

# LOUDOUN COUNTY

# DEMOGRAPHIC FORECASTING



## COG COOPERATIVE FORECASTING AND DATA SUBCOMMITTEE

NOVEMBER 5, 2013

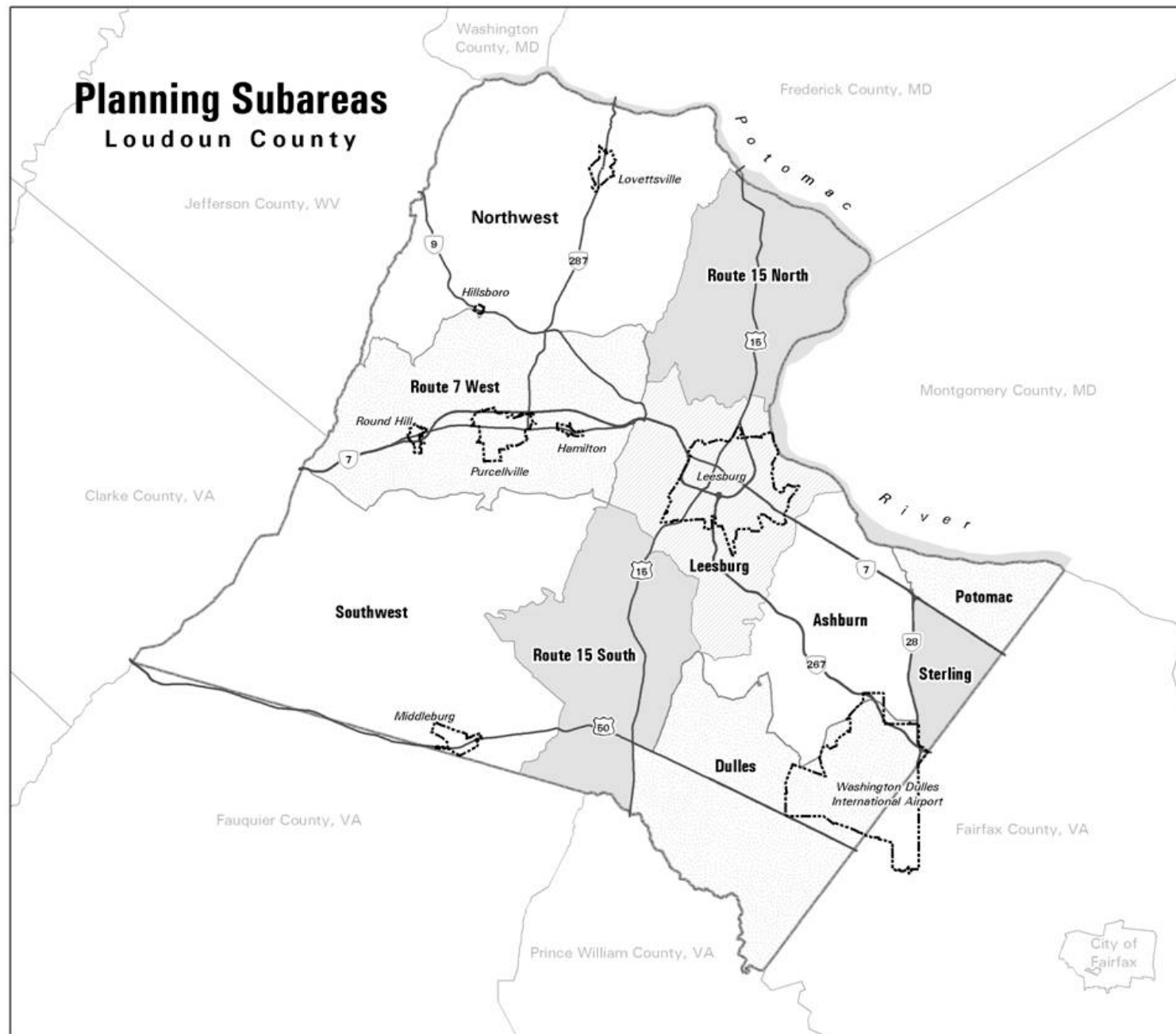
*Jill Kaneff, Demographer*

*Loudoun County Department of Planning*

# FORECASTING PROCESS

1. Estimates
2. Top-down approach for forecasting
  - County forecasts
  - Planning subarea forecasts
  - Fiscal Impact Committee
3. Bottom-up approach for forecasting
  - TAZ forecasts
  - Refine county and planning subarea forecasts

# Planning Subareas Loudoun County





# DATA COMPONENTS: FORECASTS

- Base data estimates
- Market conditions
- Building permitting trend
- Approved projects
- Residential build out
- Supply of land
- Rezoning and CPAMs
- Zoning
- Planned land use
- Timing of rail
- Redevelopment

# BASE DATA SOURCES

- Population, Housing Units, and Households
  - 2010 census blocks
  - ACS and Housing Vacancy Survey/Current Population Survey for vacancy rate trend
- Employment
  - Virginia Employment Commission ES-202 data by establishment
  - InfoUSA
  - Metropolitan Washington Airports Authority
  - Loudoun County Government and Schools employment
  - Costar vacancy rate by employment type
  - ACS for unincorporated workers and unpaid family workers trend

# RESIDENTIAL ESTIMATES AND FORECASTS

## Households

- $\text{Total Households} = \text{Base Households} + \text{New Households}$
- $\text{New Households} = \text{New Housing Units by Type} \times (100\% - \text{Vacancy Rate of New Units by Type})$

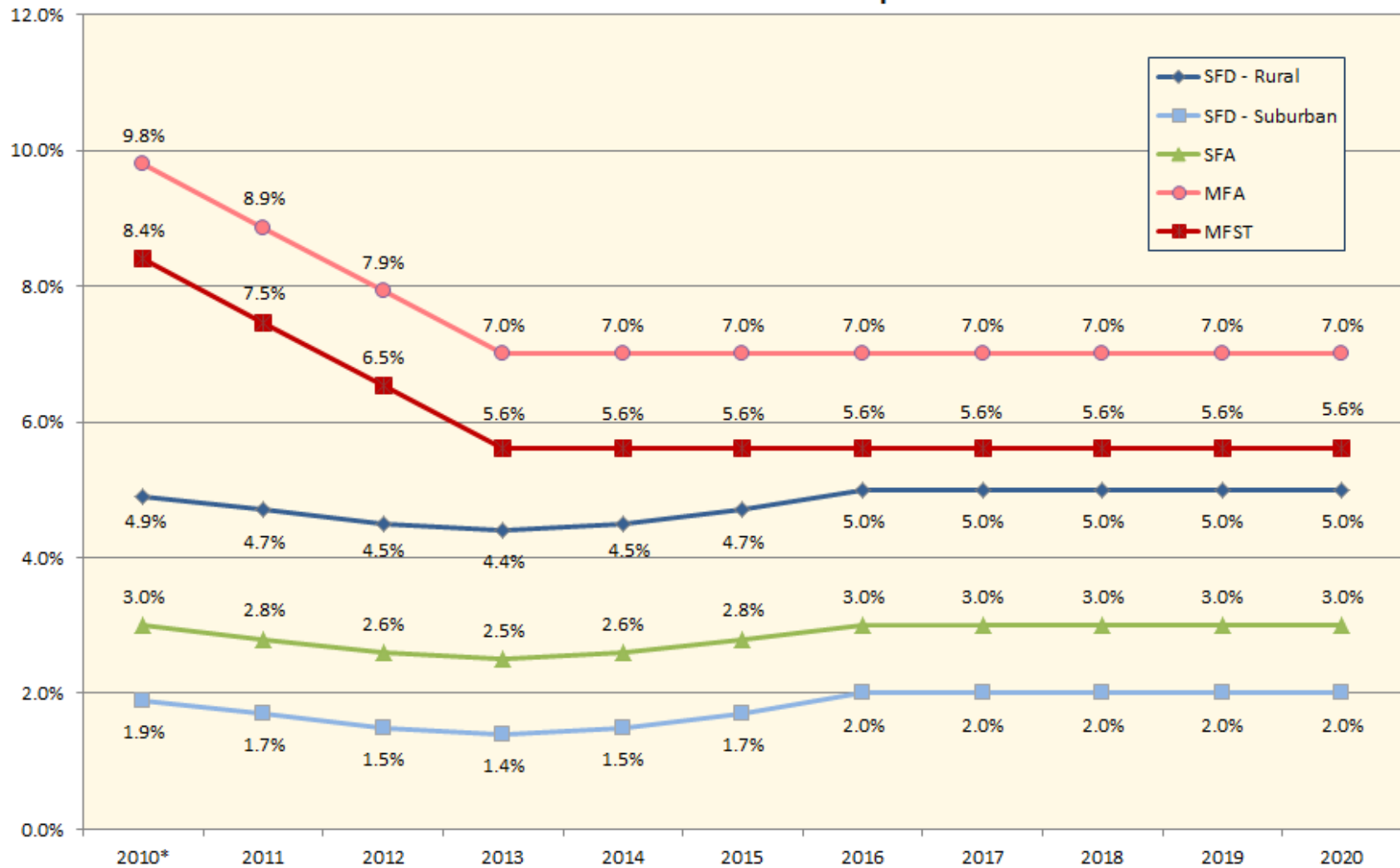
## Population

- $\text{Total Population} = \text{Base Population} + \text{New Population}$
- $\text{New Population} = \text{New Households} \times \text{Household Size of New Units by Unit Type}$

	New Unit Household Size
Single-Family Detached Suburban	3.78
Single-Family Detached Rural	3.39
Single-Family Attached	2.88
MF Stacked	2.20
MF Attached (Garden, High-Rise)	1.97



## Vacancy Rate by Housing Unit Type: 2013 FIC November 7th Proposal



\* 2010 Estimate based on analysis of 2010 Census data.

Note: All years after 2020 are forecasted with the same vacancy rates as the 2020 vacancy rates by housing unit type.

# RESIDENTIAL APPROVED PROJECTS

## Approved Residential Projects -- Loudoun County

More than one hundred major projects with greater than 20 units, totaling over 74,000 units, have been approved in Loudoun County. As of January 1, 2008, building permits have been issued for over 32,000 units out of the more than 74,000 units approved, leaving over 41,000 to be built. Completed projects are not shown on this table. A list of housing units for completed projects is available in the *2007 Growth Summary* section of the Department of Economic Development website, biz.loudoun.gov.

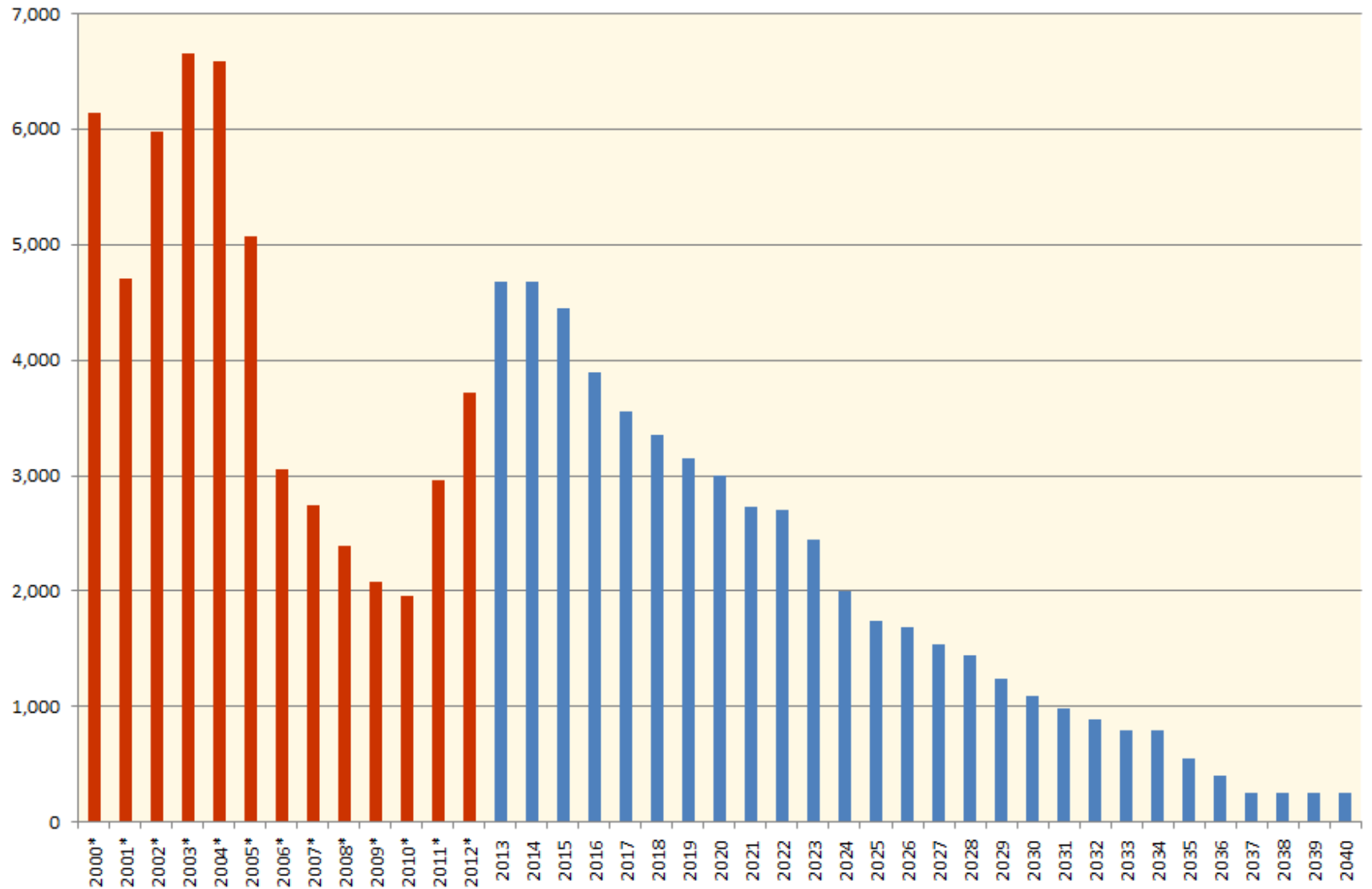
**Table F-7**

### Major Approved Residential Projects (20+ Units), 2007 Loudoun County, Virginia

Planning Subarea/ Project Name <sup>*(1)</sup>	Total Approved Units				Units Built or Permitted as of 1/1/08				Units Remaining to be Permitted as of 1/1/08				Percent Complete
	SFD	SFA	MF	Total	SFD	SFA	MF	Total	SFD	SFA	MF	Total	
<b>Ashburn</b>	<b>6,825</b>	<b>7,674</b>	<b>16,321</b>	<b>30,820</b>	<b>4,493</b>	<b>2,940</b>	<b>3,296</b>	<b>10,729</b>	<b>2,405</b>	<b>4,734</b>	<b>12,952</b>	<b>20,091</b>	<b>35%</b>
Alexander's Chase	65	142	0	207	0	0	0	0	65	142	0	207	0%
Amberleigh	80	64	0	144	69	62	0	131	11	2	0	13	91%
Ashby Ponds (Erickson Retirement) <sup>*(2)</sup>	0	0	2,108	2,108	0	0	154	154	0	0	1,954	1,954	7%
Ashburn Place	27	0	0	27	0	0	0	0	27	0	0	27	0%
Belmont Glen Village (Belmont Glen - Rouse Property)	196	0	0	196	0	0	0	0	196	0	0	196	0%
Belmont Ridge	0	29	0	29	0	0	0	0	0	29	0	29	0%
Broadlands	1,946	1,225	846	4,017	1,775	1,016	532	3,323	171	209	314	694	83%
Dulles Parkway Center	0	0	624	624	0	0	0	0	0	0	624	624	0%
Evergreen Hamlets <sup>*(3)</sup>	70	0	0	70	20	0	0	20	50	0	0	50	29%
Flynn's Crossing (Ryan Park Center)	0	250	228	478	0	133	228	361	0	117	0	117	76%
Goose Creek Chase	24	0	0	24	23	0	0	23	1	0	0	1	96%
Goose Creek Preserve	202	128	170	500	0	0	0	0	202	128	170	500	0%
Goose Creek Village North	0	300	264	564	0	0	0	0	0	300	264	564	0%
Goose Creek Village South	0	92	0	92	0	15	0	15	0	77	0	77	16%

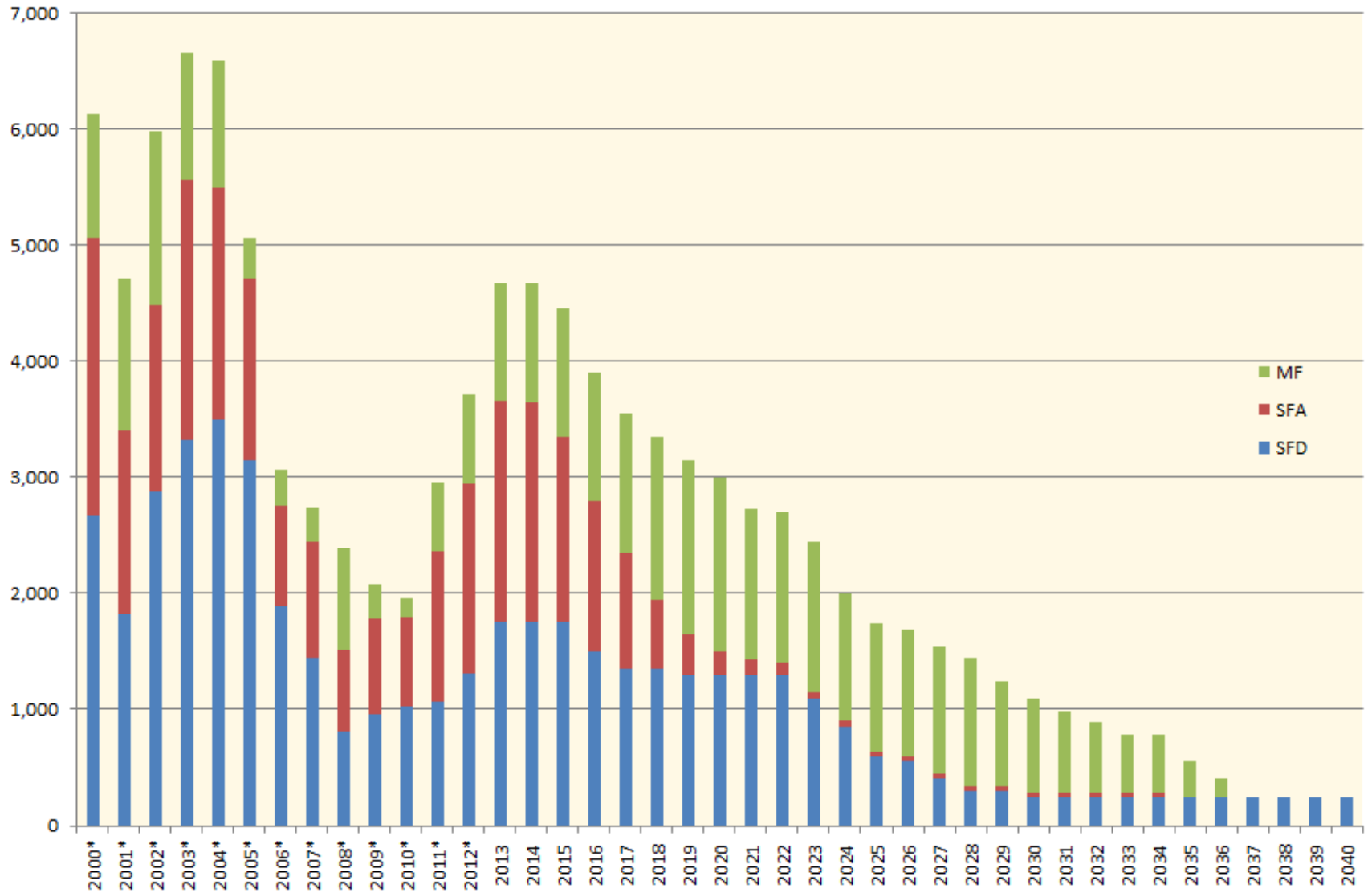


# Residential Permit Intermediate Scenario Forecasts:



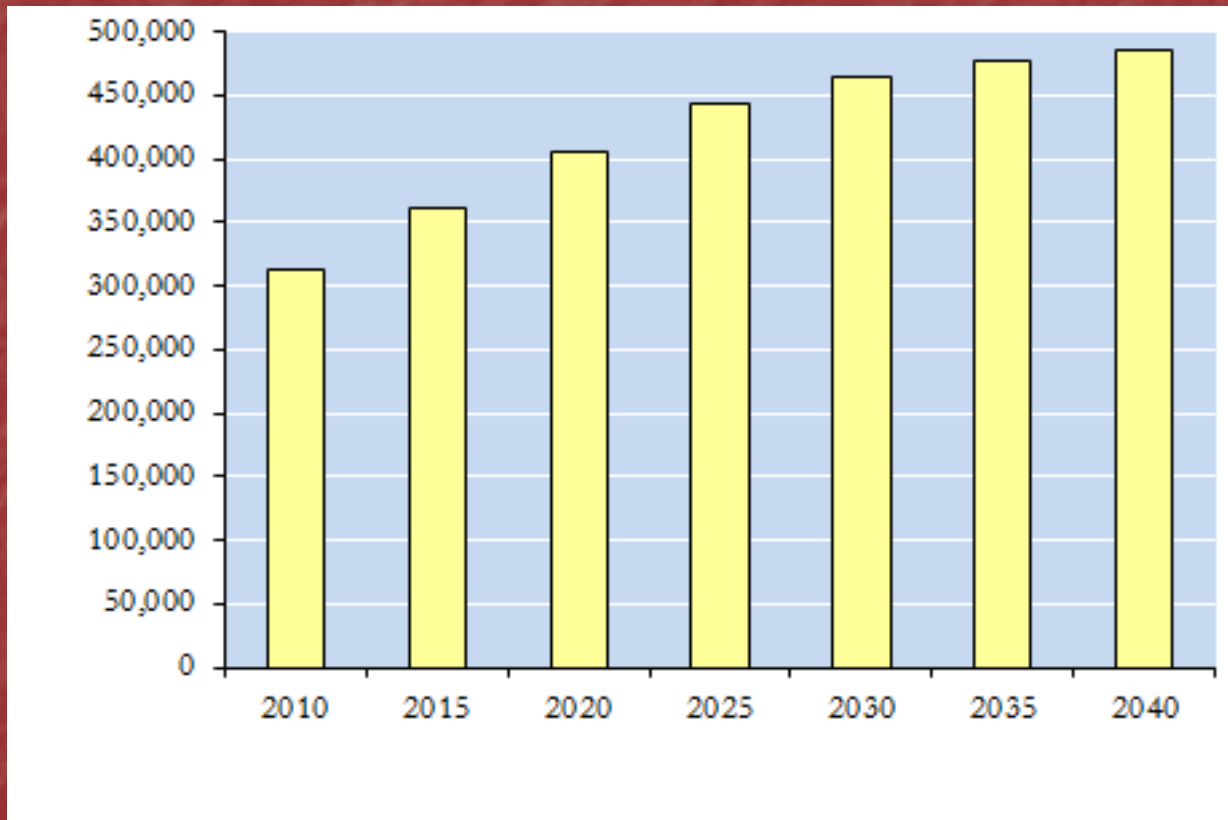
\* 2000 through 2012: actuals

# Permits by Housing Unit Type:



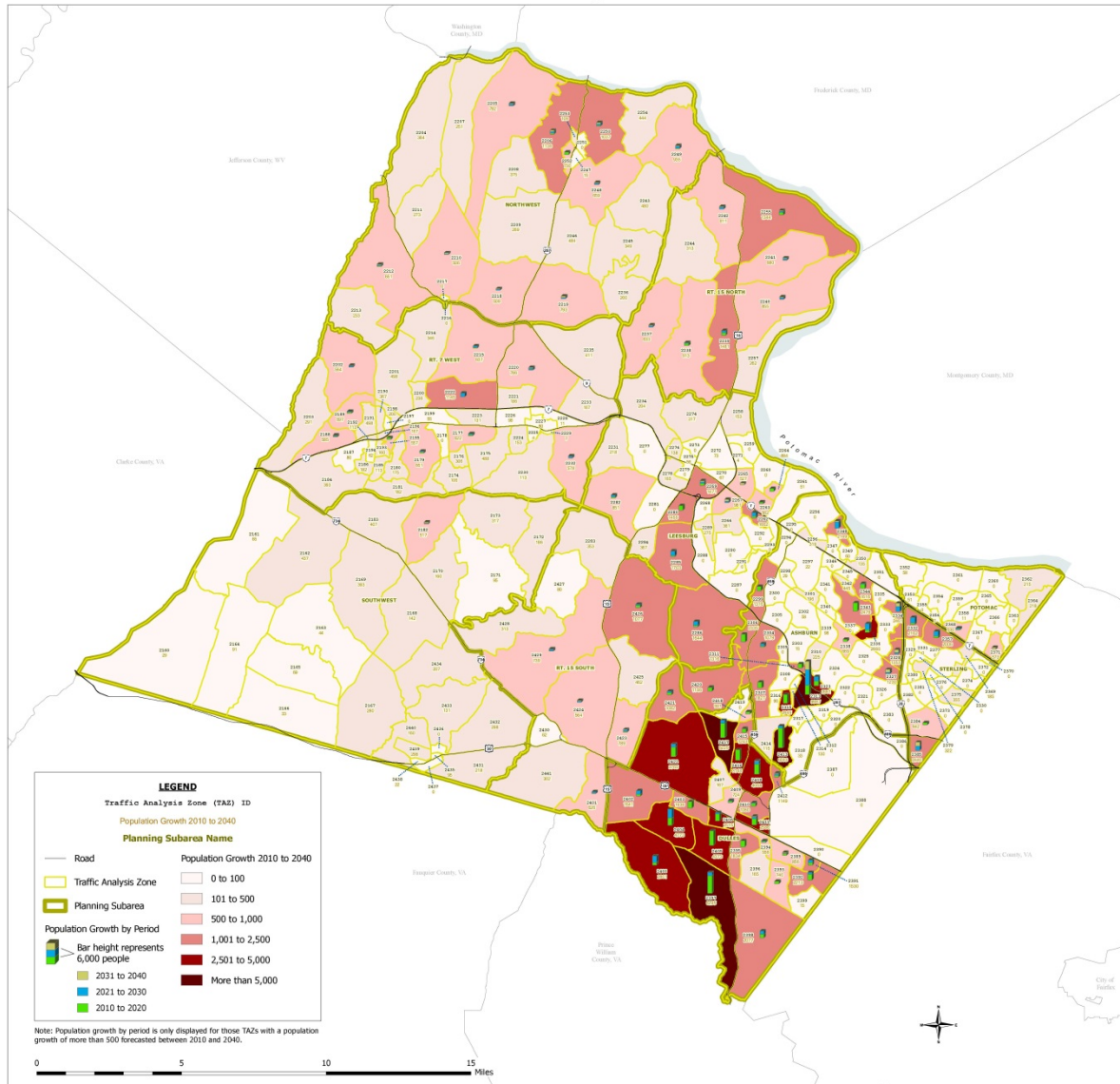
\* 2000 through 2012: actuals

# POPULATION FORECASTS ROUND 8.2



# Population Growth Forecasted From 2010 to 2040

## Loudoun County Round 8.2



Produced By: Loudoun County Department of Planning, March 7, 2013.  
 Map Number 2013-070.

Source: Loudoun County Department of Planning, COG Round 8.2  
 Cooperative Forecasts, February 20, 2013.



# EMPLOYMENT ESTIMATES AND FORECASTS

## Components

- New Square Footage
- Employees Per Square Foot by Employment Type
- Vacancy Rate by Employment Type
- Employment at Airport
- Non-Space Employment (i.e. self-employed, unincorporated businesses)

## Employment

- $\text{Total Employment} = \text{Base Employment} + \text{New Employment}$
- $\text{New Employment} = (\text{New Square Footage} \times (100\% - \text{Vacancy Rate}) \times \text{Employees per Square Feet}) + \text{New Non-Space Employment}$

# EMPLOYMENT FORECAST FACTORS

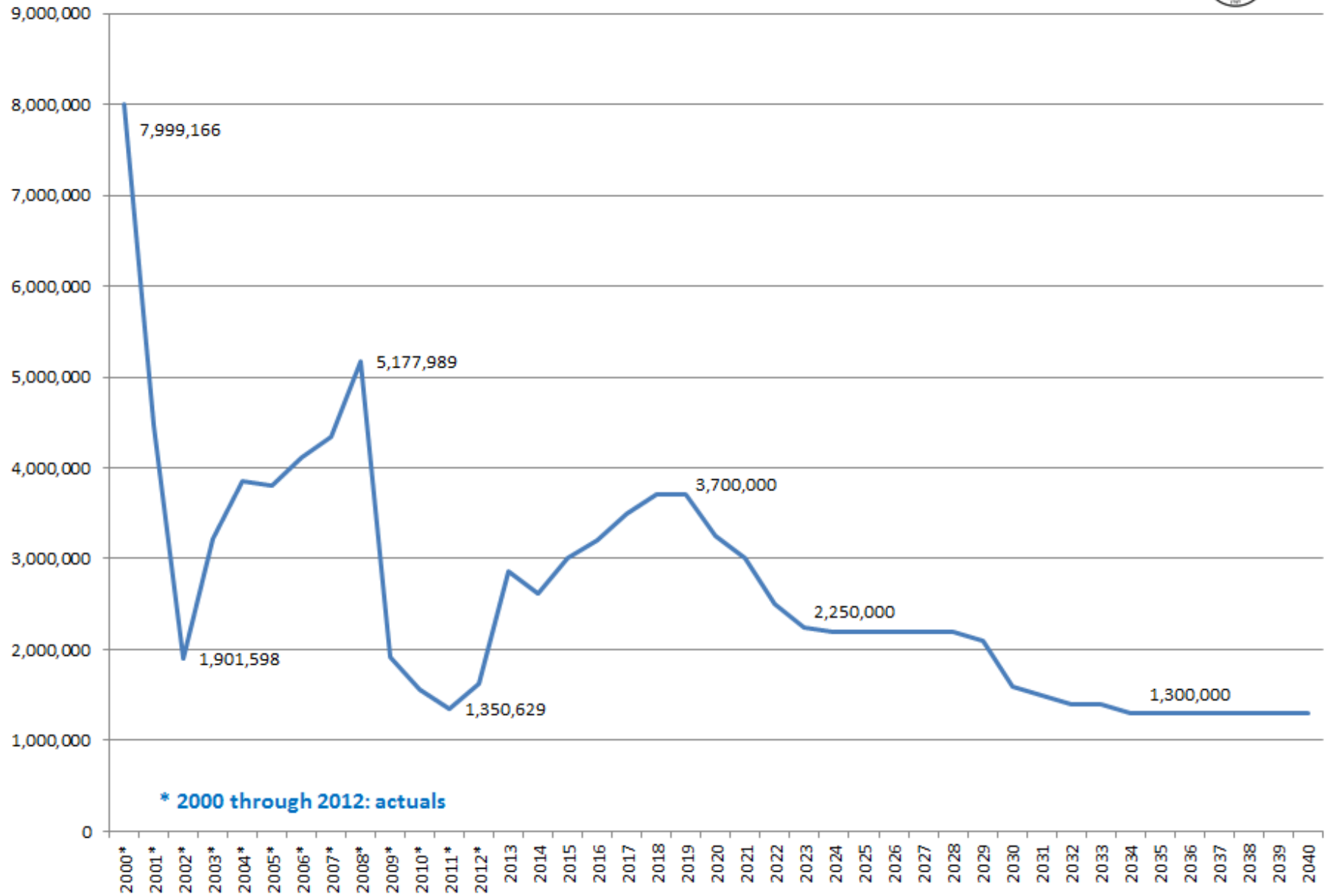
Vacancy Rate Assumptions										
Year	High Density Office	Low Density Office	Flex/Industrial	Data Center	Retail	Other	Other: Non-Public	Other: Public	Heavy Industrial	
2001*	13.0%	16.9%	18.9%	N/A	10.0%	8.0%	N/A	N/A	N/A	
2002*	13.0%	17.4%	21.4%	N/A	8.0%	7.0%	N/A	N/A	N/A	
2003*	13.0%	13.6%	19.2%	N/A	6.2%	6.8%	N/A	N/A	N/A	
2004*	13.0%	9.0%	15.9%	N/A	3.0%	8.0%	N/A	N/A	N/A	
2005*	12.4%	7.9%	15.1%	N/A	3.0%	5.6%	N/A	N/A	N/A	
2006*	12.4%	9.7%	13.3%	N/A	2.0%	5.0%	N/A	N/A	N/A	
2007*	13.7%	13.6%	14.2%	N/A	2.7%	5.0%	N/A	N/A	N/A	
2008*	31.0%	18.9%	13.3%	N/A	6.0%	5.0%	N/A	N/A	N/A	
2009*	15.4%	17.1%	15.8%	N/A	5.3%	5.0%	N/A	N/A	N/A	
2010*	14.8%	17.3%	12.4%	N/A	5.4%	5.0%	N/A	N/A	N/A	
2011*	11.7%	16.4%	10.3%	N/A	6.1%	5.0%	N/A	N/A	N/A	
2012*	11.1%	15.3%	10.1%	N/A	5.6%	5.0%	N/A	N/A	N/A	
2013**	11.5%	15.8%	8.9%	11.3%	4.8%	5.0%	5.7%	1.0%	N/A	
2014	10.5%	12.0%	10.0%	10.0%	5.0%	5.0%	5.7%	1.0%	N/A	
2015	10.5%	12.0%	10.0%	10.0%	5.0%	5.0%	5.7%	1.0%	N/A	
2016	12.0%	10.0%	12.0%	8.0%	5.5%	5.0%	5.7%	1.0%	N/A	
2017	12.0%	10.0%	12.0%	8.0%	5.5%	5.0%	5.7%	1.0%	N/A	
2018	12.0%	10.0%	12.0%	8.0%	6.0%	5.0%	5.7%	1.0%	N/A	
2019	12.0%	10.0%	12.0%	8.0%	6.0%	5.0%	5.7%	1.0%	N/A	
2020	12.0%	10.0%	12.0%	8.0%	6.5%	5.0%	5.7%	1.0%	N/A	
2021-2025	10.0%	9.0%	11.0%	6.0%	7.0%	5.0%	5.7%	1.0%	N/A	
2026-2030	10.0%	9.0%	11.0%	6.0%	7.0%	5.0%	5.7%	1.0%	N/A	
2031-2035	10.0%	9.0%	11.0%	6.0%	7.0%	5.0%	5.7%	1.0%	N/A	
2036-2040	10.0%	9.0%	11.0%	6.0%	7.0%	5.0%	5.7%	1.0%	N/A	

Employees Per Thousand Square Feet Assumptions		
Type		
High Density Office		3.40
Low Density Office		3.17
Flex/Industrial		2.15
Data Center		0.27
Retail		1.50
Other		1.19
Heavy Industrial		1.83

# NON-RESIDENTIAL APPROVED PROJECTS

Major Approved Office, Flex, Industrial and Mixed-Use Vacant Land (>20 acres), 2012				
Type of Development/Site Name	Vacant Usable Acres	Vacant Square Footage Potential		
		Density (0.40 or Max FAR)	Density (0.30 or Max FAR)	Density (0.20 FAR)
<b>Office</b>	<b>1,423</b>	<b>17,470,000</b>	<b>15,300,000</b>	<b>10,950,000</b>
Ashbrook	60	1,000,000	750,000	500,000
Ashburn Village	82	1,400,000	1,000,000	700,000
Battlefield (Leesburg)	115	800,000	800,000	800,000
Belmont	140	1,000,000	750,000	500,000
<b>Flex and Datacenter</b>	<b>888</b>	<b>12,800,000</b>	<b>10,900,000</b>	<b>7,280,000</b>
Ashburn Crossing I (Loudoun Pointe)	70	900,000	900,000	600,000
Beaumeade Corporate Park	55	950,000	700,000	450,000
Beaumeade Corporate Park - North of Trail	42	600,000	500,000	300,000
<b>Industrial</b>	<b>889</b>	<b>11,900,000</b>	<b>10,000,000</b>	<b>7,300,000</b>
Brambleton	70	1,200,000	900,000	600,000
Bryant Dulles Industrial Park West	82	1,000,000	1,000,000	700,000
Dulles Trade Center II	24	400,000	300,000	200,000
<b>Mixed-Use</b>	<b>736</b>	<b>15,100,000</b>	<b>9,700,000</b>	<b>6,600,000</b>
Arcola Center	160	2,400,000	2,000,000	1,300,000
Dulles Town Center	137	2,200,000	1,700,000	1,100,000
Dulles World	74	4,000,000	900,000	600,000
<b>Transit Oriented/Transit Related Development</b>	<b>561</b>	<b>13,500,000</b>	<b>7,100,000</b>	<b>4,400,000</b>
Dulles Parkway Center	39	800,000	500,000	300,000
International City	119	2,000,000	1,400,000	1,000,000
Loudoun Station	16	1,300,000	200,000	100,000
<b>Total</b>	<b>4,497</b>	<b>70,770,000</b>	<b>53,000,000</b>	<b>36,530,000</b>

# Square Feet Permitted, Intermediate Scenario



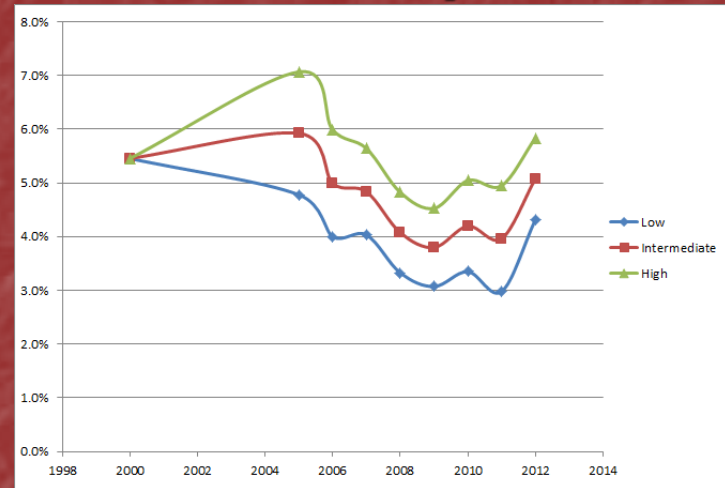


# Non-Space Employment Share

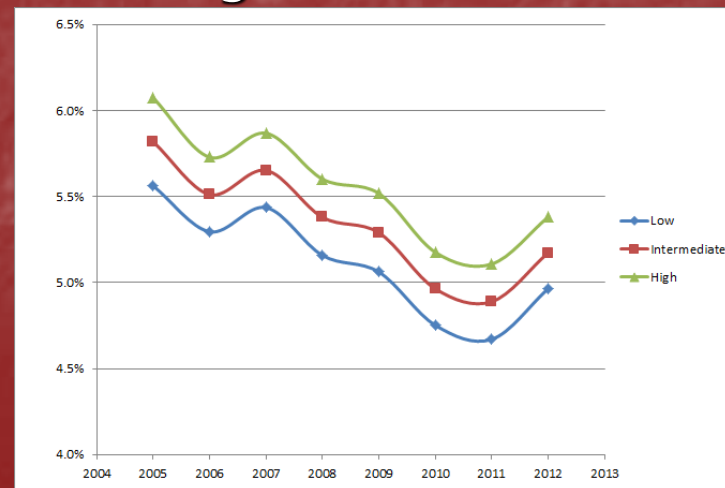
Non-Space Employment: Includes unincorporated self-employed and family self-employed workers that ES-202 data does not capture.

Year	Non-Space Employment	Share of Employment Assumption
2010	6,112	4.20%
2011	6,358	4.30%
2012	7,123	4.70%
2013	7,271	4.70%
2014	7,473	4.70%
2015	7,476	4.60%
2020	8,188	4.30%
2025	8,570	4.00%
2030	8,767	3.70%
2035	8,522	3.40%
2040	8,157	3.10%

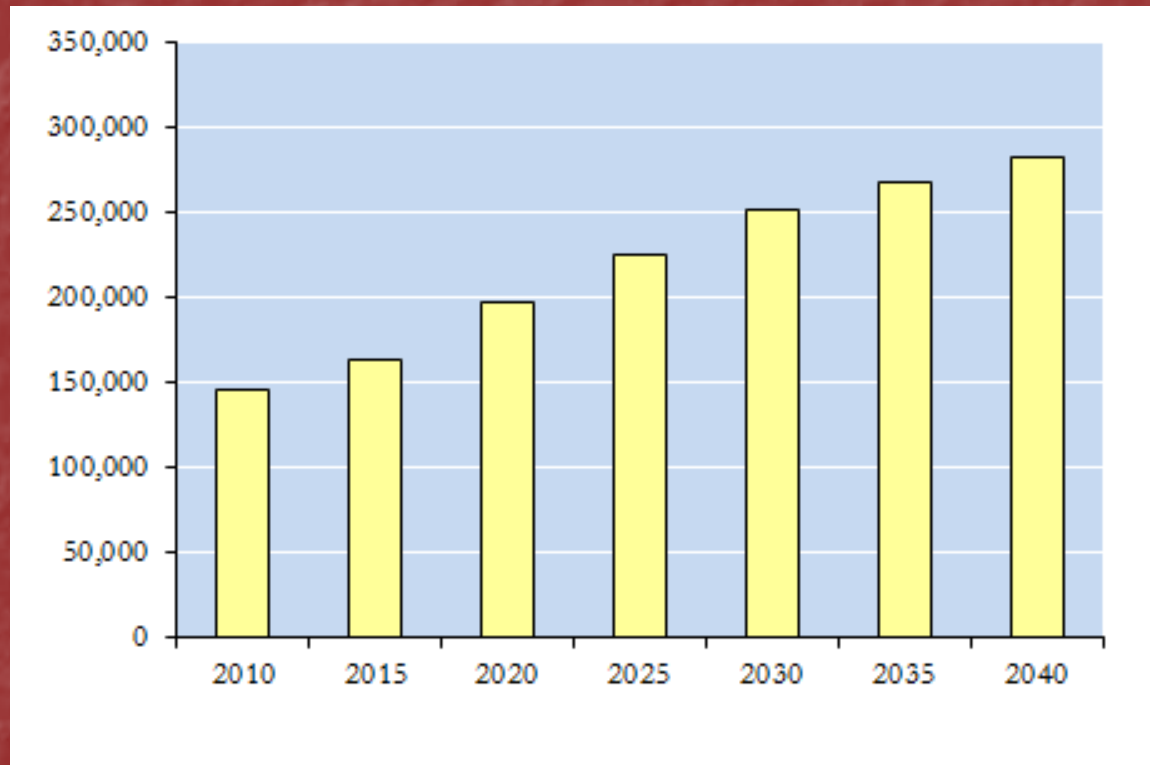
## Loudoun County



## Washington D.C. MSA



# EMPLOYMENT FORECASTS ROUND 8.2





# QUESTIONS?

**Jill Kaneff, Demographer**

**Loudoun County Department of Planning**

**[Http://www.loudoun.gov/demographics](http://www.loudoun.gov/demographics)**