

WORKFORCE SUPPLY AND DEMAND

Existing Framework and Current Findings

1

WORKFORCE SUPPLY AND DEMAND

- “Occupational Outlook for Various Programs of Study: Completion Trends in SC Higher Education”
 - Follow-up to enrollment projections analysis September 2015
- Important topic for the state’s economic prosperity
- **Goal:** Provide information on what type of analysis we can currently perform with available data

CURRENT OPPORTUNITIES & CONSTRAINTS

- Data exists on the number of degrees conferred by South Carolina public and independent institutions by program area → good approximation of labor supply (**workers**)
- Occupational projections are produced by the Department of Employment and Workforce → an approximation of labor demand (**jobs**)
- Acceptable crosswalk of instructional programs (majors) and occupations (jobs) available from BLS/NCES

WHAT CAN EXISTING DATA TELL US?

- Can determine existing number of graduates, by degree level, by program of study, and by geographic location
- Can determine number of institutions offering different instructional programs, by degree level
- Broad brush strokes on supply and demand mismatch
 - Can help to identify areas of potential concern for further analysis

CURRENT OPPORTUNITIES & CONSTRAINTS

Issues with Data Availability:

- Projections rely heavily on historical trends
 - May not accurately capture emerging occupations
 - Not available for all occupations
 - Released approximately every two years
- Many programs of study difficult to match with single or group of occupations
 - Examples: “Business Administration,” “Biology, General,” “History, General”

POSSIBLE APPROACHES

Difficult to look at every combination

840+
Detailed Occupations

500+
Programs of Study

How can we narrow our focus?

1. Most popular majors
2. Fastest growing occupations
3. Largest occupations
4. Areas of interest (ex: STEM, Medical)
5. Others

EXAMPLES OF CURRENT ANALYSIS

Step 1: Determine Occupations of Interest

- Below are a few examples of fast growing occupations

| SOC | Title | Minimum Education Level | Base Year Employment (2012) | Projected Year Employment (2022) | Net Change | Annual Job Openings | Percent Change |
|---------|--|-------------------------|-----------------------------|----------------------------------|------------|---------------------|----------------|
| 29-2021 | Dental hygienists | Associate | 2,515 | 3,393 | +878 | 150 | 34.9% |
| 13-1161 | Market research analysts and marketing specialists | Bachelor | 3,846 | 5,180 | +1,334 | 190 | 34.7% |
| 29-1123 | Physical therapists | Doctoral | 2,854 | 3,792 | +938 | 160 | 32.9% |
| 29-2055 | Surgical technologists | Post-Secondary | 1,836 | 2,386 | +550 | 70 | 30.0% |
| 13-1051 | Cost estimators | Bachelor | 2,486 | 3,219 | +733 | 150 | 29.5% |

EXAMPLES OF CURRENT ANALYSIS

Step 2: Match Occupations to Academic Programs

- SOC codes can be matched to Instructional Programs to determine average annual completions in those related fields:
 - Some will be one-to-one
 - Some will be one-to-many

| SOC | Title | CIP | Description |
|---------|---|---------|---|
| 29-2021 | Dental hygienists | 51.0602 | Dental Hygiene/Hygienist |
| 13-1161 | Market research analysts and marketing specialist | 19.0203 | Consumer Merchandising/Retailing Management |
| | | 45.0602 | Applied Economics |
| | | 52.1401 | Marketing/Marketing Management, General |
| | | 52.1402 | Marketing Research |
| | | 52.1403 | International Marketing |

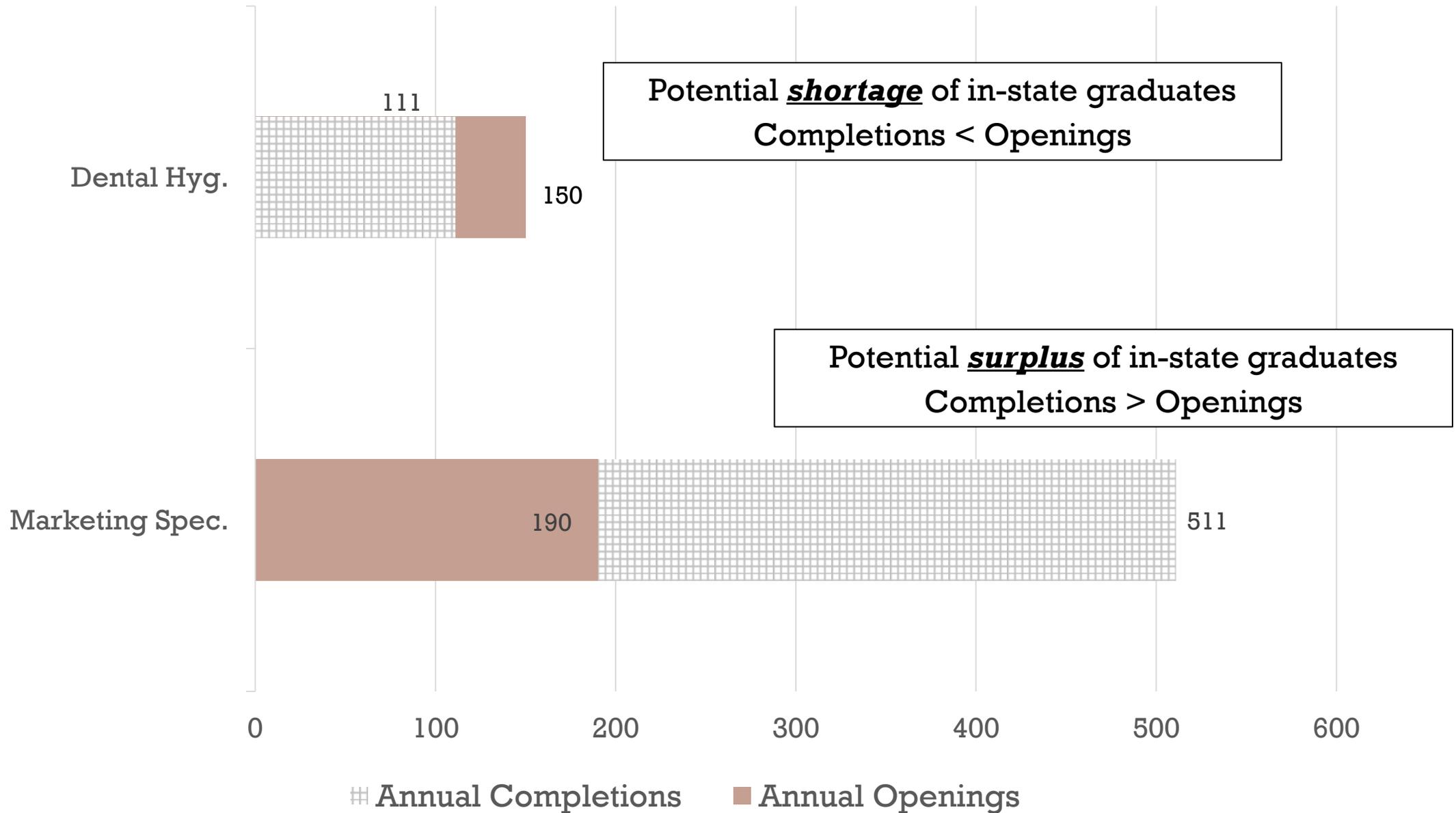
EXAMPLES OF CURRENT ANALYSIS

Step 3: Determine Number of Completions by Academic Program

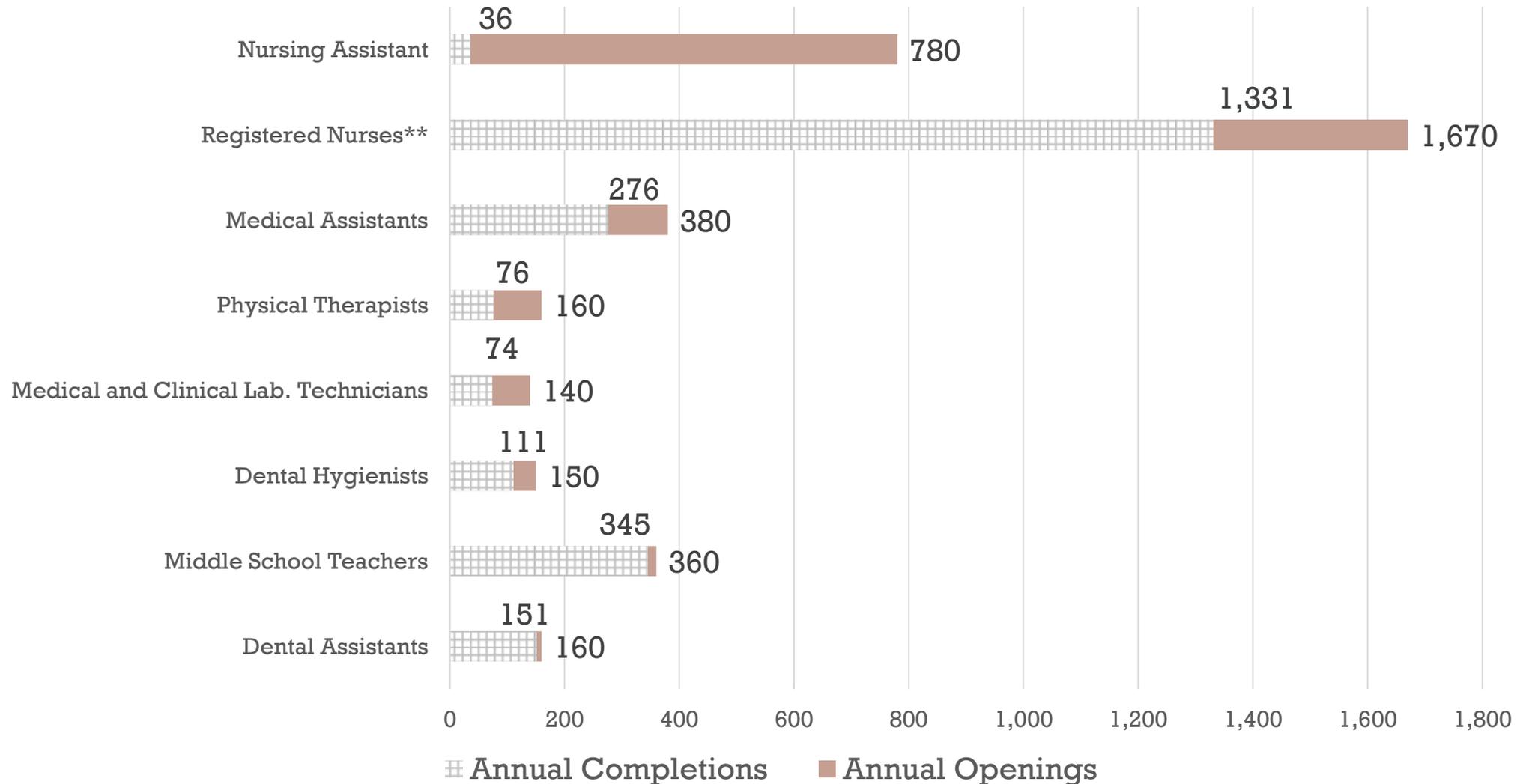
| CIP | Description | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 5-Year Average |
|---------------|--------------------------|---------|---------|---------|---------|---------|----------------|
| 51.0602 | Dental Hygiene/Hygienist | 106 | 113 | 119 | 107 | 110 | 111 |
| Multiple CIPs | Marketing Related | 536 | 570 | 463 | 509 | 478 | 511 |

Completions at SC Public and Independent Institutions meeting minimum identified education level

Step 4: Compare Completions to Openings

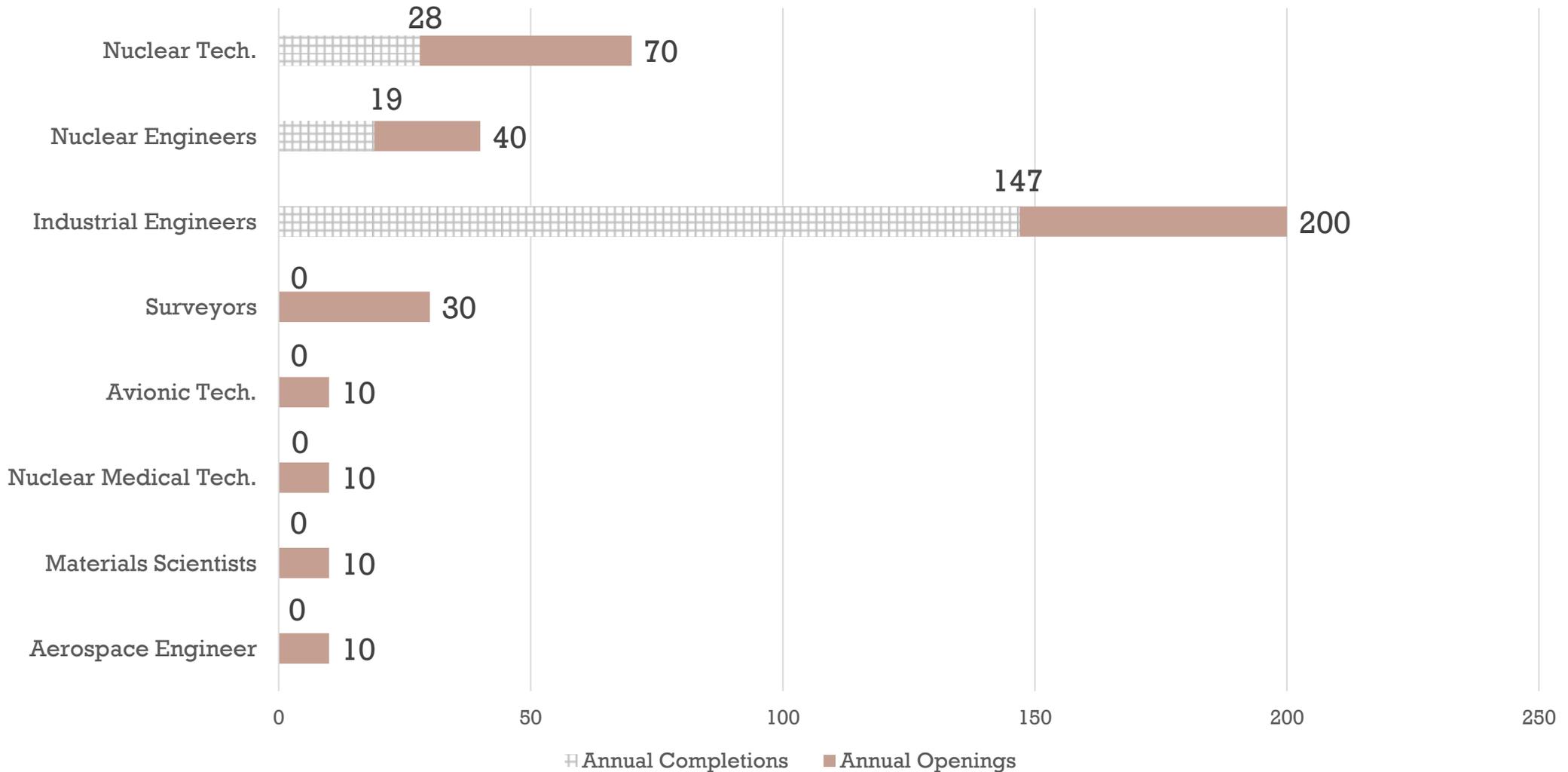


HIGHLIGHTS OF SELECTED “HIGH DEMAND” OCCUPATIONS



**It is unknown how many of the 1,670 openings are for RNs with a BSN vs. ASN; additional 1,300 completions at ASN level per year.

HIGHLIGHTS OF SELECTED STEM* OCCUPATIONS



*STEM occupations identified by O*NET typically do not include health-related occupations.

CONCLUSION

- Existing data show potential shortages
- Additional data sharing and collaboration with partner agencies could allow for more complete picture
- A number of studies on this topic are complete or in process:
 - Report on Comprehensive Workforce Development Coordination Initiative (FY '16 Proviso 117.127)—survey of business community
 - CERRA with CHE—teachers
 - Office for Healthcare Workforce Analysis and Planning (AHEC)—nurses and other medical
 - Competing Through Knowledge Initiative—multiple occupations
 - Charleston Regional Development Alliance—multiple occupations in CHS region
 - Georgetown Center on Education and the Workforce—multiple occupations national and state
 - Many others