

Higher Expectations Project



WITS Partner Conference
January 19, 2017
Madison

Dennis Winters

Chief Economist

Department of Workforce Development

Racine County is faced with major workforce challenges:



Local businesses are having difficulty finding enough qualified workers to meet their needs.



The City of Racine's annual average unemployment rate in 2015 was 7.1%, the highest among the state's 32 largest municipalities.

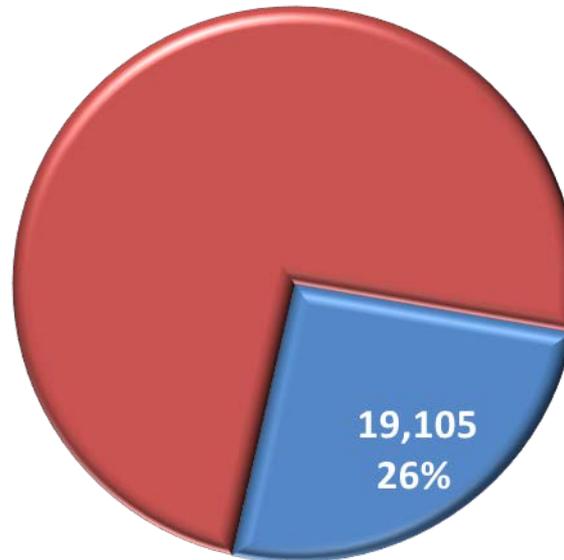


There are spatial and skills disconnects between available labor and work opportunities.

Skills Gap Survey

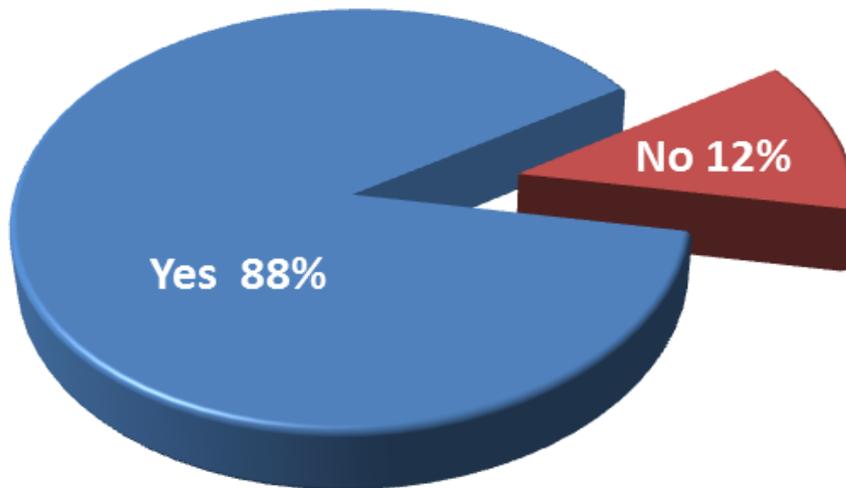


- 90 Unique Respondents, a 25% response rate (sent to 360 businesses).
- Employment in Racine County = 19,105, 26% of total employment



**Survey employment coverage vs. Racine QCEW
2Q 2014 total employment (74,078)**

Does your business/organization have difficulty filling certain positions in the Racine area?

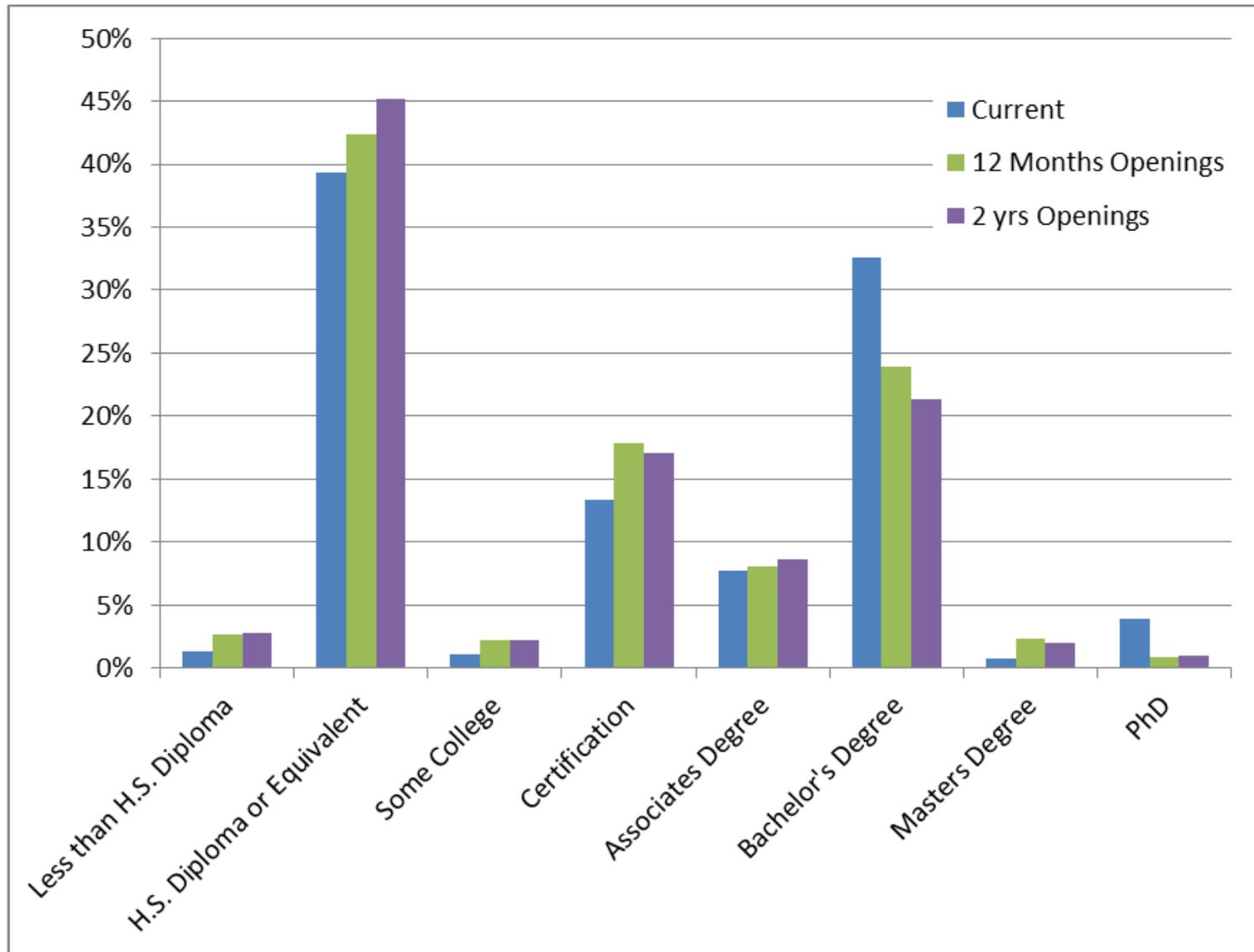


Number of current employees: 3,905

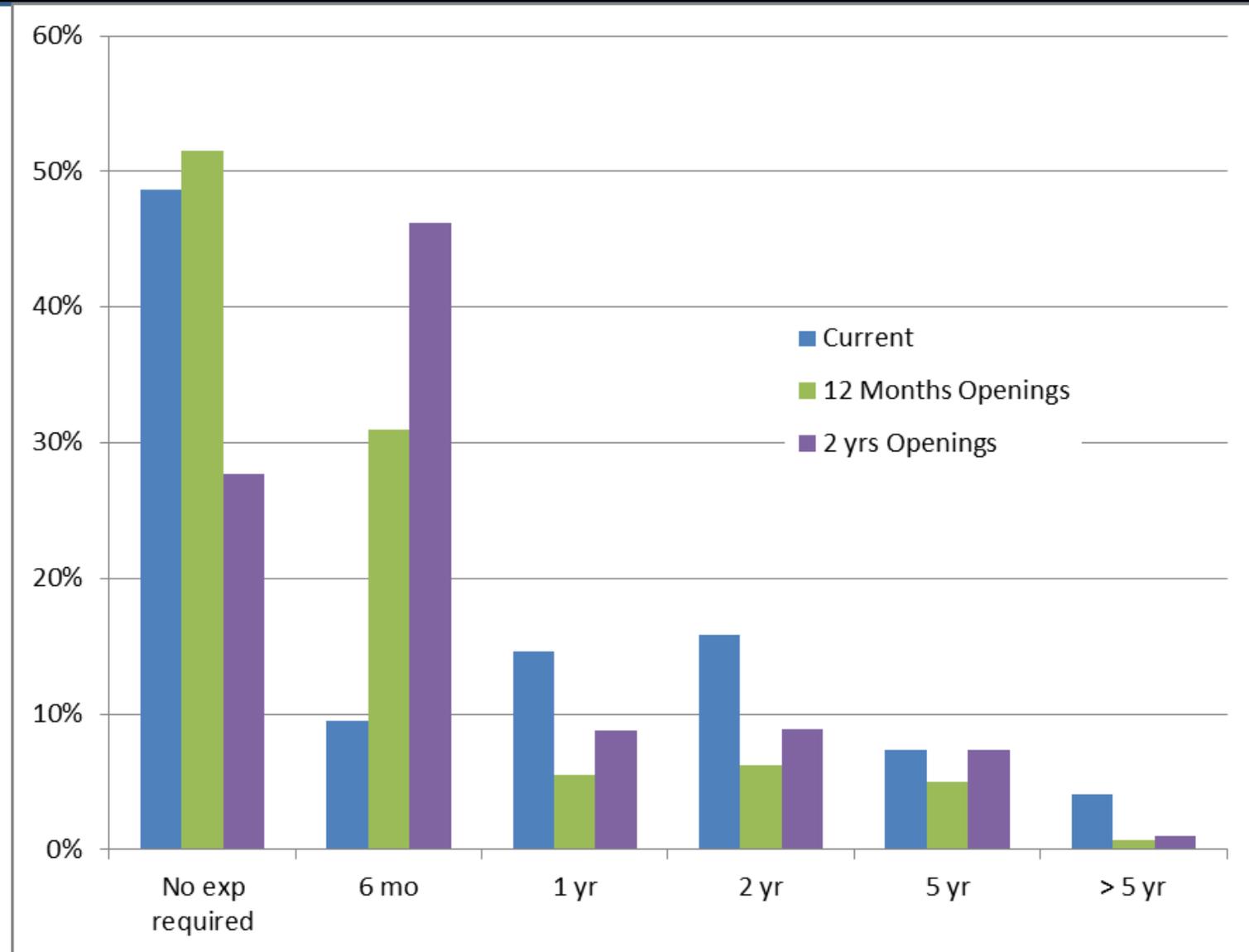
Projected openings in 12 months: 727

Projected openings in 2 years: 1,227

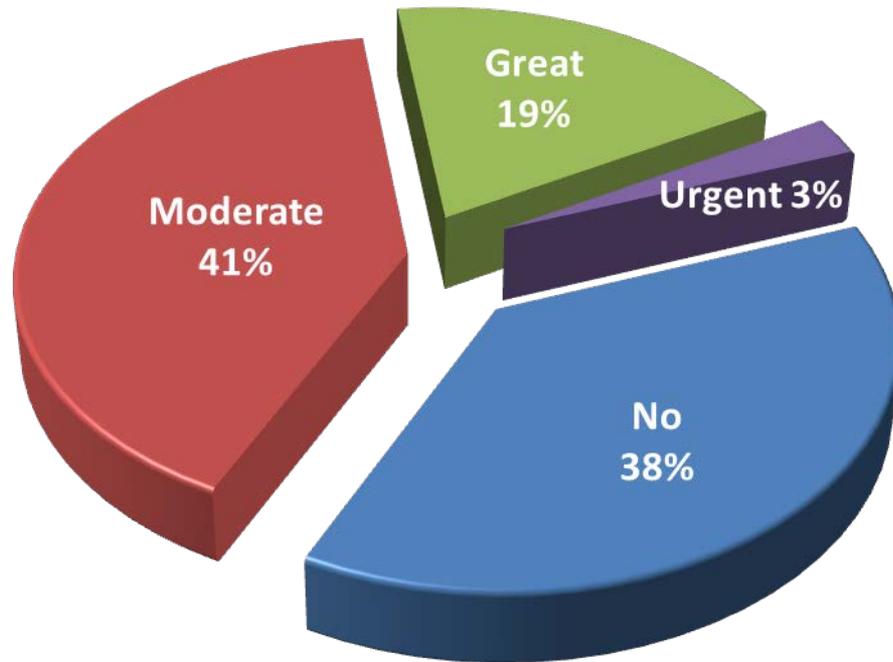
Hard to fill occupations – education desired



Hard to fill occupations – experience desired



Are the retirement plans of current employees a concern for your business/organization?

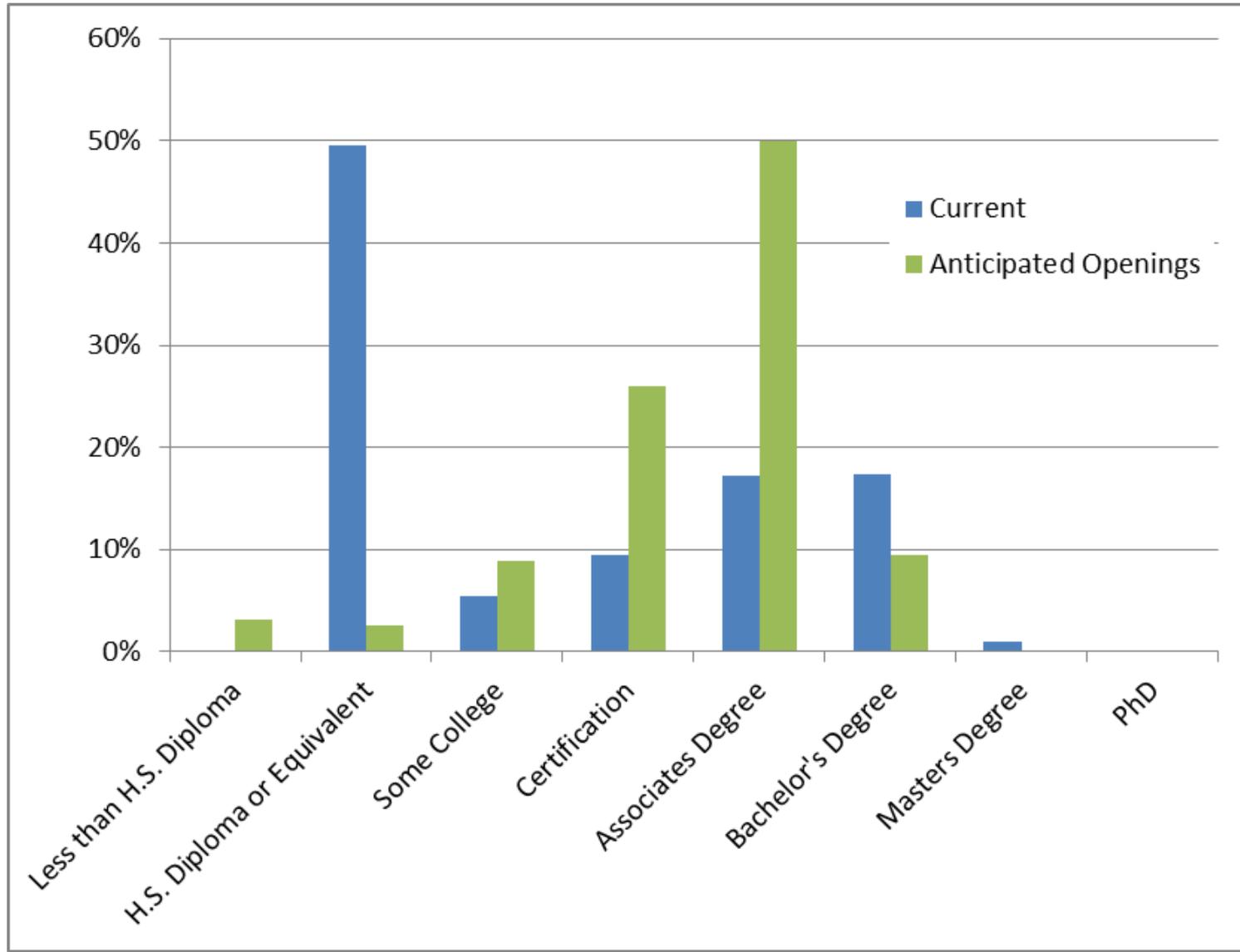


63% of respondents considered retirements a concern, with 22% considering it of great or urgent concern.

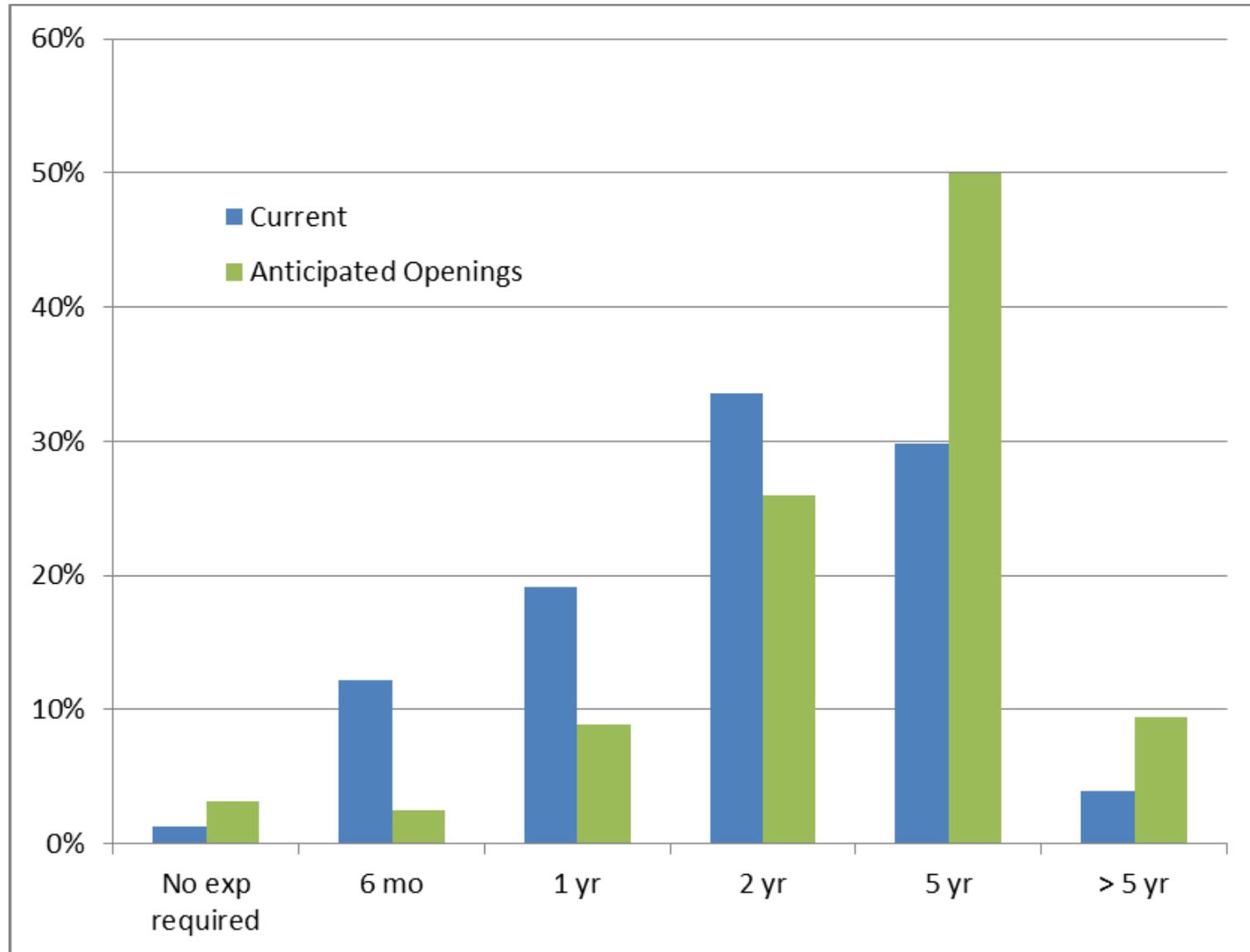
Number of current employees: 1,492

Anticipated retirements: 238

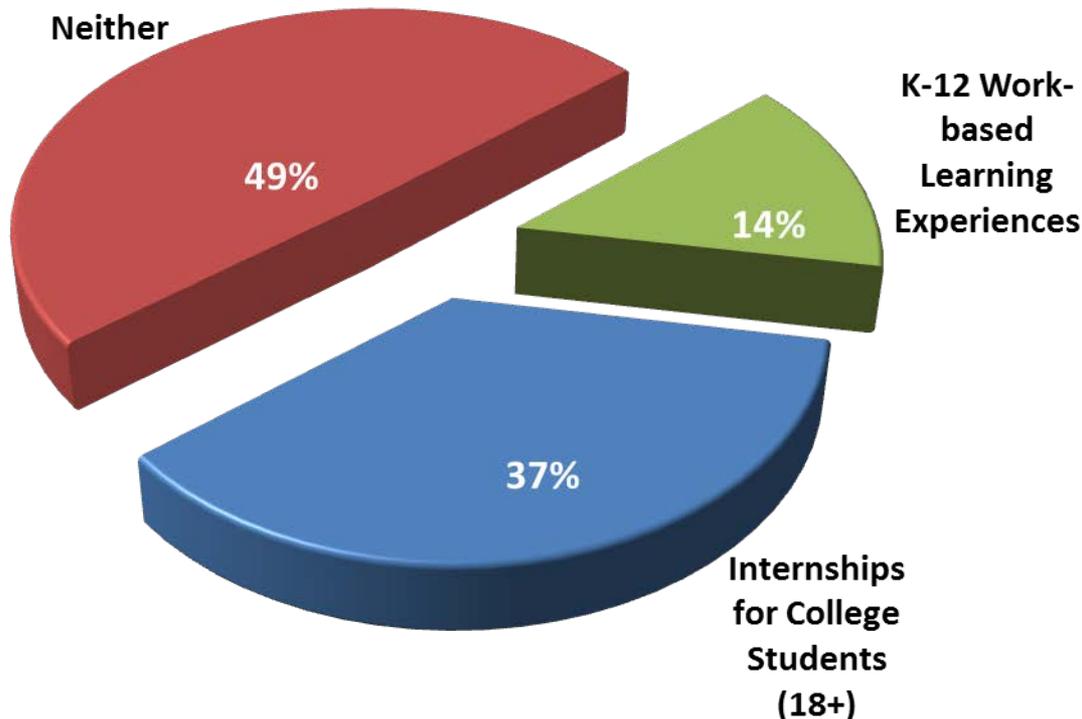
Retirements – education desired



Retirements – experience desired



Does your company offer either of the following?



49 respondents are willing to be contacted about internships or work-based learning, **21 of those do not offer either opportunity currently.**

Soft Skills Desired



Problem solving skills	38	47%
Reliability/Punctuality	37	46%
Interpersonal skills	36	44%
Communication skills	34	42%
Adaptability	30	37%
Leadership skills	13	16%
Growth mindset	9	11%
Organization skills	9	11%
Math competence	8	10%
Persistence and Perseverance	8	10%

Top Degree Clusters Hired, by frequency



Clusters hired	Respondents	% of Respondents
Cluster 4 - Business Management & Administration	40	51%
Cluster 13 – Manufacturing	30	38%
Cluster 6 – Finance	29	37%
Cluster 15 – STEM	25	32%
Cluster 11 - Information Technology	23	29%
Cluster 14 – Marketing	21	27%
Cluster 10 - Human Services	17	22%
Cluster 16 - Transportation, Distribution & Logistics	16	21%
Cluster 5 - Education & Training	13	17%
Cluster 8 - Health Science	9	12%
Cluster 1 - Agriculture, Food & Natural Resources	7	9%

Questions?

Dennis Winters

Chief Economist

608-267-3262

Dennis.Winters@dwd.wi.gov

<http://dwd.wisconsin.gov>



Demand Projections & Labor Supply

Industry and Occupational Forecast



Workforce Information and Technical Support
3rd Annual Partner Conference
January 19, 2017
Crown Plaza | 4402 East Washington Ave

Blania Clariz Calderon-Cancel
Projection Economist Advanced
Department of Workforce Development

WI Employment Projections

Overview-Federal Partnership



US Department of Labor



U.S. Employment and
Training Administration
(ETA)



U.S. Bureau of Labor
Statistics (BLS)



Office Of Economic
Advisors (OEA)/Labor
Market Information
(LMI)

Projection Managing Partnership (PMP)

- **Mission:** *To enable/support states as they develop and deliver high quality state and local employment projections.*
- **Vision:** *To maximize the efficiency of public investments by facilitating talent development with high quality industry and occupational projections.*

WI Employment Projections

Overview-Primary Customer Groups



- Public;
- **Labor market intermediaries;**
- Policymakers, employment and economic program planners and operators; and
- Other miscellaneous customers.

WI Employment Projections

Inputs-Employment History for Industry Forecasts



- Quarterly Census of Employment and Wages (QCEW)
- Current Employment Statistics (CES)
- American Community Survey (ACS)
- Current Population Survey (CPS)
- Longitudinal Database (1990-2000)
 - Provided by BLS to the states
- National Industry Employment – U.S. BLS

WI Employment Projections

Inputs-Economic Indicators for Industry Forecasts



- Wisconsin Economic Indicators:
 - **21** Leading Index Variables
 - **22** Coincidence Variables
 - **5** Demographic Variables
- National Economic Indicators – PMP:
 - **34** Macroeconomic Variables
- **Total: 82 Economic Variables**

WI Employment Projections

Statistical Models for Industry Forecasts



- Shift-Shares
- Time Series: Linear, Logarithmic, Exponential, Polynomial
- OLS Models: User-Defined, Local, Export

Using *location quotient* (ratio of state industry employment to total state employment divided into ratio of us industry employment to total us employment) we separate industries into:

Export Industry Models (if $LQ \geq 1.2$)

Local Industry Models (if $LQ < 1.2$)

$$Y_t = \alpha + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \varepsilon$$

Y_t - state restaurants and other eating places employment.

X_{1t} - state population.

X_{2t} - consumer confidence index.

X_{3t} - percent annual change in state GDP.

$\alpha, \beta_1, \beta_2, \beta_3$ are coefficients and ε is error term.

$$Y_t = \alpha + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 X_{4t} + \varepsilon$$

Y_t - state dairy product manufacturing employment.

X_{1t} - national dairy product manufacturing employment.

X_{2t} - real effective exchange rate.

X_{3t} - percent annual change in national personal disposable income.

X_{4t} - employment in food manufacturing.

$\alpha, \beta_1, \beta_2, \beta_3, \beta_4$ are coefficients and ε is error term.

WI Employment Projections

Inputs-Occupational Forecast Estimates



- Self Employment and Replacements Ratios
- National Change Factors
- Staffing Pattern
- Industry Control Totals (ICT)

WI Employment Projections

Statewide Summary, 2014-2024

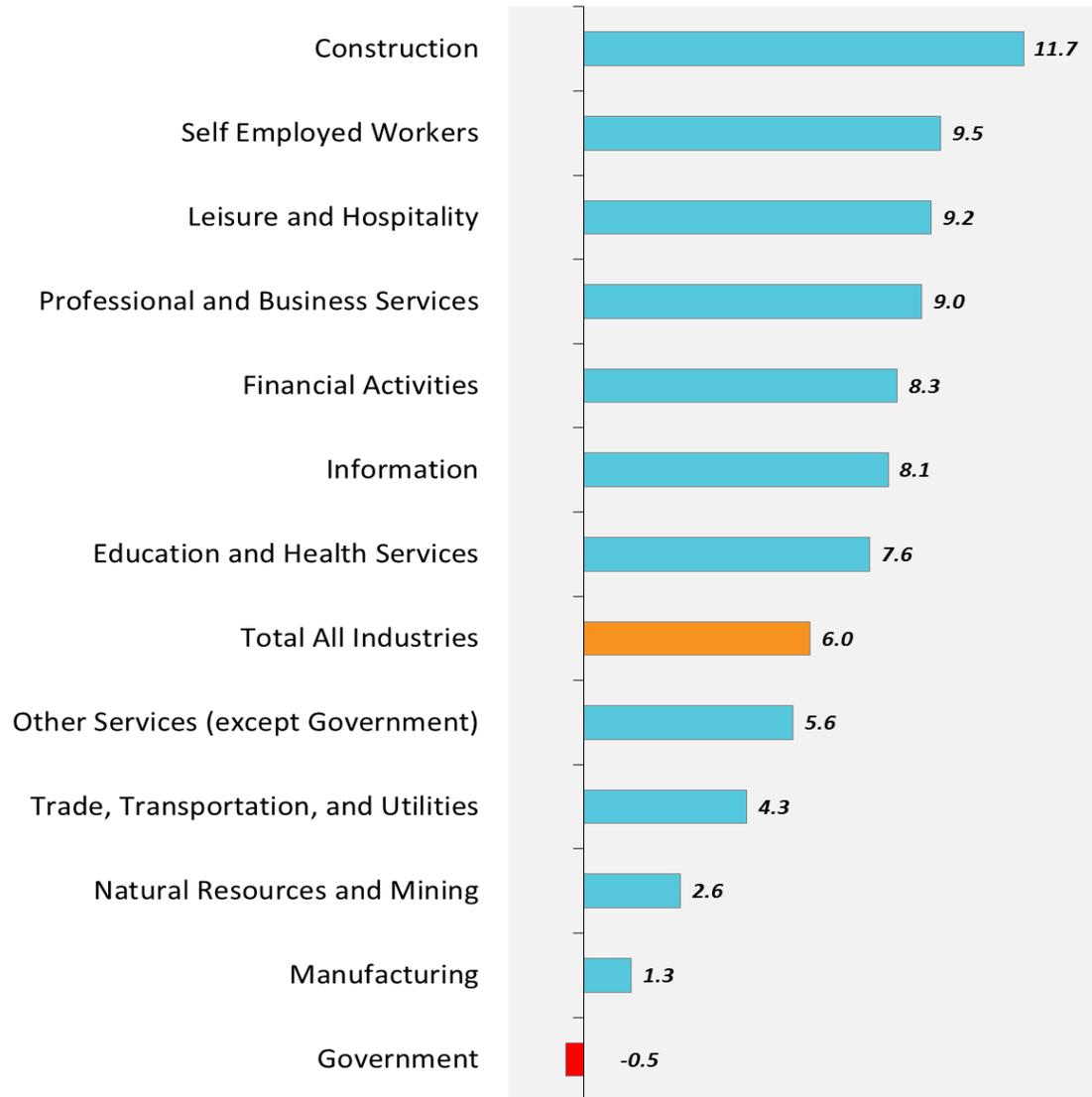


2024 Projected Employment	2014-2024 Numeric Change	2014-2024 Percent Change
3,450,901	+196,009	6.02%

Total Annual New Jobs	Total Annual Replacements
21,955 22.4%	76,026 77.6%

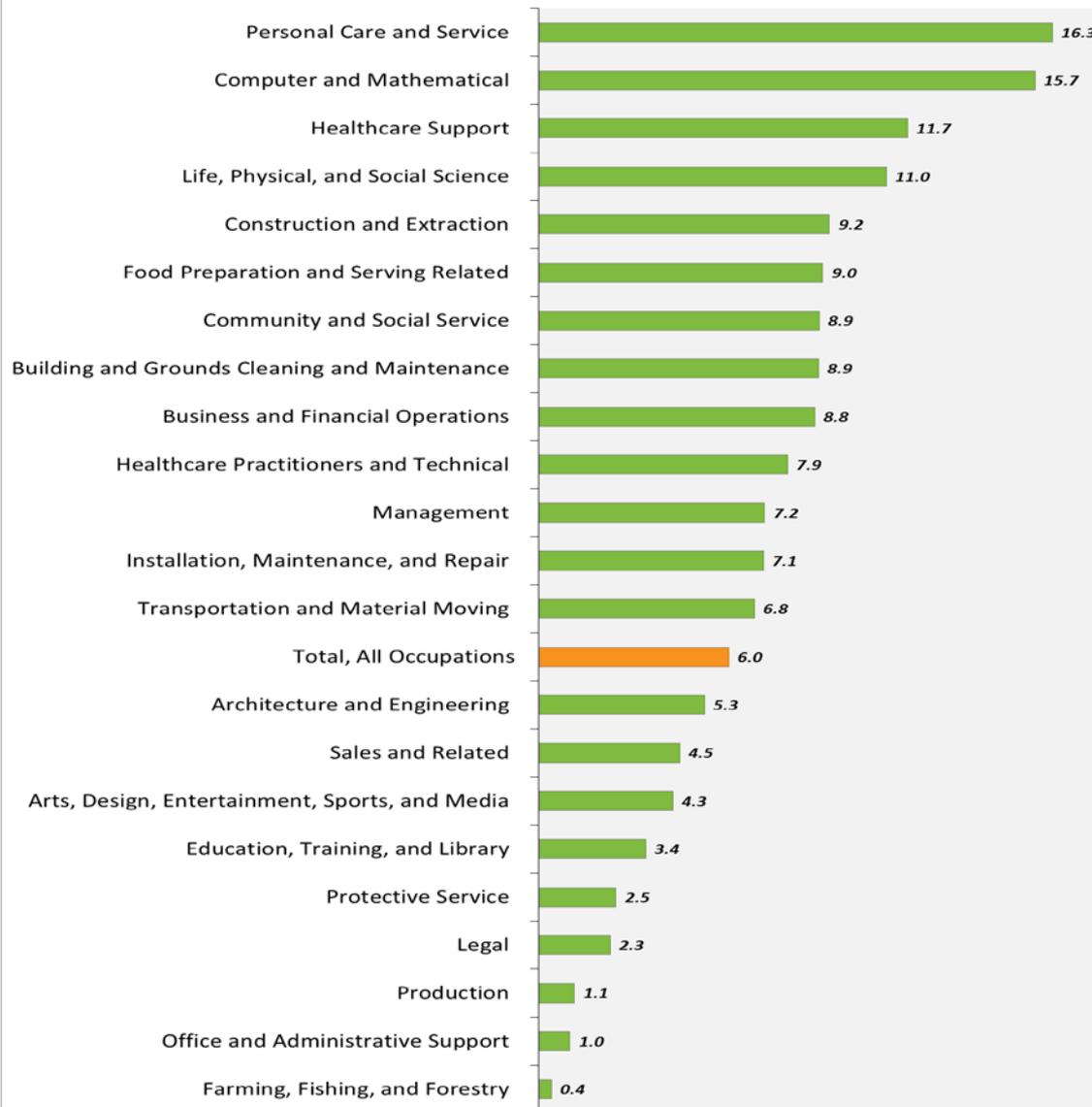
WI Employment Projections

Industry Sector by % Change, 2014-2024



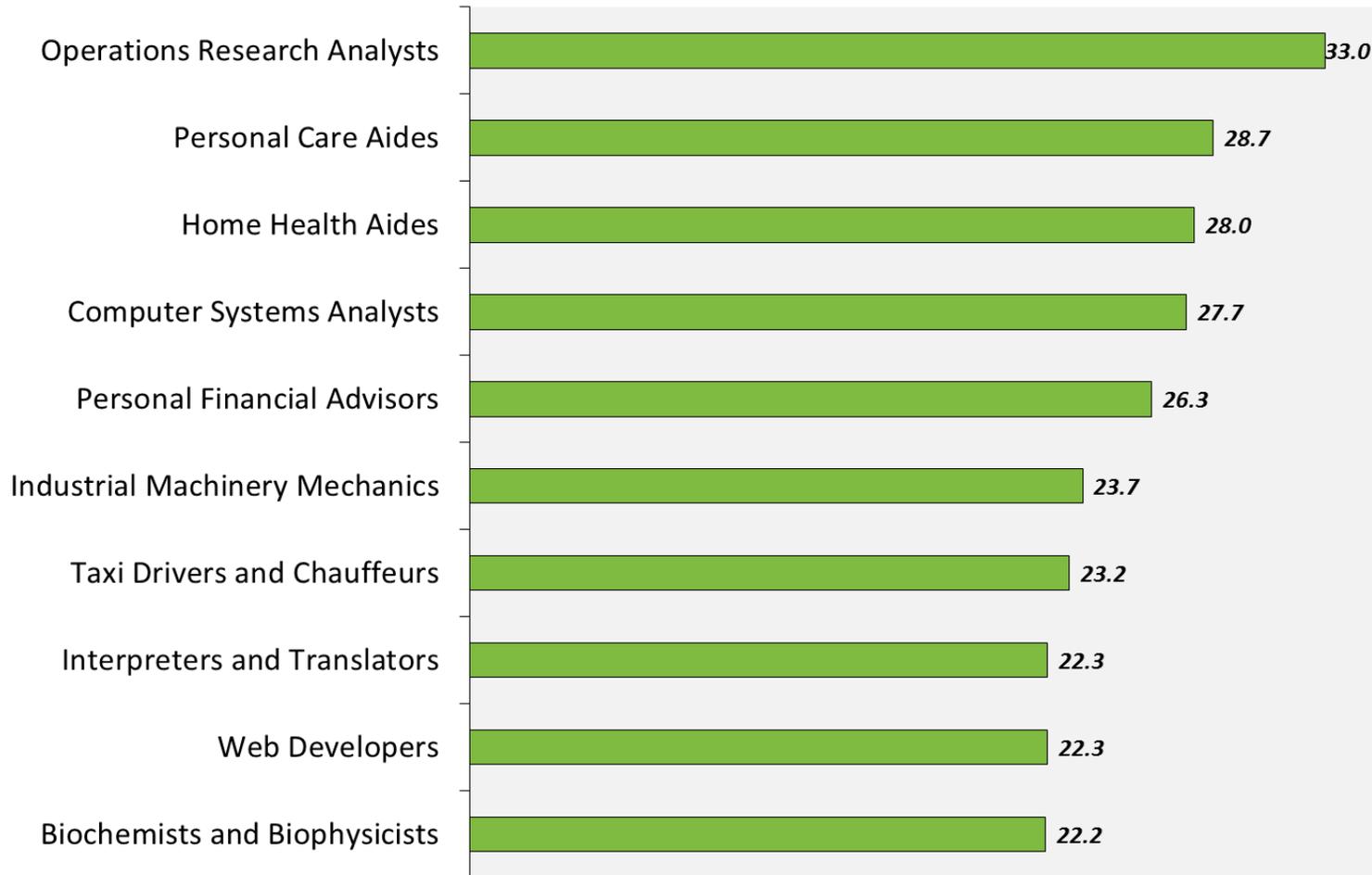
WI Employment Projections

Occupational Groups by % Change, 2014-2024



WI Employment Projections

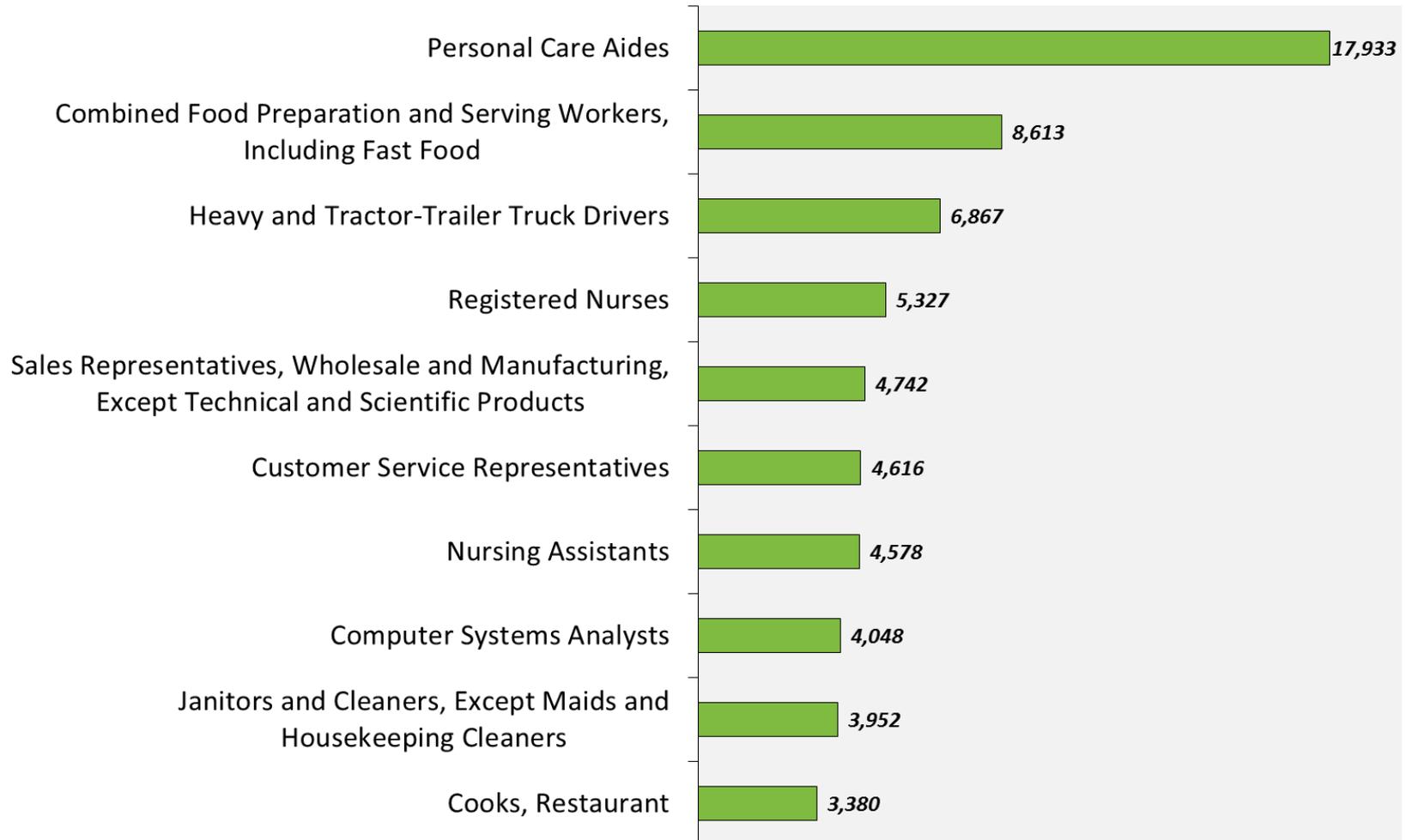
Fastest-Growing by % Change*, 2014-2024



* Occupations with at least 500 employment in 2014.

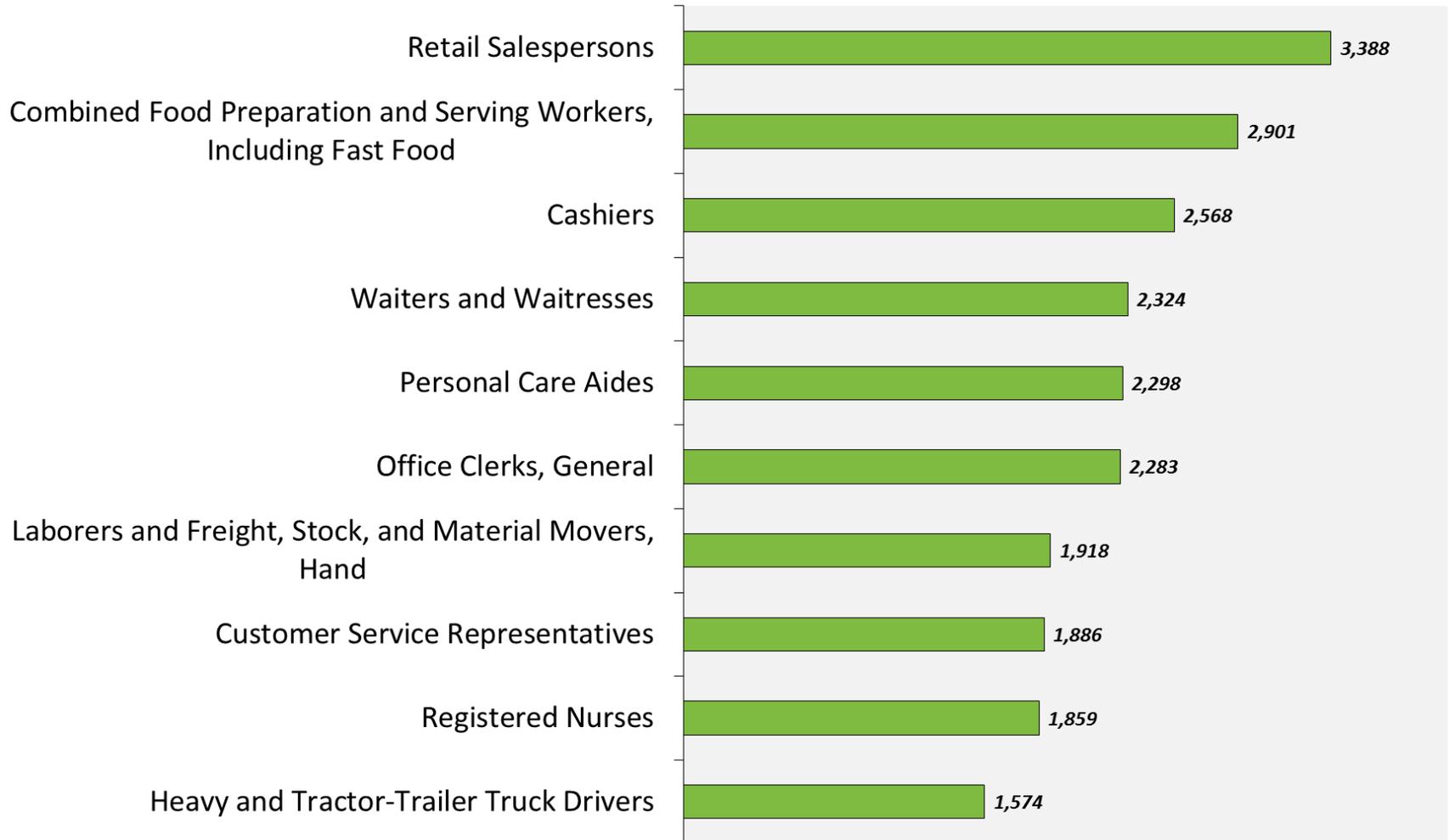
WI Employment Projections

Occupations Gaining Most New Jobs, 2014-2024



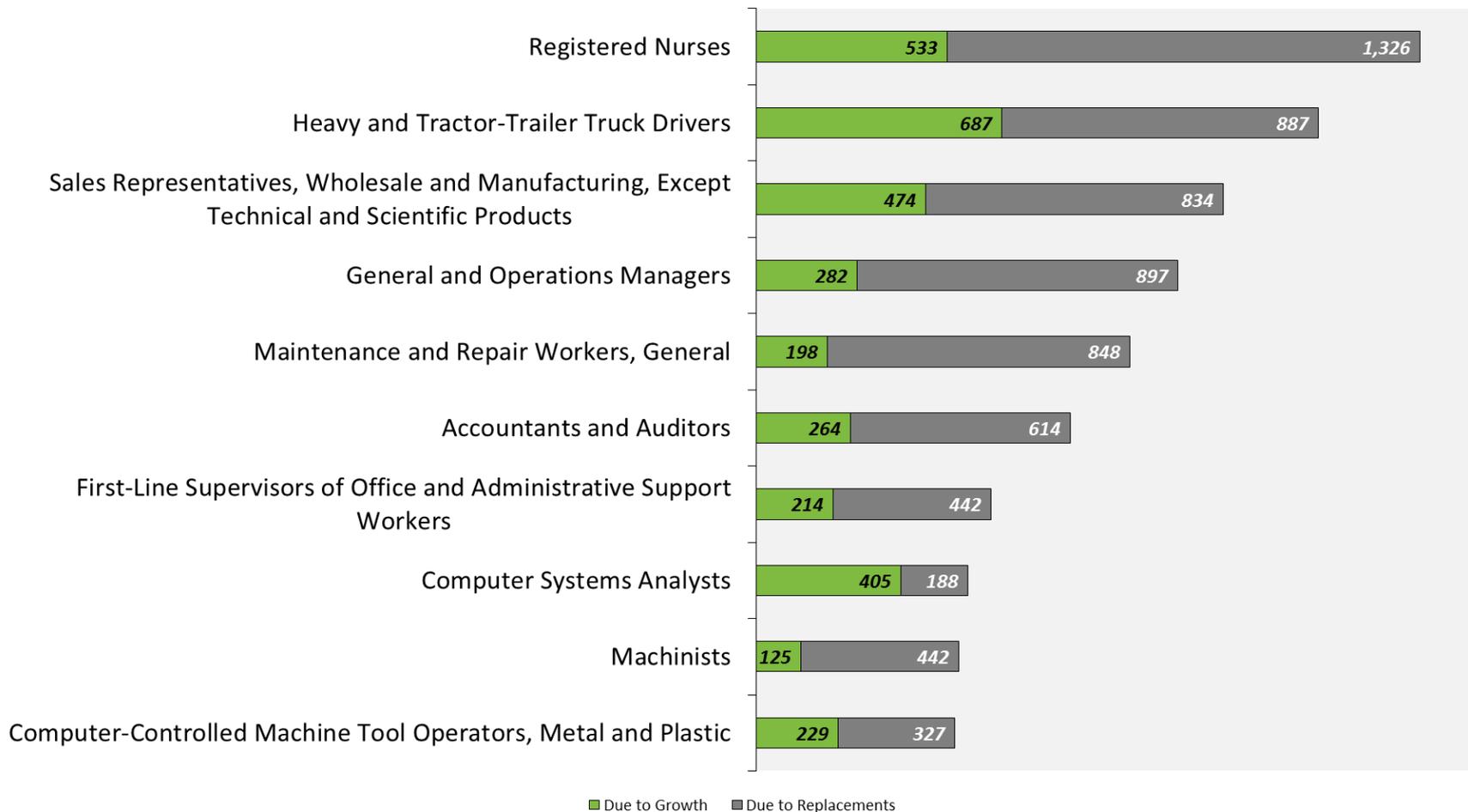
WI Employment Projections

Most Jobs Openings, 2014-2024



WI Employment Projections

Top 10 Hot Jobs, 2014-2024



**Hot Jobs have the most projected openings and will grow faster than average and pay wages above the state median wage.*

WI Employment Projections

WDA Summary, 2014-2024



Workforce Development Area	2014-2024 Percent Change
1) Southeast	6.3%
2) Milwaukee	5.7%
3) Waukesha-Ozaukee-Washington	7.2%
4) Fox Valley	4.6%
5) Bay Area	5.5%
6) North Central	5.6%
7) Northwest	3.6%
8) West Central	6.1%
9) Western	4.7%
10) South Central	7.9%
11) Southwest	6.3%

WI Employment Projections

Long Term 2014-2024: Webpages Available



- www.worknet.wisconsin.gov
- www.projectionscentral.com
- www.careerinfonet.org

In the future:

- baby-boomers retirement,
- declining labor force participation, and
- expected labor productivity decline

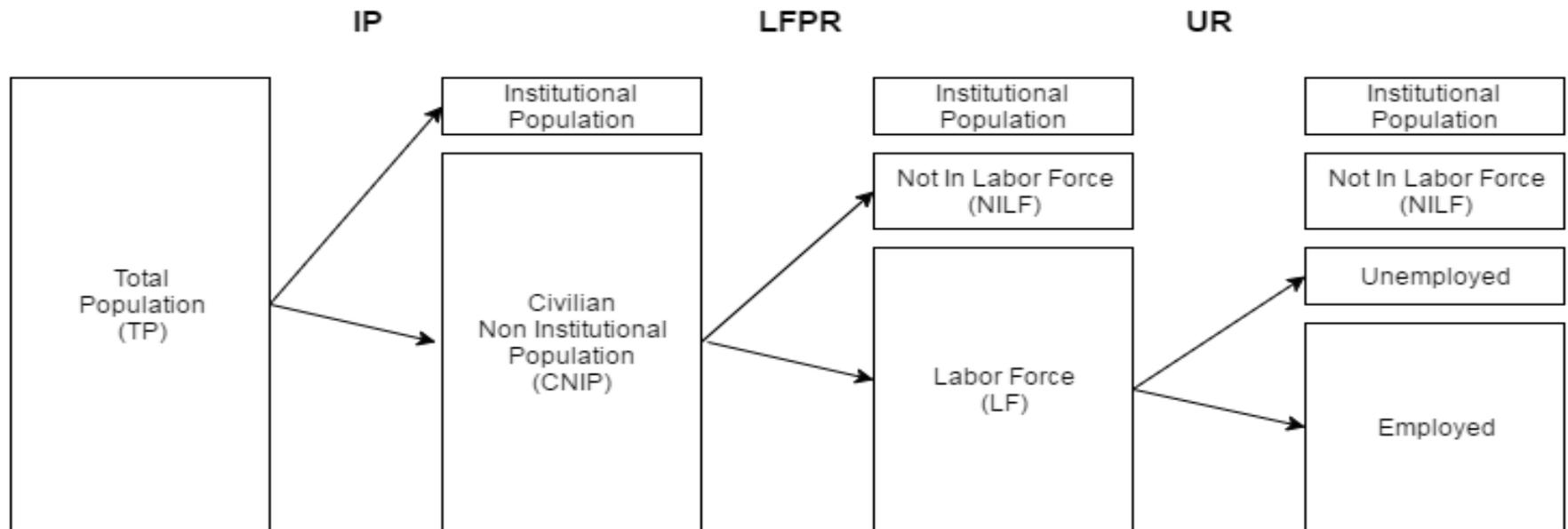
changes labor supply/demand balance

Forecast 4 factors:

- Institutional Population (IP),
- Labor Force Participation Rate (LFPR),
- Unemployment Rate (UR), and
- *k* factor (jobs per worker).

WI Labor Supply

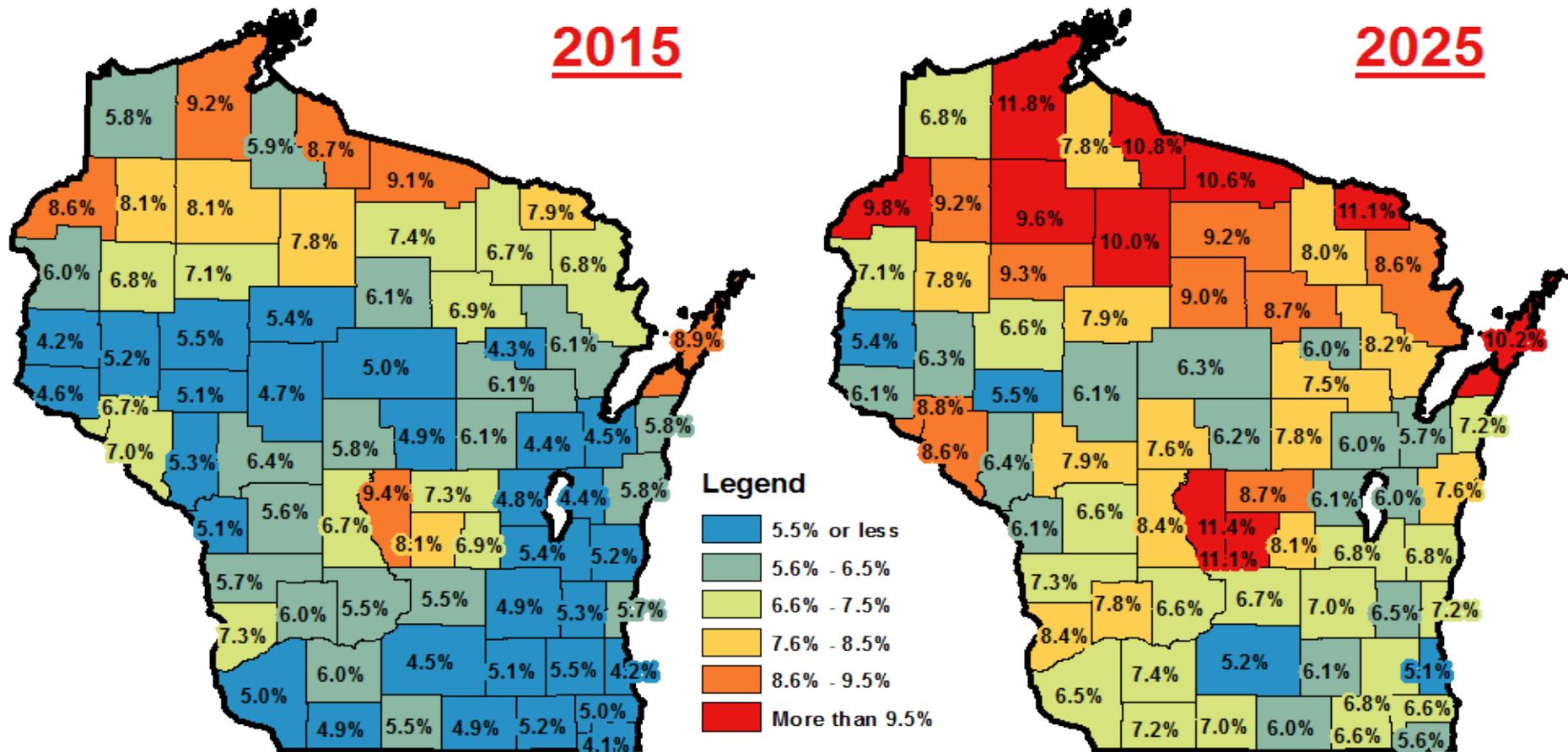
Methodology



$$\begin{aligned}\text{Supply} &= \text{Employed} * k \\ &= \text{LF} * (1 - \text{UR}) * k \\ &= \text{CNIP} * \text{LFPR} * (1 - \text{UR}) * k \\ &= (\text{TP} - \text{IP}) * \text{LFPR} * (1 - \text{UR}) * k\end{aligned}$$

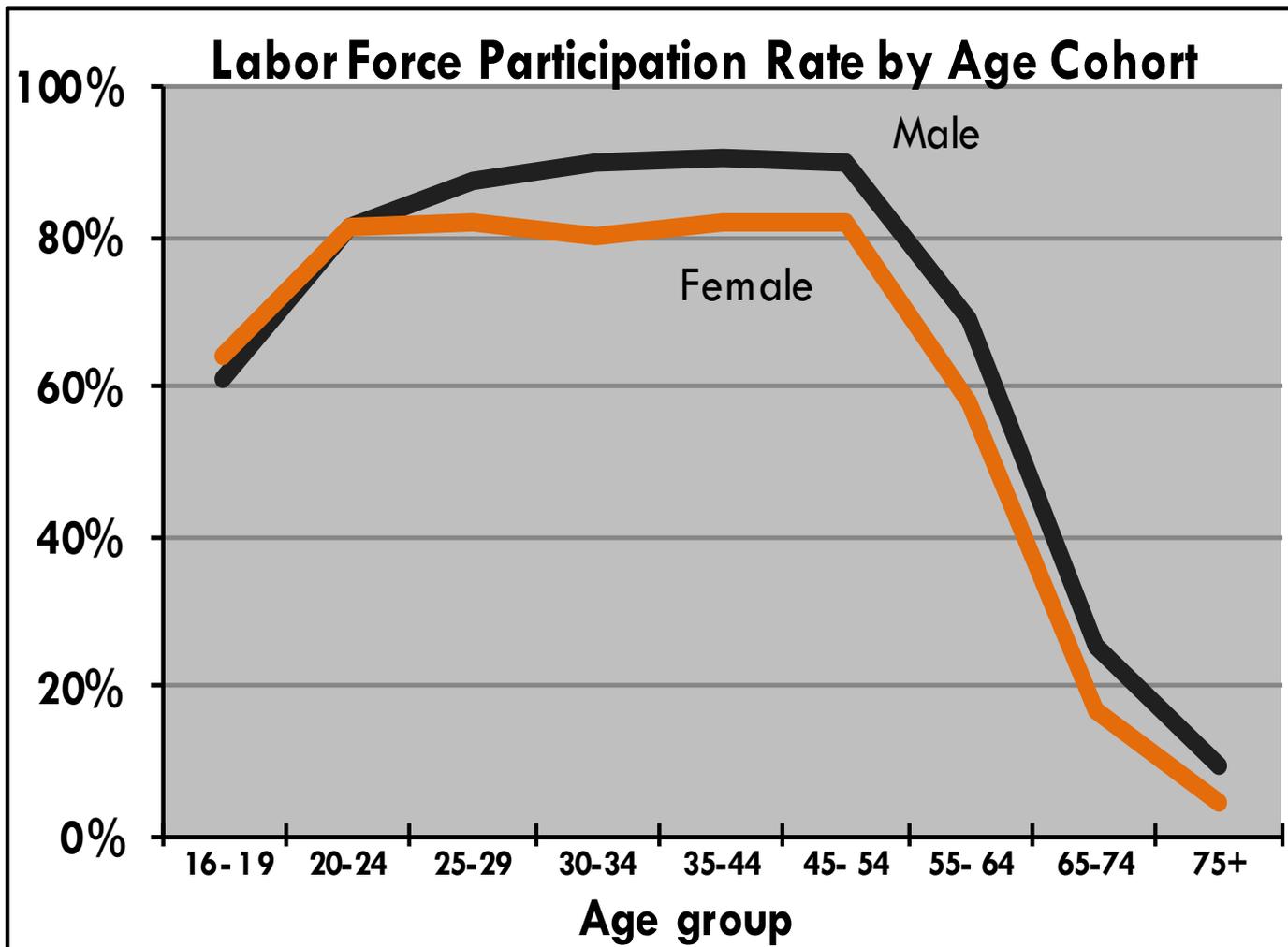
Projected Population Change 2015 – 2025

People Aged 65 & Older



LFPR Declines as Workers Age

The New Economy



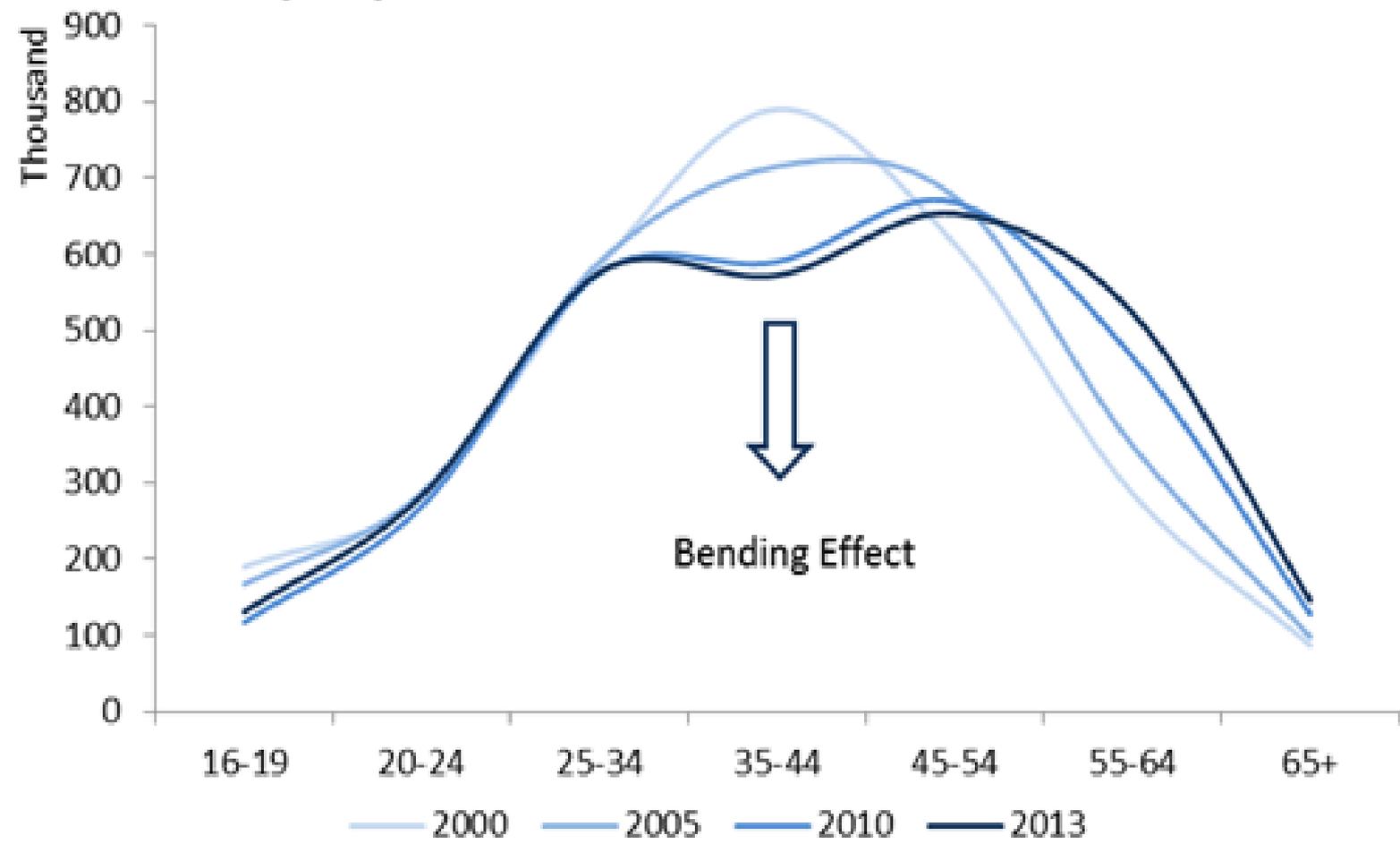
Source: Bureau of Labor Statistics, OEA

Population Dynamics - Boomers to Millennials

The New Economy

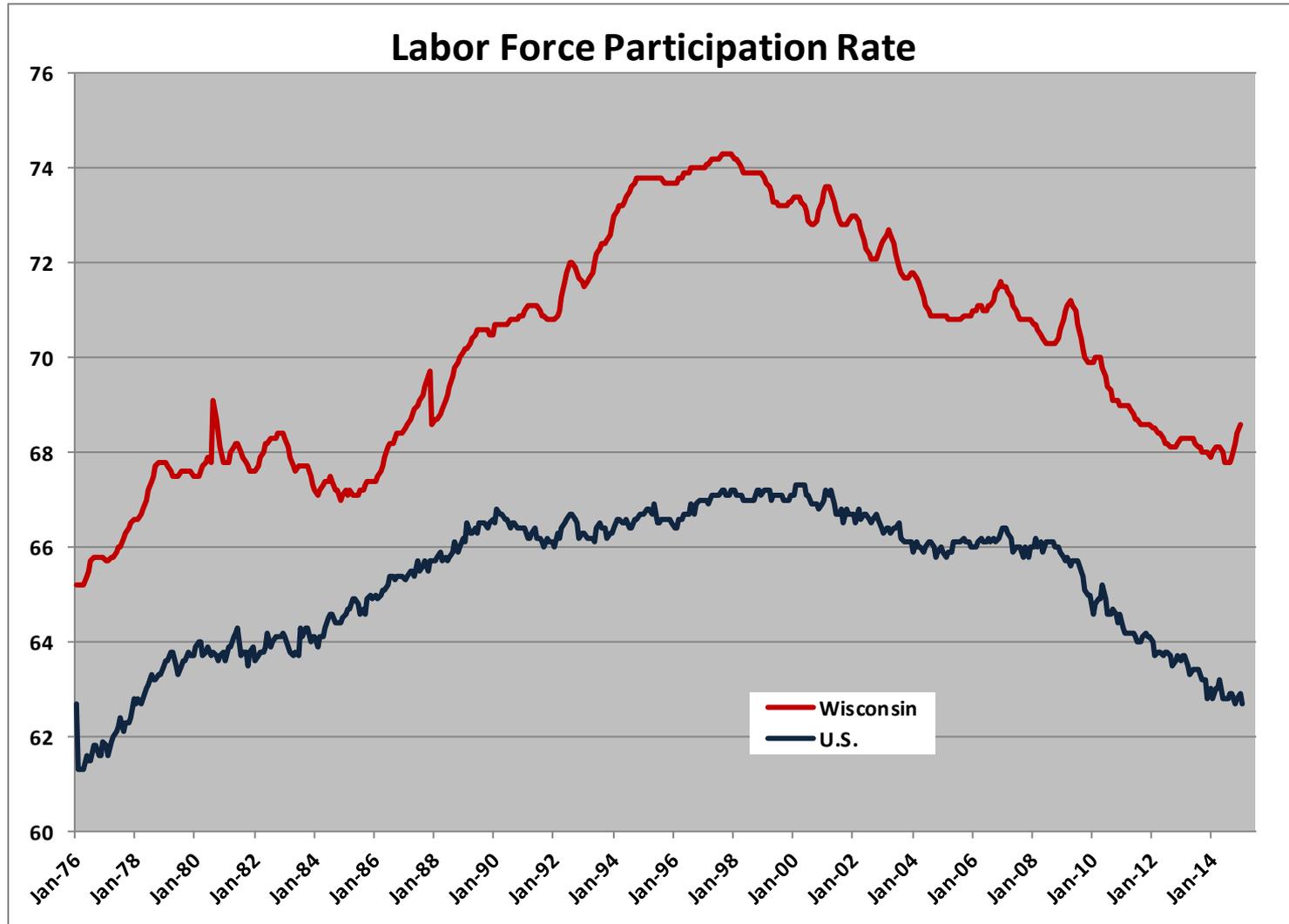


Employment Distribution in WI, Total



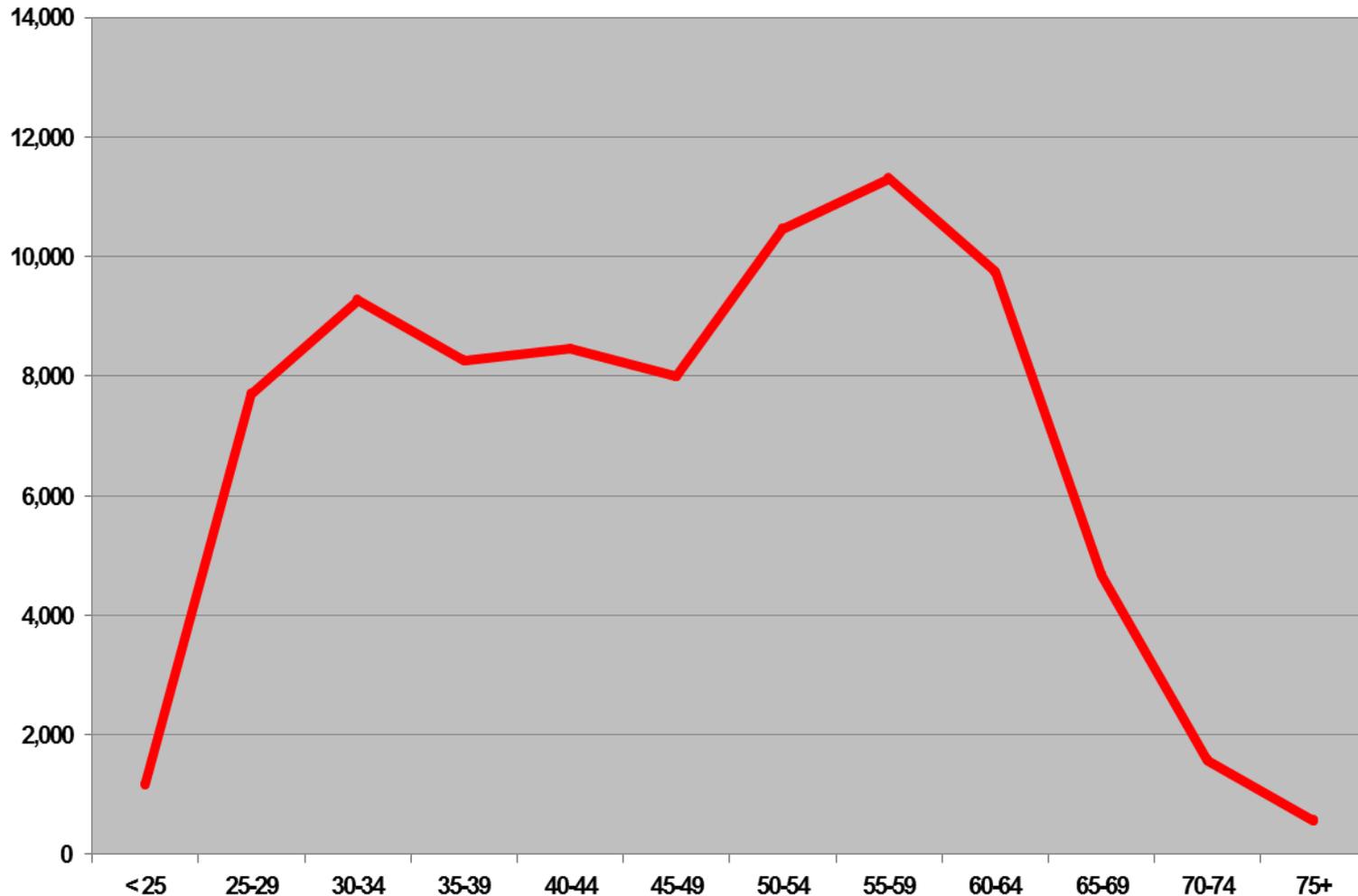
Source: OCS, OEA

Labor Market Participation The New Economy



Nursing Workforce in Wisconsin The New Economy

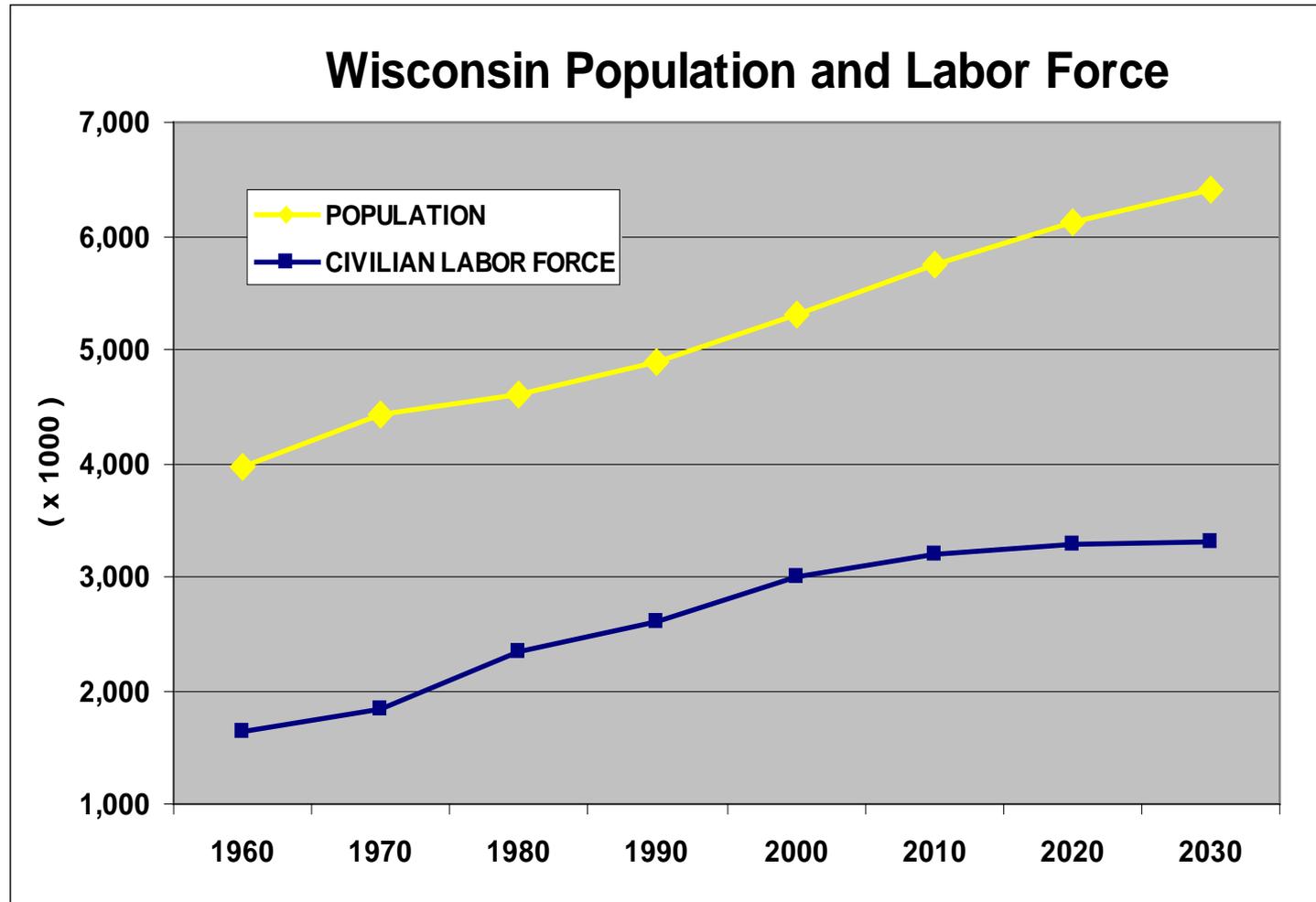
Wisconsin Registered Nurses by Age



Source: Office of Economic Advisors

Wisconsin's Workforce Growth

The New Economy



Source: Bureau of Labor Statistics, OEA

DWD Talent Development Strategies

- Expand demand driven workforce models at the state, regional and local level.
- High-demand CTE programming & credentialing in K-12 schools and tech colleges.
- Further align partners, resources & networks to support economic development, business expansion/attraction strategies.
- Enhance workforce strategies and funding models.



Talent Development Initiatives and Strategies

- Wisconsin Fast Forward & Blueprint for Prosperity Expansion
- Workers with Disabilities & A Better Bottom Line
- New JobCenterofWisconsin.com & Wisconsin Job Service
- Registered & Youth Apprenticeship
- Governor's Council on Workforce Investment