

Federal Salary Council

1900 E Street, NW.

Washington, DC 20415-8200

April 2, 2020

MEMORANDUM FOR: THE PRESIDENT'S PAY AGENT
HONORABLE EUGENE SCALIA
HONORABLE RUSSELL VOUGHT
HONORABLE MICHAEL RIGAS

SUBJECT: Level of Comparability Payments for January 2021 and Other
Matters Pertaining to the Locality Pay Program

Executive Summary. As authorized by the Federal Employees Pay Comparability Act of 1990 (FEPCA) and detailed below, this constitutes the Federal Salary Council's 2019 Report to the President's Pay Agent, setting forth recommendations to the Pay Agent for Calendar Year (CY) 2021, and other matters. Specifically, as detailed below, the Report proposes (1) the level of comparability payments for CY 2021, effective beginning in January of that year under FEPCA absent some other provision of law, (2) the establishment or modification of pay localities; (3) the coverage of salary surveys conducted by the Bureau of Labor Statistics (BLS) for use in the locality pay program; and (4) the process of comparing General Schedule (GS) pay and other matters to non-Federal employers. Except as otherwise noted below, the recommendations contained herein represent a consensus of Council Members; however, in other instances, where the Council could not reach a consensus, the Report so states and thereafter summarizes the views of individual Council Members.

The Pay Agent should note that the Council was not in unanimous agreement with respect to Recommendations 2, 7, 8, and 9 below. However, Council Chairman Sanders stated in this Council's first public meeting (held on April 10, 2018) that, in such cases, he would allow individual Members, or groups of Members, to express their respective views on any matter before the Council. Thus, while the Council would continue to seek a consensus in matters before it, as is its tradition, no Council Member or group of Members should feel constrained from providing their position on a matter if they choose to do so. That is the case in this Report, and where appropriate, it summarizes the disparate views of Council Members with respect to certain Council recommendations.

Recommendation 1: The Council recommends that the Pay Agent adopt the estimated locality pay rates set forth in Attachment 1 as those that, absent some other provision of law, would go into effect under FEPCA in January 2021.

Recommendation 2: Chairman Sanders and Council Member Bullock recommend use of updated commuting patterns data in the locality pay program—i.e., commuting patterns data collected by the U.S. Census Bureau between 2011 and 2015 as part of the American Community Survey. Council Members Erwin, Reardon, and Simon support that recommendation on the condition that the revised Office of Management and Budget (OMB) definitions of Metropolitan Statistical Areas and Combined Statistical Areas contained in OMB

Bulletin No. 18-04 (issued September 14, 2018) be used in the locality pay program. (See Recommendation 7.)

Recommendation 3: The Council recommends continuing to use a 3-year measurement period to evaluate “Rest of U.S.” (RUS) research areas for possible establishment as new locality pay areas.

Recommendation 4: The Council recommends use of the SOC 2018 crosswalk developed by Office of Personnel Management (OPM) staff in the first-stage weighting process used in the development of non-Federal salary estimates. (See Attachment 2 for an explanation of the first-stage weighting process.)

Recommendation 5: The Council recommends that no additional RUS locations be established as separate locality pay areas for 2021 *based on the results of the NCS/OES Model*, since no additional RUS locations met the statistical test for such establishment. However, several Council Members have noted that the Council has the discretion to recommend additional areas based on information other than (or in addition to) the NCS/OES Model.

Recommendation 6: The Council recommends further Council study in CY 2020 on the question of whether the GS employment threshold (2,500 or more GS employees) should change for studying RUS research areas with the NCS/OES Model.

Recommendation 7: Chairman Sanders and Council Member Bullock recommend further Council study in CY 2020 on the question of whether the Pay Agent should adopt the metropolitan statistical areas (MSAs) and combined statistical areas (CSAs) delineated in OMB Bulletin No. 18-04, issued September 14, 2018, for use in the locality pay program. Council Members Erwin, Reardon, and Simon recommend that the Pay Agent adopt those MSAs and CSAs as soon as possible for use in the locality pay program, but with the understanding that in cases where those revised MSAs and CSAs would exclude counties that are otherwise receiving locality pay higher than for RUS today, those counties would continue to receive that higher locality pay indefinitely. The Council plans to issue an addendum to this report later this year on the results of the Council’s further study of this issue, with recommendations to the President’s Pay Agent, as appropriate.

Recommendation 8: Chairman Sanders and Member Bullock recommend that requests to establish RUS areas that do not meet existing criteria for establishment as new locality pay areas or areas of application hereafter be supported with detailed Human Capital Indicator (HCI) data covering Federal agencies in the location of concern. Council Members Erwin, Reardon, and Simon are open to considering HCI data but do not support a requirement that such data be provided. Council Members Erwin, Reardon, and Simon further recommend that the Pay Agent eliminate the GS employment criteria for areas of application.

Recommendation 9: Based on the information currently available to the Council, the Council recommends that none of the geographic areas that contacted Council staff regarding locality pay (listed in Attachment 8) be established as new locality pay areas or areas of application to existing locality pay areas, with the exception of Wayne County, PA; Olmsted County, MN; and

Pine County, MN. As explained below, the Council was not in full agreement regarding what to recommend for those three counties.

- Based on the testimony presented in the Council meeting held on November 5, 2019, Council Members Erwin, Reardon, and Simon recommend waiving the GS employment criterion for Wayne County, PA; Olmsted County, MN; and Pine County, MN (and establishing Wayne County as an area of application to the New York locality pay area and Olmsted and Pine Counties as areas of application to the Minneapolis locality pay area).
- Chairman Sanders and Council Member Bullock support that recommendation with regard to Wayne County, since it reportedly would meet the GS employment threshold if all of its authorized and funded vacancies were filled. However, for Olmsted and Pine Counties, Chairman Sanders and Member Bullock recommend that the Pay Agent provide the Council the opportunity to study any HCI data Federal agencies in these locations may submit in 2020.
- The Council Members were in agreement that they would continue to study other locations that (a) have petitioned the Council to become a new locality pay area or area of application, but (b) do not meet the current statistical criteria for such establishment, to include consideration of witness testimony and other qualitative and quantitative evidence, during the Council's CY 2020 deliberations.

List of Attachments to These Council Recommendations

Below is a more detailed discussion and background and rationale for each of the recommendations summarized above. Attachments referred to in this document are listed below.

- Attachment 1: FEPCA Locality Rates for 2021 Using Current Salary Survey Methodology
- Attachment 2: NCS/OES Model and Pay Disparity Calculations
- Attachment 3: BLS Staff Paper "The Volatility of PATCO Estimates over Multiple Years"
- Attachment 4: SOC 2018 to GS Crosswalk
- Attachment 5: Pay Disparities in Current "Rest of U.S." Research Areas
- Attachment 6: Current Criteria for Areas of Application
- Attachment 7: Draft Instructions for Submitting HCI Data to Council
- Attachment 8: Locations that Contacted Council Staff about Locality Pay

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BACKGROUND AND RATIONALE FOR COUNCIL RECOMMENDATIONS

Recommendation 1: The Council recommends that the Pay Agent adopt the estimated locality pay rates set forth in Attachment 1 as those that, absent some other provision of law or action by the President's Pay Agent, would go into effect under FEPCA in January 2021. Regarding this recommendation, however, we note that, as the Pay Agent is aware, in accordance with its statutory charter the Council undertook a thorough review and discussion of the salary survey methodology used in the locality pay program and provided recommendations in that regard in the Council's May 2, 2019, report to the Pay Agent. In those recommendations, certain Council Members recommended that the Pay Agent consider, establish, and fund alternatives to the current salary survey methodology and/or, alternatively, sponsor a more in-depth study of alternative methodologies to measure the disparity between Federal and non-Federal compensation and its resulting impact.

- Background and Rationale. As in previous years, this year the Federal Salary Council reviewed comparisons of GS and non-Federal pay based on data from two BLS surveys, the National Compensation Survey (NCS) and the Occupational Employment Statistics (OES) program. As explained in previous Council documents, BLS uses NCS data to assess the impact of level of work on occupational earnings, and applies factors derived from the NCS sample to occupational average salaries from OES to estimate occupational earnings by level of work in each locality pay area. Taken together, this is referred to as the *NCS/OES Model*. (A further explanation of the NCS/OES Model and pay disparity calculations is provided in Attachment 2.) Based on that model, OPM staff calculated a weighted average of the estimated locality pay disparities as of March 2019.¹
- According to those calculations, the estimated overall disparity between (1) base GS average salaries and (2) non-Federal average salaries as estimated by BLS in locality pay areas was 55.81 percent. In theory, therefore, the amount needed to reduce the pay disparity to 5 percent (the target disparity established by FEPCA) averages 48.39 percent. Thus, when existing locality pay rates (averaging 22.97 percent of the average GS salary) are taken into account, the overall remaining pay disparity is estimated at 26.71 percent. Accordingly, using estimated data from the salary survey and the pay comparison methodology described above, we recommend the Pay Agent adopt the estimated locality pay rates set forth in Attachment 1 as those that, absent some other provision of law, would go into effect under FEPCA in January 2021.
- Note that these locality pay rates would be in addition to the increase in GS base salary rates under 5 U.S.C. 5303(a). This provision calls for increases in basic pay equal to the percentage increase in the Employment Cost Index (ECI) for wages and salaries of private industry workers, between September 2018 and September 2019, less half a percentage point. The ECI increased 3.0 percent during that period, so the base GS increase in 2021 would be 2.5 percent.

¹ Those calculations excluded such additions as GS special rates and existing locality payments.

Recommendation 2: Chairman Sanders and Member Bullock recommend use of updated commuting patterns data in the locality pay program—i.e., commuting patterns data collected by the U.S. Census Bureau between 2011 and 2015 as part of the American Community Survey. Council Members Erwin, Reardon, and Simon support that recommendation on the condition that the revised Office of Management and Budget (OMB) definitions of Metropolitan Statistical Areas and Combined Statistical Areas contained in OMB Bulletin No. 18-04 (issued September 14, 2018) be used in the locality pay program. (See Summary of Recommendation 7 above, as well as the full text of Recommendation 7 below).

- Background and Rationale. Since December 2016, Council recommendations for establishing areas of application have been based on employment interchange rates calculated using commuting patterns data collected by the U.S. Census Bureau between 2009 and 2013 as part of the American Community Survey (ACS). The Census Bureau has issued updated commuting patterns data collected between 2011 and 2015 as part of the ACS. The Council’s Working Group recommend those updated commuting patterns be used in the locality pay program.

Recommendation 3: The Council recommends continuing to use a 3-year measurement period to evaluate “Rest of U.S.” (RUS) research areas for possible establishment as new locality pay areas.

- Background and Rationale. The Federal Salary Council asked BLS to provide information on this topic because the Council is responsible for recommending the number of years of pay disparity data the Pay Agent should examine before deciding whether a RUS research area should become a locality pay area. BLS provided the information paper in Attachment 3. Based on that paper, the Council concludes it is appropriate to continue examining 3 years of pay gaps for the purpose of determining whether a RUS research area should be recommended for establishment as a new locality pay area.

Recommendation 4: The Council recommends use of the SOC 2018 crosswalk developed by OPM staff in the first-stage weighting process used in the development of non-Federal salary estimates. (See Attachment 2 for an explanation of the first-stage weighting process.)

- Background and Rationale. As previously mentioned, an explanation of the NCS/OES Model and pay disparity calculations is provided in Attachment 2. As explained there, a three-stage weighted average is used in the pay disparity calculations. The weighting in the first stage requires a crosswalk between GS occupations and Standard Occupational Classification (SOC) codes. That crosswalk currently uses SOC 2000 codes. During CY 2019, BLS and OPM staff worked to develop a plan and a timeline for transitioning to the SOC 2018 codes in a future delivery of the NCS/OES salary estimates.
- OPM classification specialists provided a new crosswalk between GS occupations and work levels and SOC 2018 codes, and that crosswalk is provided in Attachment 4. To test the impact of using the updated crosswalk, BLS provided OPM staff with a second version of the March 2018 non-Federal salary estimates delivered last year, and OPM staff calculated March 2018 pay disparities using SOC 2018 and compared those to the March 2018 pay disparities delivered last year. For current and planned locality pay areas, on average the two

sets of pay gaps differed by 1.54 percentage points, with the absolute values of percentage point changes ranging from 0.17 percentage points to 3.89 percentage points.

- The Council finds the results of that test acceptable and recommends transitioning to the updated crosswalk as soon as possible.

Recommendation 5: The Council recommends that no additional RUS locations be established as separate locality pay areas for 2021 *based on the results of the NCS/OES Model*, since no additional RUS locations met the statistical test for such establishment. However, several Council Members have noted that the Council has the discretion to recommend additional areas based on information other than (or in addition to) the NCS/OES Model.

- Background and Rationale. The Council is now monitoring pay disparities in 38 research areas not approved for establishment as separate locality pay areas. We studied pay disparities for these areas, compared to the RUS pay disparity, over a 3-year period (2017-2019), and the results are shown in Attachment 5.
- None of the pay disparities for those RUS research areas exceeded that for the RUS locality pay area by 10 percentage points or more on average over the 3-year period studied, which is the standard established by the Council to trigger its recommendation to establish a research area as a new locality pay area.

Recommendation 6: The Council recommends further Council study in CY 2020 on the question of whether the GS employment threshold (2,500 or more GS employees) should change for studying RUS research areas with the NCS/OES Model.

- Background and Rationale. The Council has reviewed RUS research areas for consideration as new locality pay areas since the implementation of the NCS/OES Model in 2012. At that time, the Council set a threshold level of 2,500 GS employees for these research areas to focus its attention on those areas affecting the most employees.
- Council Member Reardon proposed that the Council consider lowering the GS employment threshold for using the NCS/OES Model to study pay disparities in RUS research areas. He notes that—
 - The process of reviewing these research areas has now been in place for more than 7 years and that several new locality pay areas have been recommended and approved based on this process;
 - There may be other areas that might qualify for consideration as locality pay areas based on their pay disparities, but the Council does not receive data on these areas because of the arbitrary 2,500 GS employment threshold; and
 - The Council uses lower GS employment thresholds in other circumstances for consideration of locality pay areas, e.g., a 1,500 GS employment level for considering a CBSA as an area of application to an existing locality pay area.
- All Members of the Council agree that the number of additional research areas that should be studied depends on BLS's ability to provide estimates of non-Federal salaries for locales with

lower GS employment and that the Council should work with BLS to determine how many and which additional areas can be studied without increasing the likelihood of volatility in the estimates of non-Federal salaries. All Council Members agreed to study this issue further in CY 2020.

Recommendation 7: Chairman Sanders and Council Member Bullock recommend further Council study in CY 2020 on the question of whether the Pay Agent should adopt the metropolitan statistical areas (MSAs) and combined statistical areas (CSAs) delineated in OMB Bulletin No. 18-04, issued September 14, 2018, for use in the locality pay program. Council Members Erwin, Reardon, and Simon recommend that the Pay Agent adopt those MSAs and CSAs as soon as possible for use in the locality pay program, but with the understanding that in cases where those revised MSAs and CSAs would exclude counties that are otherwise receiving higher locality pay than for RUS today, those counties would continue to receive that higher locality pay indefinitely. The Council plans to issue an addendum to this report later this year on the results of the Council’s further study of this issue, with recommendations to the President’s Pay Agent, as appropriate.

- Background and Rationale. On September 14, 2018, OMB updated its definition and designation of MSAs and CSAs. The Council typically uses MSAs and CSAs, as delineated by OMB, as the basis of locality pay area boundaries. While OMB does not establish these definitions specifically for use in the Federal Government’s locality pay program and cautions agencies to review them carefully before using them for non-statistical purposes, it has been the Council’s practice to consider those definitions for use in the locality pay program, both in defining new and existing basic locality pay areas and in evaluating RUS locations as potential areas of application. (The terms basic locality pay area and area of application are defined in Attachment 6.)
- In terms of potential impact on the locality pay program, we understand from OMB staff that the September 2018 OMB update is considered a “mid-decade revision” that is more significant than previous updates over the past few years. Use of the updated MSAs and CSAs in the locality pay program could result in RUS locations moving to separate locality pay areas and locations in separate locality pay areas moving to the RUS locality pay area. In addition, if updated MSAs and CSAs are to be recommended for use in the locality pay program, the geographic specifications provided by OPM to BLS for producing the non-Federal pay estimates could also be significantly affected.
- Chairman Sanders opposes following the OMB-revised definitions blindly, especially since the revised definitions did not take their effects on the Federal locality pay program into account when they were issued. He also stated that he could not support a recommendation to follow the OMB definitions only when they would expand a locality pay area, but not when they had the opposite effect—thus, he opposes an approach, as proposed by Members Erwin, Reardon, and Simon, that where those revised MSAs and CSAs would exclude counties that are otherwise receiving higher locality pay than for RUS today, those counties would continue to receive that higher locality pay indefinitely. Member Bullock agrees with Chairman Sanders. She recommends that the Council Working Group study this issue further in 2020.

- Council Members Erwin, Reardon, and Simon recommend following past practice—expanding locality pay areas in accordance with the new OMB definitions, but retaining counties in their existing localities. They oppose removing counties from locality pay areas and providing pay rates in them through grandfathering, because pay retention rules would necessitate a two-tiered pay system, with new employees in those locations paid as part of RUS. They note that the number of employees that would be added if the updated OMB definitions were adopted would be relatively small.²
- The Council plans to issue an addendum to this report later this year on the results of the Council’s further study of this issue, with recommendations to the President’s Pay Agent as appropriate.

Recommendation 8: Chairman Sanders and Member Bullock recommend that requests to establish RUS areas that do not meet existing criteria for establishment as new locality pay areas or areas of application hereafter be supported with detailed Human Capital Indicator (HCI) data covering Federal agencies in the location of concern. Council Members Erwin, Reardon, and Simon are open to considering HCI data but do not support a requirement that such data be provided. Council Members Erwin, Reardon, and Simon further recommend that the Pay Agent eliminate the GS employment criteria for areas of application.

- Background and Rationale. The Council and OPM staff receive numerous requests each year to change locality pay area boundaries for locations that do not meet established criteria for (a) designation as a new locality pay area or (b) inclusion of a particular locale in an existing locality pay area. Those requests run the gamut from simple phone calls or emails from individual employees to detailed petitions and presentations by organized groups at Council meetings. In an effort to formalize that process and make sure that it is more data-driven, the Chairman proposed to the Working Group that the Council ask such requests hereafter be supported with detailed HCI data covering all Federal agencies in the location of concern. Draft instructions for submitting such HCI data are provided in Attachment 7.

Recommendation 9: Based on the information currently available to the Council, the Council recommends that none of the geographic areas that contacted Council staff regarding locality pay (listed in Attachment 8) be established as new locality pay areas or areas of application to existing locality pay areas, with the exception of Wayne County, PA; Olmsted County, MN; and Pine County, MN. As explained below, the Council was not in full agreement regarding what to recommend for those three counties.

- Background and Rationale. Geographic areas that contacted the Council between its public meetings held on November 13, 2018, and November 5, 2019, are listed Attachment 8. Regarding locations in that list that are part of the RUS locality pay area, none of those areas

² The Working Group report noted that OPM staff identified three major categories of locations that would be impacted by the use of updated MSAs and CSAs: (1) Locations now in the RUS area that would be added to separate locality pay areas, which would impact about 5,834 employees in 25 locations; (2) Locations in separate locality pay areas that would become part of the RUS area, which would impact about 5,478 employees in 33 locations (absent grandfathering); and (3) locations that would move between separate pay areas, which would impact about 2,815 employees in 3 counties (absent grandfathering).

pass the statistical tests to be established as new locality pay areas or as areas of application to existing locality pay areas. The Council Members agreed to recommend to the Pay Agent that none of those areas be established as new locality pay areas or areas of application to existing locality pay areas, with the exception of Wayne County, PA; Olmsted County, MN; and Pine County, MN.

- Based on the testimony presented in the Council meeting held on November 5, 2019, Council Members Erwin, Reardon, and Simon recommend waiving the GS employment criterion for Wayne County, PA; Olmsted County, MN; and Pine County, MN (and establishing Wayne County as an area of application to the New York locality pay area and Olmsted and Pine Counties as areas of application to the Minneapolis locality pay area).
- Chairman Sanders and Member Bullock support that recommendation with regard to Wayne County, noting that it would meet the GS employment threshold if all of its authorized and funded vacancies were filled. However, for Olmsted and Pine Counties, Chairman Sanders and Member Bullock recommend that the Pay Agent provide the Council the opportunity to study any HCI data Federal agencies in these locations may submit in 2020 or thereafter.
- The Council Members were in agreement that they would continue to study other locations that (a) have petitioned the Council to become a new locality pay area or area of application, but (b) do not meet the current statistical criteria for such establishment, to include consideration of witness testimony and other qualitative and quantitative evidence, during the Council's CY 2020 deliberations.

SIGNED

Ronald P. Sanders, DPA
Chairman

Attachment 1
FEPCA Locality Rates for 2021 Using Current Salary Survey Methodology

Locality Pay Area	March 2019 Base GS Payroll	March 2019 Pay Disparity	Locality Rate (Target Pay Disparity)
Alaska	\$473,355,904	67.24%	59.28%
Albany-Schenectady, NY-MA	\$181,446,889	52.26%	45.01%
Albuquerque-Santa Fe-Las Vegas, NM	\$580,698,826	42.57%	35.78%
Atlanta--Athens-Clarke County--Sandy Springs, GA-AL	\$2,008,045,636	47.89%	40.85%
Austin-Round Rock, TX	\$437,727,725	48.93%	41.84%
Birmingham-Hoover-Talladega, AL	\$363,776,475	41.97%	35.21%
Boston-Worcester-Providence, MA-RI-NH-ME	\$1,805,895,833	69.73%	61.65%
Buffalo-Cheektowaga, NY	\$339,048,561	46.52%	39.54%
Burlington-South Burlington, VT	\$215,714,823	50.42%	43.26%
Charlotte-Concord, NC-SC	\$223,718,094	47.62%	40.59%
Chicago-Naperville, IL-IN-WI	\$1,427,182,387	54.56%	47.20%
Cincinnati-Wilmington-Maysville, OH-KY-IN	\$430,864,459	41.53%	34.79%
Cleveland-Akron-Canton, OH	\$725,845,336	40.75%	34.05%
Colorado Springs, CO	\$508,780,344	47.22%	40.21%
Columbus-Marion-Zanesville, OH	\$617,323,853	49.72%	42.59%
Corpus Christi-Kingsville-Alice, TX	\$179,753,199	35.51%	29.06%
Dallas-Fort Worth, TX-OK	\$1,399,300,519	57.70%	50.19%
Davenport-Moline, IA-IL	\$254,437,388	45.06%	38.15%
Dayton-Springfield-Sidney, OH	\$573,715,517	48.31%	41.25%
Denver-Aurora, CO	\$1,365,358,116	65.94%	58.04%
Des Moines, IA (pending approval)	\$187,954,531	43.23%	36.41%
Detroit-Warren-Ann Arbor, MI	\$908,484,009	54.08%	46.74%
Harrisburg-Lebanon, PA	\$389,685,667	48.61%	41.53%
Hartford-West Hartford, CT-MA	\$305,596,840	60.73%	53.08%
Hawaii	\$1,043,772,027	53.53%	46.22%
Houston-The Woodlands, TX	\$1,014,953,110	66.37%	58.45%
Huntsville-Decatur-Albertville, AL	\$766,932,069	50.05%	42.90%
Indianapolis-Carmel-Muncie, IN	\$660,110,765	37.73%	31.17%
Kansas City-Overland Park-Kansas City, MO-KS	\$1,257,504,338	42.24%	35.47%
Laredo, TX	\$203,581,113	79.21%	70.68%
Las Vegas-Henderson, NV-AZ	\$342,714,301	48.19%	41.13%
Los Angeles-Long Beach, CA	\$2,566,762,736	78.87%	70.35%
Miami-Fort Lauderdale-Port St. Lucie, FL	\$1,024,624,070	42.86%	36.06%
Milwaukee-Racine-Waukesha, WI	\$256,125,555	37.75%	31.19%
Minneapolis-St. Paul, MN-WI	\$580,561,405	58.57%	51.02%
New York-Newark, NY-NJ-CT-PA	\$3,179,930,207	77.39%	68.94%
Omaha-Council Bluffs-Fremont, NE-IA	\$335,343,543	40.45%	33.76%
Palm Bay-Melbourne-Titusville, FL	\$320,011,279	35.96%	29.49%
Philadelphia-Reading-Camden, PA-NJ-DE-MD	\$1,778,657,067	62.16%	54.44%
Phoenix-Mesa-Scottsdale, AZ	\$643,676,858	49.89%	42.75%
Pittsburgh-New Castle-Weirton, PA-OH-WV	\$488,701,187	45.09%	38.18%
Portland-Vancouver-Salem, OR-WA	\$745,276,917	51.43%	44.22%
Raleigh-Durham-Chapel Hill, NC	\$1,121,067,154	45.26%	38.34%
Rest of US	\$25,398,089,978	32.43%	26.12%
Richmond, VA	\$641,026,628	48.76%	41.68%
Sacramento-Roseville, CA-NV	\$521,887,944	63.78%	55.98%
San Antonio-New Braunfels-Pearsall, TX	\$1,404,265,650	47.03%	40.03%
San Diego-Carlsbad, CA	\$1,651,216,154	76.97%	68.54%
San Jose-San Francisco-Oakland, CA	\$1,674,055,262	92.67%	83.50%
Seattle-Tacoma, WA	\$1,819,673,437	74.63%	66.31%
St. Louis-St. Charles-Farmington, MO-IL	\$780,368,700	47.76%	40.72%
Tucson-Nogales, AZ	\$792,925,043	39.63%	32.98%
Virginia Beach-Norfolk, VA-NC	\$2,148,310,991	45.45%	38.52%
Washington-Baltimore-Arlington, DC-MD-VA-WV-PA	\$22,899,102,869	77.07%	68.64%
Total Payroll/Weighted Average Pay Gap	\$93,964,939,288	55.81%	48.39%

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Attachment 2

Explanation of NCS/OES Model and Pay Disparity Calculations

NCS/OES Model

The Bureau of Labor Statistics (BLS) uses National Compensation Survey (NCS) data to assess the impact of level of work on occupational earnings, and applies factors derived from the NCS sample to occupational average salaries from Occupational Employment Statistics (OES) data to estimate occupational earnings by level of work in each locality pay area. This measurement process is called the NCS/OES Model.

To calculate estimates of pay disparities, the Pay Agent asks BLS to calculate annual wage estimates by area, occupation, and grade level. These estimates are then weighted by National Federal employment to arrive at wage estimates by broad occupation group and grade for each pay area. There are five broad occupational groups collectively referred to as “PATCO” categories: Professional (P), Administrative (A), Technical (T), Clerical (C), and Officer (O).

OES data provide wage estimates by occupation for each locality pay area, but do not have information by grade level. The NCS has information on grade level, but a much smaller sample with which to calculate occupation-area estimates. To combine the information from the two samples, a regression model is used. The model assumes that the difference between a wage observed in the NCS for a given area, occupation, and grade level, and the corresponding area-occupation wage from the OES, can be explained by a few key variables, the most important of which is the grade level itself. The model then predicts the extent to which wages will be higher, on average, for higher grade levels. It is important to note that the model assumes the relationship between wages and levels is the same throughout the Nation. While this assumption is not likely to hold exactly, the NCS sample size is not large enough to allow the effect of grade level on salary to vary by area.

Once estimated, the model is used to predict the hourly wage rate for area-occupation-grade cells of interest to the Pay Agent. This predicted hourly wage rate is then multiplied by 2,080 hours (52 weeks X 40 hours per week) to arrive at an estimate of the annual earnings for that particular cell. The estimates from the model are then averaged, using Federal employment levels as weights, to form an estimate of annual earnings for PATCO job family and grade for each area.

Calculating Pay Disparities Using the NCS/OES Model

Because 5 U.S.C. 5302(6) requires that each local pay disparity be expressed as a single percentage, the comparison of GS and non-Federal rates of pay in a locality requires that the two sets of rates be reduced to one pair of rates, a GS average and a non-Federal average. An important principle in averaging each set of rates is that the rates of individual survey jobs, job categories, and grades are weighted by Federal GS employment in equivalent classifications. Weighting by Federal employment ensures that the influence of each non-Federal survey job on the overall non-Federal average is proportionate to the frequency of that job in the Federal sector.

A three-stage weighted average is used in the pay disparity calculations. In the first stage, job rates from the NCS/OES Model are averaged within PATCO category by grade level. The NCS/OES Model covers virtually all GS jobs. The model produces occupational wage information for jobs found only in the OES sample for an area. For averaging within PATCO category, each job rate is weighted by the Nationwide full-time, permanent, year-round employment in GS positions that match the job. BLS combines the individual occupations within PATCO-grade cells and sends

OPM average non-Federal salaries by PATCO-grade categories. The reason for National weighting in the first stage is explained below.

When the first stage averages are complete, each grade is represented by up to five PATCO category rates in lieu of its original job rates. Under the NCS/OES Model, all PATCO-grade categories with Federal incumbents are represented, except where BLS had no data for the PATCO-grade cell in a location.

In the second stage, the PATCO category rates are averaged by grade level to one grade level rate for each grade represented. Thus, at grade GS-5, which has Federal jobs in all five PATCO categories, the five PATCO category rates are averaged to one GS-5 non-Federal pay rate. For averaging by grade, each PATCO category rate is weighted by the local full-time, permanent, year-round GS employment in the category at the grade.

In the third stage, the grade averages are weighted by the corresponding local, full-time, permanent, year-round GS grade level employment and averaged to a single overall non-Federal pay rate for the locality. This overall non-Federal average salary is the non-Federal rate to which the overall average GS rate is compared. Under the NCS/OES Model, all 15 GS grades can be represented.

Since GS rates by grade are not based on a sample, but rather on a census of the relevant GS populations, the first two stages of the above process are omitted in deriving the GS average rate. For each grade level represented by a non-Federal average derived in stage two, we average the scheduled rates of all full-time, permanent, year-round GS employees at the grade in the area. The overall GS average rate is the weighted average of these GS grade level rates, using the same weights as those used to average the non-Federal grade level rates.

Finally, the pay disparity is the percentage by which the overall average non-Federal rate exceeds the overall average GS rate.

As indicated above, at the first stage of averaging the non-Federal data, the weights represent National GS employment, while local GS employment is used to weight the second and third stage averages. GS employment weights are meant to ensure that the effect of each non-Federal pay rate on the overall non-Federal average reflects the relative frequency of Federal employment in matching Federal job classifications.

The methodology employed by the Pay Agent to measure local pay disparities does not use local weights in the first (job level) stage of averaging because this would have an undesirable effect. A survey job whose Federal counterpart has no local GS incumbents will “drop out” in stage one and have no effect on the overall average. For this reason, National weights are used in the first stage of averaging data. National weights are used only where retention of each survey observation is most important---at the job level or stage one. Local weights are used at all other stages.

Calculation of the Washington-Baltimore pay disparity is shown on the next page as an example.

Pay Disparity Example—March 2019 Pay Disparity for Washington-Baltimore Locality Pay Area

Grade	BLS Average Grade-PATCO Salary Estimates for Washington, DC (Derived Using Nationwide GS Employment Weights)					Local GS Employment Weights Used to Derive Washington, DC Average Non-Federal Salaries					Calculating Overall Average Non-Federal and Federal Salaries Using Grade Weights for DC			
	Admin	Clerical	Officer	Professional	Technical	Admin	Clerical	Officer	Professional	Technical	Grade Fed Emp	BLS Avg	GS Avg	Gap
1		\$37,161			\$34,222		2				6	\$37,161.00	\$20,542	80.90%
2		\$36,590			\$33,858		9			6	22	\$35,497.20	\$23,826	48.99%
3		\$33,130	\$41,966		\$36,934		60	5		14	123	\$34,363.37	\$26,426	30.04%
4	\$51,383	\$44,117	\$44,785	\$45,045	\$40,424		294	42		86	543	\$43,430.88	\$30,074	44.41%
5	\$54,947	\$54,709	\$52,896	\$51,664	\$46,137	220	1,181	438	35	1,146	3,136	\$51,175.28	\$33,413	53.16%
6	\$73,046	\$65,875	\$59,922	\$56,645	\$54,861	5	847	846		2,404	4,109	\$58,201.17	\$37,833	53.84%
7	\$70,145	\$68,690	\$67,174	\$68,573	\$62,682	1,449	566	852	759	4,882	8,623	\$65,328.08	\$42,008	55.51%
8	\$80,656	\$74,553	\$73,014	\$55,661	\$70,279	23	484	468	39	2,800	3,814	\$71,070.08	\$48,356	46.97%
9	\$83,930	\$76,771	\$82,543	\$76,649	\$78,981	7,613	337	294	1,594	2,180	12,072	\$81,831.89	\$50,411	62.33%
10	\$96,418	\$89,895	\$99,911	\$86,614	\$95,530	650	161	78	19	488	1,396	\$95,417.02	\$57,336	66.42%
11	\$110,953	\$100,987	\$110,873	\$101,570	\$109,559	13,259	18	130	3,940	892	18,268	\$108,847.50	\$60,339	80.39%
12	\$142,217	\$128,076	\$147,254	\$136,161	\$145,685	26,638	16	179	10,473	1,218	38,533	\$140,697.81	\$73,424	91.62%
13	\$164,197		\$188,539	\$160,590	\$174,915	48,764		452	17,794	526	67,541	\$163,493.04	\$88,737	84.24%
14	\$188,381		\$199,812	\$177,601	\$179,201	36,848		436	20,986	118	58,394	\$184,573.22	\$106,222	73.76%
15	\$220,544		\$219,857	\$209,765	\$181,596	17,662		143	16,486	21	34,319	\$215,338.28	\$127,757	68.55%
											250,899	\$155,458.94	\$87,795.73	77.07%

The above example shows how March 2019 pay disparities are calculated beginning with salary estimates BLS provides at the Grade-PATCO level, applying local GS employment weights to derive average salaries across PATCO category by GS grade, applying local grade weights to calculate an overall Federal salary and an overall non-Federal salary for the locality pay area, and a comparison between the overall non-Federal salary and overall Federal salary to calculate the area’s pay disparity—(Non-Federal Salary / (Federal Salary) – 1.

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Attachment 3—BLS Staff Paper
The Volatility of PATCO Estimates over Multiple Years
U.S. Bureau of Labor Statistics
September 19, 2019

Background

This memo reports on some computational exercises done to consider the issue of the volatility of PATCO estimates over multiple years. The Federal Salary Council asked BLS to provide information on this topic because the Council is responsible for determining the number of years of data the Pay Agent should examine before deciding whether an area should become a locality pay area. BLS's understanding is that, under current procedures, the period is three years.

BLS produces for the pay agent estimates of mean annual salaries by locality, PATCO category and work level. These estimates are then aggregated to one number by the Pay Agent, using local federal employment weights, to get an estimate of mean annual salaries for nonfederal workers for each locality. This nonfederal average can then be compared with the federal average for the locality and a pay gap computed. For areas that are under consideration for becoming a new locality pay area, this pay gap can be compared with the gap computed for the Rest of US.

The size of the pay gap for a given locality in a given year is affected by three components: 1) the set of estimates by PATCO category and work level; 2) the local federal employment weights; and 3) the average annual salary for federal workers, computed from a census of such workers. The exercises reported on in this memo focus on the first of the three components, which is the set of estimates delivered annually by the BLS. To elaborate, estimates produced by the model combining data from the National Compensation Survey (NCS) and the Occupational Employment Statistics (OES) at the level of locality, PATCO category and work level are available in each year from 2009 through 2018. In this exercise, these estimates are aggregated to a single number for each locality in each year using the locality's federal employment weights from 2017. Movements of this single number in each locality for each year are then examined, rather than the pay gap itself.

Issues

The estimates that BLS produces for the pay agent -- by locality, PATCO category and work level -- will have variability over time because of sampling error, but they also will be affected by real economic events such as business cycles and economic shocks that may affect certain areas, occupations or work levels more than others. Aggregating to one number for an area as the pay agent does will lessen the variability coming from sampling error, but will not eliminate it. A related issue has to do with the design of the samples. One third of the private sample in the NCS is replaced each year. Given the relatively small sample, the presence of outliers coming in or out of the sample can affect the pattern of estimates over time, though outliers are less of an issue as one goes to higher levels of aggregation. Even so, the relative scarcity of quotes at high work levels means that outliers can affect the work level gradient that is estimated using the NCS data as part of the NCS-OES Model. The OES sample is composed of six panels taken over a three-year period. The larger OES sample and the fact that wages are collected in intervals are apt to make outliers less of an issue in the OES than in the NCS.

If the estimate for nonfederal pay for a given area that the Pay Agent computes from the BLS estimates had a standard error attached to it, then one could perform a statistical test of the hypothesis that the nonfederal-federal pay gap in that area is equal to the nonfederal-federal pay gap in the rest of US. Rejection of the hypothesis would provide support for the notion that there is a statistically significant difference between the area pay gap and the rest of US pay gap. One would want to perform this test over more than one year, but the estimated standard error should take into account the presence of outliers in the sample. One also may want to assess whether the area nonfederal-federal pay gap differs from the corresponding rest of US gap by a certain amount over a certain number years, i.e., whether it is both statistically significant and economically meaningful.

Computational Exercises

Without standard errors, the task of determining whether a difference between estimates is economically meaningful becomes more difficult, as one does not have a good sense of how much of the discrepancy and its change over time is the result of sampling error. In general, the more sampling error there is, the more estimates will jump around, and the more years one would want to examine. As a step to gauging the stability of the aggregate estimates for each locality, one can visually inspect the mean annual salaries over time. These are shown for each current locality pay area in Figure 1a and for each research area in Figure 1b, for as many years as data are available.

The plots for each area tend to be reassuring in that the points do not seem to jump around very much. Just about all the plots are monotonic over time, with annual mean salaries gradually increasing over the period or staying fairly flat. The absence of abrupt changes is consistent with little influence of outliers and suggests that viewing wages over a relatively short period may give an accurate picture of a locality's nonfederal salaries. It may be worth injecting a note of caution, however, in that the period examined was not a time of major business cycle shocks. Rather, June 2009 was the trough of the Great Recession and wages have been growing slowly since then. It may be the case that the plots would have looked much different if the period had included a recession.

One way to somewhat more formally gauge how much these estimates by locality are moving around is to calculate a measure of variability. As the standard deviation tends to go up as the mean goes up, a useful measure of variability is the coefficient of variation (CV), which is the standard deviation divided by the mean. In this case, what is of interest is the standard deviation of the annual estimates of the nonfederal salaries for a given area, divided by the mean of these estimates. One can calculate a coefficient of variation with as few as two years of data, extend this to three years, then to four years, etc. and keep going until the data are exhausted. This CV calculation was done in four different ways: 1) Starting from 2017-2018, moving backward to 2009-2018, including all localities with data in all years (Figure 2a); 2) Starting from 2017-2018, moving backward to 2012-2013, including all localities with data in all those years (Figure 2b); Starting from 2009-2010, moving forward to 2009-2018, including all localities with data in all years (Figure 3a); and 4) Starting from 2012-2013, moving forward to 2012-2018, including all localities with data in all those years (Figure 3b).

There are two main points to this exercise. The first, as suggested, is that it is of interest to see the absolute size of the coefficient of variation to gauge how much the estimates move around. The second is that by measuring how the CV moves when the period lengthens, one can assess whether adding years of data allows one to home in on the value of annual mean salaries. That is, does the coefficient of variation become smaller as years are added?

To see what the Figures 2a-b and 3a-b reveal with respect to these two points, it may be worthwhile to examine in some detail one of the graphs in Figure 2a, as all the other graphs in that Figure are of the same format and all the graphs in Figures 2b, 3a, and 3b are of a similar format. The graph in the top left corner of Figure 2a is that for Alaska. The leftmost point shows that the coefficient of variation for annual mean salaries for the period 2017-2018 is about 0.02. Moving rightward, the next point, for three years of data (2016-2018), is a little bit lower and then the points begin moving upward all the way to the rightmost point, where the coefficient of variation for 2009-2018 is about 0.08.

CVs of 0.02, or, in other words, standard deviations that are 2% of the mean are not unusual in the graphs. These low numbers confirm the impression from Figures 1a and b that the annual estimates do not move around excessively. The pattern of a rising coefficient of variation as the period lengthens is also quite common. Usually, the coefficient of variation is at a minimum with two years of data and then climbs thereafter. The reason for this pattern seems to be that one is not actually estimating the same mean over and over again. Instead, due to forces noted above, the mean annual salary for a given area increases or decreases over time, which leads to increases in the coefficient of variation as the period lengthens. For some areas, for example, Dallas, this rise in variability is greater than for others, for example, Dayton. This difference is explained in part by cross-area variability in salary growth rates.

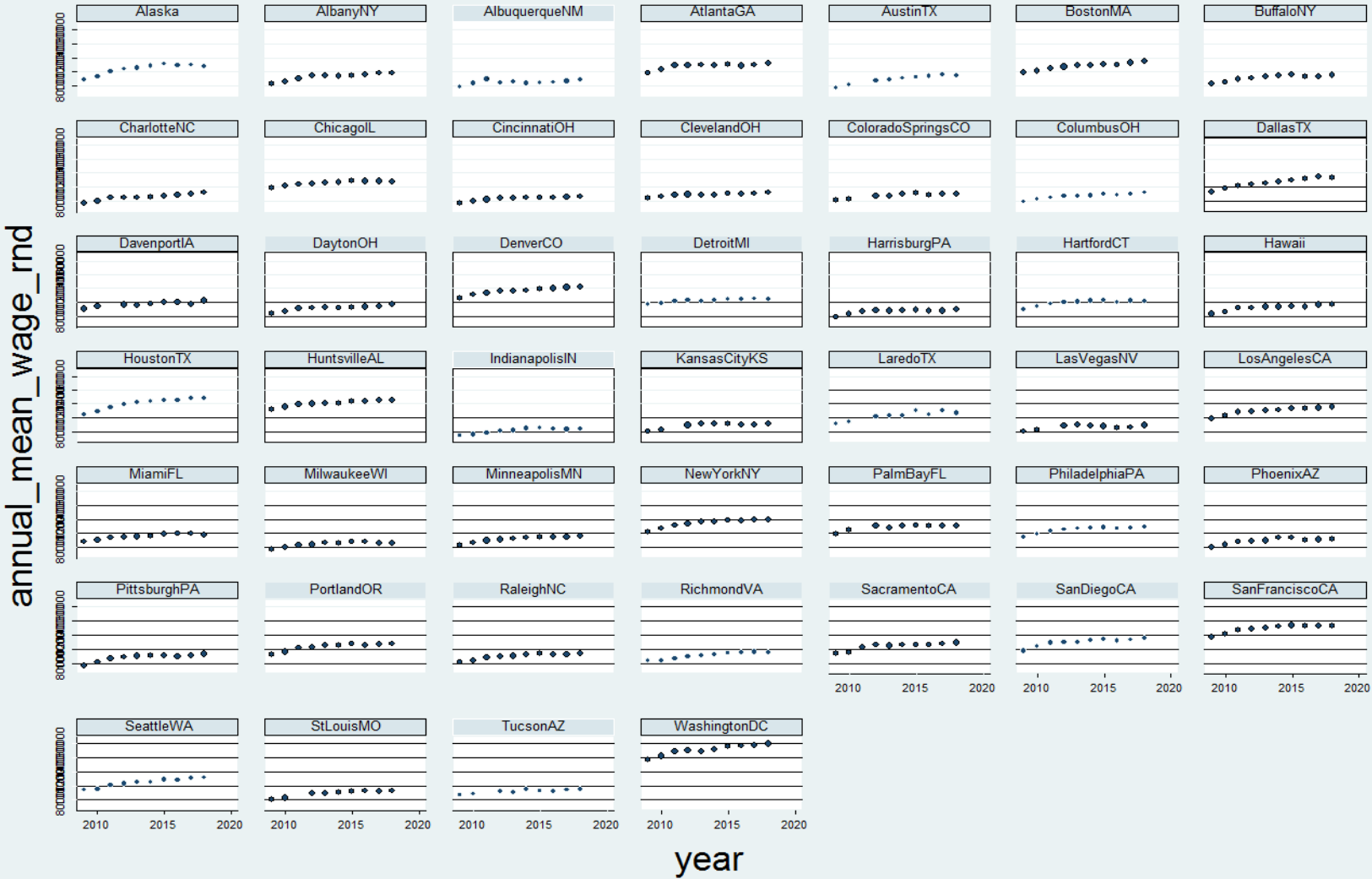
Figure 2b is similar to Figure 2a, except that more areas can be included because the periods now run from 2017-2018 to 2012-2018. In other words, there is a much smaller number of areas available in 2011. The inclusion of additional areas means a little bit more variety in the shapes and slopes of the area graphs, but similar tendencies remain. In most cases, the coefficients of variation tend to be small and rise as the period lengthens.

Figures 3a and 3b are similar in concept to their counterparts Figures 2a and 2b, with the difference being that Figure 3a starts with 2009-2010 and moves forward to 2009-2018 and Figure 3b starts with 2012-2013 and moves for to 2012-2018. Again with some exceptions, the coefficients of variation tend to be small and to rise as the period lengthens.

Conclusions

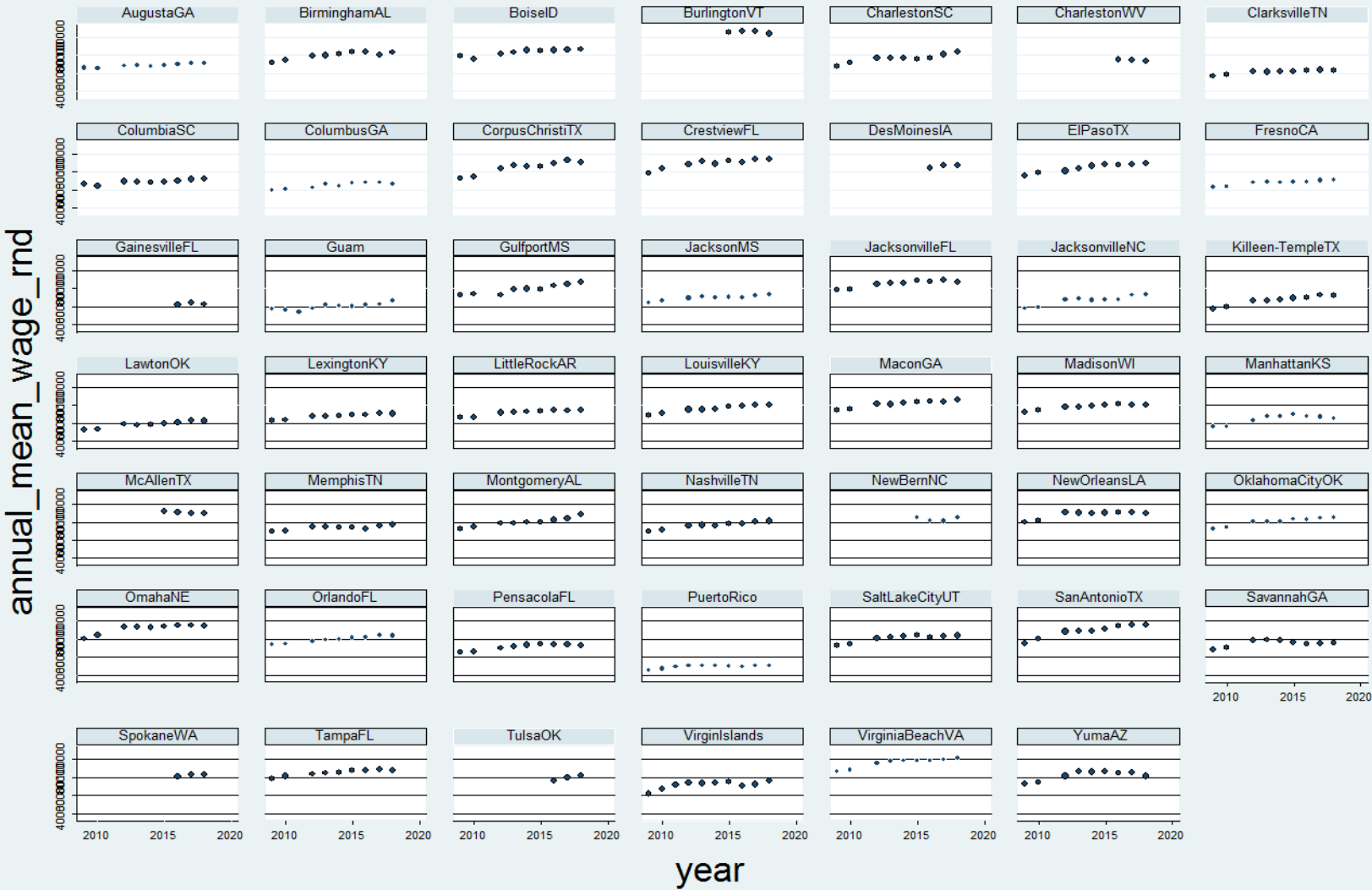
The plotting of annual mean salaries by area suggests that, at least in this phase of the business cycle, annual mean salaries for areas have not tended to move abruptly. That there is some movement and that there could be greater shifts in other phases of the business cycle imply the importance of using multiple years when assessing nonfederal salaries for an area. Lengthening the period beyond three years seems to actually add variability, however, because of real changes in the underlying salaries rather than reduce variability because of a reduction in the influence of sampling variation.

Figure 1a: Annual Mean Salaries by Area, 2012-2019



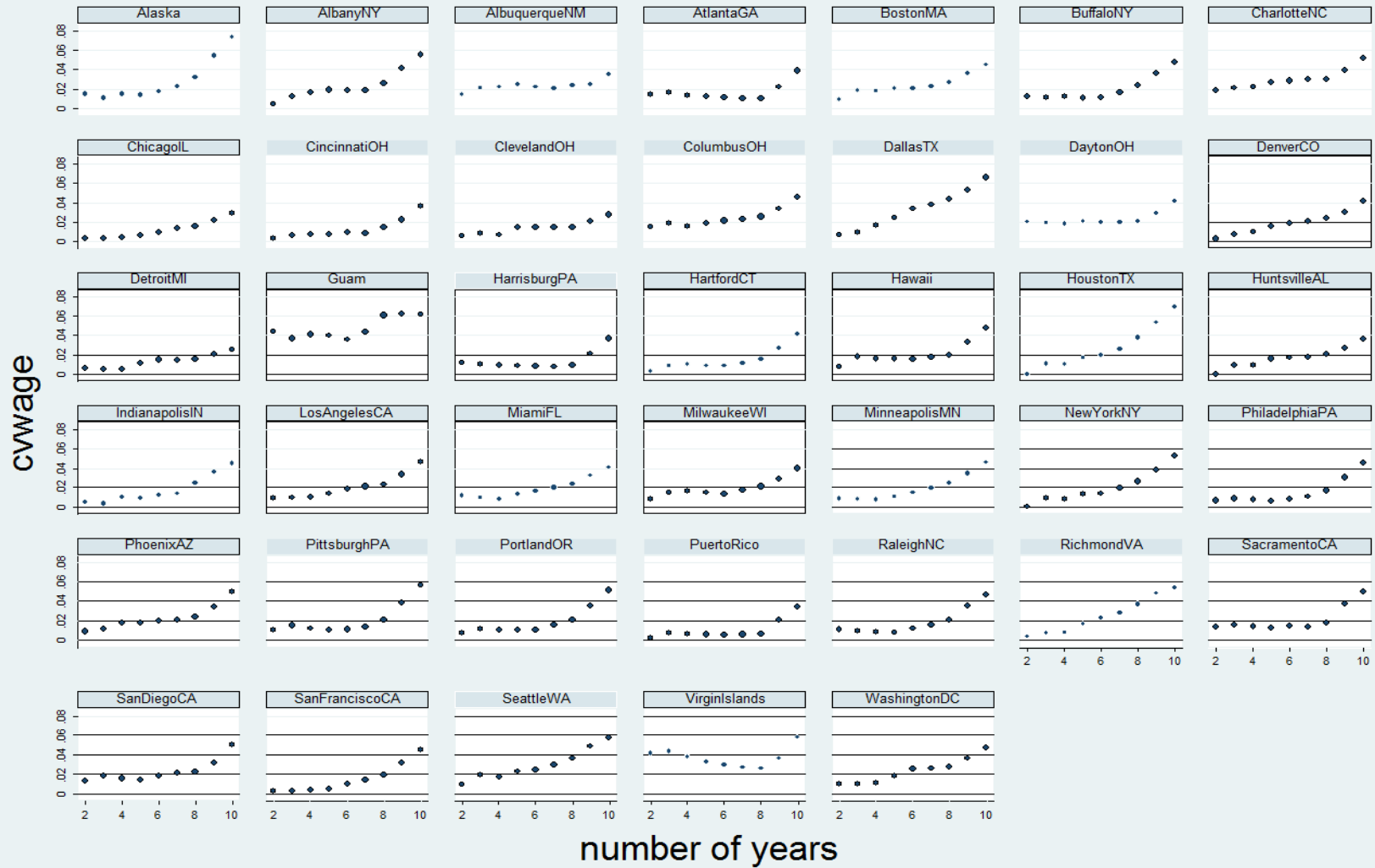
Graphs by area

Figure 1b: Annual Mean Salaries by Area, 2009-2019



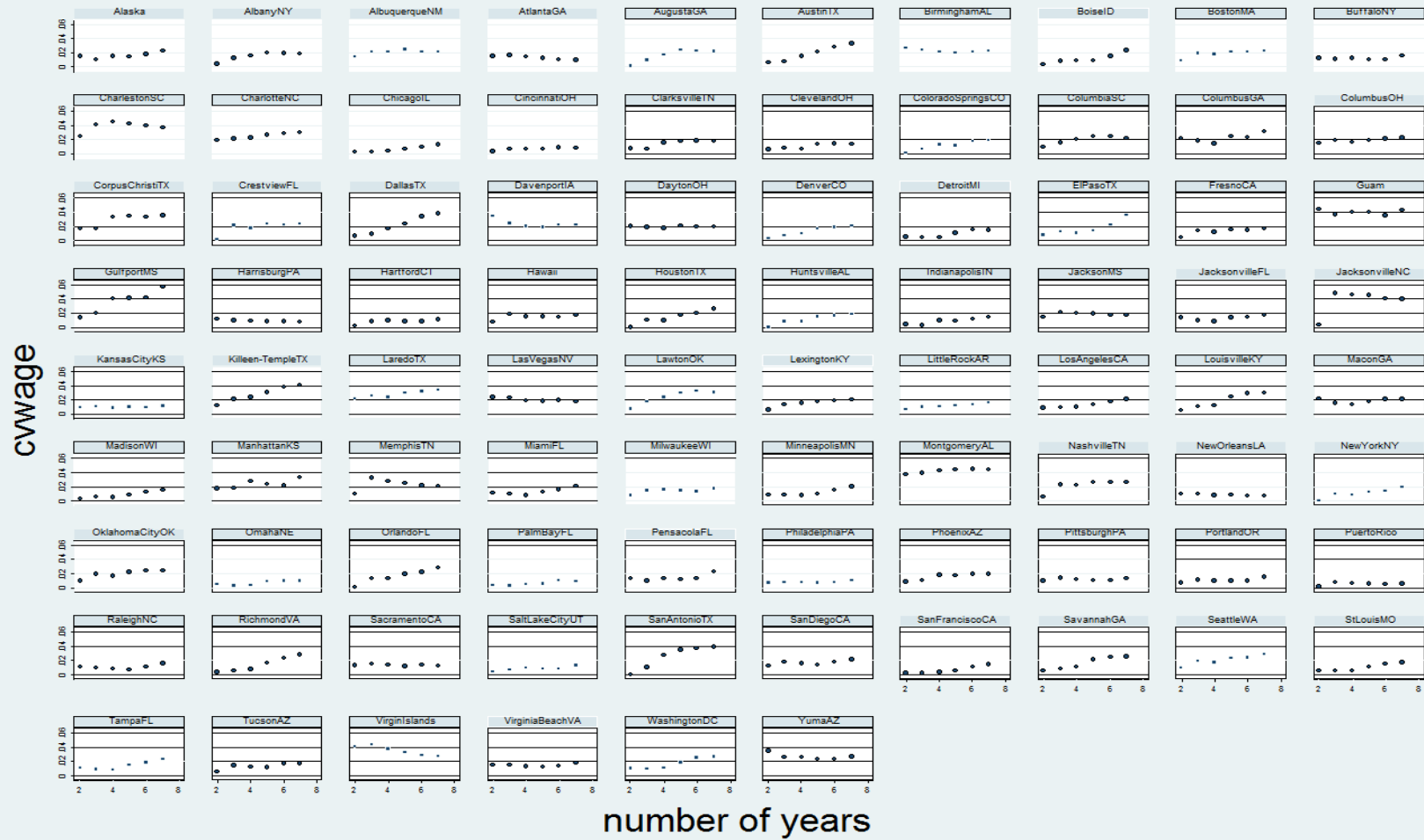
Graphs by area

Figure 2a: Coefficients of Variation for Increasingly Long Periods, 2017-2018 through 2009-2018
By Area



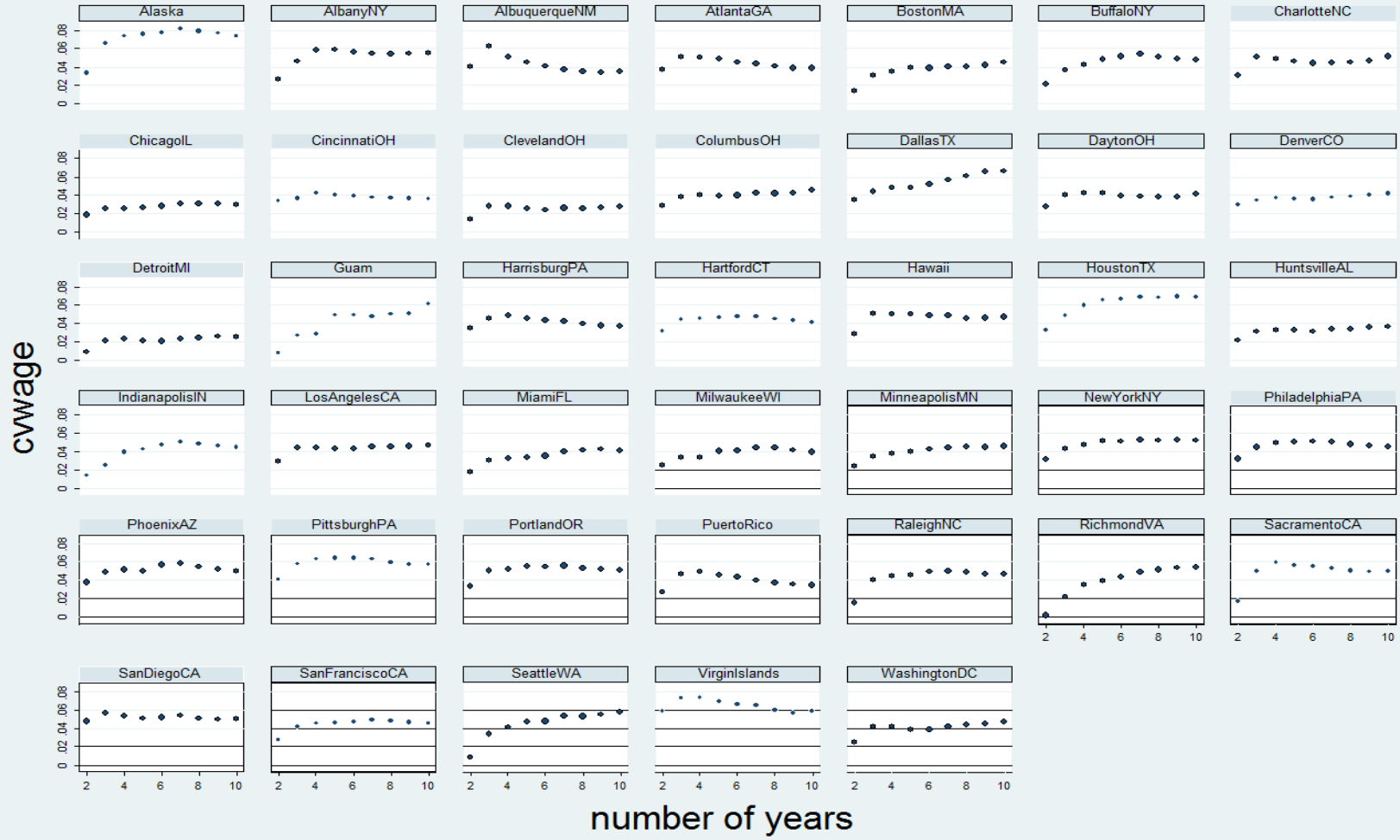
Graphs by area

Figure 2b: Coefficients of Variation for Increasingly Long Periods, 2017-2018 through 20012-2018
By Area



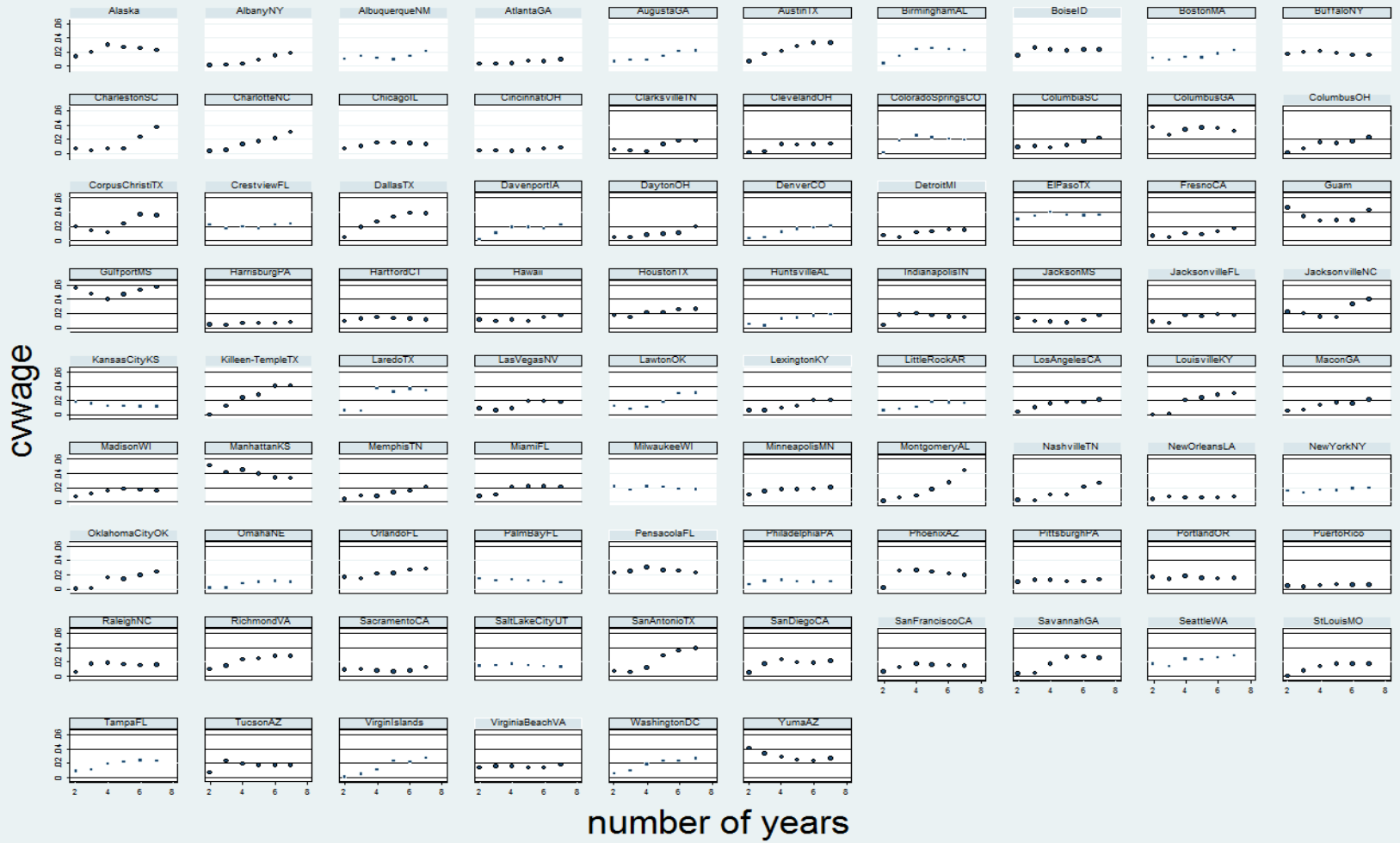
Graphs by area

Figure 3a: Coefficients of Variation for Increasingly Long Periods, 2009-2010 through 2009-2018
By Area



Graphs by area

Figure 3b: Coefficients of Variation for Increasingly Long Periods, 2012-2013 through 2012-2018
By Area



Graphs by area

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**Attachment 4
SOC 2018 to GS Crosswalk**

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-0006	Correctional Institution Administration Series	33-1011	33-1011	33-1011		First-Line Supervisors of Correctional Officers	First-Line Supervisors of Correctional Officers	First-Line Supervisors of Correctional Officers
GS-0007	Correctional Officer Series	33-3012	33-1011	33-1011		Correctional Officers and Jailers	First-Line Supervisors of Correctional Officers	First-Line Supervisors of Correctional Officers
GS-0011	Bond Sales Promotion Series	41-3031	41-3031	41-1012	15	Securities, Commodities, and Financial Services Sales Agents	Securities, Commodities, and Financial Services Sales Agents	First-Line Supervisors of Non-Retail Sales Workers
GS-0017	Explosive Safety Series	47-5032	47-5032	11-9199	13	Explosives Workers, Ordnance Handling Experts, and Blasters	Explosives Workers, Ordnance Handling Experts, and Blasters	Managers, All Other
GS-0018	Safety and Occupational Health Management Series	19-5011	19-5011	11-9199	13	Occupational Health and Safety Specialists	Occupational Health and Safety Specialists	Managers, All Other
GS-0019	Safety Technician Series	19-5012	19-5012	19-5012		Occupational Health and Safety Technicians	Occupational Health and Safety Technicians	Occupational Health and Safety Technicians
GS-0020	Community Planning Series	19-3051	19-3051	11-9199	15	Urban and Regional Planners	Urban and Regional Planners	Managers, All Other
GS-0021	Community Planning Technician Series	19-4099	19-4099	19-4099		Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other
GS-0023	Outdoor Recreation Planning Series	39-9032	39-9032	11-9151	14	Recreation Workers	Recreation Workers	Social and Community Service Managers
GS-0025	Park Ranger Series	33-9099	33-1012	11-1021	12	Protective Service Workers, All Other	First-Line Supervisors of Police and Detectives	General and Operations Managers
GS-0028	Environmental Protection Specialist Series	19-2041	19-2041	19-2041		Environmental Scientists and Specialists, Including Health	Environmental Scientists and Specialists, Including Health	Environmental Scientists and Specialists, Including Health
GS-0029	Environmental Protection Assistant Series	19-4099	19-4099	19-4099		Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other
GS-0030	Sports Specialist Series	27-2022	27-2022	11-9199	11	Coaches and Scouts	Coaches and Scouts	Managers, All Other
GS-0050	Funeral Directing Series	39-4031	39-4031	39-4031		Morticians, Undertakers, and Funeral Arrangers	Morticians, Undertakers, and Funeral Arrangers	Morticians, Undertakers, and Funeral Arrangers
GS-0060	Chaplain Series	21-2011	21-2021	11-9199	14	Clergy	Directors, Religious Activities and Education	Managers, All Other
GS-0062	Clothing Design Series	27-1022	27-1022	11-9199	12	Fashion Designers	Fashion Designers	Managers, All Other
GS-0072	Fingerprint Identification Series	19-4092	19-4092	11-9199	14	Forensic Science Technicians	Forensic Science Technicians	Managers, All Other

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-0080	Security Administration Series	13-1199	13-1199	11-9199	13	Business Operations Specialists, All Other	Business Operations Specialists, All Other	Managers, All Other
GS-0081	Fire Protection and Prevention Series	33-2011	33-1021	33-1021		Firefighters	First-Line Supervisors of Firefighting and Prevention Workers	First-Line Supervisors of Firefighting and Prevention Workers
GS-0082	United States Marshal Series	33-3021	33-1021	11-9199	14	Detectives and Criminal Investigators	First-Line Supervisors of Firefighting and Prevention Workers	Managers, All Other
GS-0083	Police Series	33-3051	33-1012	33-1012		Police and Sheriff's Patrol Officers	First-Line Supervisors of Police and Detectives	First-Line Supervisors of Police and Detectives
GS-0084	Nuclear Materials Courier Series	47-4041	53-1049	53-1049		Hazardous Materials Removal Workers	First-Line Supervisors of Transportation Workers, All Other	First-Line Supervisors of Transportation Workers, All Other
GS-0085	Security Guard Series	33-9032	33-1099	33-1099		Security Guards	First-Line Supervisors of Protective Service Workers, All Other	First-Line Supervisors of Protective Service Workers, All Other
GS-0086	Security Clerical and Assistance Series	43-9199	43-1011	43-1011		Office and Administrative Support Workers, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0089	Emergency Management Series	11-9161	11-9161	11-9161		Emergency Management Directors	Emergency Management Directors	Emergency Management Directors
GS-0090	Guide Series	25-9099	25-9099	25-9099		Educational Instruction and Library Workers, All Other	Educational Instruction and Library Workers, All Other	Educational Instruction and Library Workers, All Other
GS-0095	Foreign Law Specialist Series	23-2099	23-2099	11-9199	14	Legal Support Workers, All Other	Legal Support Workers, All Other	Managers, All Other
GS-0101	Social Science Series	19-3099	19-3099	11-9199	13	Social Scientists and Related Workers, All Other	Social Scientists and Related Workers, All Other	Managers, All Other
GS-0102	Social Science Aid and Technician Series	19-4099	19-4099	19-4099		Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other
GS-0105	Social Insurance Administration Series	13-1031	13-1031	11-1021	14	Claims Adjusters, Examiners, and Investigators	Claims Adjusters, Examiners, and Investigators	General and Operations Managers
GS-0106	Unemployment Insurance Series	13-1111	13-1111	11-1021	15	Management Analysts	Management Analysts	General and Operations Managers
GS-0107	Health Insurance Administration Series	13-1111	13-1111	13-1111		Management Analysts	Management Analysts	Management Analysts
GS-0110	Economist Series	19-3011	19-3011	19-3011		Economists	Economists	Economists
GS-0119	Economics Assistant Series	19-4099	19-4099	19-4099		Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other
GS-0130	Foreign Affairs Series	19-3094	19-3094	19-3094		Political Scientists	Political Scientists	Political Scientists

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-0131	International Relations Series	19-3094	19-3094	19-3094		Political Scientists	Political Scientists	Political Scientists
GS-0132	Intelligence Series	19-3099	19-3099	11-9199	15	Social Scientists and Related Workers, All Other	Social Scientists and Related Workers, All Other	Managers, All Other
GS-0134	Intelligence Aid and Clerk Series	43-9199	43-1011	43-1011		Office and Administrative Support Workers, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0135	Foreign Agricultural Affairs Series	19-3022	19-3022	19-3022		Survey Researchers	Survey Researchers	Survey Researchers
GS-0136	International Cooperation Series	19-3094	19-3094	11-9199	15	Political Scientists	Political Scientists	Managers, All Other
GS-0140	Manpower Research and Analysis Series	19-3099	19-3099	19-3099		Social Scientists and Related Workers, All Other	Social Scientists and Related Workers, All Other	Social Scientists and Related Workers, All Other
GS-0142	Manpower Development Series	13-1071	13-1071	11-3121	15	Human Resources Specialists	Human Resources Specialists	Human Resources Managers
GS-0150	Geography Series	19-3092	19-3092	11-9199	14	Geographers	Geographers	Managers, All Other
GS-0160	Civil Rights Analysis Series	19-3099	19-3099	19-3099		Social Scientists and Related Workers, All Other	Social Scientists and Related Workers, All Other	Social Scientists and Related Workers, All Other
GS-0170	History Series	19-3093	19-3093	11-9199	15	Historians	Historians	Managers, All Other
GS-0180	Psychology Series	19-3039	19-3039	11-9199	14	Psychologists, All Other	Psychologists, All Other	Managers, All Other
GS-0181	Psychology Aid and Technician Series	19-4099	19-4099	19-4099		Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other
GS-0184	Sociology Series	19-3041	19-3041	19-3041		Sociologists	Sociologists	Sociologists
GS-0185	Social Work Series	21-1029	21-1029	11-9151	13	Social Workers, All Other	Social Workers, All Other	Social and Community Service Managers
GS-0186	Social Services Aid and Assistant Series	21-1093	43-1011	43-1011		Social and Human Service Assistants	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0187	Social Services Series	43-4061	43-4061	43-4061		Eligibility Interviewers, Government Programs	Eligibility Interviewers, Government Programs	Eligibility Interviewers, Government Programs
GS-0188	Recreation Specialist Series	39-9032	39-9032	11-9151	11	Recreation Workers	Recreation Workers	Social and Community Service Managers
GS-0189	Recreation Aid and Assistant Series	39-9032	39-1010	39-1010		Recreation Workers	First-Line Supervisors of Entertainment and Recreation Workers	First-Line Supervisors of Entertainment and Recreation Workers
GS-0190	General Anthropology Series	19-3091	19-3091	11-9199	15	Anthropologists and Archeologists	Anthropologists and Archeologists	Managers, All Other
GS-0193	Archeology Series	19-3091	19-3091	11-9199	14	Anthropologists and Archeologists	Anthropologists and Archeologists	Managers, All Other

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-0201	Human Resources Management Series	13-1071	13-1071	11-3121	15	Human Resources Specialists	Human Resources Specialists	Human Resources Managers
GS-0203	Human Resources Assistance Series	43-4161	43-1011	43-1011		Human Resources Assistants, Except Payroll and Timekeeping	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0241	Mediation Series	23-1022	23-1022	23-1022		Arbitrators, Mediators, and Conciliators	Arbitrators, Mediators, and Conciliators	Arbitrators, Mediators, and Conciliators
GS-0243	Apprenticeship and Training Series	13-1151	13-1151	11-3131	14	Training and Development Specialists	Training and Development Specialists	Training and Development Managers
GS-0244	Labor Management Relations Examining Series	13-1041	13-1041	11-1021	15	Compliance Officers	Compliance Officers	General and Operations Managers
GS-0249	Wage and Hour Compliance Series	13-1041	13-1041	11-1021	14	Compliance Officers	Compliance Officers	General and Operations Managers
GS-0260	Equal Employment Opportunity Series	13-1041	13-1041	11-1021	14	Compliance Officers	Compliance Officers	General and Operations Managers
GS-0301	Miscellaneous Administration and Program Series	13-1199	13-1199	11-1021	14	Business Operations Specialists, All Other	Business Operations Specialists, All Other	General and Operations Managers
GS-0302	Messenger Series	43-5021	43-1011	43-1011		Couriers and Messengers	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0303	Miscellaneous Clerk and Assistant Series	43-9199	43-1011	43-1011		Office and Administrative Support Workers, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0304	Information Receptionist Series	43-4171	43-1011	43-1011		Receptionists and Information Clerks	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0305	Mail and File Series	43-4071	43-1011	43-1011		File Clerks	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0306	Government Information Series	13-1199	11-1021	11-1021	14	Business Operations Specialists, All Other	General and Operations Managers	General and Operations Managers
GS-0308	Records and Information Management	11-3012	11-3012	11-3012		Administrative Services Managers	Administrative Services Managers	Administrative Services Managers
GS-0309	Correspondence Clerk Series	43-9199	43-1011	43-1011		Office and Administrative Support Workers, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0312	Clerk-Stenographer and Reporter Series	43-9199	43-1011	43-1011		Office and Administrative Support Workers, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0313	Work Unit Supervising Series	43-1011	43-1011	43-1011		First-Line Supervisors of Office and	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
						Administrative Support Workers		
GS-0318	Secretary Series	43-6010	43-6010	43-6010		Secretaries and Administrative Assistants	Secretaries and Administrative Assistants	Secretaries and Administrative Assistants
GS-0319	Closed Microphone Reporting Series	23-2099	23-2099	23-2099		Legal Support Workers, All Other	Legal Support Workers, All Other	Legal Support Workers, All Other
GS-0322	Clerk-Typist Series	43-9022	43-1011	43-1011		Word Processors and Typists	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0326	Office Automation Clerical and Assistance Series	43-9022	43-1011	43-1011		Word Processors and Typists	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0332	Computer Operation Series	43-9022	43-9022	43-9022		Word Processors and Typists	Word Processors and Typists	Word Processors and Typists
GS-0335	Computer Clerk and Assistant Series	43-9199	43-9199	43-9199		Office and Administrative Support Workers, All Other	Office and Administrative Support Workers, All Other	Office and Administrative Support Workers, All Other
GS-0340	Program Management Series	13-1111	13-1111	11-9199	14	Management Analysts	Management Analysts	Managers, All Other
GS-0341	Administrative Officer Series	13-1111	13-1111	11-9199	14	Management Analysts	Management Analysts	Managers, All Other
GS-0342	Support Services Administration Series	11-3012	11-3012	11-3012		Administrative Services Managers	Administrative Services Managers	Administrative Services Managers
GS-0343	Management and Program Analysis Series	13-1111	13-1111	11-9199	14	Management Analysts	Management Analysts	Managers, All Other
GS-0344	Management and Program Clerical and Assistance Series	43-9199	43-1011	43-1011		Office and Administrative Support Workers, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0346	Logistics Management Series	13-1081	13-1081	11-3071	14	Logisticians	Logisticians	Transportation, Storage, and Distribution Managers
GS-0350	Equipment Operator Series	43-3021	43-1011	43-1011		Billing and Posting Clerks	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0351	Printing Clerical Series	43-9061	43-1011	43-1011		Office Clerks, General	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0356	Data Transcriber Series	43-9021	43-1011	43-1011		Data Entry Keyers	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0357	Coding Series	43-9021	43-1011	43-1011		Data Entry Keyers	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-0360	Equal Opportunity Compliance Series	13-1041	13-1041	11-9199	15	Compliance Officers	Compliance Officers	Managers, All Other
GS-0361	Equal Opportunity Assistance Series	43-9199	43-1011	43-1011		Office and Administrative Support Workers, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0382	Telephone Operating Series	43-2021	43-1011	43-1011		Telephone Operators	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0390	Telecommunications Processing Series	43-2099	43-1011	43-1011		Communications Equipment Operators, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0391	Telecommunications Series	27-4099	27-4099	11-9199	14	Media and Communication Equipment Workers, All Other	Media and Communication Equipment Workers, All Other	Managers, All Other
GS-0392	General Telecommunication Series	43-2099	43-1011	43-1011		Communications Equipment Operators, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0394	Communications Clerical Series	43-2099	43-2099	43-2099		Communications Equipment Operators, All Other	Communications Equipment Operators, All Other	Communications Equipment Operators, All Other
GS-0401	General Biological Science Series	19-1029	19-1029	11-9121	13	Biological Scientists, All Other	Biological Scientists, All Other	Natural Sciences Managers
GS-0403	Microbiology Series	19-1022	19-1022	19-1022		Microbiologists	Microbiologists	Microbiologists
GS-0404	Biological Science Technician Series	19-4021	19-4021	19-4021		Biological Technicians	Biological Technicians	Biological Technicians
GS-0405	Pharmacology Series	19-1042	19-1042	19-1042		Medical Scientists, Except Epidemiologists	Medical Scientists, Except Epidemiologists	Medical Scientists, Except Epidemiologists
GS-0406	Agricultural Extension Series	25-9021	25-9021	25-9021		Farm and Home Management Educators	Farm and Home Management Educators	Farm and Home Management Educators
GS-0408	Ecology Series	19-1031	19-1031	11-9121	15	Conservation Scientists	Conservation Scientists	Natural Sciences Managers
GS-0410	Zoology Series	19-1023	19-1023	19-1023		Zoologists and Wildlife Biologists	Zoologists and Wildlife Biologists	Zoologists and Wildlife Biologists
GS-0413	Physiology Series	19-1099	19-1099	19-1099		Life Scientists, All Other	Life Scientists, All Other	Life Scientists, All Other
GS-0414	Entomology Series	19-1023	19-1023	11-9121	15	Zoologists and Wildlife Biologists	Zoologists and Wildlife Biologists	Natural Sciences Managers
GS-0415	Toxicology Series	19-1042	19-1042	19-1042		Medical Scientists, Except Epidemiologists	Medical Scientists, Except Epidemiologists	Medical Scientists, Except Epidemiologists
GS-0421	Plant Protection Technician Series	19-4021	19-4021	19-4021		Biological Technicians	Biological Technicians	Biological Technicians
GS-0430	Botany Series	19-1013	19-1013	19-1013		Soil and Plant Scientists	Soil and Plant Scientists	Soil and Plant Scientists
GS-0434	Plant Pathology Series	19-1013	19-1013	19-1013		Soil and Plant Scientists	Soil and Plant Scientists	Soil and Plant Scientists

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-0435	Plant Physiology Series	19-1013	19-1013	19-1013		Soil and Plant Scientists	Soil and Plant Scientists	Soil and Plant Scientists
GS-0436	Plant Protection and Quarantine Series	45-2011	45-2011	11-9121	13	Agricultural Inspectors	Agricultural Inspectors	Natural Sciences Managers
GS-0437	Horticulture Series	19-1013	19-1013	11-9121	14	Soil and Plant Scientists	Soil and Plant Scientists	Natural Sciences Managers
GS-0440	Genetics Series	19-1029	19-1029	19-1029		Biological Scientists, All Other	Biological Scientists, All Other	Biological Scientists, All Other
GS-0454	Rangeland Management Series	19-1031	19-1031	11-9121	12	Conservation Scientists	Conservation Scientists	Natural Sciences Managers
GS-0455	Range Technician Series	19-4021	19-4021	19-4021		Biological Technicians	Biological Technicians	Biological Technicians
GS-0457	Soil Conservation Series	19-1031	19-1031	11-9121	13	Conservation Scientists	Conservation Scientists	Natural Sciences Managers
GS-0458	Soil Conservation Technician Series	19-4021	19-4021	19-4021		Biological Technicians	Biological Technicians	Biological Technicians
GS-0459	Irrigation System Operation Series	45-2099	45-1011	45-1011		Agricultural Workers, All Other	First-Line Supervisors of Farming, Fishing, and Forestry Workers	First-Line Supervisors of Farming, Fishing, and Forestry Workers
GS-0460	Forestry Series	19-1032	19-1032	11-9121	12	Foresters	Foresters	Natural Sciences Managers
GS-0462	Forestry Technician Series	19-4099	19-4099	19-4099		Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other
GS-0470	Soil Science Series	19-1013	19-1013	11-9121	12	Soil and Plant Scientists	Soil and Plant Scientists	Natural Sciences Managers
GS-0471	Agronomy Series	19-1013	19-1013	19-1013		Soil and Plant Scientists	Soil and Plant Scientists	Soil and Plant Scientists
GS-0480	General Fish and Wildlife Administration Series	19-1023	19-1023	19-1023		Zoologists and Wildlife Biologists	Zoologists and Wildlife Biologists	Zoologists and Wildlife Biologists
GS-0482	Fishery Biology Series	19-1023	19-1023	11-9121	14	Zoologists and Wildlife Biologists	Zoologists and Wildlife Biologists	Natural Sciences Managers
GS-0485	Wildlife Refuge Management Series	19-1099	19-1099	11-9121	13	Life Scientists, All Other	Life Scientists, All Other	Natural Sciences Managers
GS-0486	Wildlife Biology Series	19-1023	19-1023	11-9121	12	Zoologists and Wildlife Biologists	Zoologists and Wildlife Biologists	Natural Sciences Managers
GS-0487	Animal Science Series	19-1011	19-1011	19-1011		Animal Scientists	Animal Scientists	Animal Scientists
GS-0493	Home Economics Series	25-9021	25-9021	11-9199	15	Farm and Home Management Educators	Farm and Home Management Educators	Managers, All Other
GS-0501	Financial Administration and Program Series	13-2099	13-2099	11-3031	14	Financial Specialists, All Other	Financial Specialists, All Other	Financial Managers
GS-0503	Financial Clerical and Assistance Series	43-3031	43-1011	43-1011		Bookkeeping, Accounting, and Auditing Clerks	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0505	Financial Management Series	13-2099	13-2099	11-3031	14	Financial Specialists, All Other	Financial Specialists, All Other	Financial Managers

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-0510	Accounting Series	13-2011	13-2011	11-3031	15	Accountants and Auditors	Accountants and Auditors	Financial Managers
GS-0511	Auditing Series	13-2011	13-2011	11-3031	15	Accountants and Auditors	Accountants and Auditors	Financial Managers
GS-0512	Internal Revenue Agent Series	13-2081	13-2081	11-3031	14	Tax Examiners and Collectors, and Revenue Agents	Tax Examiners and Collectors, and Revenue Agents	Financial Managers
GS-0525	Accounting Technician Series	43-3031	43-1011	43-1011		Bookkeeping, Accounting, and Auditing Clerks	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0526	Tax Specialist Series	13-2081	13-2081	11-3031	13	Tax Examiners and Collectors, and Revenue Agents	Tax Examiners and Collectors, and Revenue Agents	Financial Managers
GS-0530	Cash Processing Series	41-2011	43-1011	43-1011		Cashiers	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0540	Voucher Examining Series	43-3031	43-1011	43-1011		Bookkeeping, Accounting, and Auditing Clerks	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0544	Civilian Pay Series	43-3051	43-1011	43-1011		Payroll and Timekeeping Clerks	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0545	Military Pay Series	43-3051	43-1011	43-1011		Payroll and Timekeeping Clerks	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0560	Budget Analysis Series	13-2031	13-2031	11-3031	14	Budget Analysts	Budget Analysts	Financial Managers
GS-0561	Budget Clerical and Assistance Series	43-3031	43-1011	43-1011		Bookkeeping, Accounting, and Auditing Clerks	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0570	Financial Institution Examining Series	13-2061	13-2061	11-3031	15	Financial Examiners	Financial Examiners	Financial Managers
GS-0592	Tax Examining Series	13-2081	13-2081	13-2081		Tax Examiners and Collectors, and Revenue Agents	Tax Examiners and Collectors, and Revenue Agents	Tax Examiners and Collectors, and Revenue Agents
GS-0593	Insurance Accounts Series	43-9041	43-9041	43-9041		Insurance Claims and Policy Processing Clerks	Insurance Claims and Policy Processing Clerks	Insurance Claims and Policy Processing Clerks
GS-0601	General Health Science Series	29-9099	29-9099	29-9099		Healthcare Practitioners and Technical Workers, All Other	Healthcare Practitioners and Technical Workers, All Other	Healthcare Practitioners and Technical Workers, All Other
GS-0602	Medical Officer Series	29-1210	29-1210	29-1210		Physicians	Physicians	Physicians
GS-0603	Physician's Assistant Series	29-1071	29-1071	11-9111	12	Physician Assistants	Physician Assistants	Medical and Health Services Managers
GS-0610	Nurse Series	29-1141	29-1141	11-9111	12	Registered Nurses	Registered Nurses	Medical and Health Services Managers

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-0620	Practical Nurse Series	29-2061	29-2061	29-2061		Licensed Practical and Licensed Vocational Nurses	Licensed Practical and Licensed Vocational Nurses	Licensed Practical and Licensed Vocational Nurses
GS-0621	Nursing Assistant Series	31-1131	31-1131	31-1131		Nursing Assistants	Nursing Assistants	Nursing Assistants
GS-0622	Medical Supply Aid and Technician Series	43-9199	43-1011	43-1011		Office and Administrative Support Workers, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0625	Autopsy Assistant Series	31-9099	31-9099	31-9099		Healthcare Support Workers, All Other	Healthcare Support Workers, All Other	Healthcare Support Workers, All Other
GS-0630	Dietitian and Nutritionist Series	29-1031	29-1031	11-9111	13	Dietitians and Nutritionists	Dietitians and Nutritionists	Medical and Health Services Managers
GS-0631	Occupational Therapist Series	29-1122	29-1122	11-9111	13	Occupational Therapists	Occupational Therapists	Medical and Health Services Managers
GS-0633	Physical Therapist Series	29-1123	29-1123	11-9111	13	Physical Therapists	Physical Therapists	Medical and Health Services Managers
GS-0635	Corrective Therapist Series	29-1129	29-1129	11-9111	13	Therapists, All Other	Therapists, All Other	Medical and Health Services Managers
GS-0636	Rehabilitation Therapy Assistant Series	31-9099	31-9099	31-9099		Healthcare Support Workers, All Other	Healthcare Support Workers, All Other	Healthcare Support Workers, All Other
GS-0637	Manual Arts Therapist Series	29-1129	29-1129	11-9111	12	Therapists, All Other	Therapists, All Other	Medical and Health Services Managers
GS-0638	Recreation/Creative Arts Therapist Series	29-1125	29-1125	11-9111	13	Recreational Therapists	Recreational Therapists	Medical and Health Services Managers
GS-0639	Educational Therapist Series	29-1129	29-1129	11-9111	12	Therapists, All Other	Therapists, All Other	Medical and Health Services Managers
GS-0640	Health Aid and Technician Series	31-9099	31-9099	31-9099		Healthcare Support Workers, All Other	Healthcare Support Workers, All Other	Healthcare Support Workers, All Other
GS-0642	Nuclear Medicine Technician Series	29-2033	29-2033	29-2033		Nuclear Medicine Technologists	Nuclear Medicine Technologists	Nuclear Medicine Technologists
GS-0644	Medical Technologist Series	29-2011	29-2011	11-9111	12	Medical and Clinical Laboratory Technologists	Medical and Clinical Laboratory Technologists	Medical and Health Services Managers
GS-0645	Medical Technician Series	29-2012	29-2012	29-2012		Medical and Clinical Laboratory Technicians	Medical and Clinical Laboratory Technicians	Medical and Clinical Laboratory Technicians
GS-0646	Pathology Technician Series	29-2012	29-2012	29-2012		Medical and Clinical Laboratory Technicians	Medical and Clinical Laboratory Technicians	Medical and Clinical Laboratory Technicians
GS-0647	Diagnostic Radiologic Technologist Series	29-2034	29-2034	29-2034		Radiologic Technologists and Technicians	Radiologic Technologists and Technicians	Radiologic Technologists and Technicians
GS-0648	Therapeutic Radiologic Technologist Series	29-2034	29-2034	29-2034		Radiologic Technologists and Technicians	Radiologic Technologists and Technicians	Radiologic Technologists and Technicians
GS-0649	Medical Instrument Technician Series	29-2099	29-2099	29-2099		Health Technologists and Technicians, All Other	Health Technologists and Technicians, All Other	Health Technologists and Technicians, All Other

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-0650	Medical Technical Assistant Series	29-2099	29-2099	29-2099		Health Technologists and Technicians, All Other	Health Technologists and Technicians, All Other	Health Technologists and Technicians, All Other
GS-0651	Respiratory Therapist Series	29-1126	29-1126	29-1126		Respiratory Therapists	Respiratory Therapists	Respiratory Therapists
GS-0660	Pharmacist Series	29-1051	29-1051	11-9111	13	Pharmacists	Pharmacists	Medical and Health Services Managers
GS-0661	Pharmacy Technician Series	29-2052	29-2052	29-2052		Pharmacy Technicians	Pharmacy Technicians	Pharmacy Technicians
GS-0662	Optometrist Series	29-1041	29-1041	11-9111	13	Optometrists	Optometrists	Medical and Health Services Managers
GS-0664	Restoration Technician Series	51-9082	51-1011	51-1011		Medical Appliance Technicians	First-Line Supervisors of Production and Operating Workers	First-Line Supervisors of Production and Operating Workers
GS-0665	Speech Pathology and Audiology Series	29-1127	29-1127	11-9111	14	Speech-Language Pathologists	Speech-Language Pathologists	Medical and Health Services Managers
GS-0667	Orthotist and Prosthetist Series	29-2091	29-2091	11-9111	12	Orthotists and Prosthetists	Orthotists and Prosthetists	Medical and Health Services Managers
GS-0668	Podiatrist Series	29-1081	29-1081	29-1081		Podiatrists	Podiatrists	Podiatrists
GS-0669	Medical Records Administration Series	29-2072	29-2072	11-9111	12	Medical Records Specialists	Medical Records Specialists	Medical and Health Services Managers
GS-0670	Health System Administration Series	11-9111	11-9111	11-9111		Medical and Health Services Managers	Medical and Health Services Managers	Medical and Health Services Managers
GS-0671	Health System Specialist Series	13-1111	13-1111	11-1021	14	Management Analysts	Management Analysts	General and Operations Managers
GS-0672	Prosthetic Representative Series	29-2091	29-2091	29-2091		Orthotists and Prosthetists	Orthotists and Prosthetists	Orthotists and Prosthetists
GS-0673	Hospital Housekeeping Management Series	37-1011	37-1011	37-1011		First-Line Supervisors of Housekeeping and Janitorial Workers	First-Line Supervisors of Housekeeping and Janitorial Workers	First-Line Supervisors of Housekeeping and Janitorial Workers
GS-0675	Medical Records Technician Series	29-2072	31-9092	31-9092		Medical Records Specialists	Medical Assistants	Medical Assistants
GS-0679	Medical Support Assistance Series	43-4199	43-1011	43-1011		Information and Record Clerks, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0680	Dental Officer Series	29-1020	29-1020	29-1020		Dentists	Dentists	Dentists
GS-0681	Dental Assistant Series	31-9091	31-9091	31-9091		Dental Assistants	Dental Assistants	Dental Assistants
GS-0682	Dental Hygiene Series	29-2099	29-2099	29-2099		Health Technologists and Technicians, All Other	Health Technologists and Technicians, All Other	Health Technologists and Technicians, All Other
GS-0683	Dental Laboratory Aid and Technician Series	51-9081	51-1011	51-1011		Dental Laboratory Technicians	First-Line Supervisors of Production and Operating Workers	First-Line Supervisors of Production and Operating Workers

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-0685	Public Health Program Specialist Series	29-9099	29-9099	11-9111	15	Healthcare Practitioners and Technical Workers, All Other	Healthcare Practitioners and Technical Workers, All Other	Medical and Health Services Managers
GS-0688	Sanitarian Series	29-2099	29-2099	29-2099		Health Technologists and Technicians, All Other	Health Technologists and Technicians, All Other	Health Technologists and Technicians, All Other
GS-0690	Industrial Hygiene Series	29-2099	29-2099	29-2099		Health Technologists and Technicians, All Other	Health Technologists and Technicians, All Other	Health Technologists and Technicians, All Other
GS-0696	Consumer Safety Series	29-9099	29-9099	11-9111	15	Healthcare Practitioners and Technical Workers, All Other	Healthcare Practitioners and Technical Workers, All Other	Medical and Health Services Managers
GS-0698	Environmental Health Technician Series	29-2099	29-2099	29-2099		Health Technologists and Technicians, All Other	Health Technologists and Technicians, All Other	Health Technologists and Technicians, All Other
GS-0701	Veterinary Medical Science Series	29-1131	29-1131	11-9111	13	Veterinarians	Veterinarians	Medical and Health Services Managers
GS-0704	Animal Health Technician Series	29-2056	29-2056	29-2056		Veterinary Technologists and Technicians	Veterinary Technologists and Technicians	Veterinary Technologists and Technicians
GS-0801	General Engineering Series	17-2199	17-2199	17-2199		Engineers, All Other	Engineers, All Other	Engineers, All Other
GS-0802	Engineering Technician Series	17-3020	17-3020	17-3020		Engineering Technologists and Technicians, Except Drafters	Engineering Technologists and Technicians, Except Drafters	Engineering Technologists and Technicians, Except Drafters
GS-0803	Safety Engineering Series	17-2111	17-2111	11-9041	15	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	Architectural and Engineering Managers
GS-0804	Fire Protection Engineering Series	17-2111	17-2111	11-9041	14	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	Architectural and Engineering Managers
GS-0806	Materials Engineering Series	17-2131	17-2131	17-2131		Materials Engineers	Materials Engineers	Materials Engineers
GS-0807	Landscape Architecture Series	17-1012	17-1012	11-9041	14	Landscape Architects	Landscape Architects	Architectural and Engineering Managers
GS-0808	Architecture Series	17-1011	17-1011	11-9041	14	Architects, Except Landscape and Naval	Architects, Except Landscape and Naval	Architectural and Engineering Managers
GS-0809	Construction Control Series	47-4011	47-4011	47-4011		Construction and Building Inspectors	Construction and Building Inspectors	Construction and Building Inspectors
GS-0810	Civil Engineering Series	17-2051	17-2051	11-9041	14	Civil Engineers	Civil Engineers	Architectural and Engineering Managers

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-0817	Surveying Technician Series	17-3031	17-3031	17-3031		Surveying and Mapping Technicians	Surveying and Mapping Technicians	Surveying and Mapping Technicians
GS-0818	Engineering Drafting Series	17-3010	17-3010	17-3010		Drafters	Drafters	Drafters
GS-0819	Environmental Engineering Series	17-2081	17-2081	11-9041	14	Environmental Engineers	Environmental Engineers	Architectural and Engineering Managers
GS-0828	Construction Analyst Series	13-1199	13-1199	11-9041	14	Business Operations Specialists, All Other	Business Operations Specialists, All Other	Architectural and Engineering Managers
GS-0830	Mechanical Engineering Series	17-2141	17-2141	11-9041	14	Mechanical Engineers	Mechanical Engineers	Architectural and Engineering Managers
GS-0840	Nuclear Engineering Series	17-2161	17-2161	11-9041	14	Nuclear Engineers	Nuclear Engineers	Architectural and Engineering Managers
GS-0850	Electrical Engineering Series	17-2071	17-2071	11-9041	14	Electrical Engineers	Electrical Engineers	Architectural and Engineering Managers
GS-0854	Computer Engineering Series	17-2061	17-2061	17-2061		Computer Hardware Engineers	Computer Hardware Engineers	Computer Hardware Engineers
GS-0855	Electronics Engineering Series	17-2072	17-2072	11-9041	14	Electronics Engineers, Except Computer	Electronics Engineers, Except Computer	Architectural and Engineering Managers
GS-0856	Electronics Technician Series	17-3023	17-3023	17-3023		Electrical and Electronic Engineering Technologists and Technicians	Electrical and Electronic Engineering Technologists and Technicians	Electrical and Electronic Engineering Technologists and Technicians
GS-0858	Biomedical Engineering Series	17-2031	17-2031	11-9041	14	Bioengineers and Biomedical Engineers	Bioengineers and Biomedical Engineers	Architectural and Engineering Managers
GS-0861	Aerospace Engineering Series	17-2011	17-2011	17-2011		Aerospace Engineers	Aerospace Engineers	Aerospace Engineers
GS-0871	Naval Architecture Series	17-2121	17-2121	17-2121		Marine Engineers and Naval Architects	Marine Engineers and Naval Architects	Marine Engineers and Naval Architects
GS-0873	Ship Surveying Series	53-6051	53-6051	53-6051		Transportation Inspectors	Transportation Inspectors	Transportation Inspectors
GS-0880	Mining Engineering Series	17-2151	17-2151	11-9041	14	Mining and Geological Engineers, Including Mining Safety Engineers	Mining and Geological Engineers, Including Mining Safety Engineers	Architectural and Engineering Managers
GS-0881	Petroleum Engineering Series	17-2171	17-2171	11-9041	15	Petroleum Engineers	Petroleum Engineers	Architectural and Engineering Managers
GS-0890	Agricultural Engineering Series	17-2021	17-2021	17-2021		Agricultural Engineers	Agricultural Engineers	Agricultural Engineers
GS-0892	Ceramic Engineering Series	17-2131	17-2131	11-9041	15	Materials Engineers	Materials Engineers	Architectural and Engineering Managers
GS-0893	Chemical Engineering Series	17-2041	17-2041	11-9041	15	Chemical Engineers	Chemical Engineers	Architectural and Engineering Managers
GS-0894	Welding Engineering Series	17-2131	17-2131	11-9041	14	Materials Engineers	Materials Engineers	Architectural and Engineering Managers

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-0895	Industrial Engineering Technician Series	17-3026	17-3026	17-3026		Industrial Engineering Technologists and Technicians	Industrial Engineering Technologists and Technicians	Industrial Engineering Technologists and Technicians
GS-0896	Industrial Engineering Series	17-2112	17-2112	11-9041	14	Industrial Engineers	Industrial Engineers	Architectural and Engineering Managers
GS-0901	General Legal and Kindred Administration Series	23-2011	23-2011	11-1021	14	Paralegals and Legal Assistants	Paralegals and Legal Assistants	General and Operations Managers
GS-0904	Law Clerk Series	23-1012	23-1012	11-1021	12	Judicial Law Clerks	Judicial Law Clerks	General and Operations Managers
GS-0905	General Attorney Series	23-1011	23-1011	23-1011		Lawyers	Lawyers	Lawyers
GS-0920	Estate Tax Examining Series	13-2081	13-2081	11-9199	12	Tax Examiners and Collectors, and Revenue Agents	Tax Examiners and Collectors, and Revenue Agents	Managers, All Other
GS-0930	Hearings and Appeals Series	23-1021	23-1021	23-1021		Administrative Law Judges, Adjudicators, and Hearing Officers	Administrative Law Judges, Adjudicators, and Hearing Officers	Administrative Law Judges, Adjudicators, and Hearing Officers
GS-0945	Clerk of Court Series	23-2099	23-2099	11-1021	14	Legal Support Workers, All Other	Legal Support Workers, All Other	General and Operations Managers
GS-0950	Paralegal Specialist Series	23-2011	23-2011	11-1021	14	Paralegals and Legal Assistants	Paralegals and Legal Assistants	General and Operations Managers
GS-0958	Pension Law Specialist Series	23-2099	23-2099	23-2099		Legal Support Workers, All Other	Legal Support Workers, All Other	Legal Support Workers, All Other
GS-0962	Contact Representative Series	43-4061	43-4061	11-1021	12	Eligibility Interviewers, Government Programs	Eligibility Interviewers, Government Programs	General and Operations Managers
GS-0963	Legal Instruments Examining Series	23-2093	23-2093	23-2093		Title Examiners, Abstractors, and Searchers	Title Examiners, Abstractors, and Searchers	Title Examiners, Abstractors, and Searchers
GS-0965	Land Law Examining Series	23-2093	23-2093	11-1021	14	Title Examiners, Abstractors, and Searchers	Title Examiners, Abstractors, and Searchers	General and Operations Managers
GS-0967	Passport and Visa Examining Series	13-1041	13-1041	11-1021	13	Compliance Officers	Compliance Officers	General and Operations Managers
GS-0986	Legal Assistance Series	23-2099	43-1011	43-1011		Legal Support Workers, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-0987	Tax Law Specialist Series	23-2011	23-2011	23-2011		Paralegals and Legal Assistants	Paralegals and Legal Assistants	Paralegals and Legal Assistants
GS-0991	Workers' Compensation Claims Examining Series	13-1031	13-1031	11-1021	14	Claims Adjusters, Examiners, and Investigators	Claims Adjusters, Examiners, and Investigators	General and Operations Managers
GS-0993	Railroad Retirement Claims Examining Series	13-1031	13-1031	11-1021	14	Claims Adjusters, Examiners, and Investigators	Claims Adjusters, Examiners, and Investigators	General and Operations Managers

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-0996	Veterans Claims Examining Series	13-1031	13-1031	11-1021	14	Claims Adjusters, Examiners, and Investigators	Claims Adjusters, Examiners, and Investigators	General and Operations Managers
GS-0998	Claims Assistance and Examining Series	43-9199	43-1011	43-1011		Office and Administrative Support Workers, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-1001	General Arts and Information Series	27-1019	27-1019	11-9199	14	Artists and Related Workers, All Other	Artists and Related Workers, All Other	Managers, All Other
GS-1008	Interior Design Series	27-1025	27-1025	11-9199	14	Interior Designers	Interior Designers	Managers, All Other
GS-1010	Exhibits Specialist Series	27-1027	27-1027	11-9199	13	Set and Exhibit Designers	Set and Exhibit Designers	Managers, All Other
GS-1015	Museum Curator Series	25-4012	25-4012	11-9199	13	Curators	Curators	Managers, All Other
GS-1016	Museum Specialist and Technician Series	25-4013	25-4013	11-9199	13	Museum Technicians and Conservators	Museum Technicians and Conservators	Managers, All Other
GS-1020	Illustrating Series	27-1013	27-1013	11-9199	12	Fine Artists, Including Painters, Sculptors, and Illustrators	Fine Artists, Including Painters, Sculptors, and Illustrators	Managers, All Other
GS-1021	Office Drafting Series	17-3010	43-1011	43-1011		Drafters	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-1035	Public Affairs Series	27-3031	27-3031	11-2032	15	Public Relations Specialists	Public Relations Specialists	Public Relations Managers
GS-1040	Language Specialist Series	27-3091	27-3091	11-9199	14	Interpreters and Translators	Interpreters and Translators	Managers, All Other
GS-1046	Language Clerical Series	43-9199	43-1011	43-1011		Office and Administrative Support Workers, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-1051	Music Specialist Series	27-2041	27-2041	27-2041		Music Directors and Composers	Music Directors and Composers	Music Directors and Composers
GS-1054	Theater Specialist Series	27-2012	27-2012	11-9199	12	Producers and Directors	Producers and Directors	Managers, All Other
GS-1056	Art Specialist Series	27-1019	27-1019	11-9199	11	Artists and Related Workers, All Other	Artists and Related Workers, All Other	Managers, All Other
GS-1060	Photography Series	27-4021	27-4021	27-4021		Photographers	Photographers	Photographers
GS-1071	Audiovisual Production Series	27-2012	27-2012	11-9199	14	Producers and Directors	Producers and Directors	Managers, All Other
GS-1082	Writing and Editing Series	27-3043	27-3043	11-9199	15	Writers and Authors	Writers and Authors	Managers, All Other
GS-1083	Technical Writing and Editing Series	27-3042	27-3042	11-9199	14	Technical Writers	Technical Writers	Managers, All Other
GS-1084	Visual Information Series	27-1024	27-1024	11-9199	14	Graphic Designers	Graphic Designers	Managers, All Other
GS-1087	Editorial Assistance Series	43-9081	43-1011	43-1011		Proofreaders and Copy Markers	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-1101	General Business and Industry Series	13-1199	13-1199	11-1021	14	Business Operations Specialists, All Other	Business Operations Specialists, All Other	General and Operations Managers
GS-1102	Contracting Series	13-1023	13-1023	11-3061	14	Purchasing Agents, Except Wholesale, Retail, and Farm Products	Purchasing Agents, Except Wholesale, Retail, and Farm Products	Purchasing Managers
GS-1103	Industrial Property Management Series	13-1199	13-1199	11-1021	14	Business Operations Specialists, All Other	Business Operations Specialists, All Other	General and Operations Managers
GS-1104	Property Disposal Series	13-1199	13-1199	11-1021	14	Business Operations Specialists, All Other	Business Operations Specialists, All Other	General and Operations Managers
GS-1105	Purchasing Series	13-1023	13-1023	13-1023		Purchasing Agents, Except Wholesale, Retail, and Farm Products	Purchasing Agents, Except Wholesale, Retail, and Farm Products	Purchasing Agents, Except Wholesale, Retail, and Farm Products
GS-1106	Procurement Clerical and Technician Series	43-3061	43-1011	43-1011		Procurement Clerks	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-1107	Property Disposal Clerical and Technician Series	43-9199	43-1011	43-1011		Office and Administrative Support Workers, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-1130	Public Utilities Specialist Series	13-1199	13-1199	11-1021	15	Business Operations Specialists, All Other	Business Operations Specialists, All Other	General and Operations Managers
GS-1140	Trade Specialist Series	13-1199	13-1199	11-1021	15	Business Operations Specialists, All Other	Business Operations Specialists, All Other	General and Operations Managers
GS-1144	Commissary Store Management Series	13-1199	13-1199	11-1021	12	Business Operations Specialists, All Other	Business Operations Specialists, All Other	General and Operations Managers
GS-1145	Agricultural Program Specialist Series	13-1199	13-1199	11-1021	14	Business Operations Specialists, All Other	Business Operations Specialists, All Other	General and Operations Managers
GS-1146	Agriculture Marketing Series	19-3022	19-3022	11-2021	15	Survey Researchers	Survey Researchers	Marketing Managers
GS-1147	Agricultural Market Reporting Series	19-3022	19-3022	11-2021	14	Survey Researchers	Survey Researchers	Marketing Managers
GS-1150	Industrial Specialist Series	13-1199	13-1199	11-1021	14	Business Operations Specialists, All Other	Business Operations Specialists, All Other	General and Operations Managers
GS-1152	Production Control Series	11-3051	11-3051	11-3051		Industrial Production Managers	Industrial Production Managers	Industrial Production Managers
GS-1160	Financial Analysis Series	13-2099	13-2099	11-3031	13	Financial Specialists, All Other	Financial Specialists, All Other	Financial Managers
GS-1161	Crop Insurance Administration Series	13-2099	13-2099	11-3031	13	Financial Specialists, All Other	Financial Specialists, All Other	Financial Managers
GS-1162	Crop Insurance Underwriting Series	13-2053	13-2053	13-2053		Insurance Underwriters	Insurance Underwriters	Insurance Underwriters
GS-1163	Insurance Examining Series	13-2099	13-2099	13-2099		Financial Specialists, All Other	Financial Specialists, All Other	Financial Specialists, All Other
GS-1165	Loan Specialist Series	13-2072	13-2072	11-3031	13	Loan Officers	Loan Officers	Financial Managers

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-1169	Internal Revenue Officer Series	13-2081	13-2081	11-3031	14	Tax Examiners and Collectors, and Revenue Agents	Tax Examiners and Collectors, and Revenue Agents	Financial Managers
GS-1170	Realty Series	11-9141	11-9141	11-3031	14	Property, Real Estate, and Community Association Managers	Property, Real Estate, and Community Association Managers	Financial Managers
GS-1171	Appraising Series	13-2020	13-2020	11-3031	14	Property Appraisers and Assessors	Property Appraisers and Assessors	Financial Managers
GS-1173	Housing Management Series	11-9141	11-9141	11-9141		Property, Real Estate, and Community Association Managers	Property, Real Estate, and Community Association Managers	Property, Real Estate, and Community Association Managers
GS-1176	Building Management Series	11-9141	11-9141	11-9141		Property, Real Estate, and Community Association Managers	Property, Real Estate, and Community Association Managers	Property, Real Estate, and Community Association Managers
GS-1202	Patent Technician Series	23-2099	23-2099	23-2099		Legal Support Workers, All Other	Legal Support Workers, All Other	Legal Support Workers, All Other
GS-1210	Copyright Series	23-2099	23-2099	23-2099		Legal Support Workers, All Other	Legal Support Workers, All Other	Legal Support Workers, All Other
GS-1211	Copyright Technician Series	23-2099	23-2099	23-2099		Legal Support Workers, All Other	Legal Support Workers, All Other	Legal Support Workers, All Other
GS-1220	Patent Administration Series	23-2099	23-2099	23-2099		Legal Support Workers, All Other	Legal Support Workers, All Other	Legal Support Workers, All Other
GS-1221	Patent Advisor Series	23-2099	23-2099	23-2099		Legal Support Workers, All Other	Legal Support Workers, All Other	Legal Support Workers, All Other
GS-1222	Patent Attorney Series	23-1011	23-1011	23-1011		Lawyers	Lawyers	Lawyers
GS-1223	Patent Classifying Series	23-2099	23-2099	23-2099		Legal Support Workers, All Other	Legal Support Workers, All Other	Legal Support Workers, All Other
GS-1224	Patent Examining Series	23-2099	23-2099	23-2099		Legal Support Workers, All Other	Legal Support Workers, All Other	Legal Support Workers, All Other
GS-1226	Design Patent Examining Series	23-2099	23-2099	23-2099		Legal Support Workers, All Other	Legal Support Workers, All Other	Legal Support Workers, All Other
GS-1301	General Physical Science Series	19-2099	19-2099	19-2099		Physical Scientists, All Other	Physical Scientists, All Other	Physical Scientists, All Other
GS-1306	Health Physics Series	19-2012	19-2012	11-9121	14	Physicists	Physicists	Natural Sciences Managers
GS-1310	Physics Series	19-2012	19-2012	19-2012		Physicists	Physicists	Physicists
GS-1311	Physical Science Technician Series	19-4099	19-4099	19-4099		Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other
GS-1313	Geophysics Series	19-2042	19-2042	19-2042		Geoscientists, Except Hydrologists and Geographers	Geoscientists, Except Hydrologists and Geographers	Geoscientists, Except Hydrologists and Geographers
GS-1315	Hydrology Series	19-2043	19-2043	11-9121	14	Hydrologists	Hydrologists	Natural Sciences Managers

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-1316	Hydrologic Technician Series	19-4099	19-4099	19-4099		Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other
GS-1320	Chemistry Series	19-2031	19-2031	19-2031		Chemists	Chemists	Chemists
GS-1321	Metallurgy Series	19-2032	19-2032	19-2032		Materials Scientists	Materials Scientists	Materials Scientists
GS-1330	Astronomy and Space Science Series	19-2011	19-2011	19-2011		Astronomers	Astronomers	Astronomers
GS-1340	Meteorology Series	19-2021	19-2021	19-2021		Atmospheric and Space Scientists	Atmospheric and Space Scientists	Atmospheric and Space Scientists
GS-1341	Meteorological Technician Series	19-4099	19-4099	19-4099		Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other	Life, Physical, and Social Science Technicians, All Other
GS-1350	Geology Series	19-2042	19-2042	11-9121	14	Geoscientists, Except Hydrologists and Geographers	Geoscientists, Except Hydrologists and Geographers	Natural Sciences Managers
GS-1360	Oceanography Series	19-2042	19-2042	19-2042		Geoscientists, Except Hydrologists and Geographers	Geoscientists, Except Hydrologists and Geographers	Geoscientists, Except Hydrologists and Geographers
GS-1361	Navigational Information Series	17-3031	17-3031	11-9121	13	Surveying and Mapping Technicians	Surveying and Mapping Technicians	Natural Sciences Managers
GS-1370	Cartography Series	17-1021	17-1021	11-9121	14	Cartographers and Photogrammetrists	Cartographers and Photogrammetrists	Natural Sciences Managers
GS-1371	Cartographic Technician Series	17-3031	17-3031	17-3031		Surveying and Mapping Technicians	Surveying and Mapping Technicians	Surveying and Mapping Technicians
GS-1372	Geodesy Series	17-1021	17-1021	11-9121	14	Cartographers and Photogrammetrists	Cartographers and Photogrammetrists	Natural Sciences Managers
GS-1373	Land Surveying Series	17-1022	17-1022	11-9121	14	Surveyors	Surveyors	Natural Sciences Managers
GS-1374	Geodetic Technician Series	17-3031	17-3031	17-3031		Surveying and Mapping Technicians	Surveying and Mapping Technicians	Surveying and Mapping Technicians
GS-1380	Forest Products Technology Series	17-2131	17-2131	11-9121	14	Materials Engineers	Materials Engineers	Natural Sciences Managers
GS-1382	Food Technology Series	19-1012	19-1012	11-9121	14	Food Scientists and Technologists	Food Scientists and Technologists	Natural Sciences Managers
GS-1384	Textile Technology Series	19-2099	19-2099	11-9121	15	Physical Scientists, All Other	Physical Scientists, All Other	Natural Sciences Managers
GS-1386	Photographic Technology Series	19-2099	19-2099	11-9121	14	Physical Scientists, All Other	Physical Scientists, All Other	Natural Sciences Managers
GS-1397	Document Analysis Series	19-4092	19-4092	11-9121	15	Forensic Science Technicians	Forensic Science Technicians	Natural Sciences Managers
GS-1410	Librarian Series	25-4022	25-4022	11-9199	13	Librarians and Media Collections Specialists	Librarians and Media Collections Specialists	Managers, All Other
GS-1411	Library Technician Series	25-4031	25-4031	25-4031		Library Technicians	Library Technicians	Library Technicians
GS-1412	Technical Information Services Series	25-4031	25-4031	11-9199	14	Library Technicians	Library Technicians	Managers, All Other

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-1420	Archivist Series	25-4011	25-4011	11-9199	14	Archivists	Archivists	Managers, All Other
GS-1421	Archives Technician Series	25-4013	25-4013	25-4013		Museum Technicians and Conservators	Museum Technicians and Conservators	Museum Technicians and Conservators
GS-1501	General Mathematics and Statistics	15-2021	15-2021	11-9121	16	Mathematicians	Mathematicians	Natural Sciences Managers
GS-1510	Actuary Series	15-2011	15-2011	15-2011		Actuaries	Actuaries	Actuaries
GS-1515	Operations Research Series	15-2031	15-2031	15-2031		Operations Research Analysts	Operations Research Analysts	Operations Research Analysts
GS-1520	Mathematics Series	15-2021	15-2021	15-2021		Mathematicians	Mathematicians	Mathematicians
GS-1521	Mathematics Technician Series	15-2099	15-2099	15-2099		Mathematical Science Occupations, All Other	Mathematical Science Occupations, All Other	Mathematical Science Occupations, All Other
GS-1529	Mathematical Statistician Series	15-2041	15-2041	11-9121	15	Statisticians	Statisticians	Natural Sciences Managers
GS-1530	Statistician Series	15-2041	15-2041	11-9121	15	Statisticians	Statisticians	Natural Sciences Managers
GS-1531	Statistical Assistant Series	43-9111	43-9111	43-9111		Statistical Assistants	Statistical Assistants	Statistical Assistants
GS-1540	Cryptography Series	15-2021	15-2021	15-2021		Mathematicians	Mathematicians	Mathematicians
GS-1541	Cryptanalysis Series	15-2099	15-2099	15-2099		Mathematical Science Occupations, All Other	Mathematical Science Occupations, All Other	Mathematical Science Occupations, All Other
GS-1550	Computer Science Series	15-1221	15-1221	15-1221		Computer and Information Research Scientists	Computer and Information Research Scientists	Computer and Information Research Scientists
GS-1601	General Facilities and Equipment Series	13-1199	13-1199	11-1021	13	Business Operations Specialists, All Other	Business Operations Specialists, All Other	General and Operations Managers
GS-1603	Equipment Facilities and Services Assistance Series	43-9199	43-1011	43-1011		Office and Administrative Support Workers, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-1630	Cemetery Administration Series	11-9141	11-9141	11-9141		Property, Real Estate, and Community Association Managers	Property, Real Estate, and Community Association Managers	Property, Real Estate, and Community Association Managers
GS-1640	Facility Management Series	11-3013	11-3013	11-3013		Facilities Managers	Facilities Managers	Facilities Managers
GS-1654	Printing Management Series	11-3013	11-3013	11-3013		Facilities Managers	Facilities Managers	Facilities Managers
GS-1658	Laundry and Dry Cleaning Plant Management Series	51-8099	51-8099	51-8099		Plant and System Operators, All Other	Plant and System Operators, All Other	Plant and System Operators, All Other
GS-1667	Steward Series	35-1012	35-1012	35-1012		First-Line Supervisors of Food Preparation and Serving Workers	First-Line Supervisors of Food Preparation and Serving Workers	First-Line Supervisors of Food Preparation and Serving Workers
GS-1670	Equipment Specialist Series	13-1199	13-1199	11-1021	13	Business Operations Specialists, All Other	Business Operations Specialists, All Other	General and Operations Managers
GS-1701	General Education and Training Series	25-3099	25-3099	11-9039	12	Teachers and Instructors, All Other	Teachers and Instructors, All Other	Education Administrators, All Other

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-1702	Education and Training Technician Series	25-9099	25-9099	25-9099		Educational Instruction and Library Workers, All Other	Educational Instruction and Library Workers, All Other	Educational Instruction and Library Workers, All Other
GS-1710	Education and Vocational Training Series	25-3099	25-3099	11-9039	13	Teachers and Instructors, All Other	Teachers and Instructors, All Other	Education Administrators, All Other
GS-1712	Training Instruction Series	25-3099	25-3099	11-9039	13	Teachers and Instructors, All Other	Teachers and Instructors, All Other	Education Administrators, All Other
GS-1715	Vocational Rehabilitation Series	25-3099	25-3099	11-9039	13	Teachers and Instructors, All Other	Teachers and Instructors, All Other	Education Administrators, All Other
GS-1720	Education Program Series	25-9031	25-9031	25-9031		Instructional Coordinators	Instructional Coordinators	Instructional Coordinators
GS-1725	Public Health Educator Series	21-1091	21-1091	11-9039	15	Health Education Specialists	Health Education Specialists	Education Administrators, All Other
GS-1730	Education Research Series	19-3099	19-3099	19-3099		Social Scientists and Related Workers, All Other	Social Scientists and Related Workers, All Other	Social Scientists and Related Workers, All Other
GS-1740	Education Services Series	25-9099	25-9099	11-9199	14	Educational Instruction and Library Workers, All Other	Educational Instruction and Library Workers, All Other	Managers, All Other
GS-1750	Instructional Systems Series	25-9031	25-9031	11-9039	14	Instructional Coordinators	Instructional Coordinators	Education Administrators, All Other
GS-1801	General Inspection Investigation and Compliance Series	13-1041	13-1041	11-9199	14	Compliance Officers	Compliance Officers	Managers, All Other
GS-1802	Compliance Inspection and Support Series	33-9099	33-1012	33-1012		Protective Service Workers, All Other	First-Line Supervisors of Police and Detectives	First-Line Supervisors of Police and Detectives
GS-1810	General Investigating Series	33-3021	33-1012	11-9199	14	Detectives and Criminal Investigators	First-Line Supervisors of Police and Detectives	Managers, All Other
GS-1811	Criminal Investigating Series	33-3021	33-1012	11-9199	15	Detectives and Criminal Investigators	First-Line Supervisors of Police and Detectives	Managers, All Other
GS-1812	Game Law Enforcement Series	33-3031	33-3031	33-1099	14	Fish and Game Wardens	Fish and Game Wardens	First-Line Supervisors of Protective Service Workers, All Other
GS-1813	Fish and Wildlife Inspection Series	13-1041	13-1041	13-1041		Compliance Officers	Compliance Officers	Compliance Officers
GS-1815	Air Safety Investigating Series	13-1041	13-1041	13-1041		Compliance Officers	Compliance Officers	Compliance Officers
GS-1816	Immigration Inspection Series	13-1041	13-1041	11-9199	13	Compliance Officers	Compliance Officers	Managers, All Other
GS-1822	Mine Safety and Health Series	13-1041	13-1041	11-9199	14	Compliance Officers	Compliance Officers	Managers, All Other
GS-1825	Aviation Safety Series	53-6051	53-6051	11-9199	14	Transportation Inspectors	Transportation Inspectors	Managers, All Other
GS-1831	Securities Compliance Examining Series	13-2061	13-2061	11-9199	15	Financial Examiners	Financial Examiners	Managers, All Other

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-1849	Wage and Hour Compliance Series	13-1041	13-1041	11-1021	14	Compliance Officers	Compliance Officers	General and Operations Managers
GS-1850	Agricultural Commodity Warehouse Examining Series	45-2011	45-2011	11-9199	13	Agricultural Inspectors	Agricultural Inspectors	Managers, All Other
GS-1854	Alcohol Tobacco and Firearms Inspection Series	13-1041	13-1041	11-9199	15	Compliance Officers	Compliance Officers	Managers, All Other
GS-1860	Equal Opportunity Investigation Series	13-1041	13-1041	11-1021	14	Compliance Officers	Compliance Officers	General and Operations Managers
GS-1862	Consumer Safety Inspection Series	13-1041	13-1041	13-1041		Compliance Officers	Compliance Officers	Compliance Officers
GS-1863	Food Inspection Series	45-2011	45-2011	45-2011		Agricultural Inspectors	Agricultural Inspectors	Agricultural Inspectors
GS-1864	Public Health Quarantine Inspection Series	33-9099	33-9099	33-1012	14	Protective Service Workers, All Other	Protective Service Workers, All Other	First-Line Supervisors of Police and Detectives
GS-1881	Customs and Border Protection Interdiction	33-3021	33-1012	11-9199	13	Detectives and Criminal Investigators	First-Line Supervisors of Police and Detectives	Managers, All Other
GS-1884	Customs Patrol Officer Series	33-3021	33-1012	11-9199	13	Detectives and Criminal Investigators	First-Line Supervisors of Police and Detectives	Managers, All Other
GS-1889	Import Specialist Series	13-1041	13-1041	11-9199	14	Compliance Officers	Compliance Officers	Managers, All Other
GS-1890	Customs Inspection Series	13-1041	13-1041	11-9199	13	Compliance Officers	Compliance Officers	Managers, All Other
GS-1894	Customs Entry and Liquidating Series	13-2081	13-2081	13-2081		Tax Examiners and Collectors, and Revenue Agents	Tax Examiners and Collectors, and Revenue Agents	Tax Examiners and Collectors, and Revenue Agents
GS-1895	Customs and Border Protection	33-3021	33-1012	11-9199	13	Detectives and Criminal Investigators	First-Line Supervisors of Police and Detectives	Managers, All Other
GS-1896	Border Patrol Agent Series	33-3021	33-1012	11-9199	13	Detectives and Criminal Investigators	First-Line Supervisors of Police and Detectives	Managers, All Other
GS-1897	Customs Aid Series	43-9199	43-1011	43-1011		Office and Administrative Support Workers, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-1910	Quality Assurance Series	13-1199	13-1199	11-3051	13	Business Operations Specialists, All Other	Business Operations Specialists, All Other	Industrial Production Managers
GS-1980	Agricultural Commodity Grading Series	45-2041	45-2041	11-1021	12	Graders and Sorters, Agricultural Products	Graders and Sorters, Agricultural Products	General and Operations Managers
GS-1981	Agricultural Commodity Aid Series	45-2041	43-1011	43-1011		Graders and Sorters, Agricultural Products	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-2001	General Supply Series	13-1199	13-1199	11-1021	12	Business Operations Specialists, All Other	Business Operations Specialists, All Other	General and Operations Managers
GS-2003	Supply Program Management Series	13-1081	13-1081	11-9199	13	Logisticians	Logisticians	Managers, All Other

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-2005	Supply Clerical and Technician Series	43-3061	43-1011	43-1011		Procurement Clerks	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-2010	Inventory Management Series	13-1081	13-1081	11-3071	13	Logisticians	Logisticians	Transportation, Storage, and Distribution Managers
GS-2030	Distribution Facilities and Storage Management Series	13-1199	13-1199	11-3071	13	Business Operations Specialists, All Other	Business Operations Specialists, All Other	Transportation, Storage, and Distribution Managers
GS-2032	Packaging Series	13-1199	13-1199	11-3071	14	Business Operations Specialists, All Other	Business Operations Specialists, All Other	Transportation, Storage, and Distribution Managers
GS-2050	Supply Cataloging Series	13-1199	13-1199	11-3071	14	Business Operations Specialists, All Other	Business Operations Specialists, All Other	Transportation, Storage, and Distribution Managers
GS-2091	Sales Store Clerical Series	41-2031	41-1011	41-1011		Retail Salespersons	First-Line Supervisors of Retail Sales Workers	First-Line Supervisors of Retail Sales Workers
GS-2101	Transportation Specialist Series	13-1199	13-1199	11-3071	15	Business Operations Specialists, All Other	Business Operations Specialists, All Other	Transportation, Storage, and Distribution Managers
GS-2102	Transportation Clerk and Assistant Series	43-9199	43-1011	43-1011		Office and Administrative Support Workers, All Other	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-2110	Transportation Industry Analysis Series	13-1111	13-1111	13-1111		Management Analysts	Management Analysts	Management Analysts
GS-2121	Railroad Safety Series	13-1041	13-1041	13-1041		Compliance Officers	Compliance Officers	Compliance Officers
GS-2123	Motor Carrier Safety Series	13-1041	13-1041	11-9199	11	Compliance Officers	Compliance Officers	Managers, All Other
GS-2125	Highway Safety Series	13-1041	13-1041	11-9199	14	Compliance Officers	Compliance Officers	Managers, All Other
GS-2130	Traffic Management Series	13-1199	13-1199	11-3071	13	Business Operations Specialists, All Other	Business Operations Specialists, All Other	Transportation, Storage, and Distribution Managers
GS-2131	Freight Rate Series	43-5011	43-5011	43-5011		Cargo and Freight Agents	Cargo and Freight Agents	Cargo and Freight Agents
GS-2135	Transportation Loss and Damage Claims Examining Series	13-1031	13-1031	13-1031		Claims Adjusters, Examiners, and Investigators	Claims Adjusters, Examiners, and Investigators	Claims Adjusters, Examiners, and Investigators
GS-2144	Cargo Scheduling Series	43-5011	43-5011	43-5011		Cargo and Freight Agents	Cargo and Freight Agents	Cargo and Freight Agents
GS-2150	Transportation Operations Series	13-1199	13-1199	11-3071	13	Business Operations Specialists, All Other	Business Operations Specialists, All Other	Transportation, Storage, and Distribution Managers
GS-2151	Dispatching Series	43-5032	43-1011	43-1011		Dispatchers, Except Police, Fire, and Ambulance	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers
GS-2152	Air Traffic Control Series	53-2021	53-2021	11-3071	13	Air Traffic Controllers	Air Traffic Controllers	Transportation, Storage, and Distribution Managers
GS-2154	Air Traffic Assistance Series	53-6099	53-6099	53-6099		Transportation Workers, All Other	Transportation Workers, All Other	Transportation Workers, All Other
GS-2161	Marine Cargo Series	43-5011	43-5011	11-3071	13	Cargo and Freight Agents	Cargo and Freight Agents	Transportation, Storage, and Distribution Managers

Federal Occupation		Non-Supervisor SOC Code	Level 1 Supervisor SOC Code	Level 2 Supervisor SOC Code	Grade Break for Level 2 Supervisor	Non-Supervisor SOC Name	Level 1 Supervisor SOC Name	Level 2 Supervisor SOC Name
GS-2181	Aircraft Operation Series	53-2010	53-2010	11-3071	14	Aircraft Pilots and Flight Engineers	Aircraft Pilots and Flight Engineers	Transportation, Storage, and Distribution Managers
GS-2183	Air Navigation Series	53-2010	53-2010	11-3071	13	Aircraft Pilots and Flight Engineers	Aircraft Pilots and Flight Engineers	Transportation, Storage, and Distribution Managers
GS-2185	Aircrew Technician Series	55-1011	55-1011	55-1011		Air Crew Officers	Air Crew Officers	Air Crew Officers
GS-2210	Information Technology Management Series	15-1200	15-1200	11-3021	15	Computer Occupations	Computer Occupations	Computer and Information Systems Managers

Attachment 5
NCS/OES Model Pay Disparities 2017-2019 in Current Rest of US Research Areas

OES/NCS Model Pay Gaps 2017-2019 in 38 BLS Research Areas Area Compared to Rest of US							
Area	Area Pay Gaps			Area Pay Gaps minus Rest of US Pay Gap			
	2017	2018	2019	2017	2018	2019	Average
Augusta, GA	29.33%	27.67%	30.43%	-6.43%	-6.00%	-2.00%	-4.81%
Boise, ID	38.16%	36.88%	35.99%	2.40%	3.21%	3.56%	3.06%
Charleston, SC	37.17%	39.42%	39.67%	1.41%	5.75%	7.24%	4.80%
Charleston, WV	25.71%	22.21%	23.15%	-10.05%	-11.46%	-9.28%	-10.26%
Clarksville, TN	22.96%	19.48%	16.26%	-12.80%	-14.19%	-16.17%	-14.39%
Columbia, SC	27.82%	27.68%	28.52%	-7.94%	-5.99%	-3.91%	-5.95%
Columbus, GA	30.59%	24.87%	23.66%	-5.17%	-8.80%	-8.77%	-7.58%
Crestview, FL	45.61%	42.70%	39.39%	9.85%	9.03%	6.96%	8.61%
El Paso, TX	41.41%	40.15%	32.67%	5.65%	6.48%	0.24%	4.12%
Fresno, CA	40.20%	38.56%	40.71%	4.44%	4.89%	8.28%	5.87%
Gainesville, FL	27.00%	21.53%	23.69%	-8.76%	-12.14%	-8.74%	-9.88%
Gulfport, MS	37.25%	38.29%	33.60%	1.49%	4.62%	1.17%	2.43%
Jackson, MS	23.29%	23.87%	21.74%	-12.47%	-9.80%	-10.69%	-10.99%
Jacksonville, FL	42.48%	37.71%	38.91%	6.72%	4.04%	6.48%	5.75%
Jacksonville, NC	34.25%	32.58%	28.75%	-1.51%	-1.09%	-3.68%	-2.09%
Killeen-Temple, TX	41.41%	36.89%	35.01%	5.65%	3.22%	2.58%	3.82%
Lawton, OK	20.59%	17.51%	22.48%	-15.17%	-16.16%	-9.95%	-13.76%
Lexington, KY	27.74%	24.96%	23.68%	-8.02%	-8.71%	-8.75%	-8.49%
Little Rock, AR	24.30%	23.52%	21.89%	-11.46%	-10.15%	-10.54%	-10.72%
Louisville, KY	35.92%	35.11%	33.36%	0.16%	1.44%	0.93%	0.84%
Macon, GA	36.12%	38.77%	36.84%	0.36%	5.10%	4.41%	3.29%
Madison, WI	41.23%	39.95%	36.97%	5.47%	6.28%	4.54%	5.43%
Manhattan, KS	30.07%	25.58%	22.64%	-5.69%	-8.09%	-9.79%	-7.86%
McAllen, TX	33.45%	30.01%	21.81%	-2.31%	-3.66%	-10.62%	-5.53%
Memphis, TN	35.78%	36.24%	35.36%	0.02%	2.57%	2.93%	1.84%
Montgomery, AL	39.20%	44.41%	41.82%	3.44%	10.74%	9.39%	7.86%
Nashville, TN	40.29%	39.02%	33.36%	4.53%	5.35%	0.93%	3.60%
New Bern, NC	32.12%	37.88%	39.52%	-3.64%	4.21%	7.09%	2.55%
New Orleans, LA	38.90%	34.56%	35.40%	3.14%	0.89%	2.97%	2.33%
Oklahoma City, OK	37.92%	38.41%	39.46%	2.16%	4.74%	7.03%	4.64%
Orlando, FL	40.49%	38.32%	34.59%	4.73%	4.65%	2.16%	3.85%
Pensacola, FL	28.01%	23.90%	21.94%	-7.75%	-9.77%	-10.49%	-9.34%
Rest of US	35.76%	33.67%	32.43%	0.00%	0.00%	0.00%	0.00%
Salt Lake City, UT	40.20%	39.15%	39.43%	4.44%	5.48%	7.00%	5.64%
Savannah, GA	31.50%	31.01%	30.43%	-4.26%	-2.66%	-2.00%	-2.97%
Spokane, WA	42.21%	41.48%	41.78%	6.45%	7.81%	9.35%	7.87%
Tampa, FL	44.43%	39.74%	40.52%	8.67%	6.07%	8.09%	7.61%
Tulsa, OK	42.55%	44.50%	38.61%	6.79%	10.83%	6.18%	7.93%
Yuma, AZ	35.19%	26.28%	27.19%	-0.57%	-7.39%	-5.24%	-4.40%

Note: Regarding the 2018 Rest of US pay gap, in its recommendations for 2019 the Council recommended that Des Moines, IA, be established as a separate locality pay area. Accordingly, the 2018 “Rest of U.S.” pay gap used in the Council’s recommendations for 2020 (33.75 percent) has been adjusted in a cost-neutral fashion to take the recommended locality payments for Des Moines into account, and the adjusted 2018 “Rest of U.S.” pay gap is 33.67 percent.

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Attachment 6

Geographic Structure of Locality Pay Areas and Current Criteria for Areas of Application

Locality pay areas consist of—

- (1) A main core-based statistical area (CBSA) defined by the Office of Management and Budget as a metropolitan statistical area (MSA) or combined statistical area (CSA) and forming the *basic locality pay area*, and
- (2) Where criteria recommended by the Council and approved by the Pay Agent are met, *areas of application*. Areas of application are locations that are adjacent to the basic locality pay area and meet approved criteria for inclusion in the locality pay area.

Current criteria for adding adjacent core-based statistical areas (CBSAs) or single counties to locality pay areas as areas of application are:

- For a multi-county CBSA adjacent to a basic locality pay area: 1,500 or more GS employees and an employment interchange rate with the basic locality pay area of at least 7.5 percent.³
 - The “employment interchange rate” is the sum of (1) the percentage of employed residents of the area under consideration who work in the basic locality pay area and (2) the percentage of the employment in the area under consideration that is accounted for by workers who reside in the basic locality pay area. The employment interchange rate is calculated by including all workers in assessed locations, not just Federal employees.
- For a single county that is not part of a multi-county, non-micropolitan CBSA and is adjacent to a basic locality pay area: 400 or more GS employees and an employment interchange rate with the basic locality pay area of at least 7.5 percent.

Criteria for evaluating Federal facilities that cross county lines into a separate locality pay area are:

- For Federal facilities that cross locality pay area boundaries: To be included in an adjacent locality pay area, the whole facility must have at least 500 GS employees, with the majority of those employees in the higher-paying locality pay area, or that portion of a Federal facility outside of a higher-paying locality pay area must have at least 750 GS employees, the duty stations of the majority of those employees must be within 10 miles of the separate locality pay area, and a significant number of those employees must commute to work from the higher-paying locality pay area.

³ Excludes two types of CBSAs: (1) CSAs composed entirely of micropolitan statistical areas and (2) multi-county micropolitan statistical areas. The single-county criteria apply for counties included in such CBSAs.

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Attachment 7
Draft Instructions for
Submitting Human Capital Indicator (HCI) Data to the Federal Salary Council

Introduction

The Federal Salary Council and U.S. Office of Personnel Management (OPM) staff receive numerous requests each year to change locality pay area boundaries for locations that do not meet established criteria for (a) designation as a new locality pay area or (b) inclusion of a particular locale in an existing locality pay area. Those requests run the gamut from simple phone calls or emails from individual employees to detailed petitions and presentations by organized groups at Council meetings. In an effort to formalize that process and make sure that it is more data-driven, the Council asks that such requests hereafter be supported with detailed human capital indicator (HCI) data covering all Federal (or at least a majority of) agencies in the location of concern. Such HCI data are described in general terms below and *should be compiled using the instructions in Attachment 1* and include the following:

- For the 15 occupations listed in Attachment 2 (the most populous occupations nationwide in the Federal Government) and also any other occupational series the petitioners believe to have recruitment and retention problems—
 - The number of authorized positions, by agency, pay plan, and occupational series at the beginning and end of (a) the current fiscal year and (b) the preceding *not less than three or more than five* fiscal years;
 - Retention data for the same period, including the number of voluntary separations (that is, voluntary resignations and retirements), as well the number of retirement-eligible incumbents, etc.;
 - Recruitment data for the same period, including the number of vacant positions for the period in question and the length of time required to fill them; the number of applicants rated as “highly qualified” or equivalent; and the number of offers made compared to the number of offers accepted in any given vacancy;
 - The extent to the which relevant personnel flexibilities (see <http://www.opm.gov/policy-data-oversight/pay-leave/pay-and-leave-flexibilities-for-recruitment-and-retention>) have been approved and applied, and the results of such application;
 - The extent to which direct hire and/or other expedited appointing authorities have been employed, and the results thereof;
 - Any occupation-specific salary data for Federal positions covered by special salary rates, and/or alternative personnel systems (such as VA’s title 38 pay authority);
 - Any other occupation-specific non-Federal salary survey data the petitioners believe supports the request; and
 - Any verifiable exit-survey data the petitioners can provide.

For the occupations reported, the HCI data should cover all General Schedule positions receiving Rest of U.S. or other locality pay in a location of concern. However, petitioners should also submit HCI data covering special rate positions or positions in alternative pay systems.

Petitioners are strongly encouraged to provide occupation-specific, non-Federal salary data to support their requests. Petitioners’ findings from such salary data should be summarized for the Council’s consideration and their source and relevance explained.

HCI data prepared for submission to the Federal Salary Council should be compiled in consultation with the appropriate OPM staff, as well as relevant agency headquarters. OPM staff can provide guidance to help the organizations preparing the data ensure technical sufficiency. As a first step for preparing such data, the Council recommends sending an email to Pay-Leave-Policy@opm.gov requesting such assistance, preferably using the subject line “Request for OPM Staff Assistance on Preparing HCIs for Consideration by the Federal Salary Council.”

ATTACHMENT 1: DETAILED INSTRUCTIONS

Human Capital Indicator (HCI) data submitted to support a proposal for the Federal Salary Council's consideration should cover all Federal agencies in the location(s) of concern that have positions receiving General Schedule (GS) locality pay. The data should must cover the 15 occupations listed in Attachment 2 (the most populous occupations nationwide in the Federal Government) and also any other occupational series the petitioners believe to have recruitment and retention problems. The data must cover (a) the current fiscal year and (b) not less than three or more than five preceding fiscal years and be compiled by and/or coordinated among all agencies with GS positions having official worksites within the area of concern, using a process similar to that used for title 5 GS special rate requests.

HCI data prepared for submission to the Federal Salary Council should be compiled in consultation with the appropriate OPM staff, as well as the headquarters of relevant agencies. OPM staff can provide guidance to help the organizations preparing the data ensure technical sufficiency. As a first step for preparing such data, the Council recommends sending an email to Pay-Leave-Policy@opm.gov requesting such assistance, preferably using the subject line "Request for OPM Staff Assistance on Preparing HCIs for Consideration by the Federal Salary Council."

Please note that the data required must be collected from agencies in the location(s) of concern; OPM does not have access to all the data required. (For example, OPM does not have the number of authorized positions or the number of vacancies an agency has in all locations throughout the country.)

Instructions for submitting the HCI data are provided below in two parts. Part I covers HCI data that should be entered in the Microsoft Excel file provided as an Appendix, and Part II covers HCI data that should be submitted in narrative format in a Microsoft Word file.

Part I: Data Elements for Entry into HCI Data Excel File

A Microsoft Excel file is provided for entry of most of the HCI data elements. The data should be entered in the tabbed sheets named for the fiscal years to be covered. (At least the current fiscal year and *the preceding not less than three or more than five fiscal years* should be covered.)

Each sheet has columns in which to enter data, with the data elements named and numbered as they are below. *Please see the instructions below for each HCI data element.*

1. State-County FIPS Code

For both single-county and multi-county locations of concern, data must be provided at the county level. Enter or select (a pull-down feature is provided) the appropriate five-digit state and county code using the list of county names and codes provided in the "Counties" tab.

Note: The locality pay program uses fairly complex business rules with regard to geographic specifications required for data analysis. The need to ensure proper location coverage in a submission of HCI data to the Council is a good example of the importance of consulting with OPM staff before gathering data for the location(s) of concern.

2. County and State Name

No data entry is required; this field will fill automatically based on the State-County code entered.

3. Agency Name

Enter or select (a pull-down feature is provided) the appropriate agency name from the “AgencyNames” tab.

4. Occupational Series Code

Enter or select (a pull-down feature is provided) the appropriate occupational series code from the “Occupations” tab.

5. Occupational Series Name

No data entry required; field will fill automatically based on the occupational series code entered.

6. Pay Plan Code

Enter or select (a pull-down feature is provided) the appropriate pay plan code from the “Pay Plans” tab.

7. GS Grade

If the *location-agency-occupation* combination reported is a General Schedule position (i.e., is in pay plan GS, GL, or GM), enter or select the appropriate GS grade. A pull-down menu is provided. Note that grades below 10 must have a lead zero (09, 08, etc.).

8. Non-GS Pay System Grade

If the *location-agency-occupation* combination reported is not a General Schedule position (i.e., is not in pay plan GS, GL, or GM), enter the appropriate grade.

9. Name of Alternative Pay System

If applicable, enter the name of the alternative pay system covering the *location-agency-occupation-grade* combination reported. An “alternative pay system” is a pay system other than the Governmentwide pay systems and is established outside of title 5, United States Code. An alternative pay system may apply to multiple pay plan codes.

10. Work-Level Grouping

For the *location-agency-occupation-grade* combination reported, enter or select whether the positions are *entry-level/developmental*, *journey-level*, or *senior-level/expert*. A pull-down menu is provided.

11. Special Rate Identifier

If the *location-agency-occupation-grade* combination reported receives special rates, enter the special rate table code. Otherwise, leave blank.

12. Authorized Positions at Beginning of Fiscal Year

Enter the number of authorized positions (or FTEs, whichever applies) the agency had at the beginning of the fiscal year for the *location-agency-occupation-grade* combination reported.

13. Vacant Positions at Beginning of Fiscal Year

Enter the number of authorized positions that were vacant at the beginning of the fiscal year for the *location-agency-occupation-grade* combination reported.

14. Authorized Positions at End of Fiscal Year

Enter the number of authorized positions (or FTEs, whichever applies) the agency had at the end of the fiscal year for the *location-agency-occupation-grade* combination reported.

15. Vacant Positions at End of Fiscal Year

Enter the number of authorized positions that were vacant at the end of the fiscal year for the *location-agency-occupation-grade* combination reported.

16. Lapse Rate

Enter the average number of calendar days positions remained vacant during the fiscal year for the *location-agency-occupation-grade* combination reported.

17. Positions Tried to Fill

Enter the number of vacant positions the agency tried to fill during the fiscal year for the *location-agency-occupation-grade* combination reported.

18. Number of Applicants

Enter the total number of applicants during the fiscal year for the *location-agency-occupation-grade* combination reported.

19. Number of Applicants Rated Best Qualified

For the applicants reported for HCI 18 above, enter the number who were rated at the highest qualification level used by the agency.

20. Offers Made

For the *location-agency-occupation-grade* combination reported, the number of official offers of employment (typically made by letter or email) made to persons within and outside the Federal service, under any appointing authority, who met all pre-employment screening required by the agency. Include conditional offers, such as offers made contingent on a security clearance, etc.

21. Number Hired

The total number of persons hired by your agency from within and outside the Federal service for the *location-agency-occupation-grade* combination reported.

22. Average Time to Hire in Calendar Days

The average number of calendar days it took to hire the people reported for HCI 21 above (number hired). Periods used for this average should begin on the day the request for action is initiated with the human resource office and end on the entrance-on-duty date.

23. Transfers-out

If available, for the *location-agency-occupation-grade* combination reported, the total number of employees who left a position to take a General Schedule position—in their current or another Federal agency—in a higher-paying locality pay area at the same or higher grade.

24. Quits

Total number of employees who left Federal employment for the *location-agency-occupation-grade* combination reported. Do not count retirements or involuntary separations as quits.

25. Quits for Pay

For the *location-agency-occupation-grade* combination reported, the total number of employees who left Federal service to take a position outside the Government, in the same occupation and location, because the salary is higher. If otherwise available. (Quits for pay is a subset of quits.)

26. Regular-Optional Retirements

For the *location-agency-occupation-grade* combination reported, the total number of employees who retired during the fiscal year from the authorized positions reported.

27. On-Board, Retirement-Eligible Employees

For the *location-agency-occupation-grade* combination reported, the total number of employees who were on board and eligible to retire at the end of the fiscal year.

Part II: Data Elements for Entry into Word Document

In narrative format and submitted in a Microsoft Word file, describe in as much detail as possible—

1. An introduction stating clearly what the petitioners propose.
2. A summary of the petitioners' findings regarding the data submitted for Part I above. What do the data show?
3. A summary of findings for any occupation-specific market data submitted in support of the request.
4. The extent to which the agencies with authorized positions in the location of concern have used the relevant personnel flexibilities (see <http://www.opm.gov/policydata-oversight/pay-leave/pay-and-leave-flexibilities-for-recruitment-and-retention>), the occupations for which such flexibilities have been used, and the results of such application.
5. The extent to which direct hire and/or other expedited appointing authorities have been employed and for which occupations.
6. A summary of any verifiable exit-survey data the petitioners can provide.

Such data should be provided in list/narrative format for each agency having authorized positions in the location(s) of concern.

ATTACHMENT 2: LIST OF 15 OCCUPATIONS HCI DATA SHOULD COVER

0105-SOCIAL INSURANCE ADMINISTRATION
0201-HUMAN RESOURCES MANAGEMENT
0301-MISCELLANEOUS ADMINISTRATION AND PROGRAM
0303-MISCELLANEOUS CLERK AND ASSISTANT
0343-MANAGEMENT AND PROGRAM ANALYSIS
0602-MEDICAL OFFICER
0610-NURSE
0679-MEDICAL SUPPORT ASSISTANCE
0905-GENERAL ATTORNEY
0962-CONTACT REPRESENTATIVE
1102-CONTRACTING
1801-GENERAL INSPECTION, INVESTIGATION, ENFORCEMENT, AND COMPLIANCE SERIES
1802-COMPLIANCE INSPECTION AND SUPPORT
1811-CRIMINAL INVESTIGATION
2210-INFORMATION TECHNOLOGY MANAGEMENT

Note: As stated in the foregoing instructions, petitioners should also include any other occupational series the petitioners believe to have recruitment and retention problems

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Attachment 8
Locations that have Contacted Council Staff Regarding Locality Pay
Between Council Meetings Held on November 13, 2018 and November 5, 2019

Location/Area Name
Adams and Grant Counties, WA (Rest of US)
Amarillo, TX (Rest of US)
Atlantic, Burlington, and Camden Counties, NJ (Philadelphia LPA)
Austin, TX (Austin LPA)
Bend, OR (Rest of US)
Boise, ID (Rest of US)
Boston, MA (Boston LPA)
Carroll County, IL (Rest of US)
Champaign, IL (Rest of US)
Charleston, SC (Rest of US)
Charlottesville, VA (Rest of US)
Cheshire County, NH (Rest of US)
Clallam County, WA (Rest of US)
Coos County, NH (Rest of US)
Douglas County, OR (Rest of US)
Eureka, CA/Humboldt County, CA (Rest of US)
Gila County, AZ (Rest of US)
Grand Rapids, MI (Rest of US)
Gunnison and Montrose Counties, CO (Rest of US)
Honolulu, HI (Hawaii)
Jackson, MI (Rest of US)
Jefferson County, WA (Rest of US)
Key West, FL/Monroe County, FL (Miami)
Lane County, OR (Rest of US)
Lexington, KY (Rest of US)
Lincoln, NE (Rest of US)
Livingston, TX/Polk County, TX (Rest of US)
Lubbock, TX (Rest of US)
Macon, GA (Rest of US)
Madison, WI (Rest of US)
Mendocino County, CA (Rest of US)
Merced and Stanislaus Counties, CA (Rest of US)
Mono County, CA (Rest of US)
Morgantown, WV (Rest of US)
Nashville, TN (Rest of US)
New Bern, NC (Rest of US)
Nottoway County, VA (Rest of US)
Olmsted County, MN (Rest of US)
Orlando, FL (Rest of US)
Panama City, Bay County, FL (Rest of US)
Pine County, MN (Rest of US)
Prescott, AZ/Yavapai County, AZ (Rest of US)
Reno, NV (Rest of US)
Rochester, NY (Rest of US)
Rockford, IL (Rest of US)
Salt Lake City, UT (Rest of US)
San Juan County, WA (Rest of US)
Shreveport, LA (Rest of US)
Spokane, WA
Sussex County, DE (Rest of US)
Tampa, FL (Rest of US)
Watertown, NY (Rest of US)
Wayne County, PA (Rest of US)
West Texas Portions of Permian Basin
White River Junction, VT, and other portions of the Claremont-Lebanon Micropolitan Statistical Area (Rest of US)
Youngstown, OH (Rest of US)