

# ROUND 10.0 COOPERATIVE FORECASTS OF EMPLOYMENT, POPULATION, AND HOUSEHOLDS

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# Cooperative Forecasting Program

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- Established by COG in 1975, enables local, regional, and federal agencies to coordinate planning decisions using common assumptions about future growth.
- Each series or “Round” provides forecasts of employment, population, and households by five-year increment for a period of 20 to 30 years.
- Official land use inputs for planning by the Transportation Planning Board (TPB), Metropolitan Washington Air Quality Committee (MWAQC), Climate Energy Environment Policy Committee (CEEPC), and others.

# Prior Rounds of Cooperative Forecasts

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**Round 1 - 1976**

**Round 2 - 1979**

**Round 3 - 1983**

Round 3.5 - 1985

**Round IV - 1987**

Round IV-1 - 1991

**Round 5.1 - May 1994**

Round 5.2 - 1995

Round 5.3 - 1996

Round 5.4 - 1997

**Round 6a - 1998**

Round 6.1 - 1999

Round 6.2 - 2000

Round 6.3 - 2003

Round 6.4A - 2004

**Round 7.0 - 2005**

Round 7.0a - 2006

Round 7.1 - 2008

Round 7.2 - July 2009

Round 7.2A - October 2009

**Round 8.0 - 2010**

Round 8.0a - 2011

Round 8.1 - 2012

Round 8.2 - 2013

Round 8.3 - 2014

Round 8.4 - 2015

**Round 9.0 - 2016**

Round 9.1 - 2018

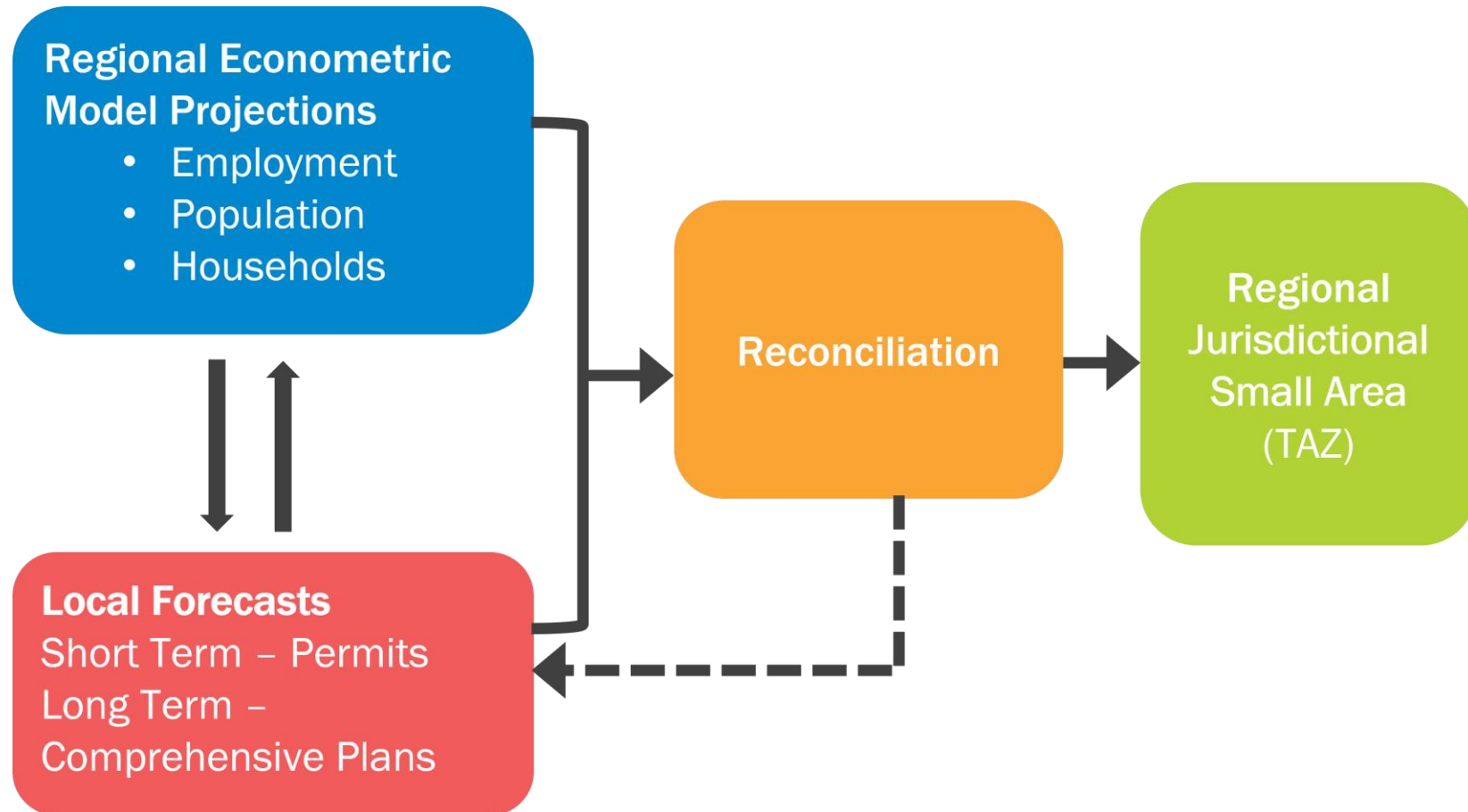
Round 9.1a - 2019

Round 9.2 - 2021

**Round 10.0 - 2023**



# COG Cooperative Forecasting Process



# Elements of Developing Round 10.0

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- Review existing economic conditions–global, national and regional
- Provide “base year” employment and housing data to member jurisdictions
- Develop “Benchmark” Regional Econometric Model Forecast to new horizon year (2050)
- Reconcile jurisdictional projections with Regional Econometric Model Forecast
- Compile local government 2020 to 2050 TAZ forecasts

# Assessing Potential Short- and Long-Term Effects of COVID on the Forecasts

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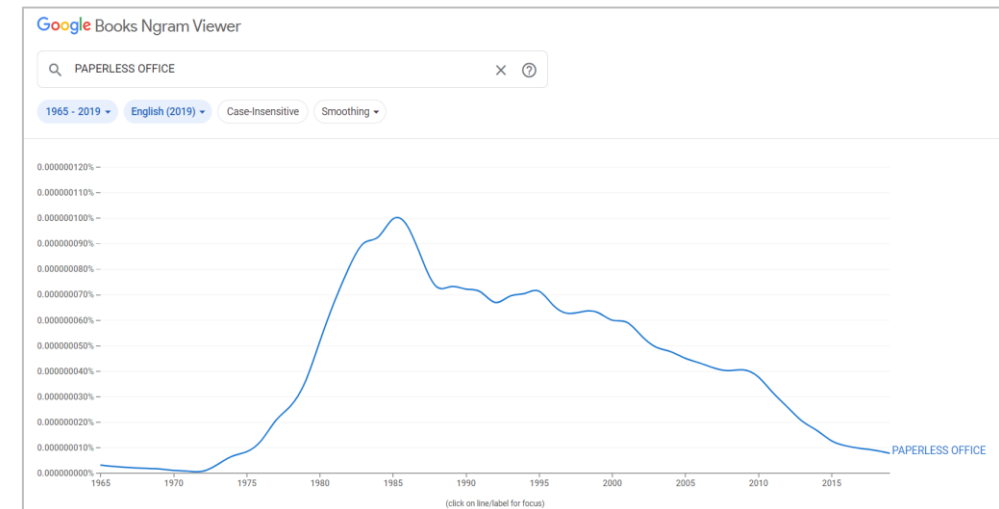
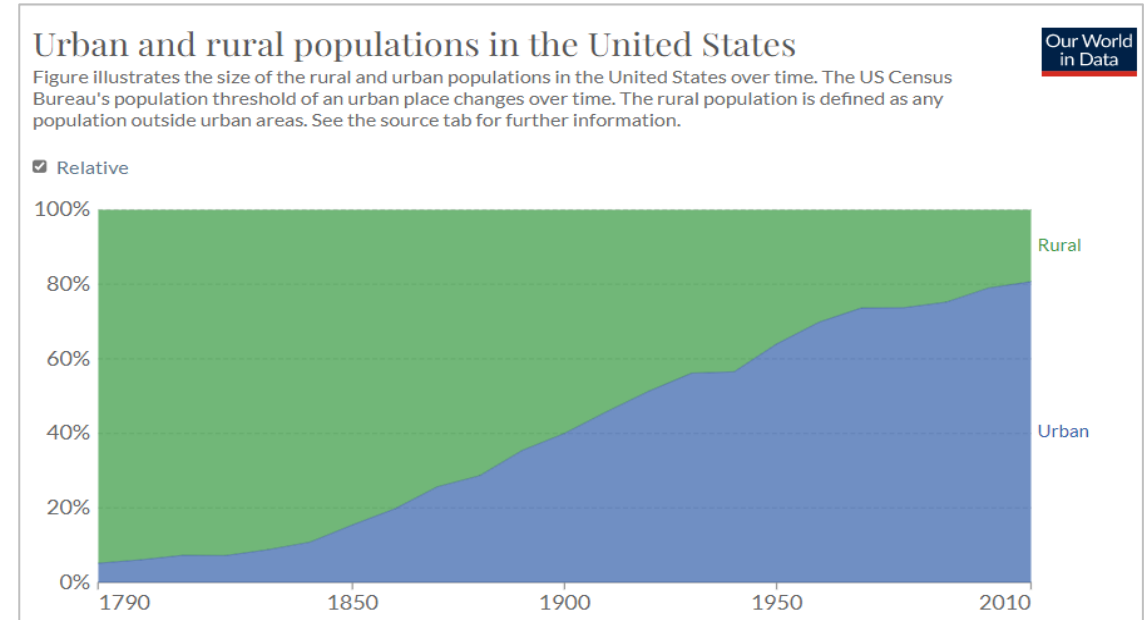
Technical Assistance from TPB on-call consultant to develop assessments of:

- A ‘range’ of regional economic forecasts. Jurisdictional forecasts will still be indexed to the intermediate or “most likely” regional economic projections
- Potential changes to
  - future average household size, and
  - office and retail space usage density (*the square feet of space needed for each worker*)
- Impacts on the timing, location, and amount of future housing

# Way Back-casting

## Lessons learned from the 1918 Flu Pandemic:

- 675K deaths in US - about twice the rate of COVID (so far)
- Other societal issues:
  - *The “Great War”*
  - *Birth / adolescence of zoning*
  - *New “travel” modes (streetcars, bikes, autos, telephones)*
- Urban growth continued: key societal changes were related to “public health”
- With most upheavals, the SWOT at year zero changes by year 20+



## Return to Office and Impact on Central Business Districts (Source: ICF)

- **April 2022:** daily Metrorail boardings were 36% of pre-pandemic levels
- **March 2022:** regional traffic levels returned to 91% of 2019 levels
- Weekly office activity in the Washington region has only returned to 37% of pre-pandemic levels
- Office vacancy rates in downtown D.C. increased by 56% (from 11.1% to 17.5%) from 2019 to 2022; in February 2022, the DowntownDC BID reported 9.7M square feet of vacant office space
- Significant potential for office-to-residential conversions (2.3M SF being targeted as of 2021)

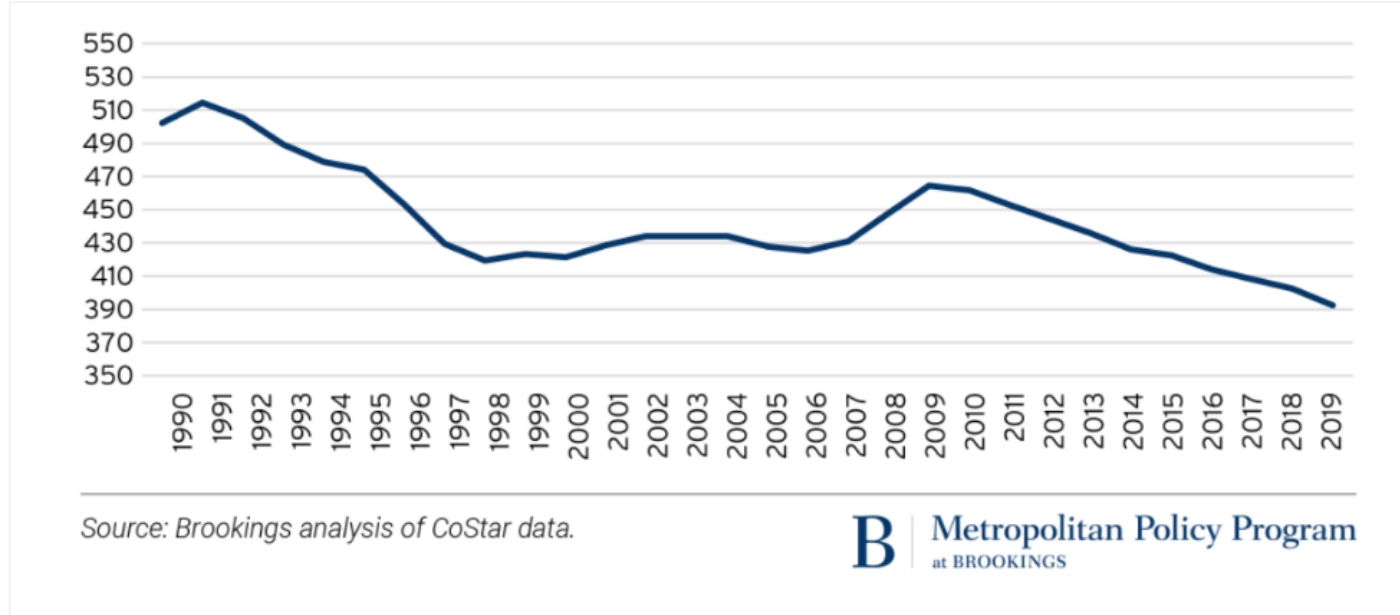
Weekday office activity %  
(compared to 2019)

	May 25	June 1	% Change
Chicago metro	40.0%	37.2%	2.7% ▼
Austin metro	58.5%	56.1%	2.4% ▼
Houston metro	56.0%	53.8%	2.1% ▼
San Francisco metro	33.6%	31.6%	2.0% ▼
<b>Washington D.C. metro</b>	<b>39.1%</b>	<b>37.3%</b>	<b>1.8% ▼</b>
San Jose metro	33.9%	32.1%	1.8% ▼
<b>Average of 10</b>	<b>42.9%</b>	<b>41.2%</b>	<b>1.7% ▼</b>
Philadelphia metro	38.1%	36.7%	1.4% ▼
New York metro	38.0%	36.6%	1.4% ▼
Dallas metro	51.3%	50.2%	1.1% ▼
Los Angeles metro	41.0%	40.5%	0.5% ▼



## Office Utilization Trends (Source: ICF, Brookings, and COG)

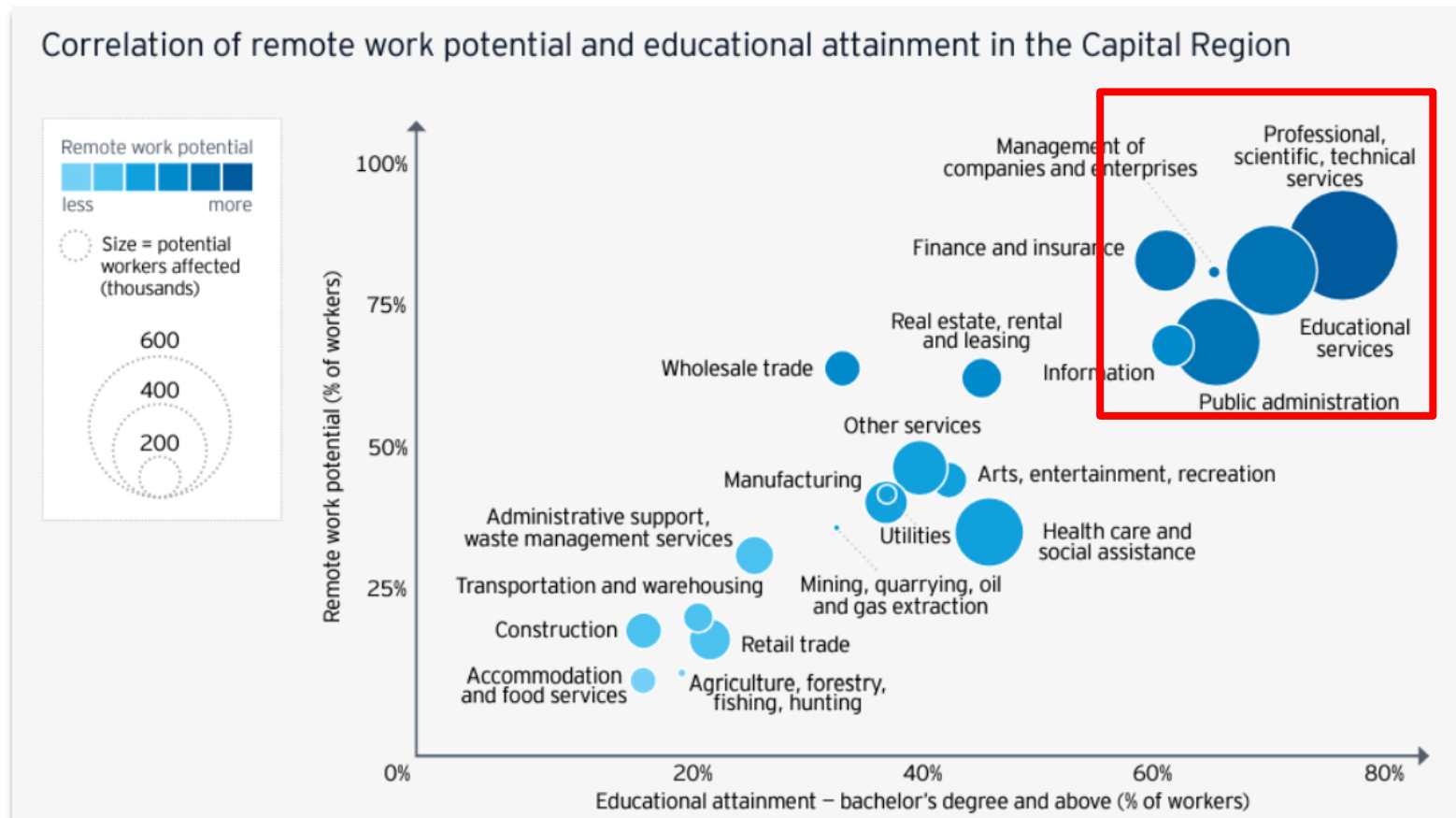
### Median office square feet per worker (top 10 US metropolitan areas)



- With fewer employees returning to the office full-time, private sector companies are reevaluating space needs and the location of offices.
- Remote work is firmly established as the “new normal” and will have permanent effects on both office space use and travel patterns in the region.
- With fewer employees in the office full-time, companies are shifting to “hotel” models where space is collectively shared and reserved when employees are in the office (Source: ICF Technical Report).

# Remote Work Potential (Source: ICF)

Significant remote-work potential exists among the region's highly-educated work force and primary industries (scientific and technical services, FIRE)

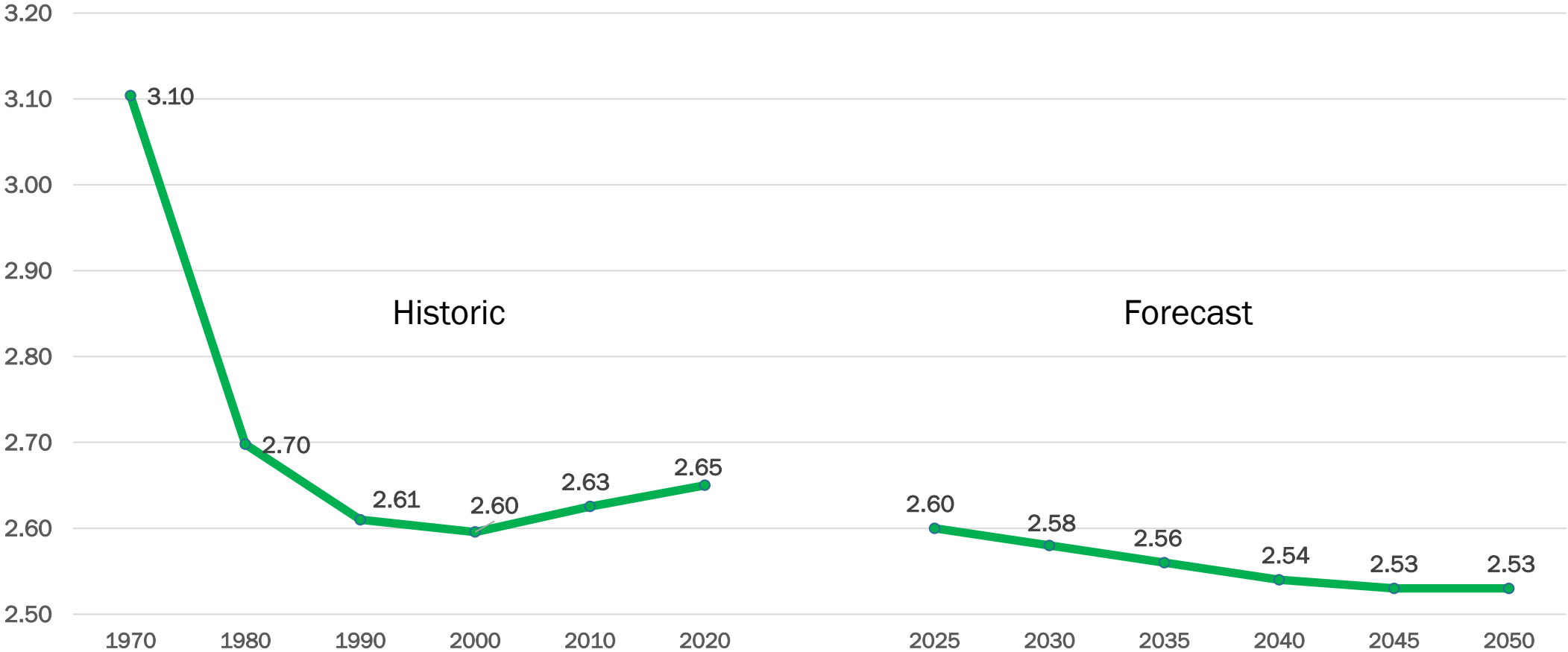


Industries that have historically driven the region's economy

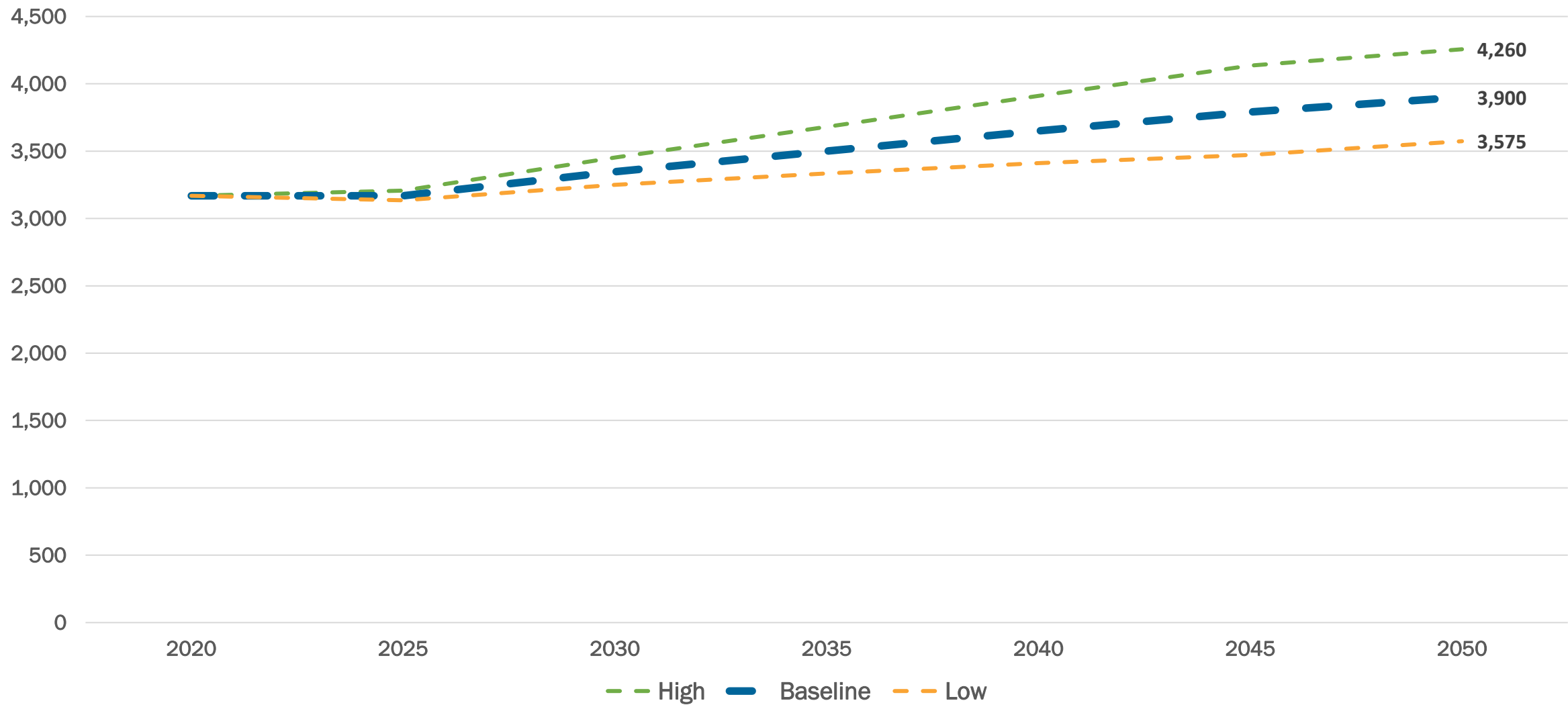


# Historic Average Household Size 1970 - 2020 and Forecast Household Size, 2025 - 2050

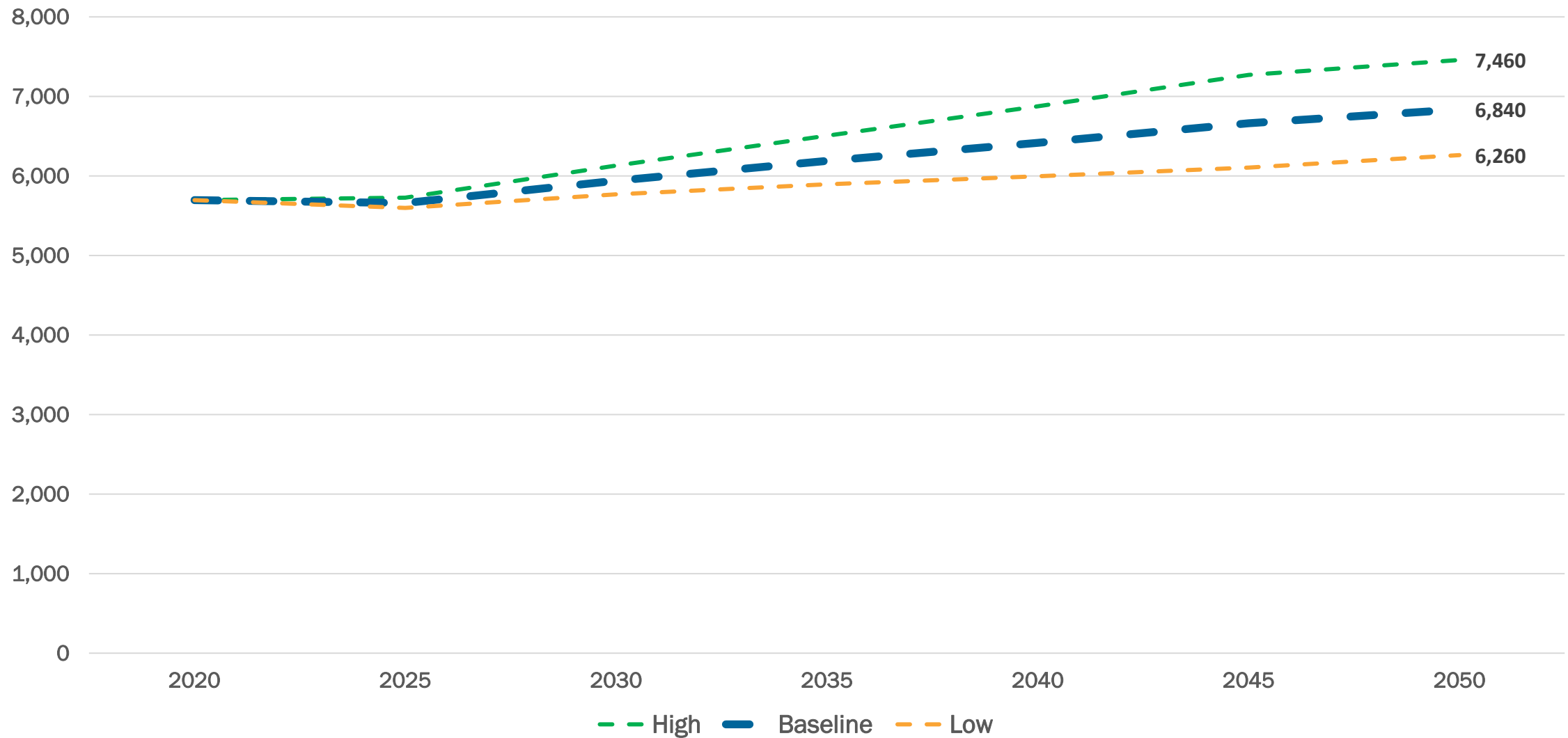
(Source: ICF and COG)



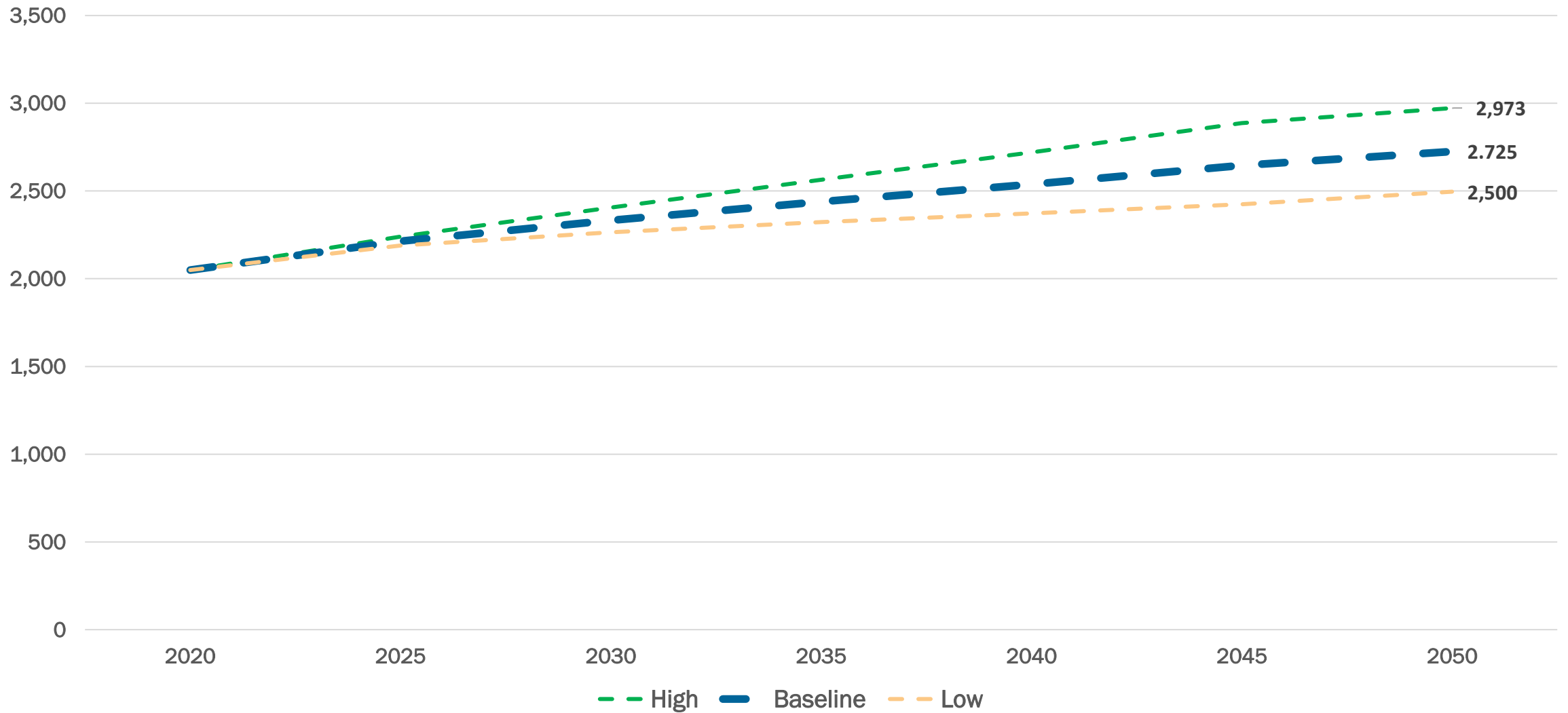
# ICF Estimate of Regional Employment Change due to COVID (000s)



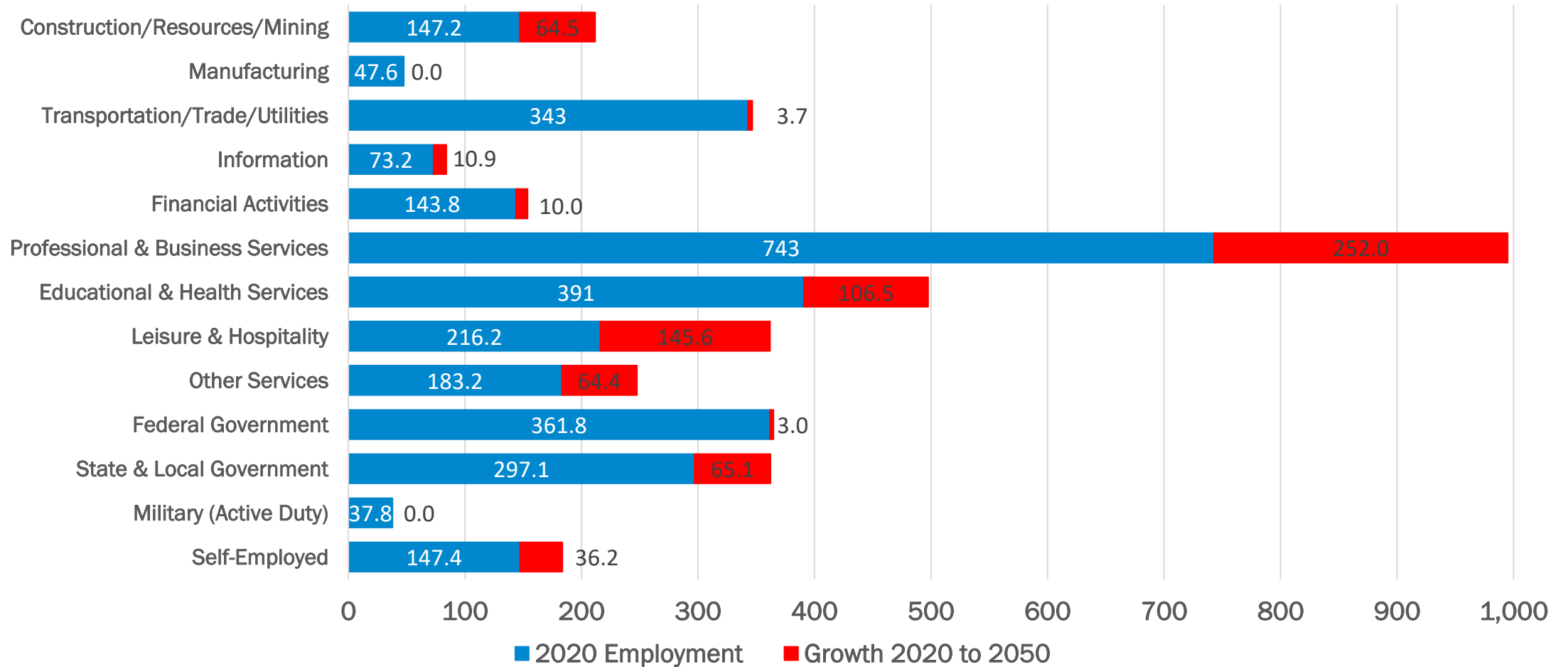
# ICF Estimate of Regional Population Change due to COVID (000s)



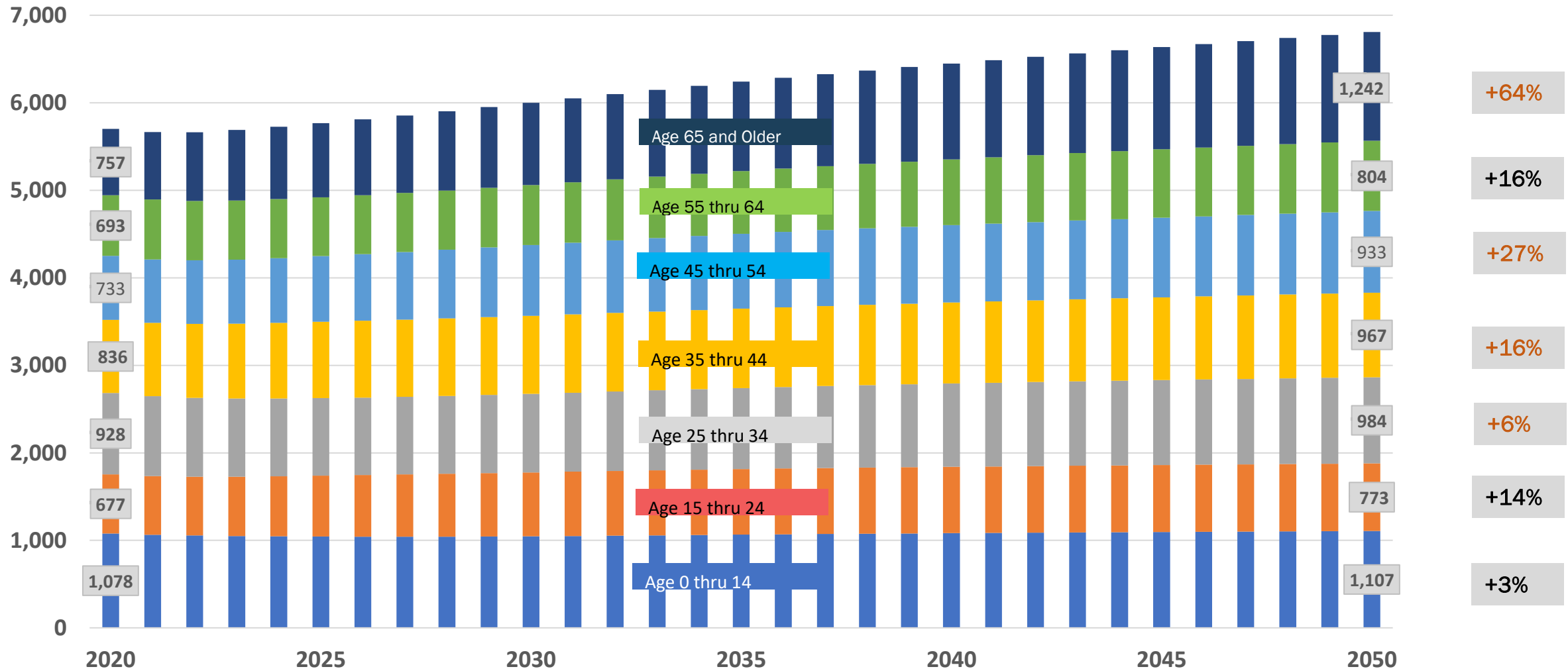
# ICF Estimate of Regional Households Change due to COVID (000s)



# Round 10.0 Econometric Model: Forecast Job Growth by Sector (Thousands of jobs)



# Round 10.0 Econometric Model: Population Forecast by Age Cohort for the COG Region, 2020 to 2050 (Thousands)





# Summary of Round 10.0 Cooperative Forecasts

## COG Region (Millions)

	2020	2025	2030	2035	2040	2045	2050	2020 to 2050	
								Number	%
Employment	3.2	3.4	3.6	3.7	3.9	4.0	4.1	1.0	31%
Population	5.7	6.0	6.2	6.5	6.8	7.0	7.2	1.5	26%
Households	2.1	2.3	2.4	2.5	2.6	2.7	2.8	0.7	32%

# Comparison of Forecasts: Round 10.0 vs Round 9.2

## COG Region (Thousands)

	<u>2020</u>	<u>2025</u>	<u>2030</u>	<u>2035</u>	<u>2040</u>	<u>2045</u>	<u>2050</u>
<b>Employment</b>	-194.5	-213.0	-219.6	-215.1	-233.7	-225.7	n/a
<b>Population</b>	30.1	-42.1	-47.7	-38.1	-19.0	-3.4	n/a
<b>Households</b>	-2.3	1.3	7.9	21.6	38.6	50.2	n/a

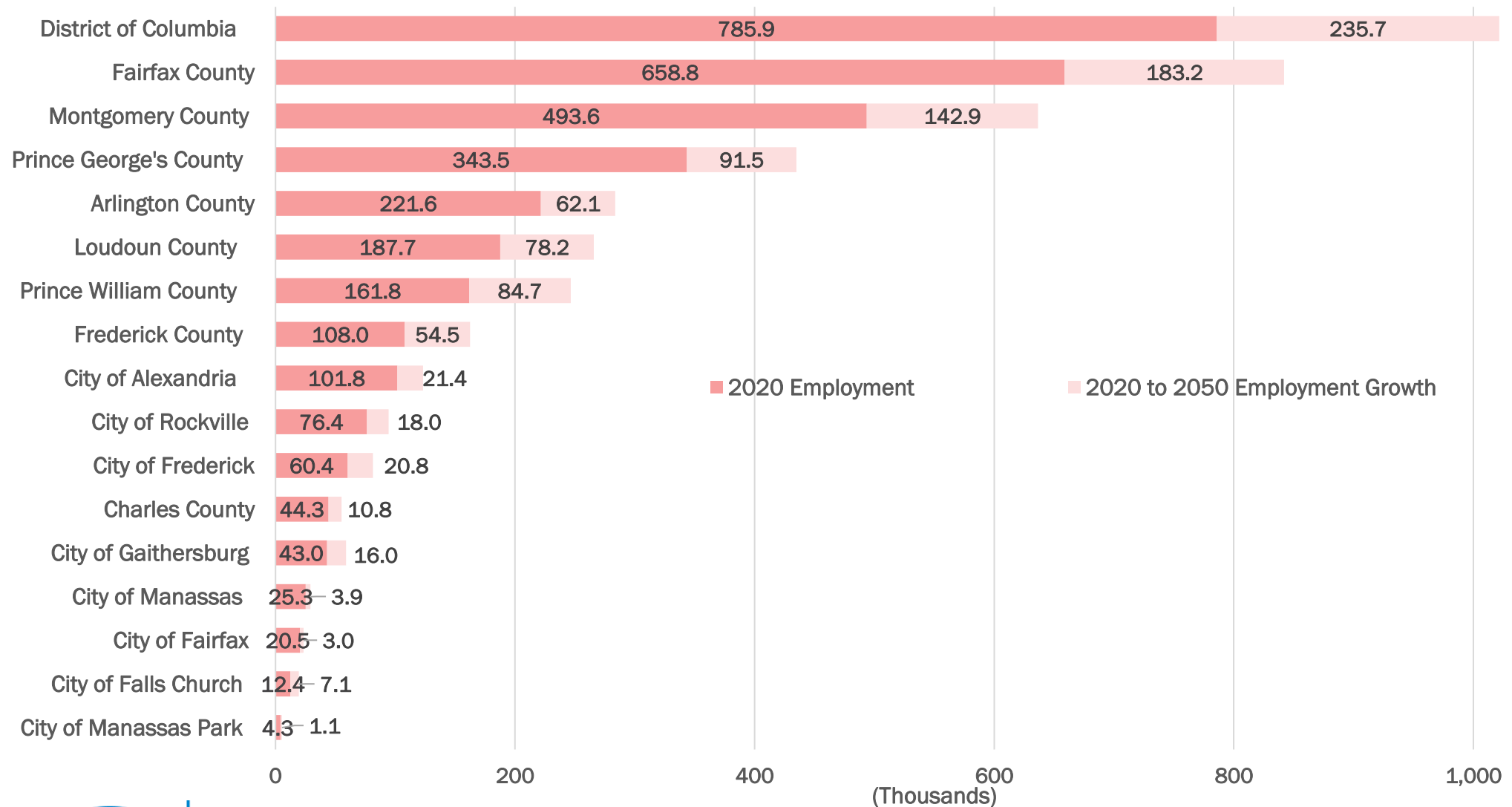
# Comparison of Forecast Growth 2020 to 2045: Round 10.0 and Round 9.2

(Thousands)

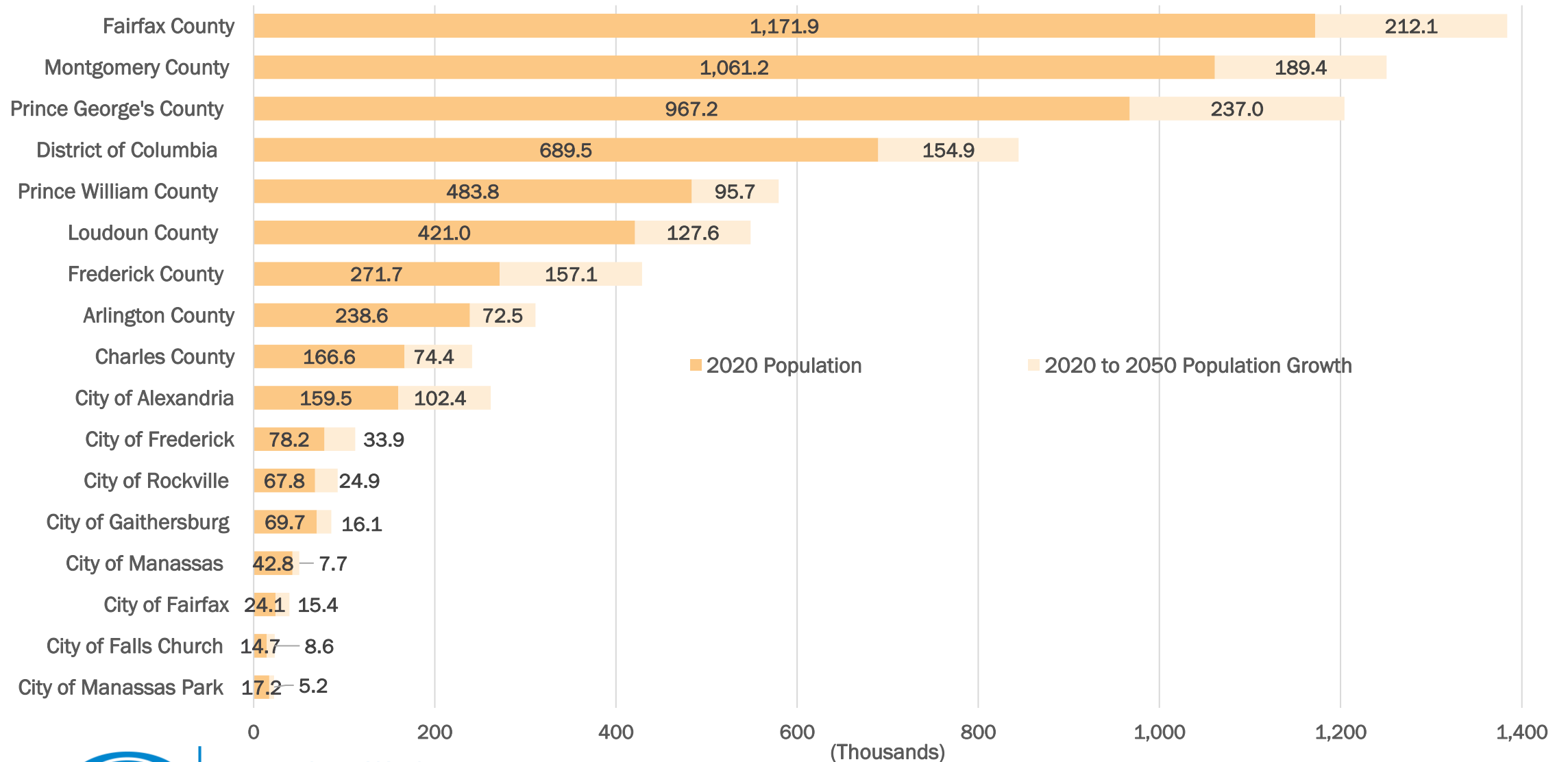
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	<b>Round 10.0</b>	<b>Round 9.2</b>
<b>Employment</b>	855.3	880.5
<b>Population</b>	1,243.2	1,283.8
<b>Households</b>	588.8	535.6

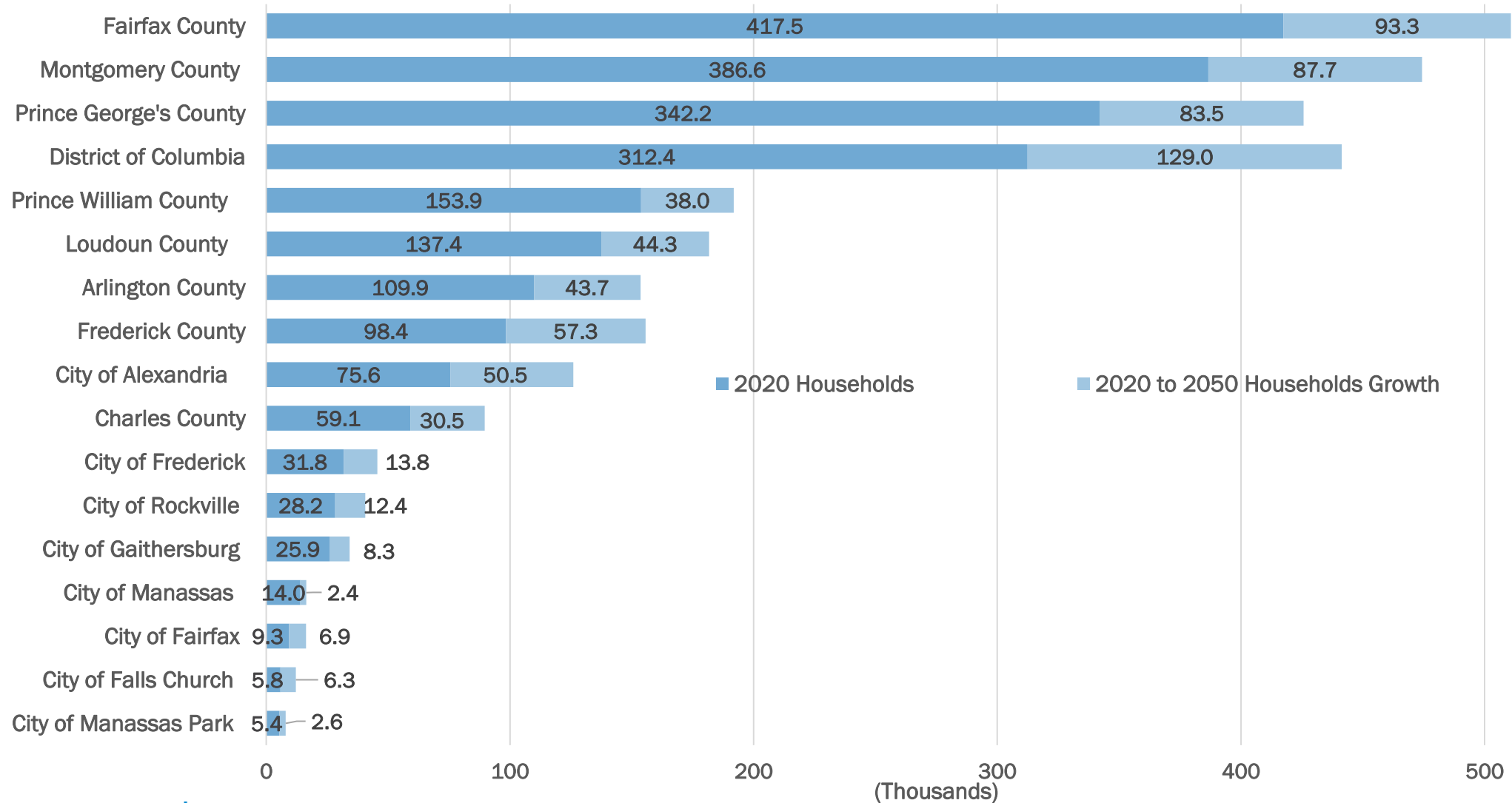
# Round 10.0 Employment Forecasts by Jurisdiction (2020 to 2050)



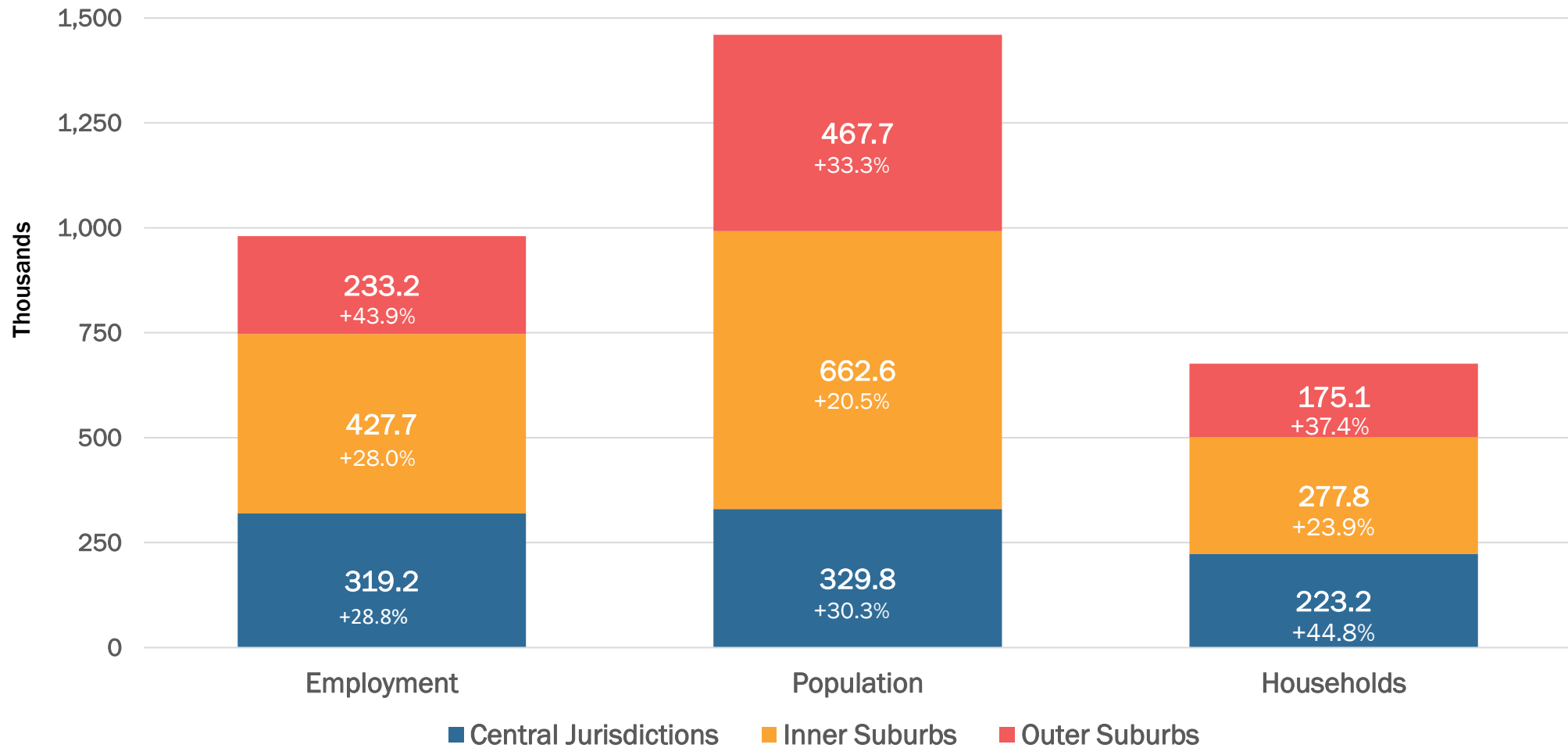
# Round 10.0 Population Forecasts by Jurisdiction (2020 to 2050)



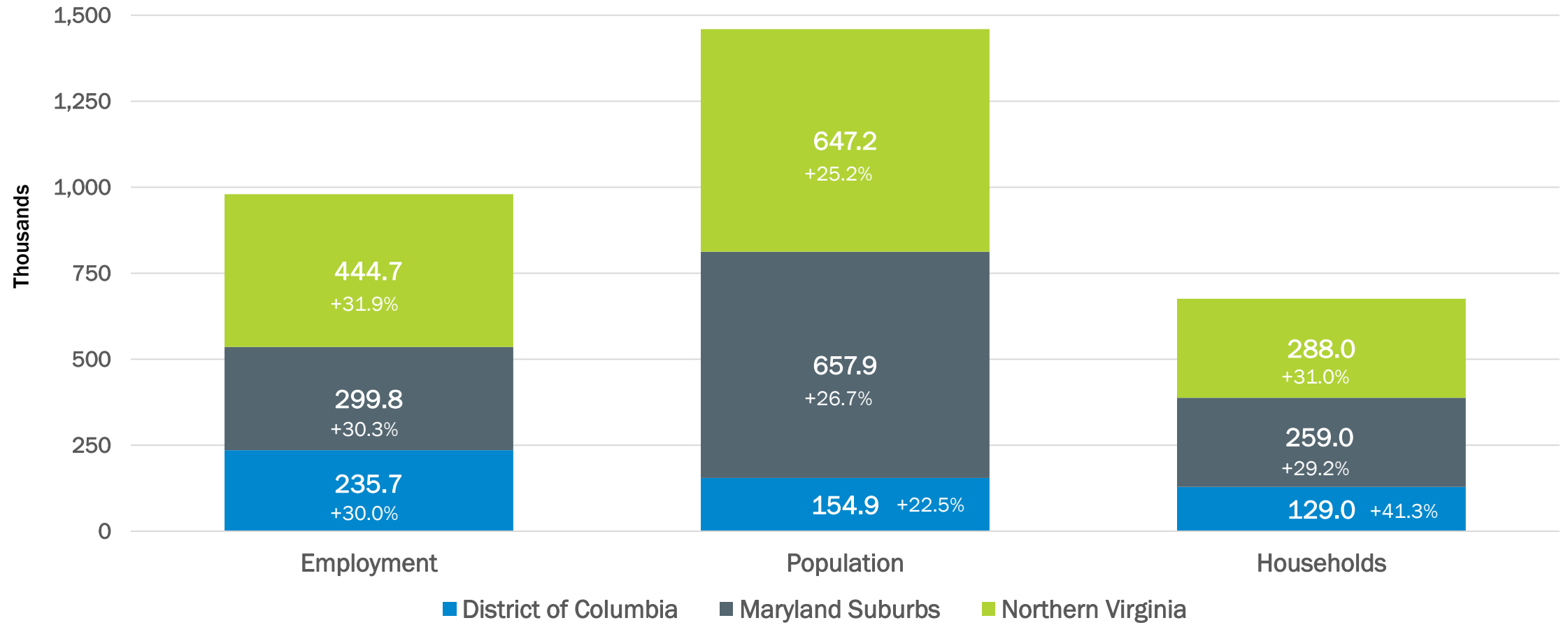
# Round 10.0 Household Forecasts by Jurisdiction (2020 to 2050)



# Round 10.0 Forecasts - Growth by Regional Group (2020 to 2050)



# Round 10.0 Forecasts - Growth by Substate Region (2020 to 2050)





# Trends in the Local Forecasts

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- The District of Columbia contains the greatest number of jobs in 2020 (785,900) and anticipates the greatest increase in jobs between 2020 and 2050 (+235,700).
- Fairfax County contains the greatest number of people in 2020 (1.2 million), while Prince George's County would see the greatest increase in population between 2020 and 2050 (+226,500).
- Fairfax County contains the greatest number of households in 2020 (417,500), while the District of Columbia would see the greatest increase in households between 2020 and 2050 (+129,000).

# Trends in the Local Forecasts, Continued

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- The Inner Suburbs would see the largest growth adding 427,700 jobs, 652,100 people, and 277,900 households.
- The Outer Suburbs would see the greatest *rate* of growth in employment (+45.3%) and population (+37.4%); the Central Jurisdictions would see the greatest household growth rate (+44.8%).
- Northern Virginia would see the largest growth in employment (+444,700) and households (+288,000).
- Northern Virginia and the Maryland Suburbs anticipate nearly identical growth in population (+647,300 and 647,700 persons) reflecting larger assumed average household size in the Maryland jurisdictions.

# Next Steps

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- COG/TPB staff is making final adjustments to the TAZ data, with a public release file available soon.
- COG/TPB will use the Round 10.0 Forecasts as key inputs in the regional travel demand forecasting model and in the Air Quality Conformity Analysis performed in future updates of the region's long-range transportation plan.
- DCPS, together with the Cooperative Forecasting Subcommittee and the Planning Directors, continue to monitor the region's economy and local land use changes for the potential need for future revisions to Round 10.0.

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**Summary of Employment Forecasts  
Round 10.0 Cooperative Forecasts  
(Thousands)**

<b>JURISDICTION</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>	<b>2045</b>	<b>2050</b>
District of Columbia	785.9	846.1	886.3	923.5	954.4	989.0	1,021.6
Arlington County	221.6	223.2	236.7	259.2	266.4	275.3	283.7
City of Alexandria	101.8	101.0	99.3	106.6	112.8	116.8	123.2
<b>Central Jurisdictions</b>	<b>1,109.3</b>	<b>1,170.2</b>	<b>1,222.2</b>	<b>1,289.3</b>	<b>1,333.5</b>	<b>1,381.2</b>	<b>1,428.5</b>
Montgomery County	493.6	522.9	545.6	568.3	591.0	613.8	636.5
City of Rockville (1)	76.4	78.7	81.1	83.8	87.8	91.1	94.5
City of Gaithersburg (1)	43.0	48.0	52.0	54.5	56.5	58.0	59.0
Prince George's County	343.5	356.7	366.8	381.9	396.7	416.0	435.0
Fairfax County (2)	658.8	690.5	750.8	788.8	812.5	832.0	842.0
City of Fairfax	20.5	22.0	22.3	22.6	22.9	23.2	23.5
City of Falls Church	12.4	13.1	15.4	16.5	17.4	18.3	19.4
<b>Inner Suburbs</b>	<b>1,528.7</b>	<b>1,605.2</b>	<b>1,700.9</b>	<b>1,778.1</b>	<b>1,840.6</b>	<b>1,903.2</b>	<b>1,956.4</b>
Loudoun County	187.7	210.3	227.0	240.8	251.5	258.7	265.8
Prince William County	161.8	178.6	194.4	209.7	223.4	235.6	246.4
City of Manassas	25.3	26.1	26.9	27.7	28.3	28.8	29.3
City of Manassas Park	4.3	4.7	5.0	5.1	5.2	5.3	5.4
Charles County	44.3	47.2	50.2	51.8	52.6	54.2	55.2
Frederick County	108.0	115.6	123.8	132.5	141.8	151.8	162.5
City of Frederick (3)	60.4	63.9	67.4	70.8	74.3	77.8	81.3
<b>Outer Suburbs</b>	<b>531.4</b>	<b>582.5</b>	<b>627.2</b>	<b>667.7</b>	<b>702.8</b>	<b>734.4</b>	<b>764.7</b>
<b>Virginia Jurisdictions</b>	<b>1,394.2</b>	<b>1,469.5</b>	<b>1,577.7</b>	<b>1,677.0</b>	<b>1,740.4</b>	<b>1,794.0</b>	<b>1,838.9</b>
<b>Maryland Jurisdictions</b>	<b>989.4</b>	<b>1,042.4</b>	<b>1,086.4</b>	<b>1,134.6</b>	<b>1,182.2</b>	<b>1,235.8</b>	<b>1,289.2</b>
<b>COG Region</b>	<b>3,169.4</b>	<b>3,358.0</b>	<b>3,550.3</b>	<b>3,735.1</b>	<b>3,876.9</b>	<b>4,018.8</b>	<b>4,149.6</b>

(1) Included in Montgomery County total.

(2) Forecasts for all years include Fairfax County Government employees working at the Fairfax County Judicial Center.

(3) Included in Frederick County total.

**Summary of Population Forecasts  
Round 10.0 Cooperative Forecasts  
(Thousands)**

<b>JURISDICTION</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>	<b>2045</b>	<b>2050</b>
District of Columbia	689.5	697.7	728.6	757.2	787.1	816.4	844.4
Arlington County	238.6	245.8	260.2	272.9	285.2	298.0	311.2
City of Alexandria	159.5	180.5	202.0	222.2	239.8	252.9	261.9
<b>Central Jurisdictions</b>	<b>1,087.7</b>	<b>1,123.9</b>	<b>1,190.8</b>	<b>1,252.3</b>	<b>1,312.1</b>	<b>1,367.3</b>	<b>1,417.4</b>
Montgomery County	1,061.2	1,083.0	1,118.0	1,153.9	1,189.6	1,222.2	1,250.7
City of Rockville (1)	67.8	70.9	74.6	78.7	82.9	87.5	92.7
City of Gaithersburg (1)	69.7	72.5	75.7	78.5	81.2	83.7	85.8
Prince George's County	967.2	998.5	1,035.2	1,086.4	1,129.5	1,168.3	1,204.2
Fairfax County	1,171.9	1,202.5	1,247.5	1,283.7	1,319.0	1,353.6	1,384.0
City of Fairfax	24.1	27.8	32.7	34.4	36.1	37.8	39.6
City of Falls Church	14.7	15.5	18.0	19.6	20.7	21.8	23.3
<b>Inner Suburbs</b>	<b>3,239.1</b>	<b>3,327.2</b>	<b>3,451.4</b>	<b>3,578.0</b>	<b>3,694.9</b>	<b>3,803.7</b>	<b>3,901.7</b>
Loudoun County	421.0	456.2	493.9	515.5	529.6	539.2	548.5
Prince William County	483.8	515.2	536.6	553.0	565.0	573.7	579.6
City of Manassas	42.8	43.7	46.3	47.6	48.5	49.5	50.4
City of Manassas Park	17.2	19.0	20.4	20.9	21.4	21.9	22.4
Charles County	166.6	176.6	188.1	200.9	213.9	227.4	241.1
Frederick County	271.7	293.2	316.3	341.3	368.3	397.4	428.8
City of Frederick (2)	78.2	83.8	89.5	95.1	100.8	106.4	112.0
<b>Outer Suburbs</b>	<b>1,403.1</b>	<b>1,504.0</b>	<b>1,601.7</b>	<b>1,679.3</b>	<b>1,746.9</b>	<b>1,809.2</b>	<b>1,870.8</b>
<b>Virginia Jurisdictions</b>	<b>2,573.5</b>	<b>2,706.2</b>	<b>2,857.6</b>	<b>2,969.8</b>	<b>3,065.4</b>	<b>3,148.4</b>	<b>3,220.8</b>
<b>Maryland Jurisdictions</b>	<b>2,466.8</b>	<b>2,551.2</b>	<b>2,657.7</b>	<b>2,782.5</b>	<b>2,901.4</b>	<b>3,015.3</b>	<b>3,124.7</b>
<b>COG Region</b>	<b>5,729.9</b>	<b>5,955.1</b>	<b>6,243.9</b>	<b>6,509.5</b>	<b>6,753.9</b>	<b>6,980.1</b>	<b>7,189.9</b>

(1) Included in Montgomery County total.

(2) Included in Frederick County total.



## Summary of Household Forecasts Round 10.0 Cooperative Forecasts

(Thousands)

JURISDICTION	2020	2025	2030	2035	2040	2045	2050
District of Columbia	312.4	344.2	366.8	386.6	407.6	426.0	441.4
Arlington County	109.9	118.2	126.2	133.3	140.0	146.9	153.6
City of Alexandria	75.6	85.7	96.4	106.7	115.4	122.0	126.0
<b>Central Jurisdictions</b>	<b>497.9</b>	<b>548.1</b>	<b>589.4</b>	<b>626.6</b>	<b>663.1</b>	<b>695.0</b>	<b>721.1</b>
Montgomery County	386.6	398.4	416.5	434.1	450.0	463.2	474.3
City of Rockville (1)	28.2	29.9	31.7	33.7	35.8	38.1	40.6
City of Gaithersburg (1)	25.9	27.2	28.9	30.3	31.7	33.0	34.2
Prince George's County	342.2	353.7	367.4	385.9	400.4	413.6	425.7
Fairfax County	417.5	431.5	451.2	467.1	482.4	497.5	510.8
City of Fairfax	9.3	10.6	13.0	13.8	14.6	15.4	16.3
City of Falls Church	5.8	7.3	8.7	9.6	10.3	11.1	12.1
<b>Inner Suburbs</b>	<b>1,161.5</b>	<b>1,201.6</b>	<b>1,256.9</b>	<b>1,310.4</b>	<b>1,357.9</b>	<b>1,400.8</b>	<b>1,439.2</b>
Loudoun County	137.4	148.9	161.7	169.5	174.7	178.2	181.7
Prince William County	153.9	165.0	173.4	180.0	185.1	189.0	191.9
City of Manassas	14.0	14.3	15.1	15.5	15.8	16.1	16.4
City of Manassas Park	5.4	6.2	6.9	7.1	7.4	7.7	8.0
Charles County	59.1	64.9	69.7	74.7	79.5	84.5	89.6
Frederick County	98.4	106.2	114.5	123.5	133.2	144.3	155.7
City of Frederick (2)	31.8	34.1	36.3	38.7	40.9	43.3	45.6
<b>Outer Suburbs</b>	<b>468.1</b>	<b>505.5</b>	<b>541.2</b>	<b>570.4</b>	<b>595.7</b>	<b>619.8</b>	<b>643.2</b>
<b>Virginia Jurisdictions</b>	<b>928.8</b>	<b>987.7</b>	<b>1,052.5</b>	<b>1,102.6</b>	<b>1,145.8</b>	<b>1,184.0</b>	<b>1,216.8</b>
<b>Maryland Jurisdictions</b>	<b>886.3</b>	<b>923.2</b>	<b>968.1</b>	<b>1,018.2</b>	<b>1,063.2</b>	<b>1,105.6</b>	<b>1,145.3</b>
<b>COG Region</b>	<b>2,127.5</b>	<b>2,255.1</b>	<b>2,387.4</b>	<b>2,507.4</b>	<b>2,616.7</b>	<b>2,715.6</b>	<b>2,803.5</b>

(1) Included in Montgomery County total.

(2) Included in Frederick County total.