TRENDS IN WORKFORCE DEMAND IN THE NATIONAL CAPITAL REGION

ANALYSIS OF SEVEN KEY ECONOMIC CLUSTERS

Nicole McCall
Regional Planner

Cooperative Forecasting and Data Subcommittee
December 6, 2016

Metropolitan Washington
Council of Governments
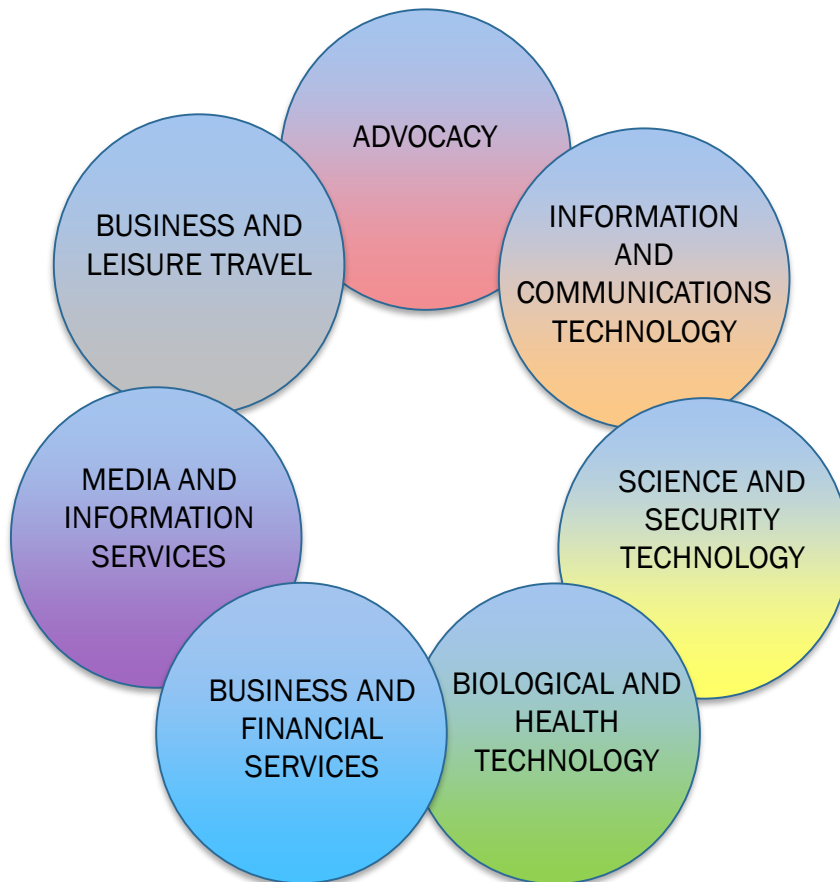
Presentation Overview

- Importance of talent in fueling our region's economy

- Our Region's Jobs, A Mixed Story

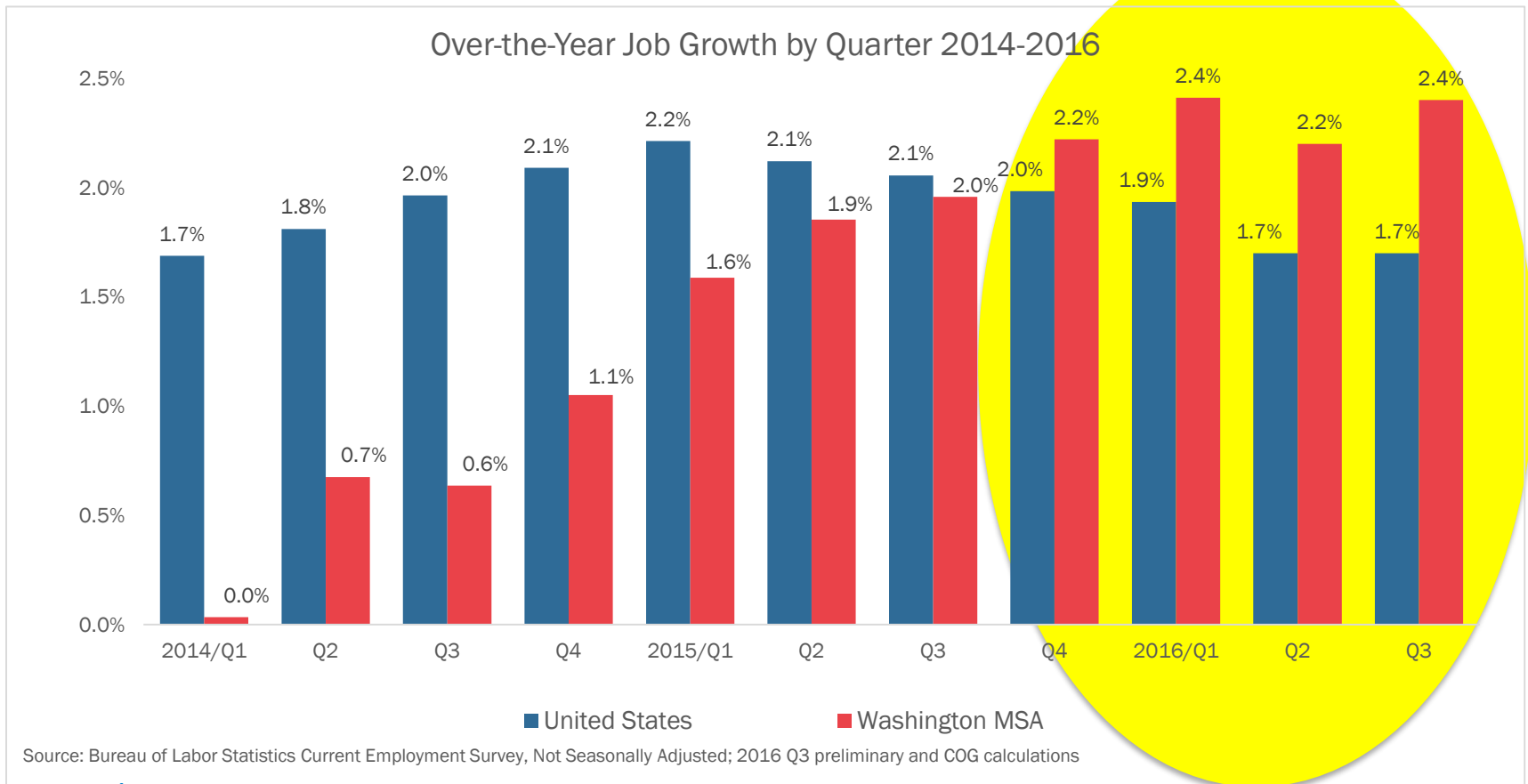- Identify occupations that can drive economic and wage growth

Talent and Economic Competitiveness

- Interindustry Forecasting Project at the University of Maryland identified seven key economic clusters with the potential to drive economic growth

- The Global Cities Initiative is using these to grow the region's export economy.

- Attracting and training a talented workforce is key to supporting businesses in these clusters

Metropolitan Washington
Council of Governments

Our Region's Jobs, A Mixed Story

- Employment in metropolitan Washington grew faster than the nation's during the last four quarters, but...

Over-the-Year Job Growth by Quarter 2014-2016

Source: Bureau of Labor Statistics Current Employment Survey, Not Seasonally Adjusted; 2016 Q3 preliminary and COG calculations

■ United States ■ Washington MSA

Our Advanced Industries, A Mixed Story

- Our MSA ranked third in advanced industries jobs, <u>but</u>:

  - 75% of those jobs are in three industries – Computer System Design, Management Consulting, and Engineering; we are specialized <u>but vulnerable</u>

Diversity of advanced industries in the five metro areas with the greatest advanced industries employment, 2015
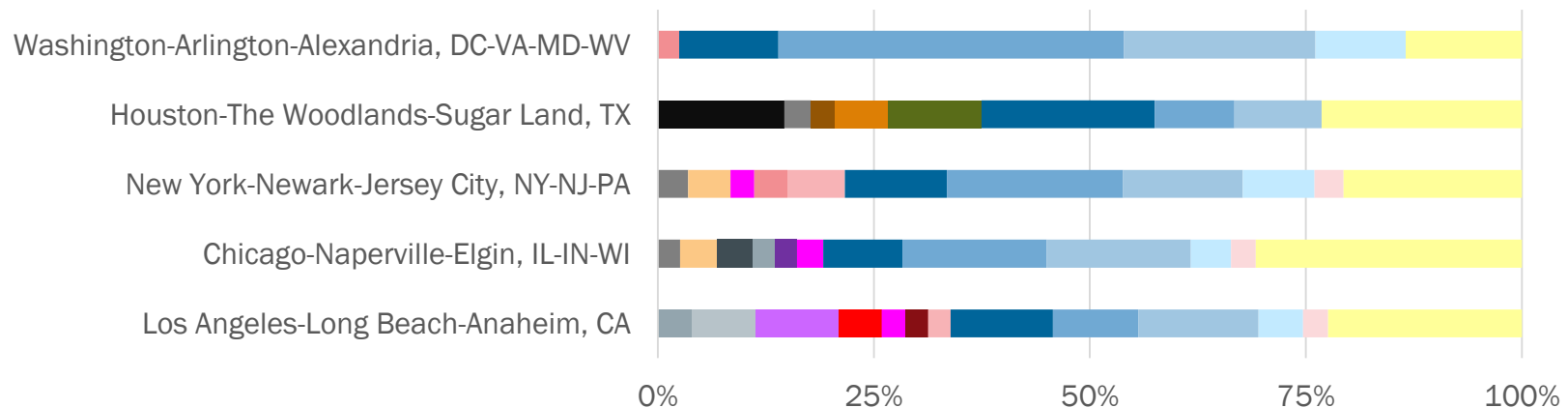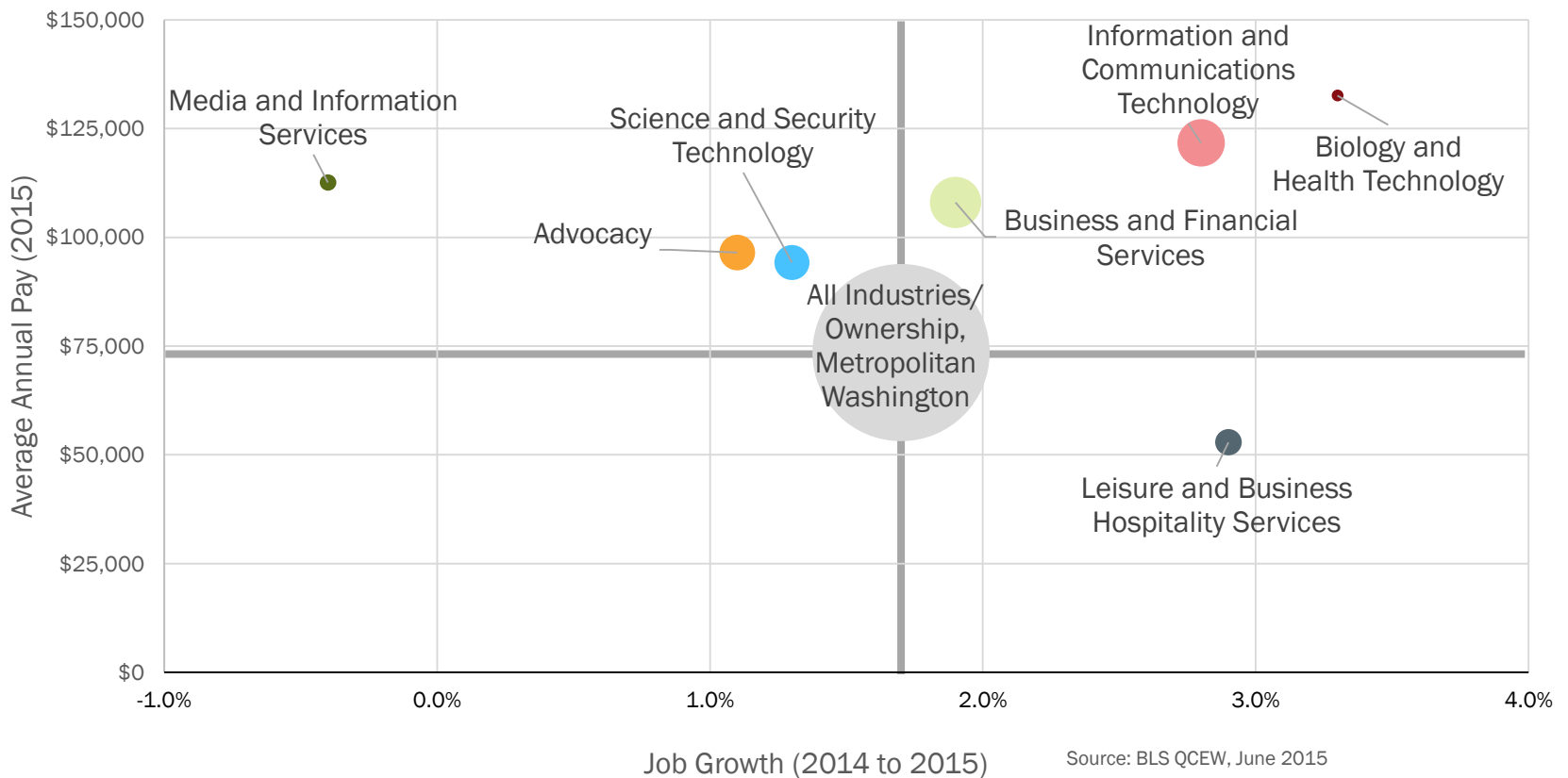

Note: Industries with 2.5% or more of metro area's advanced industries employment

Performance of the Key Economic Clusters, 2014-2015

Job Growth and Average Annual Pay, Seven Key Economic Clusters (Private Sector), Metropolitan Washington
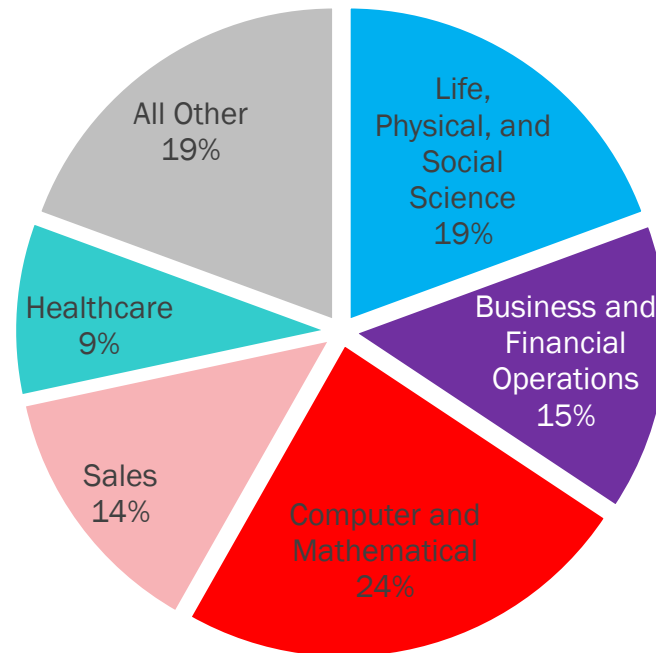

Source: BLS QCEW, June 2015

Example, Biology and Health Technology

Job postings from January – June 2016

Firms: Top Job Postings

a) AstraZeneca/MedImmune
b) Jackson Foundation for the Advancement of Military Medicine
c) Advisory Board
d) GlaxoSmithKline
e) Novavax
f) Covance

Occupational Structure by Job Postings, Metropolitan Washington

All Other 19%

Life, Physical, and Social Science 19%

Business and Financial Operations 15%

Computer and Mathematical 24%

Sales 14%

Healthcare 9%

Note: Major occupational groups with 5% or more of the cluster's total job postings in metropolitan Washington between January 1 and June 30, 2016.
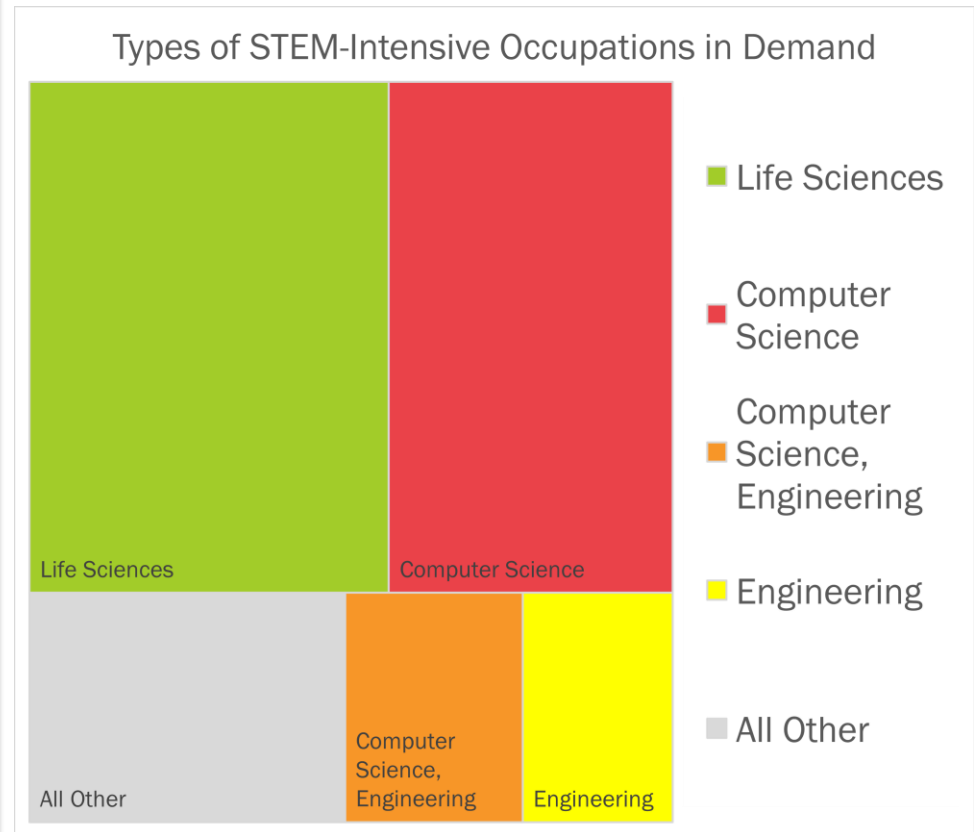
Example, Biology and Health Technology

January – June 2016

Occupations Most In-Demand

1) Sales Reps, $66,900
2) Managers, $128,800
3) Medical Scientists, $106,000
4) Medical Managers, $108,000
5) Sales Managers, $144,400
6) Administrative Managers, $99,000
7) Marketing Managers, $148,300
8) Software Developers, $110,100
9) HR Specialists, $80,300
10) Quality Control Analysts, $55,700

Types of STEM-Intensive Occupations in Demand

- Life Sciences
- Computer Science
- Computer Science, Engineering
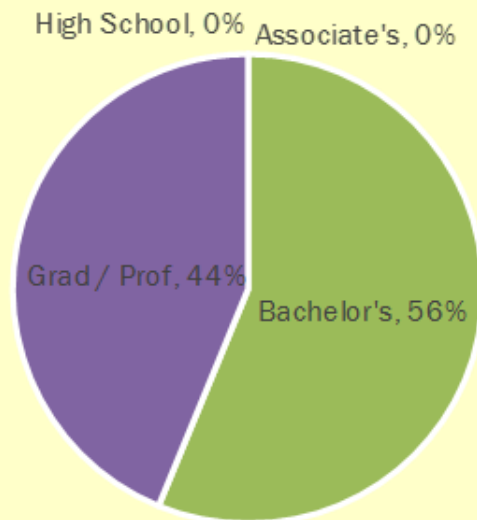- Engineering
- All Other

Example, Biology and Health Technology

January – June 2016

3. Medical Scientists, Except Epidemiologists, $106,000

Biology and Health Technology Cluster: Wage Premium: +22%; Job Postings= 200

Education Requirements

High School, 0% Associate's, 0%

Grad / Prof, 44%

Bachelor's, 56%

Titles

1. Clinical Research Associate

Skills

1. Clinical Research
2. Clinical Trials
3. Good Clinical Practices (GCP)
4. Drug Development
5. Immunology
6. Project Management
7. Data Management
8. Oncology
9. Clinical Development
10. Biotechnology

Years of Experience

9+, 16%
6 - 8 , 14%
0 - 2 , 34%
3 - 5 , 36%
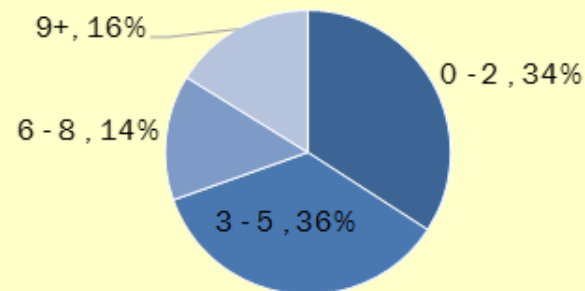
Notes: 1) Education Requirements not specified in 6% of job postings; 2) Years of experience not specified in 24% of job postings; 3) Only those skills and titles which were included in at least 5% of job postings are reported above.

STEM-Intensive Talent Needs
January to June 2016

10 Occupations	Seven Key Economic Clusters							Total Job Postings, Key Economic Clusters	Total Job Postings and Rank, All Industries
	Advocacy	Information & Comm. Technology	Science and Security Technology	Biology & Health Technology	Business & Financial Services	Media & Information Services	Leisure & Business Hospitality Services		
Software Developers, Applications	X	X	X	X	X	X	X	5,400	24,000 Rank = 1
Information Security Analysts	X	X	X		X	X	X	2,200	7,400 Rank = 2
Computer Systems Analysts	X	X	X	X	X	X	X	1,600	5,300 Rank = 3
Database Administrators	X	X	X		X	X		900	3,900 Rank = 6
Computer Network Architects	X	X	X		X	X		800	3,300 Rank=7
Business Intelligence Analysts	X	X	X	X	X	X	X	700	2,400 Rank = 9
Computer User Support Specialists	X	X		X	X	X		700	4,200 Rank = 4
Accountants	X				X	X	X	600	4,000 Rank = 5
Auditors					X			500	1,500 Rank = 10
Architectural and Engineering Managers						X	X	400	1,000 Rank = 12

Note: Only those occupations included on O*NET's list of STEM occupations are included; additional occupations may require STEM training

Metropolitan Washington Council of Governments

Occupations that can Drive Economic Growth

Stem-Intensive Occupations

1. Software Developers, Applications
2. Information Security Analysts
3. Computer Systems Analysts
4. Database Administrators
5. Computer Network Architects

All Other Occupations

1. Sales Representatives
2. Managers, All Other
3. Management Analysts
4. Sales Managers
5. Marketing Managers

Report Findings

- Our economy is growing but we need to focus on workforce development while diversifying away from the federal government

- Overall, the key economic clusters performed well between 2014 and 2015

- The key economic clusters are recruiting the same kind of talent, for stem-intensive and all other occupations

- There is an opportunity to support the key economic clusters with targeted workforce development

Nicole McCall

Regional Planner

(202) 962-3341

nmccall@mwcog.org

777 North Capitol Street NE, Suite 300

Washington, DC 20002

mwcog.org

Thank you!

Capital**One** Bank®

INVESTING *for* **Good**

Metropolitan Washington
Council of Governments

Extra Slides

Metropolitan Washington
Council of Governments

Top Ten Occupations Most in Demand
(National Capital Region)

1. Software Developers, Applications

2. Sales Representatives

3. Computer Systems Engineers/Architects

4. Managers, All Other

5. Management Analysts

6. Information Security Analysts

7. Computer Systems Analysts

8. Sales Managers

9. Information Technology Project Managers

10. Security Guards

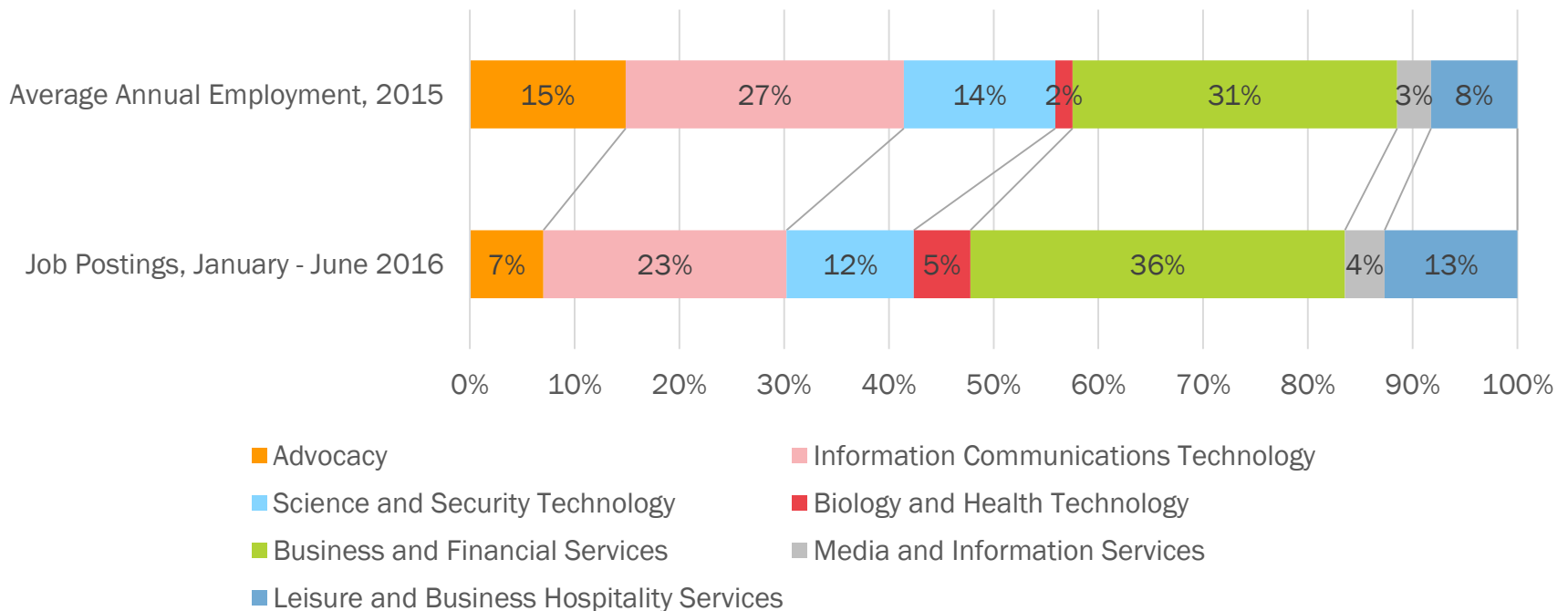# Top STEM-Intensive Occupations Across All Seven Economic Clusters

1. Software Developers, Applications

2. Information Security Analysts

3. Computer Systems Analysts

4. Database Administrators

5. Computer Network Architects

What Can Job Postings Data tell us?

Distribution of Private Employment Versus Job Postings, Key Economic Clusters, metropolitan Washington

Average Annual Employment, 2015
| 15% | 27% | 14% | 2% | 31% | 3% | 8% |

Job Postings, January - June 2016
| 7% | 23% | 12% | 5% | 36% | 4% | 13% |

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

- ■ Advocacy
- ■ Information Communications Technology
- ■ Science and Security Technology
- ■ Biology and Health Technology
- ■ Business and Financial Services
- ■ Media and Information Services
- ■ Leisure and Business Hospitality Services

More about Occupations in High Demand

10 STEM-Intensive Occupations*
7 Key Economic Clusters +
10 comprehensive occupations *
7 Key economic clusters
=
140 potential occupations

Deduplication →

25 STEM-intensive occupations

36 comprehensive occupations

- Computer occupations are in high demand by the key economic clusters:
  - 7 of the top 10 STEM-intensive occupations
  - Comprehensively, 5 of the top 10 occupations

- For the comprehensive occupations
  - 60 of the 70 occupations are paid wage rates above the region's average
  - 73 percent or more of the job postings for 60 of the 70 occupations requested a Bachelor's degree or higher
  - Most occupations with lower educational barriers were within the Leisure and Business Hospitality Services cluster.

STEM Talent → Seven Economic Clusters → Regional Economy
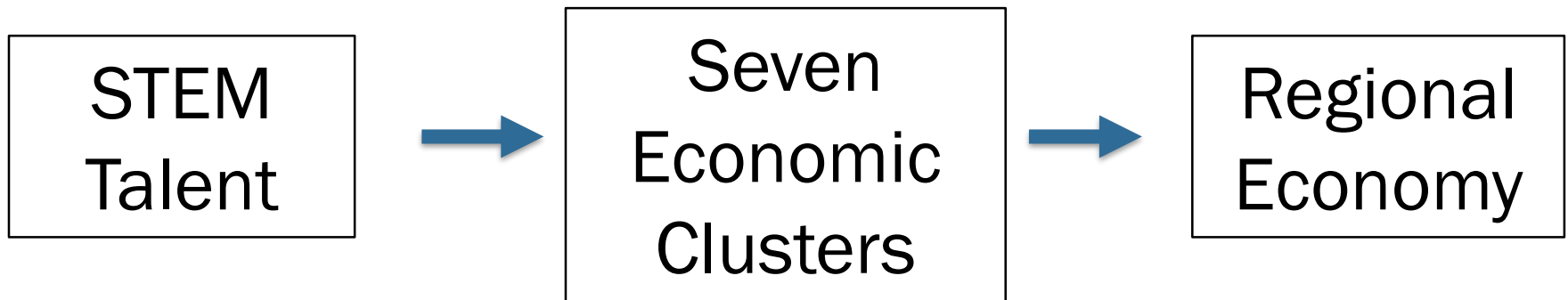
New Tool / Data Source

- Burning Glass' Labor Insight searches millions of job postings from over 40 thousand websites on a daily basis
- Using a 60-day time frame, 80% of the postings are flagged as duplicates and removed
- Clients include state governments, higher education, and the private sector