

COOPERATIVE FORECASTING PROGRAM: BACKGROUND AND ROUND 8.2 FORECASTS

Paul DesJardin, Director of Community Planning & Services

Greg Goodwin, Regional Planner

Metropolitan Washington Council of Governments

Chesapeake Bay Program

Land Use Workgroup Meeting

September 16, 2013

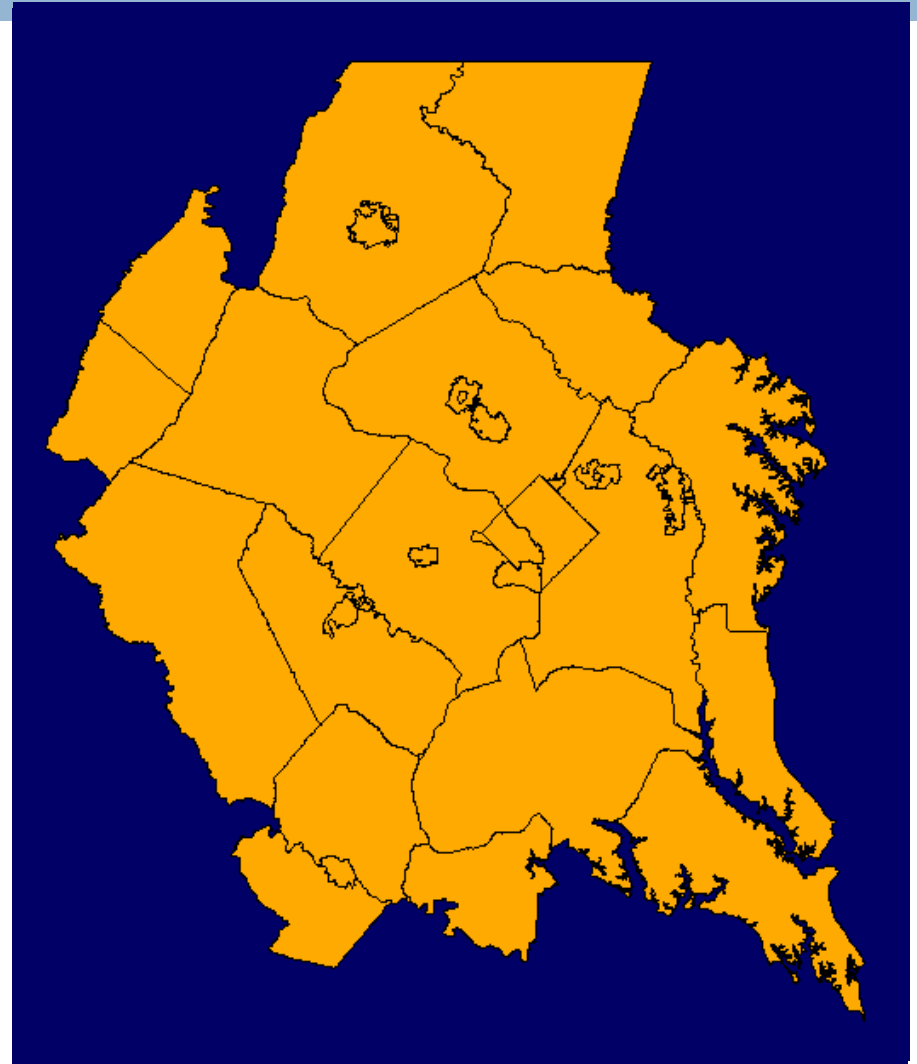
Cooperative Forecasting Program

2

- Provides consistent local and regional household, population and employment projections based on common assumptions about future growth
 - ▣ Established by COG in 1975
 - ▣ Prepared under the direction of the Planning Directors Technical Advisory Committee (PDTAC)
 - ▣ Reviewed and approved by the COG Board
 - ▣ Official local government projections
- Inputs for transportation, water and air quality modeling by COG and TPB, local government planning, and private sector market analysis
- Major series or “Round” approximately every 4 years

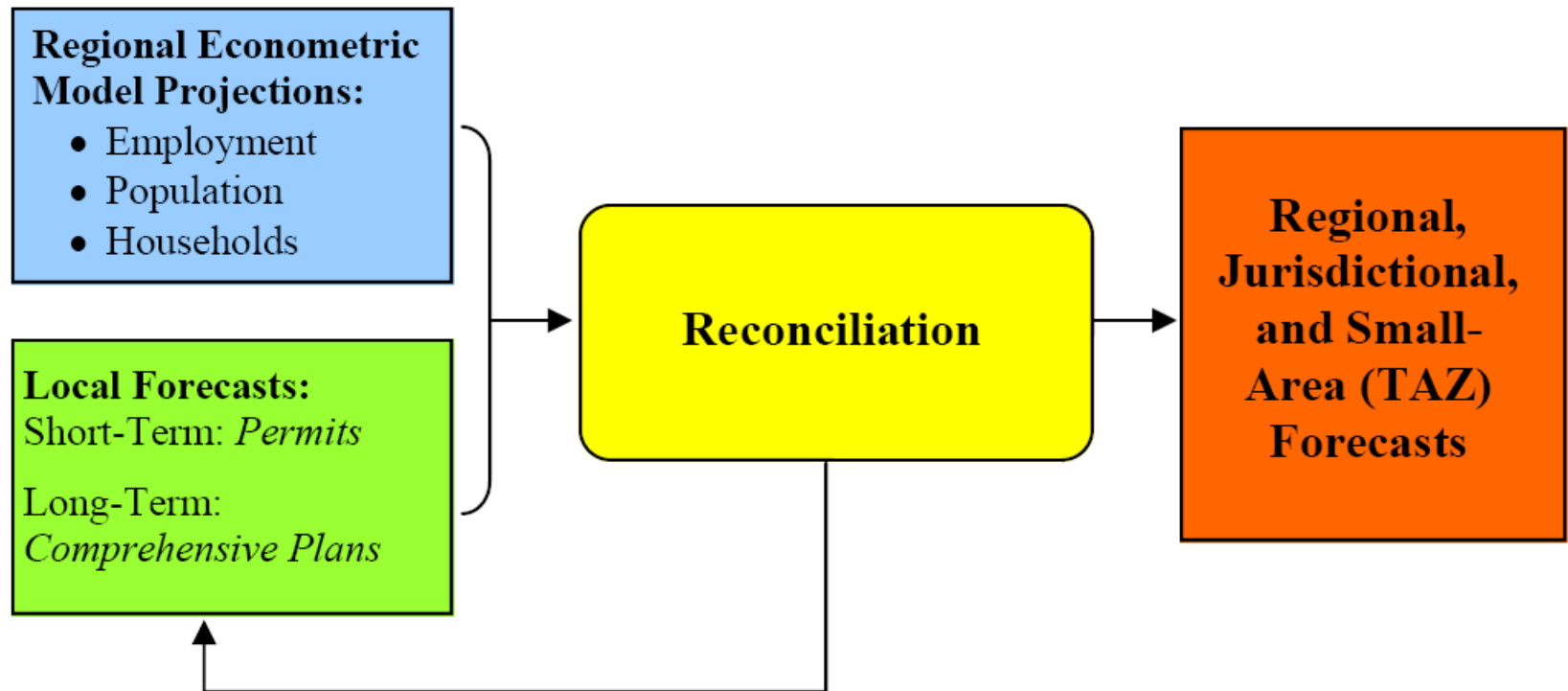
Growth Forecasts for All Jurisdictions in the TPB Modeled Area are included in Round 8.2.

- COG Members
- BMC Counties in TPB Modeled Area
 - ▣ Anne Arundel, Carroll & Howard
- Tri-County Council
 - ▣ Calvert, Charles & St. Mary's
- FAMPO
 - ▣ Fredericksburg, King George, Spotsylvania & Stafford
- Others
 - ▣ Clarke, Fauquier & Jefferson



Cooperative Forecasting Process

4



Annual Updates

5

- **COG Board policy** (*since 1992, ISTEA and CAA*) **which permits – but DOES NOT REQUIRE – annual updates (8.1, 8.2, etc.)**
 - ▣ Local governments review and explicitly consider major federally-funded transportation facilities to document their likely land use impacts
 - ▣ Annual process also captures local land use and comprehensive plan changes

Typical Schedule for a Cooperative Forecasting Round Update

6

- **May/June 2012** – Announcement of the schedule for the Cooperative Forecasting Round update
- **September 2012** - Local jurisdictions submit a Letter of Intent (from the Planning Director) to update the Cooperative Forecasts for their jurisdiction
- **October 2012** - Preliminary local jurisdictional totals are due to COG Staff by the October Cooperative Forecasting meeting
- **November/December 2012** – Preliminary “sum of local jurisdictional totals” are reconciled with the benchmark econometric regional projections and reviewed by the Cooperative Forecasting Subcommittee and Planning Directors Technical Advisory Committee
- **January 2013** - The Planning Directors Technical Advisory Committee approves the final reconciled local jurisdictional totals and recommends that the COG Board approve the use of the updated Cooperative Forecasts in the TPB Constrained Long Range Plan (CLRP) Update and Air Quality Conformity Analysis
- **February 2013** - Round 8.2 TAZ level forecasts are due to COG staff by February 1, 2013. COG Board approves Round 8.2 as inputs for TPB’s CLRP Update and Air Quality Conformity Analysis. After the COG Board action, TAZ level forecasts are transmitted to Transportation Planning Staff
- **July 2013** – The COG Board formally adopts Round 8.2 Forecasts as the official growth forecasts for the region and the TPB adopts the updated CLRP upon determination that the updated CLRP conforms with established regional air quality mobile emissions budgets

Cooperative Forecasting History

7

- ❑ **ROUND 1 - 1976**
- ❑ **ROUND 2 - 1979**
- ❑ **ROUND 3 - 1983**
- ❑ Round 3.5 - 1985 Update
- ❑ **ROUND 4 - 1987**
- ❑ Round 4-1 – 1991
- ❑ **ROUND 5 - January 1994**
- ❑ Round 5.1 - May 1994
- ❑ Round 5.2 - 1995
- ❑ Round 5.3 - 1996
- ❑ Round 5.4 - 1997
- ❑ **ROUND 6a - 1998**
- ❑ Round 6.1 - 1999
- ❑ Round 6.2 - 2000
- ❑ Round 6.3 - 2003
- ❑ Round 6.4 - *Never Adopted*
- ❑ Round 6.4A - 2004
- ❑ **ROUND 7.0 - 2005**
- ❑ Round 7.0a - 2006
- ❑ Round 7.1 - 2008
- ❑ Round 7.2 - 2009
- ❑ Round 7.2A - 2009
- ❑ **ROUND 8.0 - 2010**
- ❑ Round 8.0a - 2011
- ❑ Round 8.1 - 2012
- ❑ Round 8.2 - 2013

Regional Econometric Model Projections

8

- **Top Down:** Benchmark projections of future growth are generated from an econometric model that predicts the total amount of growth that the region as a whole can expect over a 30-year forecasting period.
 - For Round 8, regional benchmark projections were generated from a comprehensive econometric model developed by IHS Global Insight, a private sector firm that provides economic forecasting and analysis services to more than 3,800 clients in industry, finance and government.
 - The IHS Global Insight econometric model incorporates nearly 2,000 economic, financial, and demographic factors in generating its projections. Each region of the US is modeled individually and then linked into a national system.
 - The IHS Global Insight model provides 5-to-30 year regional projections for:
 - Employment by industry sector (NAICS)
 - Population by age group
 - Households by household head age group
 - Projections of total regional employment are generated by multiplying IHS Global Insight projections of wage and salary employment projections by a factor developed from US Census data to account for self-employed workers who are not included in the econometric model projections

Local Forecasts

- **Bottom Up:** Jurisdictional and small-area TAZ-level employment, household, and population forecasts are prepared independently by local planning staff in each COG member jurisdiction for the 30-year forecasting period.
 - ▣ Short-term local forecast are based on:
 - Current construction, building permits, approved development plans, rezoning applications
 - ▣ Longer-term local forecasts are based on:
 - Adopted and approved area master plans, jurisdictional comprehensive or general plans, current zoning capacity and past and current trends in market absorption rates.
 - ▣ COG staff also provide local planning staff with current small area employment data files and Census data at the Transportation Analysis (TAZ) level to assist in the development of local jurisdiction base year estimates.
 - ▣ Local jurisdictions describe their methodology and the assumptions made in preparing their local forecasts as part of the Cooperative Forecasting process

Reconciliation

10

- **Reconciliation:** Local planners working through COG's Cooperative Forecasting Subcommittee reconcile the regional sum of the independently prepared local forecasts with the regional projections from econometric model.
 - ▣ Subcommittee members carefully review the forecasts of each jurisdiction and have the opportunity to question the reasonableness of methodology and assumptions used to prepare these forecasts.
 - ▣ Assumptions regarding the regional balance of households, workers, jobs and in-commuting from outside the region are reviewed for reasonableness.
 - *In Round 7, an additional 130,000 households were added to the local forecasts*
 - ▣ Reconciliation and modification of the local forecasts continue until the sum of local government forecasts are within about 3 percent of the econometric model projections

How Accurate Have the Household and Population Forecasts Been?

9

Households					
Jurisdiction:	Round 4.1 1990 Base Year	Round 4.1 2010 Forecast Year	Forecast % Growth	Actual % Growth	Actual Growth 1990 - 2010
District of Columbia	259,300	264,800	2%	3%	7,400
Arlington Co., VA	81,400	96,000	15%	17%	16,700
City of Alexandria, VA	56,400	72,100	22%	17%	11,700
Montgomery Co., MD	280,000	371,000	25%	22%	81,000
Prince George's Co., MD	262,900	337,000	22%	14%	41,100
Fairfax Co., VA	259,600	448,200	42%	35%	139,900
Loudoun Co., VA	31,000	77,400	60%	70%	73,600
Prince William Co., VA	64,500	142,700	55%	56%	83,300
Frederick Co., MD	53,100	92,500	43%	37%	31,700
Charles Co., MD	33,600	58,500	43%	34%	17,400
Total	1,381,800	1,960,000	30%	27%	503,800
Population					
Jurisdiction:	Round 4.1 1990 Base Year	Round 4.1 2010 Forecast Year	Forecast % Growth	Actual % Growth	Actual Growth 1990 - 2010
District of Columbia	628,300	627,700	0%	-4%	-26,600
Arlington Co., VA	167,000	178,800	7%	20%	40,600
City of Alexandria, VA	111,100	135,000	18%	21%	28,900
Montgomery Co., MD	710,000	820,000	13%	27%	261,600
Prince George's Co., MD	718,400	840,900	15%	17%	145,000
Fairfax Co., VA	825,800	1,028,400	20%	24%	265,700
Loudoun Co., VA	89,800	210,900	57%	71%	222,500
Prince William Co., VA	277,000	390,200	29%	39%	177,100
Frederick Co., MD	149,100	243,600	39%	36%	84,300
Charles Co., MD	103,800	161,500	36%	28%	40,800
Total	3,780,300	4,637,000	18%	25%	1,239,900

Round 4.1 Forecasts were adopted in 1991

How Accurate Have the Employment Forecasts Been?

10

	Employment				
	Round 4.1 1990	Round 4.1 2010	Forecast	Actual	Actual Growth
Jurisdiction:	Base Year	Forecast Year	% Growth	% Growth	1990 - 2010
District of Columbia	718,200	886,000	19%	8%	65,300
Arlington Co., VA	214,600	263,600	19%	4%	8,700
City of Alexandria, VA	97,300	145,200	33%	8%	8,700
Montgomery Co., MD	455,000	670,000	32%	11%	55,100
Prince George's Co., MD	311,800	473,000	34%	9%	30,800
Fairfax Co., VA	401,300	625,400	36%	41%	278,700
Loudoun Co., VA	33,800	98,300	66%	76%	109,900
Prince William Co., VA	75,500	142,900	47%	47%	68,100
Frederick Co., MD	53,100	117,500	55%	46%	45,600
Charles Co., MD	33,500	43,000	22%	46%	28,700
Total	2,394,100	3,464,900	31%	23%	699,600

Round 4.1 Forecasts were adopted in 1991

The Round 8.2 Cooperative Forecasts . . .

13

- . . . second update of the Cooperative Forecasts to include results of the 2010 Census
- . . . within 3 percent of the Round 8.0 Econometric Model benchmark regional forecasts for Employment, Population, and Households
- . . . based on a Transportation Analysis Zone (TAZ) structure (COG TAZ 3,722) almost doubling the number of TAZs from the previous series
- . . . will be used by the TPB in this year's Air Quality Conformity Analysis
- . . . will be an element in analyzing the Regional Activity Centers

Employment Comparison Throughout Forecast Period

1983 MSA Region

12

EMPLOYMENT (Thousands)

	2010	2015	2020	2025	2030	2035	2040
Round 8.2	3,148.8	3,344.6	3,620.4	3,863.1	4,085.7	4,278.5	4,485.4
Round 8.1	3,175.9	3,389.6	3,683.2	3,937.3	4,153.9	4,331.3	4,511.2
Change (#)	-27.1	-45.0	-62.8	-74.2	-68.2	-52.8	-25.8
Percent Change (%)	-0.9%	-1.3%	-1.7%	-1.9%	-1.7%	-1.2%	-0.6%
	↓	↓	↓	↓	↓	↓	↓

Key Trends in Employment Forecasts for Round 8.2

1983 MSA Region

13

- 1.3 million new jobs forecast between 2010 and 2040
 - Central Jurisdictions will add 349,500 jobs (+32%)
 - Inner Suburbs will add 626,300 (+42%)
 - Outer Suburbs will add 360,900 (+68%)
- Job growth rate in Northern Virginia (+55%) will outpace growth anticipated in Suburban Maryland (+39%) and the District of Columbia (+25%).
- Fairfax County, Montgomery County and the District of Columbia would add the largest number of new jobs to the region, followed by Prince George's, Loudoun and Prince William Counties.

Population Comparison Throughout Forecast Period

1983 MSA Region

14

POPULATION (Thousands)

	2010	2015	2020	2025	2030	2035	2040
Round 8.2	5,267.2	5,593.6	5,888.6	6,201.7	6,467.9	6,702.0	6,922.7
Round 8.1	5,240.9	5,556.2	5,866.1	6,167.2	6,413.9	6,621.6	6,803.1
Change (#)	26.3	37.4	22.5	34.5	54.0	80.4	119.6
Percent Change (%)	0.5%	0.7%	0.4%	0.6%	0.8%	1.2%	1.7%
	↑	↑	↑	↑	↑	↑	↑

Key Trends in Population Forecasts for Round 8.2

1983 MSA Region

15

- 1.7 million more people forecast between 2010 and 2040
 - Central Jurisdictions will add +292,800 people (+31%)
 - Inner Suburbs will add +659,400 (+22%)
 - Outer Suburbs will add +703,300 (+52%)

- Population growth in Northern Virginia (+40%) will outpace growth anticipated in Suburban Maryland (+24%), and the District of Columbia (+28%).

- Fairfax County, Montgomery County, and Prince William County would add the greatest number of new people to the region, followed by Loudoun County and the District of Columbia.

Household Comparison Throughout Forecast Period

1983 MSA Region

16

HOUSEHOLDS (Thousands)

	2010	2015	2020	2025	2030	2035	2040
<i>Round 8.2</i>	<i>1,959.5</i>	<i>2,093.9</i>	<i>2,219.8</i>	<i>2,348.8</i>	<i>2,460.8</i>	<i>2,560.7</i>	<i>2,654.9</i>
Round 8.1	1,959.4	2,094.8	2,226.8	2,350.3	2,453.6	2,542.0	2,619.8
Change (#)	0.1	-0.9	-7.0	-1.5	7.2	18.6	35.1
Percent Change (%)	0.0%	-0.0%	-0.3%	-0.1%	0.3%	0.7%	1.3%
	↑	↓	↓	↓	↑	↑	↑

Key Trends in Household Forecasts for Round 8.2

1983 MSA Region

17

Sub-region and Jurisdictional Level

- ▣ 695,000 new households between 2010 and 2040
 - ▣ Central Jurisdictions will add +130,500 (+30%)
 - ▣ Inner Suburbs +298,300 (+28%)
 - ▣ Outer Suburbs +266,600 (+58%)

- ▣ Growth in Northern Virginia (+43%) will outpace Suburban Maryland (+30%), and the District of Columbia (27%).

- ▣ Fairfax County, Montgomery County, Prince William County would add the largest numbers of new households, followed by Prince George's County and the District of Columbia.

Next Steps

18

- Fall 2013 – Initiated annual update cycle (Round 8.3) for jurisdictions that choose to update their forecasts to support the TPB Conformity Process.
- Acquired new metropolitan area projections of employment and population to compare with Round 8.0 Econometric Model (Developed in 2009).