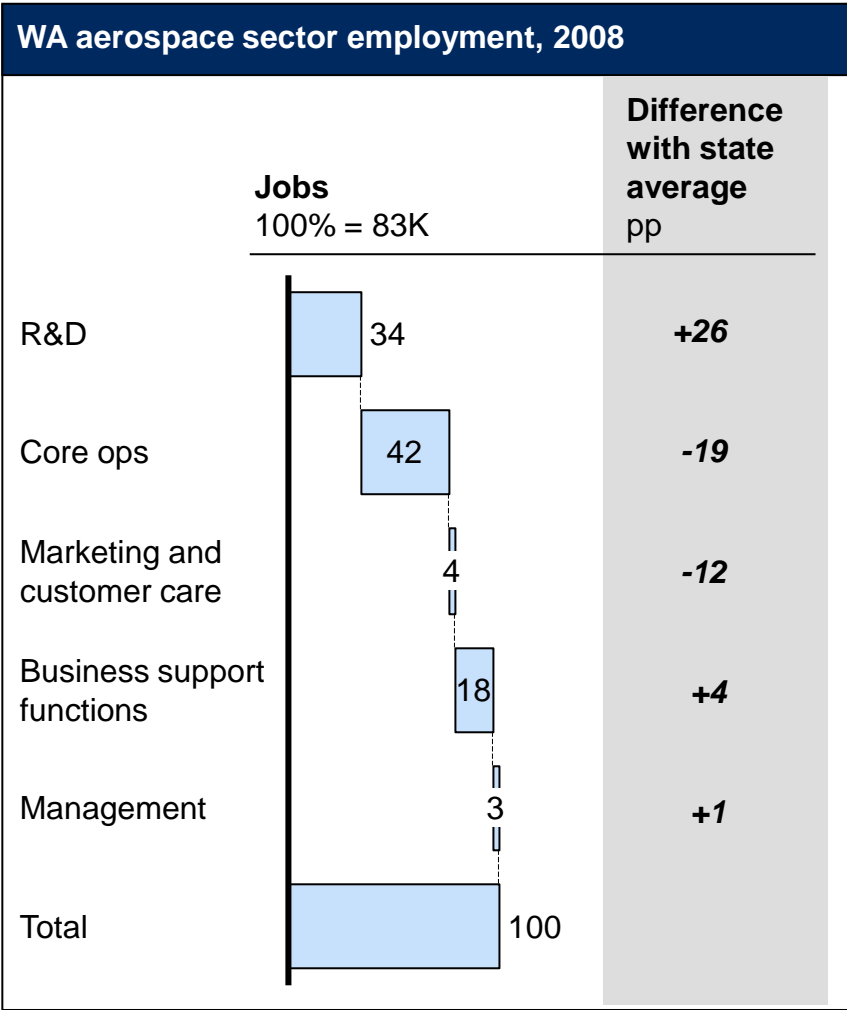


- Aerospace is a very important part of the Washington economy
- A significant number of indirect jobs that supply and service the aerospace sector (such as aircraft MRO, IT services, and engineering and R&D services) are created as well

¹ Assumes a multiplier of 2.1 as used by the AFA
Source: BLS, AFA, team analysis

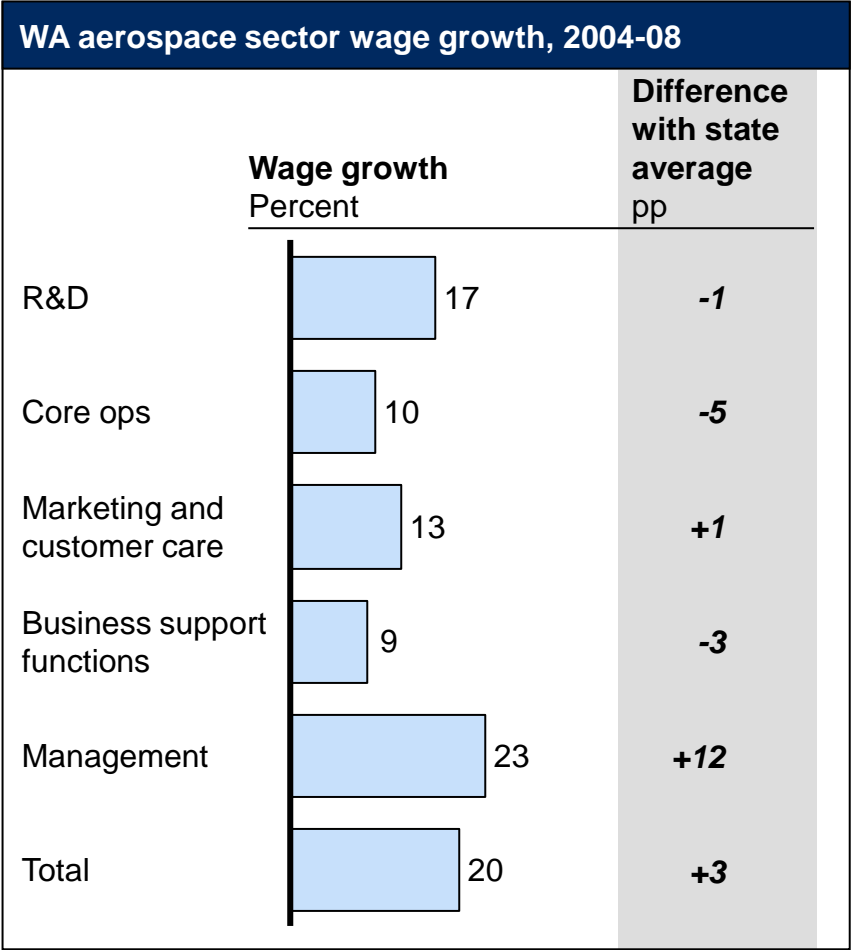
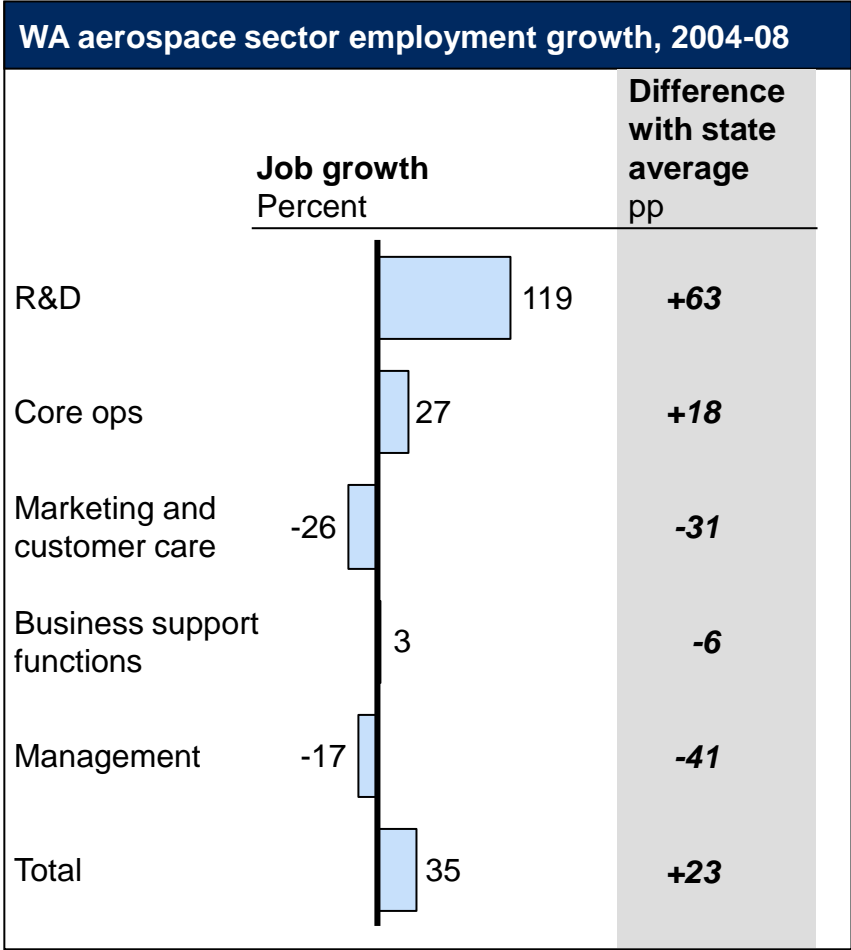
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WA's aerospace sector is R&D intensive and generally offers higher wages than the state average



- Aerospace is much more R&D intensive than other sectors
- Lowest paid portions of the value chain have significantly higher wages than state average – to what extent is this due to higher productivity versus collective bargaining?

For 2004-08, aerospace has shown vibrant job and wage growth overall, but each value chain step has benefited differently



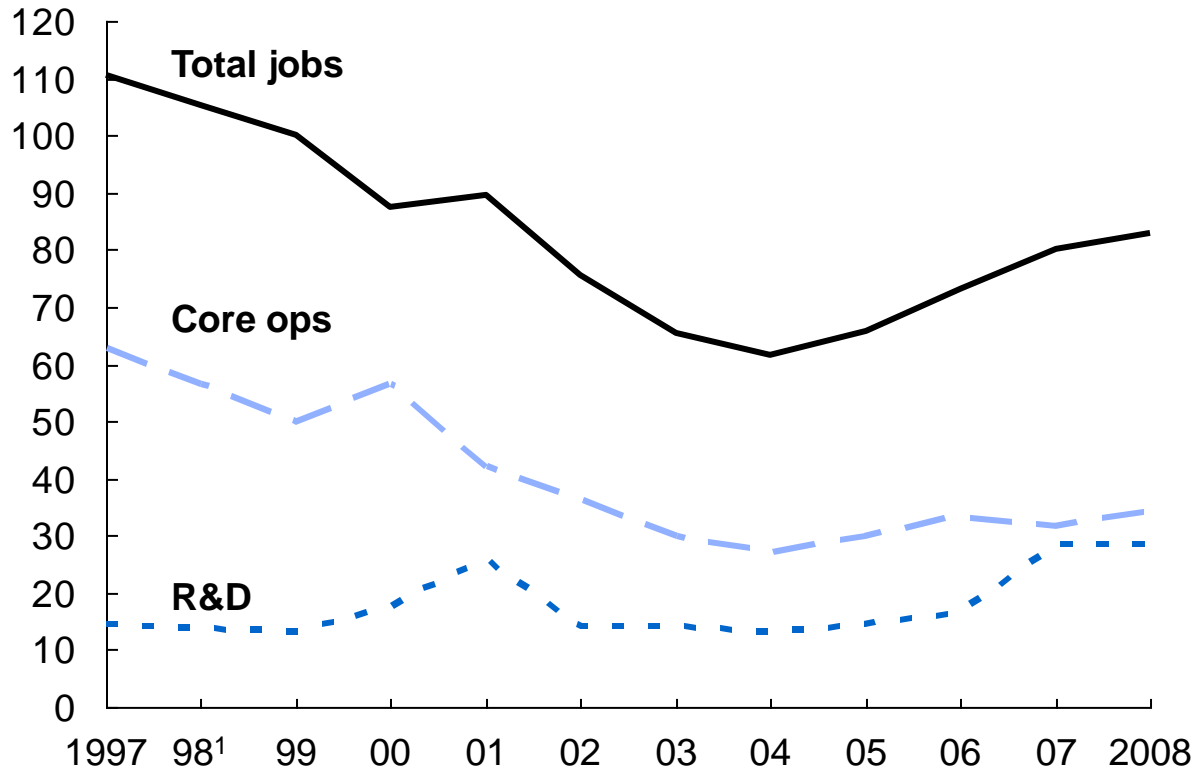
- Aerospace is a vibrant sector for WA state with job and wage growth above state average
- The value chain has grown unevenly given strong R&D and core ops growth, but with losses in marketing and customer care and management, as well as below state average business support function growth

In recent years, the gap between core ops and R&D aerospace employment has narrowed considerably

Aerospace employment

Washington state

Total number of jobs
Thousands



- Core ops employment dropped as total number of jobs did, and did not recover subsequently
- R&D has seen sudden upticks twice in the last decade- probably related to major programs

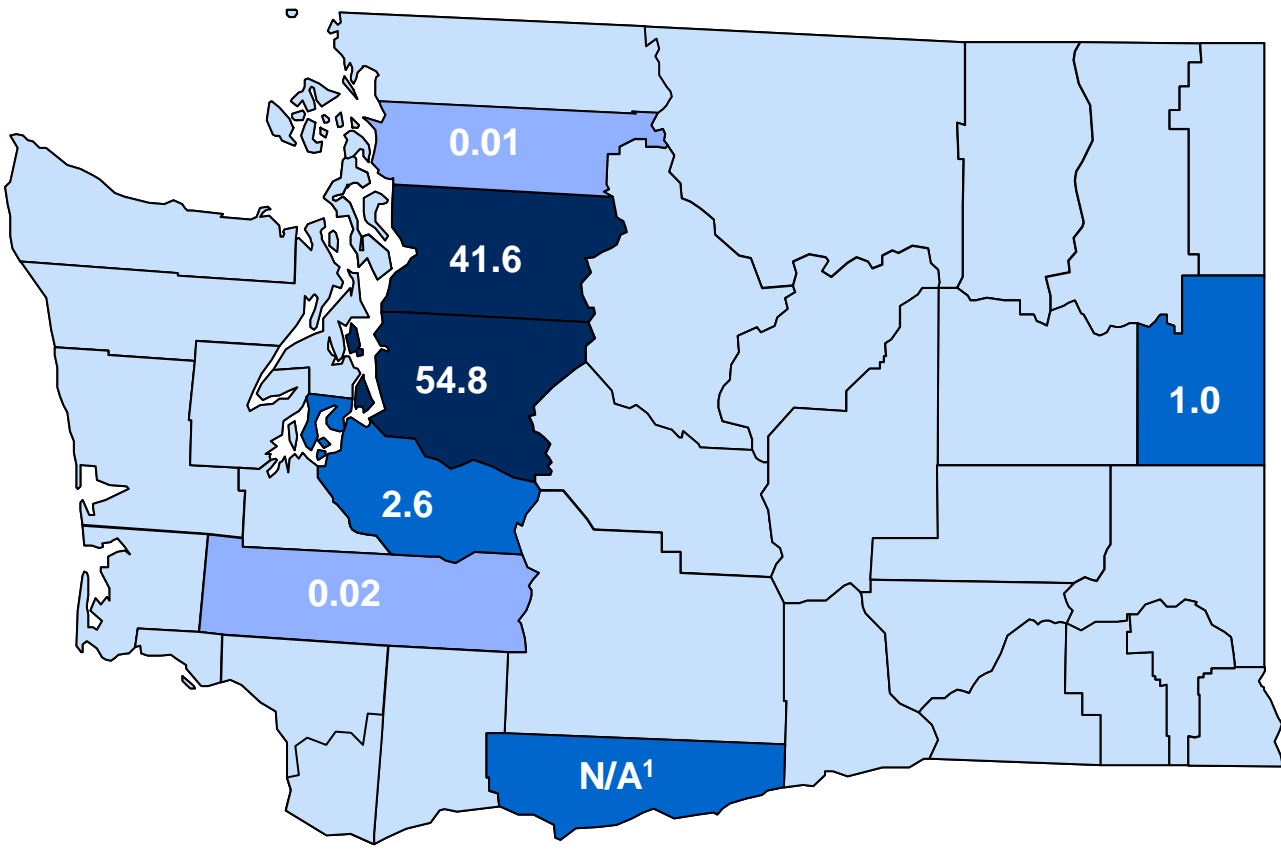
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Over 96% of all aerospace employment are in two counties- King and Snohomish

Location of aerospace jobs in WA

Percent of jobs

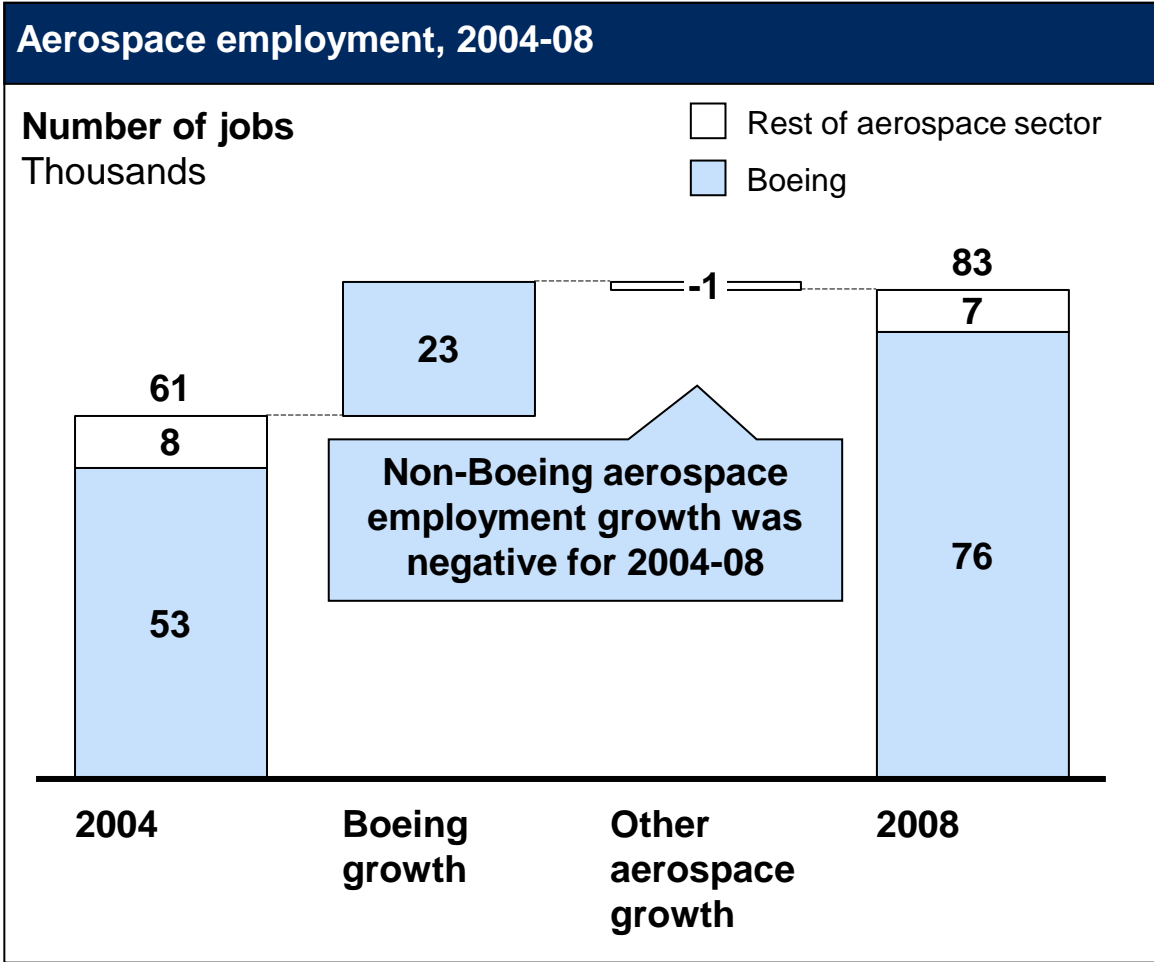
- >10,000 jobs
- 500-10,000 jobs
- 1-500 jobs
- No jobs



Bulk of all aerospace jobs are in the Seattle-Everett-Tacoma area

¹ Klickitat county employment due to Insitu, which is not captured in the aerospace sector
SOURCE: US Census Bureau, BLS, team analysis

Boeing is the main player in WA's aerospace sector



- Boeing makes up **over 90% of all aerospace jobs** in Washington and **accounted for 106% of the growth** between 2004-08
- Key programs accounting for Boeing's growth include: 787, 747-8 and the 777-X
- With Boeing's **2nd 787 line moving to South Carolina**, and a **51% 2007-08 drop-off in total orders** received, can Boeing still be a primary engine for growth for the aerospace sector?

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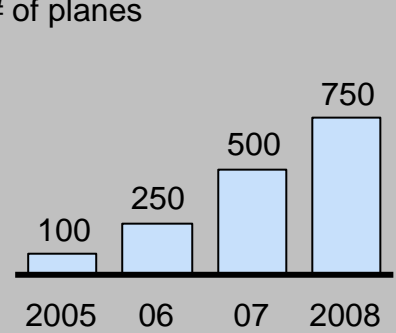
Many small aerospace companies exist in WA primarily because of Boeing, and represent both a challenge as well as an opportunity

Number of employees¹ in WA for the top 20 aerospace companies, 2008
Thousands

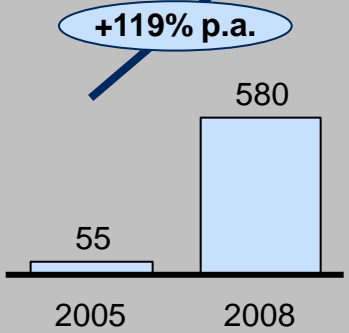
Tier	Company	Employees (Thousands)	
Tier 1/ OEM	Boeing	75.6	
	Insitu	0.6	
Tier 2	Goodrich	1.7	
	Aerojet	0.4	
	Contour	0.1	
	Crane	1.1	
Tier 3	Esterline	0.8	
	Hexcel	0.6	
	B/E	0.5	
	Avtech	0.2	
	Electrimpact	0.2	
	Zodiac	0.2	
	Precision Machine	0.2	
	QPM	0.1	
	Saint-Gobain	0.1	
	Spectralux	0.1	
	Other	Aim	0.6
		Text	0.5
Skills, Inc.		0.3	
Northwest Aerospace		0.1	
Total		84.0	

Insitu- a homegrown aerospace success story

Aircraft produced
of planes



Employment



Opportunity exists to build up these small companies as well as bring in more Tier 2 suppliers, notably those addressing manufacturing gaps identified by AFA:

- Engines
- Seats
- In-flight entertainment systems
- Galley/ lavatories
- Very Light Jets (VLJs)

¹ Total does not match aerospace total as some of these companies are classified in sectors other than aerospace by BLS

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Policies to promote continued growth in aerospace

Description

Continue to ensure a supply of skilled workers for aerospace R&D

- Promote public-private education partnerships to ensure a continuous pipeline of highly educated and skilled workers relevant to the increasingly R&D intensive aerospace industry
- **Example:** North Carolina's Advanced Machining Center coordinates aerospace workforce training curriculum at 14 schools statewide
- **Example:** Virginia created 9 new endowed professorships, an exchange of technical experts (between Rolls Royce and the universities), and adapted the curriculums at two top universities to meet Rolls Royce's manpower needs; this in part helped to attract a \$500M investment

Facilitate linkages between aerospace and other R&D intensive sectors

- Take advantage of Washington's overall strength in R&D to combine aerospace with other sectors and explore adjacencies such as navigational equipment or cyber security
- **Example:** Washington's IT and medical fields have already come together to form a growing bioinformatics industry
- **Example:** Alabama has built a state Robotics Center that brings together state institutions with different private sector industrial leaders to create an anchor for robotics development

Diversify aerospace employment across more companies

- Actively recruit new aerospace firms from out of state, foster more start-ups within the state, and allow existing smaller firms to flourish in order to diversify Washington's aerospace base
- **Example:** The Aerospace Council in Texas, which reports to the governor, has attracted 3,700 jobs and more than \$900M in investments since 2003

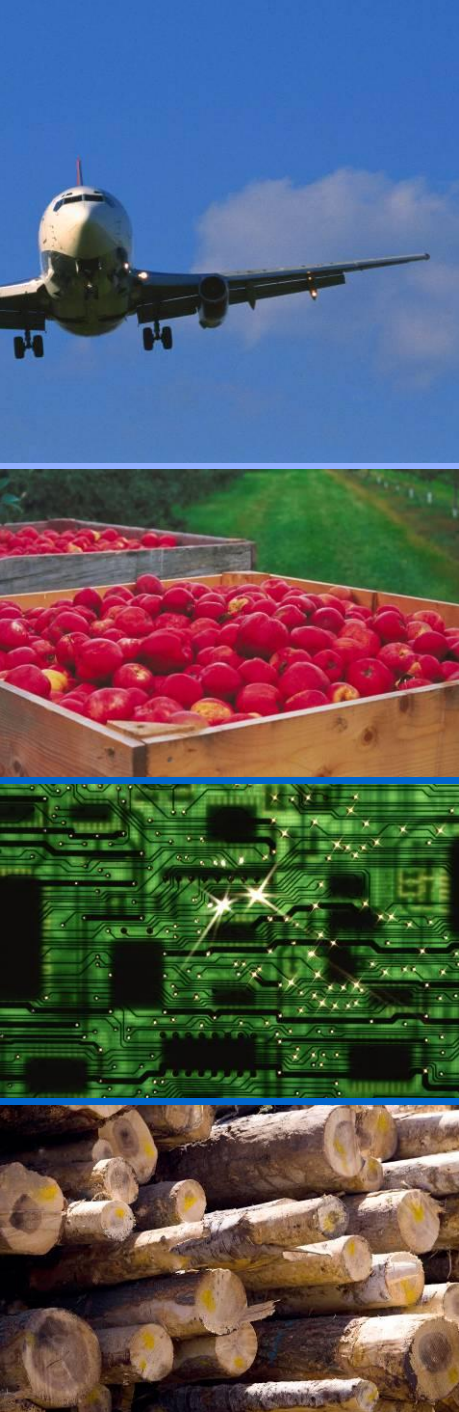
Advocate for improved infrastructure near potential manufacturing sites

- Lengthen runways, widen roads, and add rail capacity in low cost, rural areas where major plants are likely to locate. Moses Lake would be a prime site for aerospace development with improved infrastructure.
- **Example:** Spirit chose to locate a \$570M facility in North Carolina largely due to access to ports and solid infrastructure
- **Example:** South Carolina is spending \$2M for a 999-foot runway expansion at Charleston International Airport

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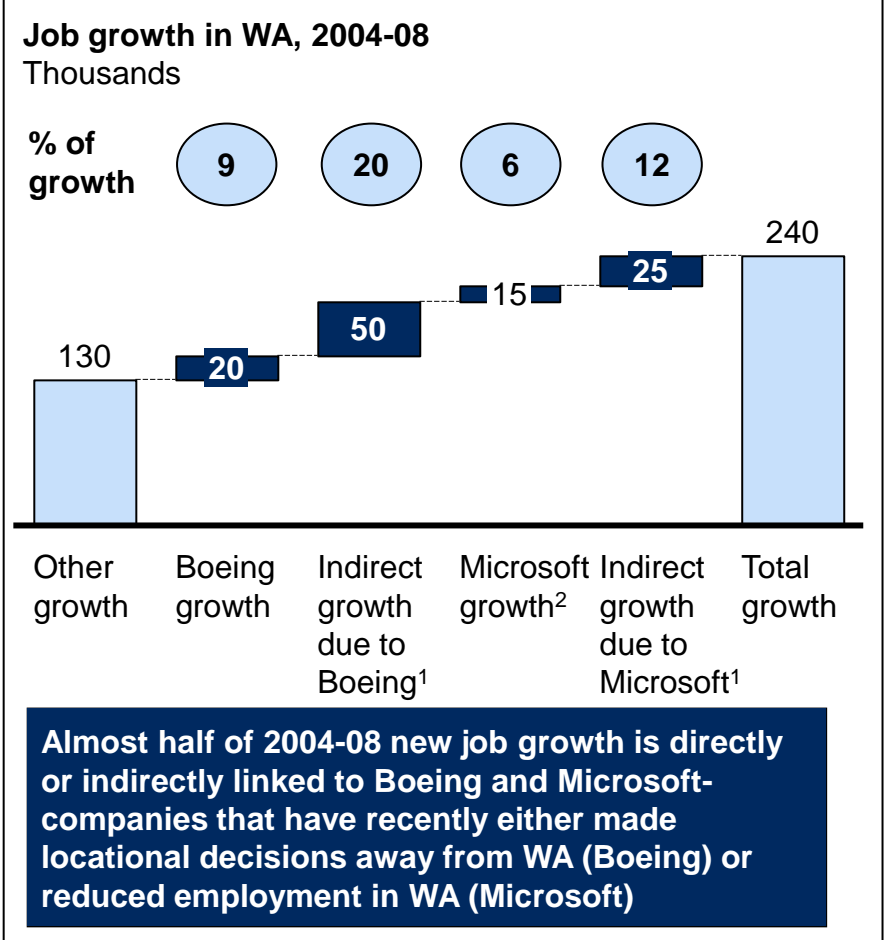
Contents

- Evaluation of state competitiveness indices
- Value chain analysis
- Proposed Commerce scorecard and key metrics
- **Key actions for Commerce to focus on**

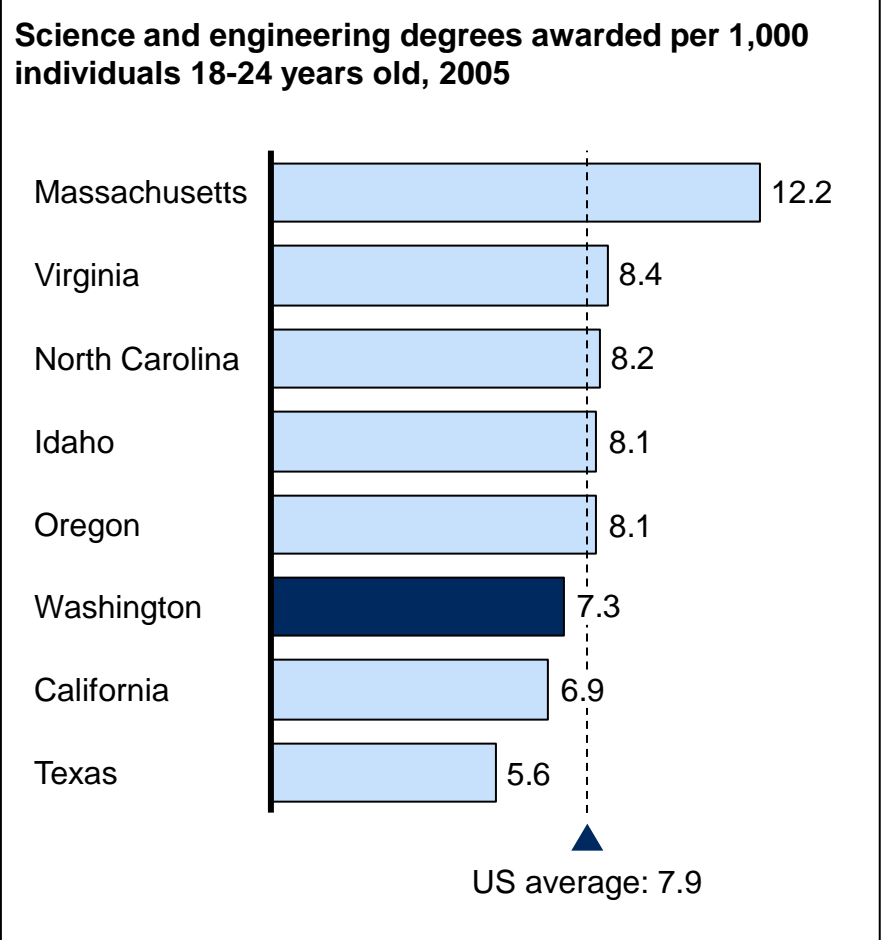


With Boeing and Microsoft maturing, the state is in need of new sources of job growth; at this point WA cannot rely on its STEM degrees to fill the gap

Over-reliance on a small set of key companies



Relative lack of homegrown R&D talent



1 Assumes a multiplier of 2.1 for aerospace as used by the AFA and 2.39 as for Microsoft as used by the Tech Alliance for all IT sectors

2 Assumes the portion of Microsoft's US employment in Washington state before 2009 is the same as 2009

Source: BLS, AFA, Tech Alliance, National Science Foundation, team analysis

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Commerce should lead the state's efforts to better position WA for future job growth, especially in R&D

Advocacy



Be a leader in the state's STEM education efforts (K-12 and higher-ed) by advocating for increased STEM focus in education funding and policy debates and facilitating private sector participation and input on STEM initiatives

External collaboration



Proactively target R&D-intensive, knowledge-based employers¹ to set up or expand R&D centers in the state by coordinating efforts across businesses, academia and state and local governments

Policy support



Help remove key barriers to employment growth, for instance, by pressing for more competitive unemployment insurance policies and workers' compensation premiums in the near-term, and in the longer-term also addressing issues such as simplifying business regulations

Across these action steps, Commerce should 1) communicate and involve key external stakeholders 2) organize itself internally to tackle these issues 3) finalize the scorecard and track progress

¹ These employers tend to contribute more to the state's value-add and have higher indirect employment multipliers than other types of companies (e.g. overall manufacturing has a multiplier of 2.5-3.5x but IT-based manufacturing has a multiplier of up to 16x)