

CURRENT AND UPDATED COG DATA PRODUCTS

Greg Goodwin
Nicole McCall
John Kent
COG Community Planning and Services

Cooperative Forecasting and Data Subcommittee
September 11, 2018



The REMS Report: Regional Economic Monitoring System

July 2018 *The REMS Report* Volume 25, Number 7

The Regional Economic Monitoring System
Highlights of this month's REMS...

In June, over-the-year employment increased by 57,000 jobs or 1.7 percent, while national over-the-year employment increased to 1.7 percent.

Among the major sectors the Government sector lost 2,200 jobs compared to June 2017. The Professional and Business Services sector added 16,500 and the Educational & Health Services sector added 14,600 jobs during the last year.

During June, the region's unemployment rate increased to 3.7 percent, while the national rate increased to 4.2 percent.

The 2,595 new housing units authorized during June 2018 represent a 6.7 percent increase from June 2017, when 2,432 new units were started.

Washington MSA Total Employment* (1,000s of jobs)

Over-Year Inflation Rate Washington-Arlington-Alexandria, DC-MD-VA-WV MSA* and US

Unemployment Rate - Unadjusted Washington MSA and US

New Housing Units Authorized During Previous 24 Months, Washington MSA

Source: Bureau of Labor Statistics
* The regional inflation rate is reported bi-monthly. See note 2 on page 2.

DEFINITIONS
OVER-THE-YEAR - Compares the present month with the same month last year. For example, Over-the-Year Percent Job Growth in January 2005 is the percentage change between January 2004 and January 2005 in the number of jobs.
AT-PLACE EMPLOYMENT - The number of jobs within a given area. Although some employment data include the number of area residents who have jobs, at-place employment counts the actual number of jobs in an area.
MSA - The Washington-Arlington-Alexandria DC-MD-VA-WV Metropolitan Statistical Area, as defined by OMB in 2013. See reverse.
NOTE: Data for the most recent month are preliminary.

Source: Bureau of Labor Statistics

Source: Bureau of Labor Statistics

Source: Bureau of the Census

This report developed by the Metropolitan Washington Council of Governments.

- Monthly Publication – Continuous with first issue in October 1992
- Regional Economic Indicators Highlighting four major areas:
 - Unemployment Rate – Bureau of Labor Statistics
 - Total Employment – Bureau of Labor Statistics
 - New Housing Units Authorized – U.S. Census Bureau
 - Inflation Rate – Bureau of Labor Statistics
- Regional Geography - Washington-Arlington-Alexandria DC-MD-VA-WV Metropolitan Statistical Area, as defined by OMB in 2013



Baseline Employment Methodology



MEMORANDUM

TO: Cooperative Forecasting Committee
 FROM: Nicole McCall, Senior Regional Planner
 SUBJECT: Update to Suggested Baseline Employment Estimates
 DATE: July 10, 2018

This memo provides an update to the suggested baseline employment estimates for the Metropolitan Washington Council of Government's Cooperative Forecasting program.

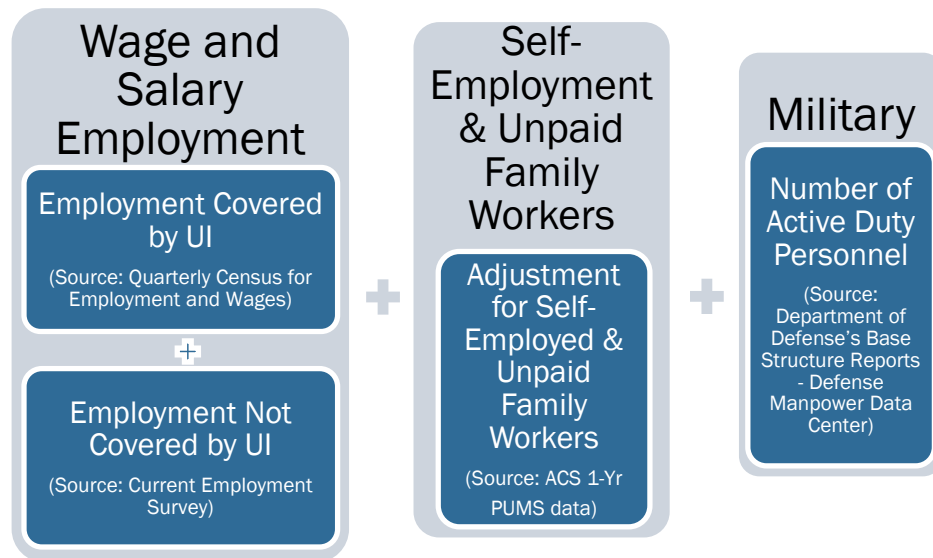
The baseline employment estimates are updated to reflect new and revised federal employment estimates, including: (1) revised 2010-2016 and new 2017 Bureau of Labor Statistics estimates, (2) 2016 Census Public Use Microdata Sample (PUMS) 1-Year files, and (3) 2016 military estimates. While described in detail, there is no change to the suggested approach for baseline employment estimates. In addition, the base year (2015) for the Round 9 Cooperative Forecast, regardless of series, remains the same.

Table 1 Suggested Baseline Employment Estimates (Thousands), 2010-2017

Jurisdiction	2010	2011	2012	2013	2014	2015	2016	2017
District of Columbia	752,328	759,036	768,405	779,712	785,122	808,735	823,305	831,011 <i>Preliminary</i>
Arlington County	184,186	193,625	191,968	192,156	189,000	197,131	201,055	206,918
Alexandria City	105,279	103,765	105,293	105,069	105,009	106,638	104,750	104,409
Montgomery County	494,296	489,931	501,929	505,628	510,408	517,514	515,442	520,878
Prince George's County	344,114	340,437	342,170	344,245	348,022	351,884	362,812	371,087
Fairfax County	636,136	641,407	654,444	651,644	644,893	653,615	667,691	680,339
City of Fairfax	21,810	21,406	21,733	21,508	21,742	21,655	21,420	21,553
City of Falls Church	13,600	12,852	12,336	11,173	12,198	12,777	13,035	13,579
Loudoun County	145,210	150,799	155,579	161,513	164,292	172,681	176,278	182,988
Prince William County	120,245	125,390	131,857	136,643	139,549	141,862	148,268	151,252
City of Manassas	26,052	26,573	26,707	25,344	25,421	24,961	25,201	25,091
City of Manassas Park	3,099	3,184	3,010	3,027	3,149	3,271	3,656	3,931
Charles County	45,412	46,345	46,530	46,876	47,486	48,544	50,942	49,406
Frederick County	103,126	101,777	103,413	106,085	106,575	109,411	110,538	111,794
Region	2,994,693	3,026,529	3,065,374	3,090,624	3,102,866	3,170,678	3,224,394	3,274,235

777 NORTH CAPITOL STREET NE, SUITE 300, WASHINGTON, DC 20002
 MWCOG.ORG (202) 862-9200

- Annual Publication – Updated after BLS Releases Annual Estimates for the Quarterly Census of Employment and Wages

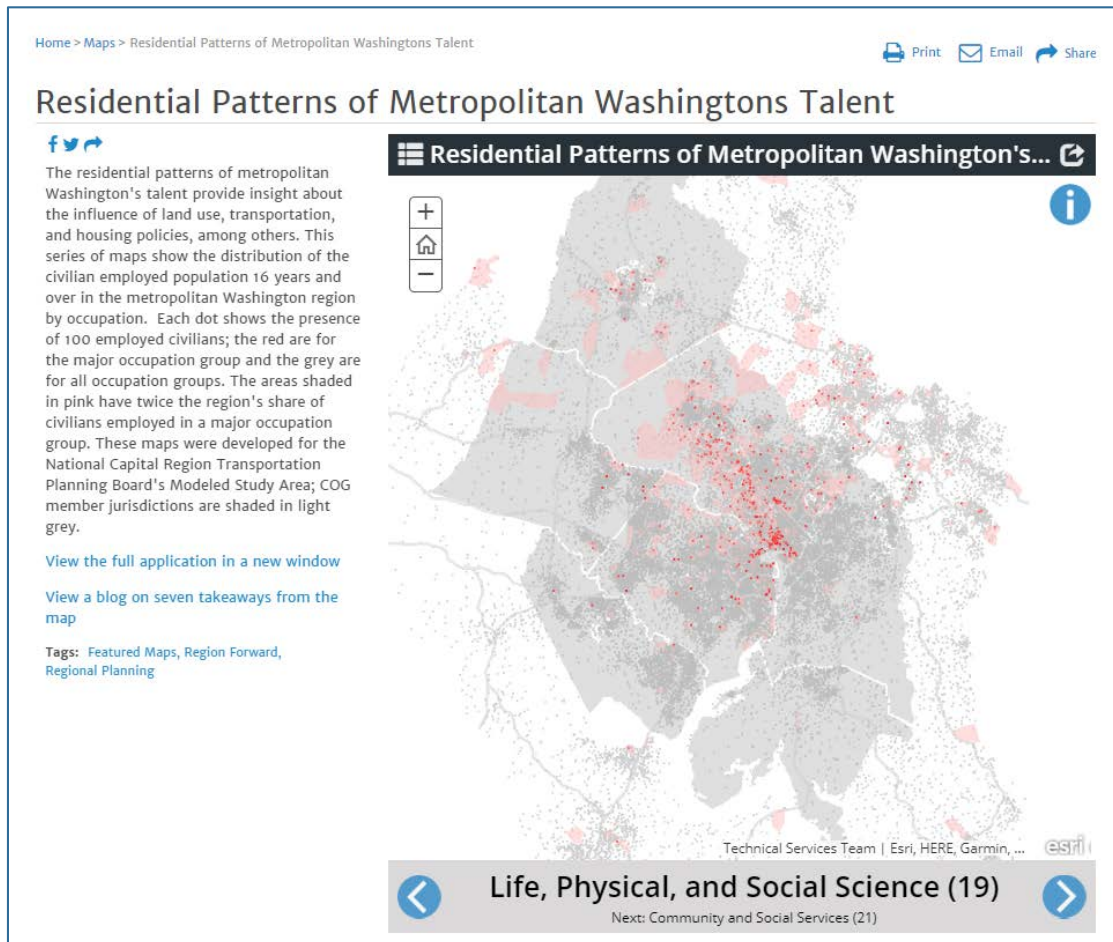


Annualized 2017 QCEW Data

- COG staff regularly summarizes QCEW data. Data by jurisdiction and by industry for metropolitan Washington is available upon request.



Residential Patterns of Metropolitan Washington's Talent



- Civilian employed population displayed by major occupation and block group
- Provide insight about the influence of land use, transportation, and housing policies
- Support economic development activities



NAICS to Land Use Types Conversion



Metropolitan Washington
Council of Governments

MEMORANDUM

TO: Cooperative Forecasting and Data Subcommittee, Members
FROM: John Kent, Regional Planner and Greg Goodwin, Regional Planner
SUBJECT: Cooperative Forecasting Program - Employment Estimates and Projections
DATE: September 11, 2018

The purpose of this memorandum is to identify and highlight some of the best practices in cooperative forecasting for understanding the relationship between available small area employment data and COG's land use types. Drawing from earlier COG research, COG member-jurisdictions, Metropolitan Planning Organizations around the country, this document will highlight best practices and methods that are most relevant to the COG forecasting process and needs.

The COG staff has been asked by members of the Cooperative Forecasting and Data Subcommittee, to re-examine the relationship between the North American Industrial Classification System (NAICS) and the standard COG land use categories for employment data. Generally, the approach of using NAICS to allocate jobs to the land use type is only useful for estimating a base-year when used in conjunction with a data source, such as a QCEW or Infogroup employment file. COG recognizes the importance of our local partners in developing the Cooperative Forecasts. While COG offers guidance for estimating base years¹, COG understands that every jurisdiction uses additional data and insight to develop employment estimates and forecasts. The forecast years are just as important as base-year estimates and are based on member-jurisdiction Comprehensive Plans, zoning, and other local land use expertise.

BACKGROUND

Employment is a major component of the COG Cooperative Forecasting process. TAZ-level employment, household and population data from the Cooperative Forecast is used by Transportation Planning Board (TPB) staff as inputs to the travel demand forecasting model. Member-jurisdictions submit to COG both base-year employment and 30 years of forecasted employment at five-year intervals. Employment in the forecast is divided into four land use categories: Industrial, Office, Retail and Other. The four unique land use types enable the TPB travel demand model to assign different traffic generation rates to each employment category. Retail employment has a higher trip generation factor than the other land use types, although the difference in trip generation rates has fallen in recent years.

Readily available employment data is typically classified under two major standards. NAICS classifies industries based upon products or services. The Standard Occupational Classification (SOC) system classifies workers based upon the job performed. The SOC description of an individual worker's employment duties is often a better indicator of commuting and other transportation requirements than the NAICS industrial sector in which the worker's employer participates. Despite this, NAICS-

¹ See Update to Suggested Baseline Employment Estimates Memorandum presented to July 10, 2018 Cooperative Forecasting and Data Subcommittee meeting.

777 NORTH CAPITOL STREET NE, SUITE 300, WASHINGTON, DC 20002
MWCOG.ORG (202) 962-9200

New memo reviewing COG Member, COG staff and other MPO approaches to using NAICS employment data for assigning employment data to the four COG land use categories.

- Tables from Fairfax, Loudoun and Prince William Counties
- Tables from Atlanta, Baltimore, Los Angeles, Seattle and Philadelphia MPOs
- Proposed table using NAICS-3 categories and land use types identified in 1985 COG memo on SIC employment



Metropolitan Washington
Council of Governments

Surveyed MPOs

MPO	MWCOG/TPB	ARC	BMC	SCAG	PSRC	DVRPC
Region	Washington	Atlanta	Baltimore	Los Angeles	Seattle	Philadelphia
Travel Model	4-step	Activity Based	Activity Based	Activity Based	Activity Based	4-step
NAICS Categories Used	2- or 4-Digit	2-Digit	2-Digit (Food/Hotel, 3-Digit)	2-Digit	2-Digit (Food/Hotel, 3-Digit)	2-Digit
Number of Land Use Types	4	6	7	13	8	3
Forecast Methodology	Econometric Model / Top-Down	Econometric and Land Use Model	Bottom-Up	Bottom-Up	Econometric and Land Use Model	Econometric Model / Top-Down
Data Sources For Employment	Global Insight, QCEW, State, InfoGroup	REMI, QCEW	QCEW	QCEW, State, InfoGroup	CES, QCEW	Dunn & Bradstreet, NETS, Woods & Poole, CTPP



Table 1: COG Jurisdiction Tables for Converting NAICS to COG Land Use Types

NAICS	Industry	Fairfax County / DC				Loudoun County				Prince William County			
		Industrial	Retail	Office	Other	Industrial	Retail	Office	Other	Industrial	Retail	Office	Other
11	Agriculture & Forestry	95	5	0	0	95	5	0	0	100	0	0	0
21	Mining	95	5	0	0	100	0	0	0	100	0	0	0
22	Utilities	25	0	75	0	25	0	70	5	25	0	70	5
236	Construction (Buildings)	34	0	66	0	90	0	10	0	34	0	66	0
2371-2373	Construction (Civil Eng.)	34	0	66	0	90	0	10	0	34	0	66	0
2379	Construction (Civil Eng.)	34	0	66	0	95	0	5	0	34	0	66	0
238	Construction (Contractors)	34	0	66	0	90	0	10	0	34	0	66	0
31-33	Manufacturing	100	0	0	0	100	0	0	0	100	0	0	0
42	Wholesale Trade	90	5	5	0	80	5	10	5	90	5	5	0
44-45	Retail Trade	0	96	0	4	0	100	0	0	0	96	0	4
481-486	Transport & Warehousing	25	0	75	0	95	0	5	0	25	0	70	5
487-488	Transport & Warehousing	25	0	75	0	0	0	0	100	25	0	70	5
491-492	Transport & Warehousing	25	0	75	0	60	20	20	0	25	0	70	5
493	Transport & Warehousing	25	0	75	0	95	5	0	0	25	0	70	5
51	Information	0	0	98	2	0	0	100	0	25	0	70	5
521	Finance (Central Banks)	0	0	98	2	0	0	100	0	0	0	98	2
5221	Finance (Depository)	0	0	98	2	0	50	50	0	0	0	98	2
5222-5223	Finance and Insurance	0	0	98	2	0	0	98	2	0	0	98	2
523-525	Finance and Insurance	0	0	98	2	0	0	98	2	0	0	98	2
5311-5312	Real Estate and Leasing	0	0	98	2	0	0	100	0	0	0	98	2
5313	Real Estate and Leasing	0	0	98	2	0	0	0	100	0	0	98	2
532	Real Estate and Leasing	0	0	98	2	0	100	0	0	0	0	98	2
533	Real Estate and Leasing	0	0	98	2	0	0	100	0	0	0	98	2
54	Professional and Tech. Svcs.	0	0	98	2	0	0	100	0	0	0	98	2
55	Management of Companies	0	0	98	2	0	0	100	0	0	0	98	2
561	Admin. & Waste Services	25	0	70	5	0	0	100	0	0	0	98	2
5621-5622	Admin. & Waste Services	25	0	70	5	95	0	5	0	0	0	98	2
5629	Admin. & Waste Services	25	0	70	5	0	0	100	0	0	0	98	2
61	Educational Services	0	5	90	5	0	0	10	90	0	0	10	90
6211-6214	Health Care & Social Assist.	0	0	98	2	0	0	100	0	0	0	70	30
6215	Health Care & Social Assist.	0	0	98	2	0	0	0	100	0	0	70	30
6216	Health Care & Social Assist.	0	0	98	2	0	0	80	20	0	0	70	30
6219	Health Care & Social Assist.	0	0	98	2	0	0	0	100	0	0	70	30
622	Health Care & Social Assist.	0	0	98	2	0	0	100	0	0	0	70	30
623	Health Care & Social Assist.	0	0	98	2	0	0	80	20	0	0	70	30
6241-6243	Health Care & Social Assist.	0	0	98	2	0	0	80	20	0	0	70	30
6244	Health Care & Social Assist.	0	0	98	2	0	0	0	100	0	0	70	30
7111	Arts and Recreation	10	10	70	10	10	0	90	0	0	100	0	0
7112	Arts and Recreation	10	10	70	10	20	70	10	0	0	100	0	0
7113-7115	Arts and Recreation	10	10	70	10	0	0	100	0	0	100	0	0
712	Arts and Recreation	10	10	70	10	0	0	0	100	0	100	0	0
7131	Arts and Recreation	10	10	70	10	20	70	10	0	0	100	0	0
7132	Arts and Recreation	10	10	70	10	0	100	0	0	0	100	0	0
7139	Arts and Recreation	10	10	70	10	20	70	10	0	0	100	0	0
721	Accommodation & Food Svcs.	15	65	20	0	30	70	0	0	0	100	0	0
722	Accommodation & Food Svcs.	15	65	20	0	0	100	0	0	0	96	0	4
811	Other Services, Public Admin	0	18	78	4	30	70	0	0	0	100	0	0
8121-8122	Other Services, Public Admin	0	18	78	4	0	20	80	0	0	100	0	0
8123	Other Services, Public Admin	0	18	78	4	0	100	0	0	0	100	0	0
8129	Other Services, Public Admin	0	18	78	4	0	20	80	0	0	100	0	0
813-814	Other Services, Public Admin	0	18	78	4	0	0	0	100	0	0	80	20
921-927	Public Administration	0	0	100	0	0	0	40	60	0	0	40	60
92811	Public Admin. (Military)	0	0	100	0	0	0	40	60	0	0	65	35
92812	Public Administration	0	0	100	0	0	0	40	60	0	0	40	60
99	Other	0	0	0	100	0	0	0	100	15	10	5	70

Table 2: MPO Tables for Converting NAICS to Travel Model Land Use Types

NAICS	Industry	ARC (Atlanta)	BMC (Baltimore)	SCAD (Los Angeles)	PSRC (Seattle)	DVRPC (Philadelphia)
11	Agriculture, Forestry, and Fishing	Natural Resources	Industrial	Agriculture	Natural Resources	Basic
21	Mining, Quarrying, and Extraction	Natural Resources	Industrial	Agriculture	Natural Resources	Basic
22	Utilities	Industrial	Industrial	Transport & Utilities	Industrial	Other
23	Construction	Other	Industrial	Construction	Industrial	Basic
31	Manufacturing	Industrial	Industrial	Manufacturing	Industrial	Basic
32	Manufacturing	Industrial	Industrial	Manufacturing	Industrial	Basic
33	Manufacturing	Industrial	Industrial	Manufacturing	Industrial	Basic
42	Wholesale Trade	Industrial	Industrial	Wholesale Trade	Industrial	Basic
44	Retail Trade	Retail	Retail	Retail	Retail	Retail
45	Retail Trade	Retail	Retail	Retail	Retail	Retail
48	Transportation and Warehousing	Industrial	Industrial	Transport & Utilities	Industrial	Other
49	Transportation and Warehousing	Industrial	Industrial	Transport & Utilities	Industrial	Other
51	Information	Other	Office	Information	Office	Other
52	Finance and Insurance	Office	Office	F.I.R.E.	Office	Other
53	Real Estate and Rental and Leasing	Office	Office	F.I.R.E.	Office	Other
54	Professional and Technical Services	Office	Office	Prof. Business Servs.	Office	Other
55	Management of Companies	Office	Office	Prof. Business Servs.	Office	Other
56	Administrative and Waste Services	Office	Other	Prof. Business Servs.	Office	Other
61	Educational Services	Services	Education	Education & Health	Services	Other
62	Health Care and Social Assistance	Services	Medical	Education & Health	Medical	Other
71	Arts, Entertainment, and Recreation	Services	Other	Leisure Hospitality	Services	Other
721	Accommodation	Services	Other	Leisure Hospitality	Services	Other
722	Food Services	Services	Food	Leisure Hospitality	Food	Other
81	Other Services	Services	Other	Other Services	Services	Other
92	Public Administration	Other	Office	Government	Government	Other

*The land use categories for ARC have been abbreviated to fit the table layout.

Table 3: Three-Digit NAICS to COG Land Use Types

NAICS	Industry Description	Land Use	NAICS	Industry Description	Land Use
111	Crop Production	Other	483	Water Transportation	Industrial
112	Animal Production	Other	484	Truck Transportation	Industrial
113	Forestry and Logging	Other	485	Ground Passenger Transport	Industrial
114	Fishing and Hunting	Other	486	Pipeline Transportation	Industrial
115	Agriculture Support	Other	487	Sightseeing Transportation	Industrial
211	Oil and Gas Extraction	Other	488	Transportation Support	Industrial
212	Mining	Other	491	Postal Service	Other
213	Mining Support	Other	492	Couriers and Messengers	Other
221	Utilities	Industrial	493	Warehousing and Storage	Industrial
236	Construction of Buildings	Industrial	511	Publishing Industries	Office
237	Heavy Construction	Industrial	512	Recording Industries	Other
238	Specialty Trade Contractors	Industrial	515	Broadcasting	Office
311	Food Manufacturing	Industrial	517	Telecommunications	Office
312	Beverage and Tobacco Mfg.	Industrial	518	Data Processing and Hosting	Other
313	Textile Mills	Industrial	519	Other Information Services	Other
314	Textile Product Mills	Industrial	521	Monetary Authorities	Office
315	Apparel Manufacturing	Industrial	522	Credit Intermediation	Office
316	Leather Manufacturing	Industrial	523	Securities	Office
321	Wood Product Manufacturing	Industrial	524	Insurance Carriers	Office
322	Paper Manufacturing	Industrial	525	Financial Vehicles	Office
323	Printing	Industrial	531	Real Estate	Office
324	Petroleum and Coal Mfg.	Industrial	532	Rental and Leasing Services	Retail
325	Chemical Manufacturing	Industrial	533	Lessors of Intangible Assets	Office
326	Plastics Manufacturing	Industrial	541	Professional and Tech. Services	Office
327	Mineral Product Mfg.	Industrial	551	Management of Companies	Office
331	Primary Metal Mfg.	Industrial	561	Admin. and Support Services	Office
332	Metal Product Mfg.	Industrial	562	Waste Management	Industrial
333	Machinery Manufacturing	Industrial	611	Educational Services	Other
334	Computer Manufacturing	Industrial	621	Ambulatory Health Care	Retail
335	Electrical Manufacturing	Industrial	622	Hospitals	Other
336	Transport Manufacturing	Industrial	623	Nursing Care Facilities	Other
337	Furniture Manufacturing	Industrial	624	Social Assistance	Other
339	Miscellaneous Mfg.	Industrial	711	Performing Arts and Sports	Other
423	Durable Goods Wholesale	Industrial	712	Museums and Historical Sites	Other
424	Nondurable Goods Wholesale	Industrial	713	Recreation Industries	Other
425	Wholesale Brokers	Office	721	Accommodation	Retail
441	Vehicle and Parts Dealers	Retail	722	Food Services	Retail
442	Furniture Stores	Retail	811	Repair and Maintenance	Retail
443	Electronics Stores	Retail	812	Personal and Laundry	Retail
444	Building Material Stores	Retail	813	Religious and Civic Orgs.	Other
445	Food and Beverage Stores	Retail	814	Private Households	Other
446	Personal Care Stores	Retail	921	Government Support	Office
447	Gasoline Stations	Retail	922	Justice and Safety Activities	Other
448	Clothing Stores	Retail	923	HR Program Admin.	Office
451	Hobby Stores	Retail	924	Enviro. Program Admin.	Office
452	General Merchandise Stores	Retail	925	Urban Dev't Admin.	Office
453	Miscellaneous Retailers	Retail	926	Econ. Program Admin.	Office
454	Nonstore Retailers	Office	927	Space Research	Industrial
481	Air Transportation	Industrial	928	National Security	Other
482	Rail Transportation	Industrial			

Greg Goodwin

Senior Regional Planner

(202) 962-3274

ggoodwin@mwcog.org

Nicole McCall

Senior Regional Planner

(202) 962-3341

nmccall@mwcog.org

John Kent

Regional Planner

(202) 962-3215

jkent@mwcog.org

mwcog.org

777 North Capitol Street NE, Suite 300

Washington, DC 20002



Metropolitan Washington
Council of Governments