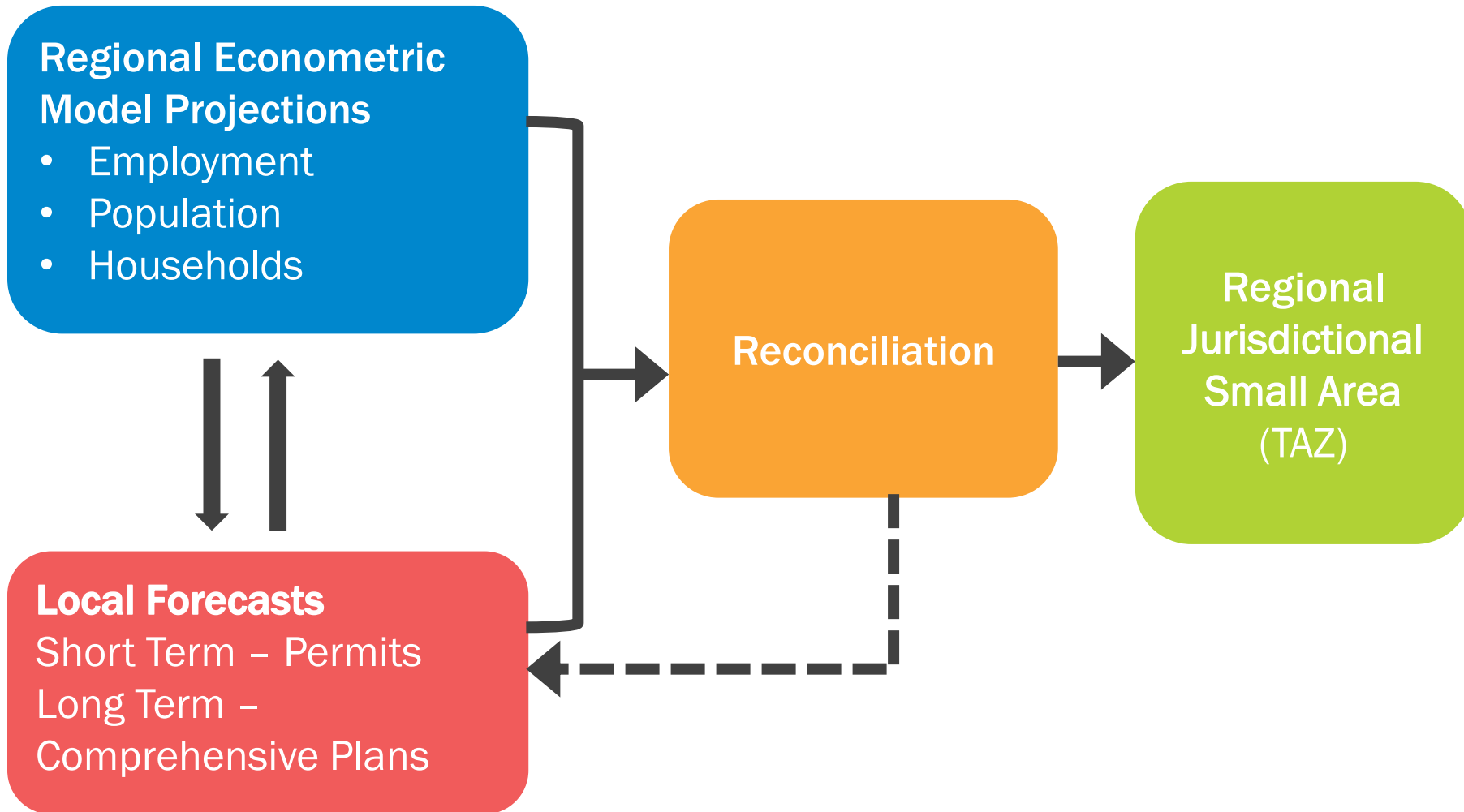


PRELIMINARY ROUND 10 ECONOMETRIC MODEL RESULTS

Greg Goodwin, Regional Planner, COG/DCPS Staff

Cooperative Forecasting and Data Subcommittee
April 12, 2022

COG Cooperative Forecasting Process



S&P Global Product Description: Nonfarm Employment Forecast

Regional Econometric Model Projections

- Employment
- Population
- Households

- **Historical Source: Bureau of Labor Statistics**
- **Thirty-Year Forecast – Annual Data (2051 horizon year)**
- **Total Nonfarm Historical Data goes back to 1975**
- **Provided by NAICS sector (back to 1990)**
 - Manufacturing
 - Transportation, Trade, & Utilities
 - Information
 - Financial Activities
 - Professional & Business Services
 - Educational & Health Services
 - Leisure & Hospitality
 - Services
 - Government
 - Federal Government
 - State & Local Government

Military Employment and Proprietors are not included

The S&P Global county employment has a base from the Quarterly Census of Employment and Wages (QCEW) program, but S&P Global makes an adjustment to make it consistent with the monthly Current Employment Statistics (CES), so it is a consistent definition at all levels.



S&P Global Nonfarm Employment Forecast for COG Region

February 2022

| | (Thousands) | | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
| Construction, Natural Resources, and Mining | 147.5 | 150.6 | 157.1 | 164.9 | 180.5 | 197.9 | 218.6 |
| Manufacturing | 47.4 | 49.3 | 48.2 | 47.9 | 48.2 | 48.4 | 48.4 |
| Transportation, Trade, & Utilities | 342.4 | 341.8 | 339.7 | 345.4 | 347.8 | 345.8 | 347.3 |
| Information | 73.0 | 78.9 | 82.1 | 80.7 | 83.3 | 81.6 | 80.5 |
| Financial Activities | 143.4 | 148.9 | 145.8 | 147.9 | 149.1 | 148.5 | 147.9 |
| Professional & Business Services | 744.6 | 829.8 | 902.5 | 924.9 | 970.9 | 1,004.0 | 1,052.5 |
| Educational & Health Services | 391.1 | 429.4 | 459.7 | 486.8 | 494.4 | 498.4 | 504.9 |
| Leisure & Hospitality | 215.2 | 342.8 | 364.0 | 363.3 | 361.1 | 374.9 | 389.4 |
| Other Services | 182.3 | 207.3 | 226.6 | 232.9 | 239.8 | 244.4 | 246.3 |
| Government | 661.3 | 685.8 | 698.6 | 707.2 | 718.9 | 730.3 | 745.5 |
| Federal Government | 362.6 | 368.1 | 369.8 | 366.1 | 366.4 | 366.6 | 370.9 |
| State & Local Government | 298.7 | 317.7 | 328.8 | 341.1 | 352.5 | 363.7 | 374.6 |
| Total Nonfarm for COG Region | 2,948.2 | 3,264.7 | 3,424.3 | 3,502.0 | 3,594.0 | 3,674.3 | 3,781.5 |

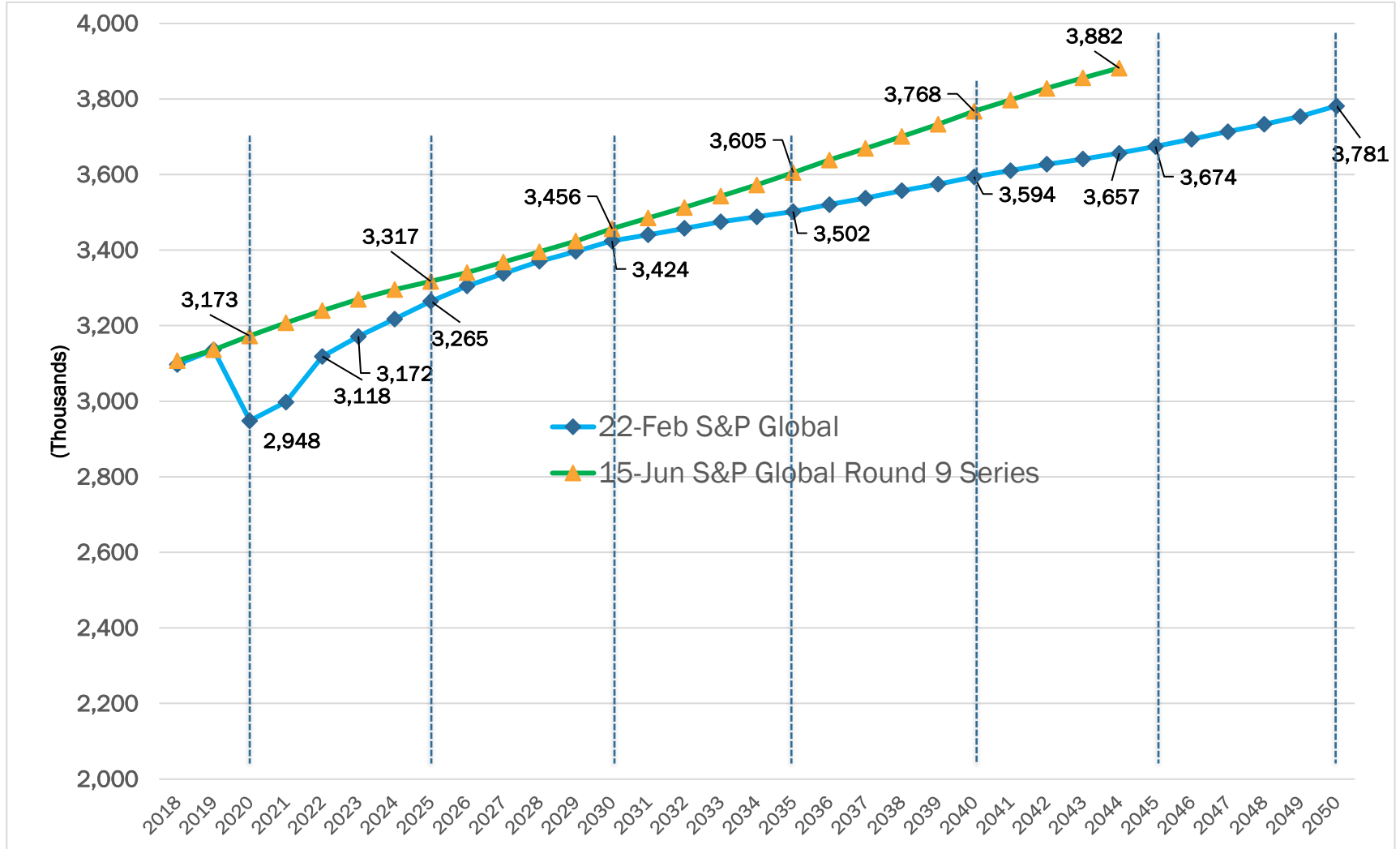
S&P Global Nonfarm Employment Forecast for the COG Region

25-Yr. Growth Rate

| | (Thousands) | | | | | | | |
|---------------|---------------|--------------|--------------|---------------|---------------|---------------|-------|-------|
| | 2020 | 2025 | 2030 | 2035 | 2040 | 2044 | 2045 | 2050 |
| Feb-22 | 2,948.2 | 3,264.7 | 3,424.3 | 3,502.0 | 3,594.0 | 3,656.6 | 3,674 | 3,781 |
| Jun-15 | 3,173.1 | 3,317.3 | 3,456.4 | 3,605.2 | 3,767.9 | 3,881.8 | N/A | N/A |
| | -224.9 | -52.6 | -32.2 | -103.2 | -173.8 | -225.2 | | |

| | (Thousands) | | | | | | | | | |
|---------------|-------------|---------|---------|---------|---------|---------|---------|---------|--------------------------------|-------------------------------|
| | 2020 | 2025 | 2030 | 2035 | 2040 | 2044 | 2045 | 2050 | Absolute Change 2020 - 2045 | Percent Change 2020 - 2045 |
| Feb-22 | 2,948.2 | 3,264.7 | 3,424.3 | 3,502.0 | 3,594.0 | 3,656.6 | 3,674.3 | 3,781.5 | 726.1 | 24.6% |
| Jun-15 | 3,173.1 | 3,317.3 | 3,456.4 | 3,605.2 | 3,767.9 | 3,881.8 | N/A | N/A | 708.7 | 22.3% |

S&P Global - Nonfarm Employment Forecast for COG Region Comparison Feb. 2022 vs. Jun. 2015 (Thousands)



S&P Global Population Forecasts – COG Region

Comparison February 2022 with June 2015

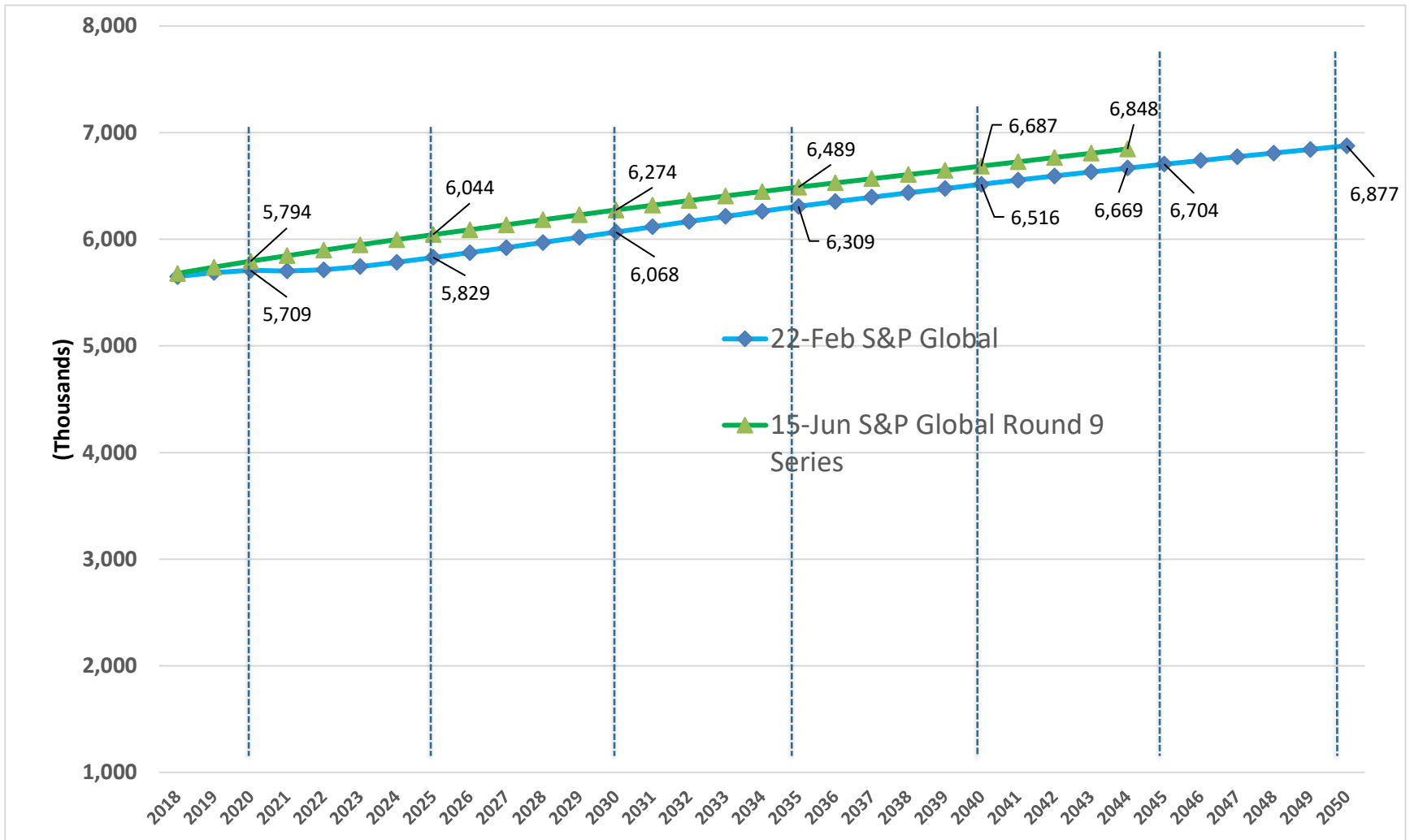
| | (Thousands) | | | | | | | |
|---------------|--------------|---------------|---------------|---------------|---------------|---------------|---------|---------|
| | 2020 | 2025 | 2030 | 2035 | 2040 | 2044 | 2045 | 2050 |
| Feb-22 | 5,708.8 | 5,829.1 | 6,067.5 | 6,308.9 | 6,516.2 | 6,668.5 | 6,704.3 | 6,877.2 |
| Jun-15 | 5,793.6 | 6,043.6 | 6,274.3 | 6,488.7 | 6,686.6 | 6,847.8 | N/A | N/A |
| | -84.8 | -214.5 | -206.7 | -179.8 | -170.4 | -179.3 | | |

| | (Thousands) | | | | | | | | | |
|---------------|-------------|---------|---------|---------|---------|---------|---------|---------|-----------------------------|----------------------------|
| | 2020 | 2025 | 2030 | 2035 | 2040 | 2044 | 2045 | 2050 | Absolute Change 2020 - 2045 | Percent Change 2020 - 2045 |
| Feb-22 | 5,708.8 | 5,829.1 | 6,067.5 | 6,308.9 | 6,516.2 | 6,668.5 | 6,704.3 | 6,877.2 | 995.6 | 17.4% |
| Jun-15 | 5,793.6 | 6,043.6 | 6,274.3 | 6,488.7 | 6,686.6 | 6,847.8 | N/A | N/A | 1,054.3 | 18.2% |



S&P Global Population Forecasts – COG Region

Comparison Feb. 2022 with Jun. 2015 (Thousands)



S&P Global Household Forecasts – COG Region

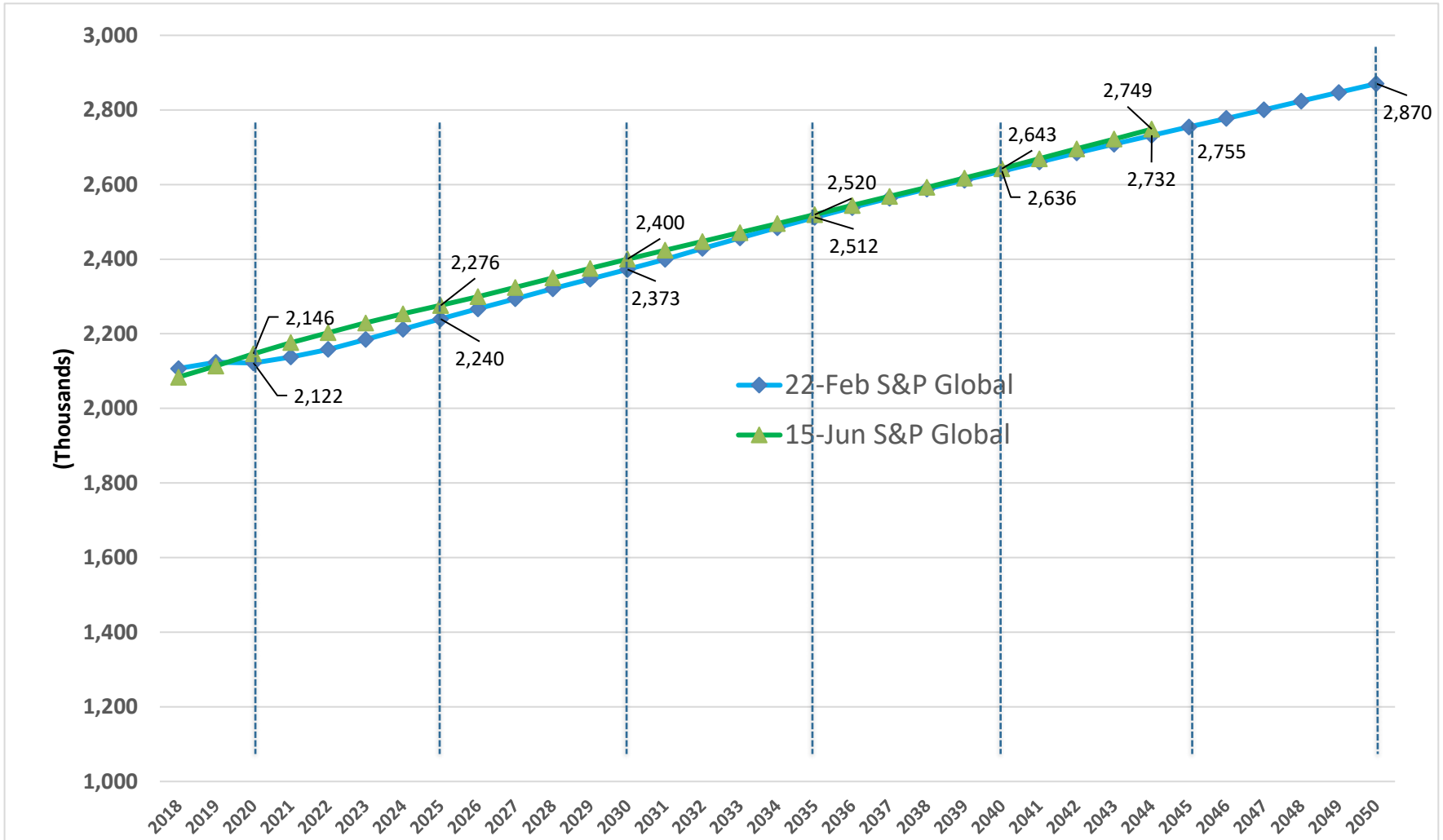
Comparison Feb. 2022 with Jun. 2015

| | (Thousands) | | | | | | | |
|---------------|--------------|--------------|--------------|-------------|-------------|--------------|---------|---------|
| | 2020 | 2025 | 2030 | 2035 | 2040 | 2044 | 2045 | 2050 |
| Feb-22 | 2,121.9 | 2,239.8 | 2,372.6 | 2,512.2 | 2,635.8 | 2,731.8 | 2,754.6 | 2,870.4 |
| Jun-15 | 2,146.2 | 2,276.2 | 2,400.2 | 2,519.6 | 2,642.7 | 2,748.6 | N/A | N/A |
| | -24.3 | -36.3 | -27.7 | -7.4 | -6.8 | -16.8 | | |

| | (Thousands) | | | | | | | | | |
|---------------|-------------|---------|---------|---------|---------|---------|---------|---------|--------------------------------|-------------------------------|
| | 2020 | 2025 | 2030 | 2035 | 2040 | 2044 | 2045 | 2050 | Absolute Change 2020 - 2045 | Percent Change 2020 - 2045 |
| Feb-22 | 2,121.9 | 2,239.8 | 2,372.6 | 2,512.2 | 2,635.8 | 2,731.8 | 2,754.6 | 2,870.4 | 632.7 | 29.8% |
| Jun-15 | 2,146.2 | 2,276.2 | 2,400.2 | 2,519.6 | 2,642.7 | 2,748.6 | N/A | N/A | 602.4 | 28.1% |

S&P Global Household Forecasts – COG Region

Comparison Feb. 2022 with Jun. 2015

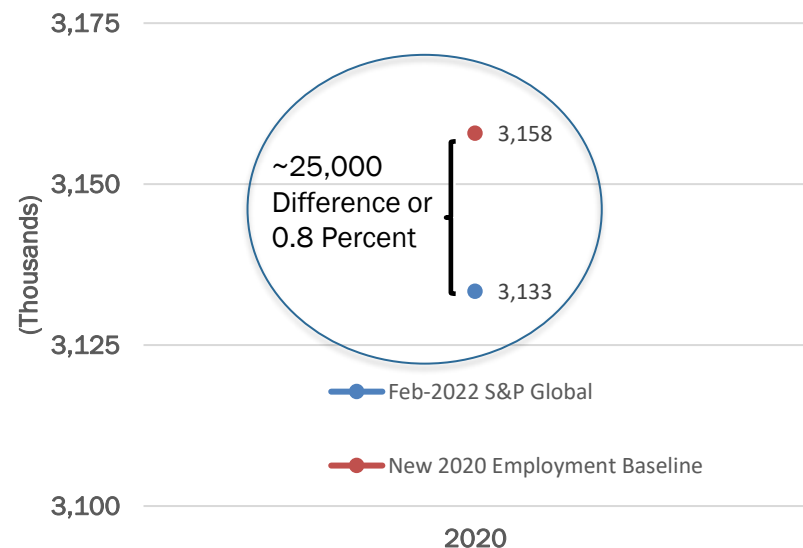


COG Employment Baseline Memo (Year 2020) Comparison S&P Global Feb. 2022 (with Self-employed and Military) – Year 2020

| Jurisdiction | QCEW (Thousands) | CES Adjustment Factor | Self- Employment Adjustment Factor | Military Employment (Thousands) | Baseline Employment (Thousands) |
|------------------------|------------------|--------------------------|---|---------------------------------------|---------------------------------------|
| District of Columbia | 726.08 | 1.03 | 1.04 | 8.25 | 785.89 |
| Arlington County | 174.42 | 1.08 | 1.04 | 9.92 | 205.66 |
| City of Alexandria | 83.92 | 1.08 | 1.06 | 0.00 | 96.29 |
| Montgomery County | 439.26 | 1.04 | 1.07 | 4.29 | 495.71 |
| Prince George's County | 295.52 | 1.09 | 1.05 | 6.10 | 343.47 |
| Fairfax County | 591.64 | 1.08 | 1.05 | 4.47 | 676.57 |
| City of Fairfax | 18.02 | 1.08 | 1.05 | 0.00 | 20.48 |
| City of Falls Church | 10.90 | 1.08 | 1.05 | 0.00 | 12.38 |
| Loudoun County | 165.17 | 1.08 | 1.06 | 0.00 | 190.23 |
| Prince William County | 125.25 | 1.08 | 1.07 | 3.23 | 147.92 |
| City of Manassas | 22.41 | 1.08 | 1.07 | 0.00 | 25.89 |
| City of Manassas Park | 3.74 | 1.08 | 1.07 | 0.00 | 4.32 |
| Charles County | 38.44 | 1.09 | 1.04 | 0.55 | 43.87 |
| Frederick County | 96.98 | 1.04 | 1.07 | 0.95 | 109.25 |
| Region | 2,791.75 | 1.06 | 1.05 | 37.76 | 3,157.92 |

COG Employment Baseline Memo (Year 2020) Comparison S&P Global Feb. 2022 (with Self-Employed and Military) – Year 2020

| Jurisdiction | Baseline Employment 2020 |
|------------------------|--------------------------|
| District of Columbia | 785.89 |
| Arlington County | 205.66 |
| City of Alexandria | 96.29 |
| Montgomery County | 495.71 |
| Prince George's County | 343.47 |
| Fairfax County | 676.57 |
| City of Fairfax | 20.48 |
| City of Falls Church | 12.38 |
| Loudoun County | 190.23 |
| Prince William County | 147.92 |
| City of Manassas | 25.89 |
| City of Manassas Park | 4.32 |
| Charles County | 43.87 |
| Frederick County | 109.25 |
| Region | 3,157.92 |



Next Steps in the Regional Econometric Model Forecast

- **Round 10 Cooperative Forecast Technical Assistance**
 - Consultant will develop a “Range” of Regional Economic Model Forecasts (June and July)
- **COG staff will reassess with the next available release in June.**
- **Final Econometric Model – Summer 2022**



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