

# Housing the Region's Future Workforce Research Summary

Presentation to the COG Cooperative Forecasting  
Subcommittee  
January 10, 2012

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# **Employment-Driven Forecasts of Housing Demand**

# Net New Jobs by Sub-state Region 2010-2030

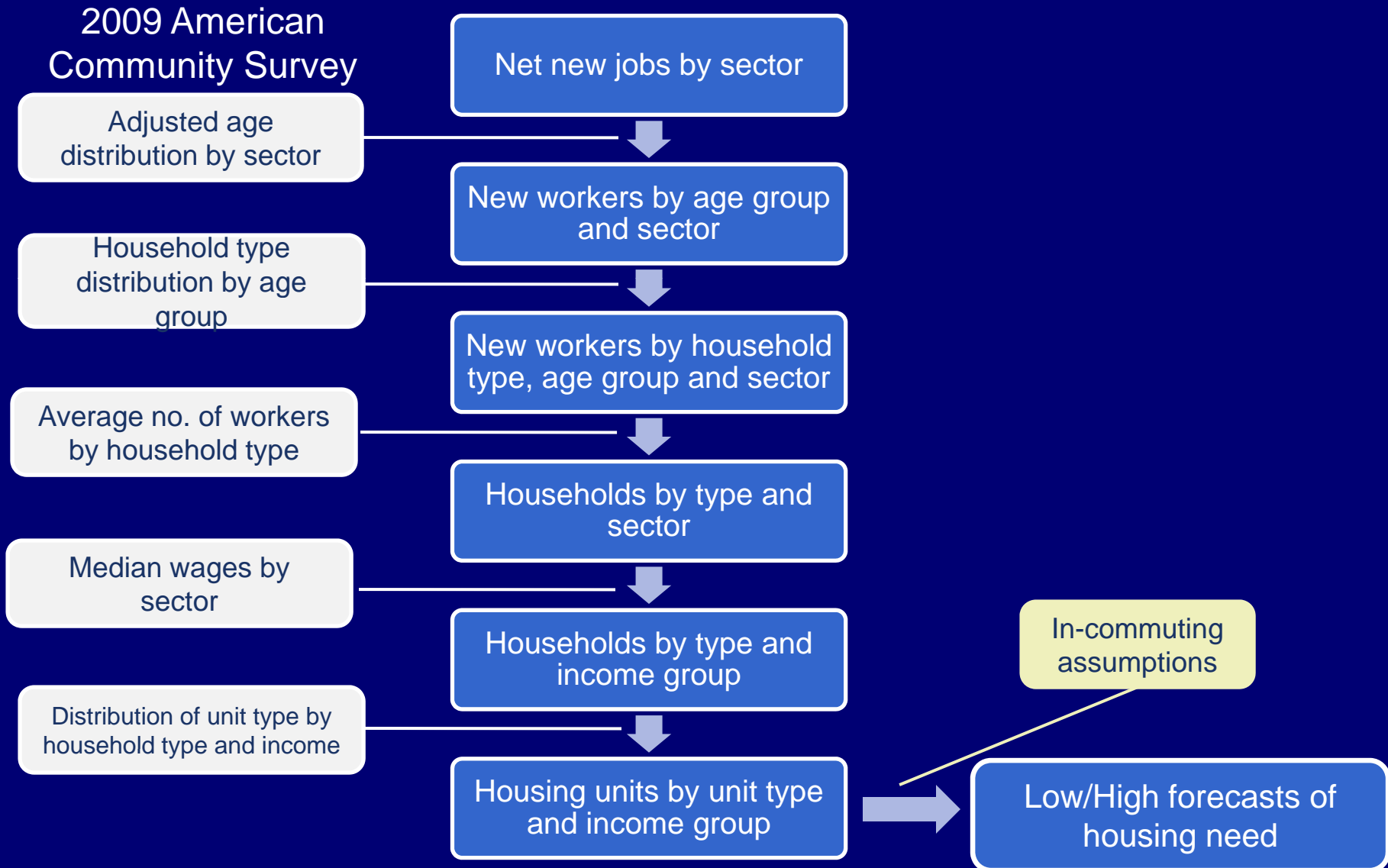
	Net New Jobs	Percent Change
District of Columbia	152,130	20.8
Suburban Maryland	316,525	32.9
Northern Virginia	578,480	54.9
Washington Region	1,053,855	38.2

Source: IHS Global Insight, GMU Center for Regional Analysis

# Housing the Region's Future Workforce

- How much housing is needed to accommodate new workers?
- Where should this housing be located?
- What types of housing units will be needed?
- What prices and rents will new workers be able to afford?

# Methodology for Forecasting Housing Need



# New Workers by Age Group and Sector Frederick County, MD

Sector	2010-2020
Total Employment	22,264
Construction, Natural Resources and Mining	2,701
Manufacturing	306
Transportation & Utilities	0
Wholesale Trade	487
Retail Trade	2,088
Information	230
Finance and Insurance	968
Real Estate and Rental and Leasing	505
<b>Prof, scientific and technical services; management</b>	<b>3,757</b>
Admin and waste services	1,717
Education	925
Health Services	3,414
Leisure and Hospitality	1,397
Other Services	433
Government/Public Administration	2,738
Military	598



Sector	<30	30-44	45-64
Total Employment	420	1,103	1,177
Construction, Natural Resources and Mining	74	123	108
Manufacturing	0	0	0
Transportation & Utilities	33	423	32
Wholesale Trade	1,193	609	286
Retail Trade	166	98	0
Information	125	500	344
Finance and Insurance	41	279	185
Real Estate and Rental and Leasing	1,118	1,439	1,200
<b>Prof, scientific and technical services; management</b>	<b>568</b>	<b>701</b>	<b>448</b>
Admin and waste services	234	386	304
Education	1,044	1,515	855
Health Services	996	395	7
Leisure and Hospitality	135	186	112
Other Services	512	1,007	1,219
Government/Public Administration	112	220	266
Military	420	1,103	1,177

- Analyze the age distribution of current workers by sector.
- Adjust the age distribution based on the age distribution of recent movers.

## Workers by Household Type, Age Group and Sector Frederick County, MD

<i>Age Group and Household Type</i>	1 adult	1 adult/ 1 kid	2 adults	1 adult/ 2 kids	2 adults/ 1 kid	3 adults	1 adult/ 3+ kids	2 adults/ 2+kids	3 adults/ 1+ kids	4+adults
<30	0.15	0.02	0.24	0.00	0.34	0.09	0.00	0.15	0.00	0.02
30-44	0.08	0.03	0.15	0.02	0.14	0.03	0.10	0.33	0.10	0.02
45-64	0.11	0.01	0.32	0.01	0.09	0.17	0.02	0.11	0.08	0.08



<i>Workers by Sector and Household Type</i>	1 adult	1 adult/ 1 kid	2 adults	1 adult/ 2 kids	2 adults/ 1 kid	3 adults	1 adult/ 3+ kids	2 adults/ 2+kids	3 adults/ 1+ kids	4+ adults
Prof, scientific and technical services; management	423	75	863	41	688	344	168	772	238	145

= 3,757 workers

- For each jurisdiction, analyze the distribution of household types for the three age groups.
- Assign workers in each sector to a household type based on their age group.

## Households by Type and Sector Frederick County, MD

<i>Household Type</i>	1 adult	1 adult/1 kid	2 adults	1 adult/2 kids	2 adults/1 kid	3 adults	1 adult/3+ kids	2 adults/2+kids	3 adults/1+ kids	4+ adults
<i>Workers per Household</i>	1	1	1.42	1	1.72	2.08	1	1.82	2.33	2.43



<i>Household Type</i>	1 adult	1 adult/1 kid	2 adults	1 adult/2 kids	2 adults/1 kid	3 adults	1 adult/3+ kids	2 adults/2+kids	3 adults/1+ kids	4+ adults
<i>Prof, scientific and technical services; management</i>	423	75	608	41	400	165	168	424	102	60

= 2,466 households

- For each jurisdiction, analyze the average number of workers by household type.
- Divide the total workers by average number of workers to calculate the number of households in each sector.
- Assumes multiple workers in a household work in the same sector.



# Households by Type and Income Group Frederick County, MD

<i>Household Income by Household Type</i>	1 adult	1 adult/ 1 kid	2 adults	1 adult/ 2 kids	2 adults/ 1 kid	3 adults	1 adult/ 3+ kids	2 adults/ 2+kids	3 adults/ 1+ kids	4+adults
Prof, scientific and technical services; management	47000	47000	66740	47000	80840	97760	47000	85540	109510	114210

Sum up for all sectors



<i>HH Income by HH Type</i>	1 adult	1 adult/ 1 kid	2 adults	1 adult/ 2 kids	2 adults/ 1 kid	3 adults	1 adult/ 3+ kids	2 adults/ 2+kids	3 adults/ 1+ kids	4+adults	Total Households
<\$50K	1,816	386	2,126	208	1,045	347	863	1,002	135	81	8,007
\$50-74K	396	69	1,383	41	622	251	163	757	80	45	3,807
\$75-99K	0	0	38	0	740	176	0	818	180	88	2,040
\$100-124K	0	0	0	0	0	173	0	0	210	123	506
\$125-149K	0	0	0	0	0	0	0	0	0	2	2
\$150K+	0	0	0	0	0	0	0	0	0	0	0

- For each jurisdiction, calculate the median wage for each sector.
- Sum wages based on average number of workers per household to calculate household income.
- Sum up households from all sectors into six income categories.

# Housing Units by Unit Type and Income Group

	1 adult	1 adult/ 1 kid	2 adults	1 adult/ 2 kids	2 adults/ 1 kid	3 adults	1 adult/ 3+ kids	2 adults/ 2+kids	3 adults/ 1+ kids	4+adults
\$50-74K										
SF-owner	0.370	0.275	0.608	0.491	0.340	0.633	0.496	0.504	0.509	0.529
SF-renter	0.026	0.117	0.039	0.029	0.151	0.041	0.270	0.107	0.069	0.150
MF-owner	0.260	0.215	0.154	0.249	0.202	0.127	0.084	0.140	0.152	0.113
MF-renter	0.344	0.393	0.199	0.230	0.307	0.200	0.149	0.248	0.270	0.209
\$75-99K										
SF-owner	0.454	0.504	0.644	0.491	0.566	0.614	0.765	0.795	0.639	0.529
SF-renter	0.064	0.000	0.045	0.029	0.123	0.063	0.081	0.045	0.121	0.150
MF-owner	0.273	0.160	0.153	0.249	0.149	0.232	0.058	0.135	0.156	0.113
MF-renter	0.209	0.336	0.158	0.230	0.162	0.091	0.096	0.025	0.085	0.209

HH Income	Single-Family		Multi-Family		Total
	Owner	Renter	Owner	Renter	
<\$50K	2,796	1,171	755	3,285	8,007
\$50-74K	1,924	316	636	932	3,807
\$75-99K	1,363	176	305	196	2,040
\$100-124K	309	48	70	79	506
\$125-149K	1	0	0	0	2
\$150K+	0	0	0	0	0
Total	6,393	1,711	1,766	4,492	14,363

- Analyze distribution of unit types by household income and household type.
- Sum up for all household types.

# High/Low Forecast Depending on Commuting Assumptions

High: Assumes all county's new workers are housed in the county

	Single-Family		Multi-Family		Total
	Owner	Renter	Owner	Renter	
<\$50K	2,796	1,171	755	3,285	8,007
\$50-74K	1,924	316	636	932	3,807
\$75-99K	1,363	176	305	196	2,040
\$100-124K	309	48	70	79	506
\$125-149K	1	0	0	0	2
\$150K+	0	0	0	0	0
<b>Total</b>	<b>6,393</b>	<b>1,711</b>	<b>1,766</b>	<b>4,492</b>	<b>14,363</b>

Low: Assumes current in-commuting rate for new jobs

	Single-Family		Multi-Family		Total
	Owner	Renter	Owner	Renter	
<\$50K	2,041	855	551	2,398	5,845
\$50-74K	1,404	231	464	680	2,779
\$75-99K	995	128	223	143	1,489
\$100-124K	226	35	51	58	370
\$125-149K	1	0	0	0	2
\$150K+	0	0	0	0	0
<b>Total</b>	<b>4,667</b>	<b>1,249</b>	<b>1,289</b>	<b>3,279</b>	<b>10,485</b>

# Housing Forecasts by Sub-state Region 2010-2030

	High Estimates	COG Round 8	Low Estimates
<b>District of Columbia</b>	<b>122,613</b>	<b>52,045</b>	<b>36,784</b>
<b>Suburban Maryland</b>	<b>211,612</b>	<b>186,916</b>	<b>133,731</b>
<b>Northern Virginia</b>	<b>392,817</b>	<b>304,209</b>	<b>174,191</b>
<b>Washington Region</b>	<b>731,457</b>	<b>555,818</b>	<b>348,282</b>

Note: The high estimates assume all workers are housed in the jurisdiction in which they work. The low estimates assume that new jobs have the same in-commuting rates as current jobs.

**Job Change and Housing Demand: 2010 - 2030  
Comparison With COG Round 8 Forecasts**

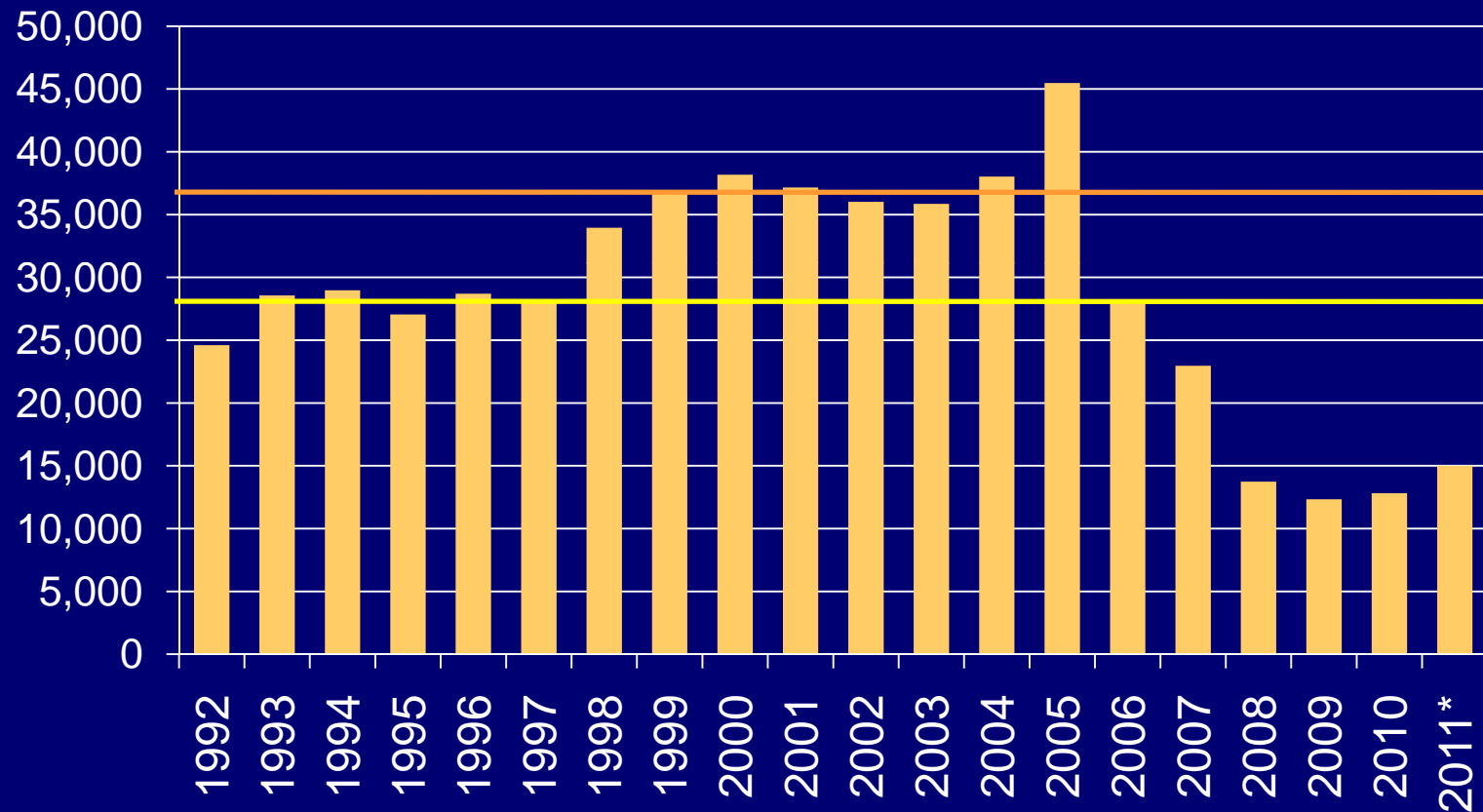
	Jobs		Housing Units		
	Global Insight	COG	CRA High Forecast*	COG	CRA Low Forecast*
<b>District of Columbia</b>	<b>152,130</b>	<b>138,025</b>	<b>122,613</b>	<b>52,045</b>	<b>36,784</b>
Calvert	14,588	12,006	9,764	6,302	8,007
Charles	20,401	15,300	13,608	23,261	8,029
Frederick	41,950	24,845	27,336	35,417	19,956
Montgomery	163,008	167,000	108,522	77,500	69,454
Prince George's	76,578	61,250	52,382	42,800	28,286
<b>Suburban Maryland</b>	<b>316,525</b>	<b>280,401</b>	<b>211,612</b>	<b>186,916</b>	<b>133,731</b>
Alexandria City	41,340	33,362	30,922	16,252	6,494
Arlington	46,640	63,431	34,342	20,865	8,929
Clarke	1,086	1,308	744	1,418	431
Fairfax**	168,833	183,762	110,947	79,667	52,145
Fauquier	10,261	13,096	6,870	20,631	4,740
Loudoun	146,909	113,459	98,171	47,878	51,049
Prince William**	81,241	88,065	55,065	62,050	30,286
Spotsylvania**	44,362	31,387	30,375	26,102	13,061
Stafford	33,786	22,972	22,680	29,346	11,793
Warren	4,022	n/a	2,702	n/a	1,756
<b>Northern Virginia</b>	<b>578,480</b>	<b>550,842</b>	<b>392,817</b>	<b>304,209</b>	<b>180,685</b>
Jefferson Co WV	6,720	7,666	4,414	12,648	3,576
<b>Washington MSA</b>	<b>1,053,855</b>	<b>976,934</b>	<b>731,457</b>	<b>555,818</b>	<b>354,775</b>

Source: GMU Center for Regional Analysis

\* The high forecast assumes all workers are housed in the jurisdiction in which they work. The low forecast assumes current in-commuting rates for new workers.

\*\*Includes independent cities.

# Building Permits Washington Region 1992-2010



Source: US Census Bureau

\*2011 annualized based on data through June,

1992-2011 annual average = 28,600

2011-2030 needed = 38,500

# Comparing Current and Forecasted Units

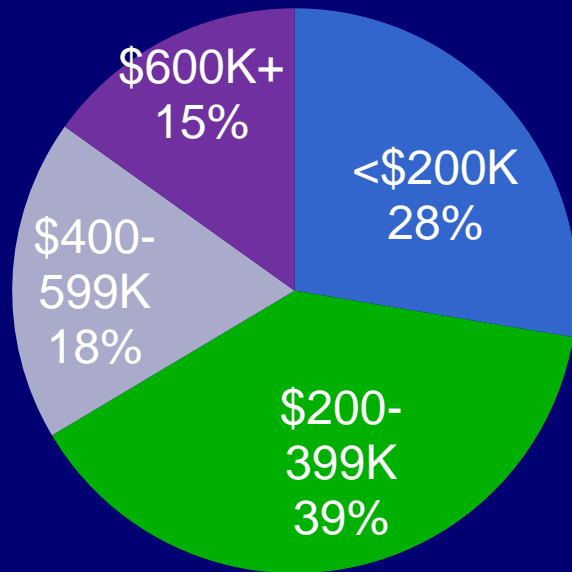
## Single-Family vs. Multi-Family Units

	Current*		Needed for New Workers	
	SF	MF	SF	MF
District of Columbia	39%	61%	8%	92%
Suburban Maryland	70%	30%	40%	60%
Northern Virginia	72%	28%	47%	53%
Washington Region	67%	33%	39%	61%

\*Source: 2009 American Community Survey

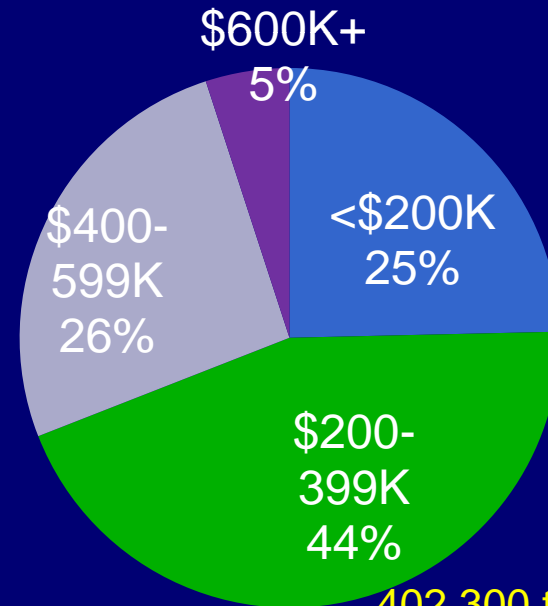
# Comparing Prices of Current and Forecasted Units Owner-Occupied Units Washington Region

## Current



Source: Jan-Aug 2011 Sales, MRIS

## Needed for New Workers



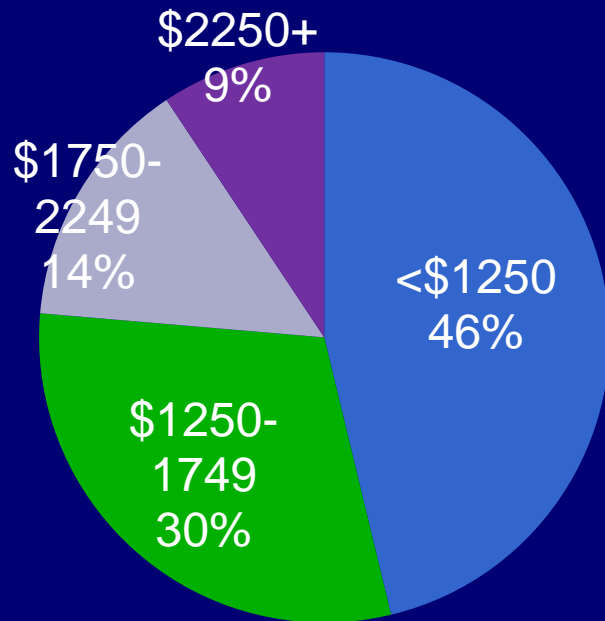
402,300 total owner-occupied units

Note: assumes all workers housed in the jurisdiction in which they work



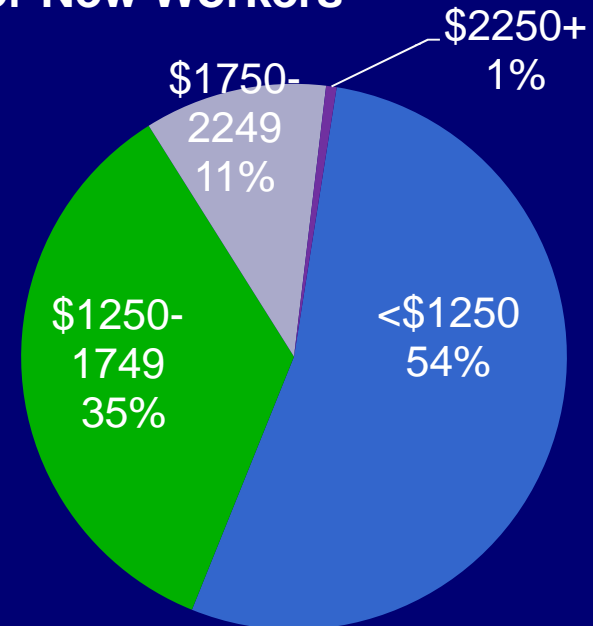
# Comparing Rents of Current and Forecasted Units Renter-Occupied Units Washington Region

## Current



Source: 2009 ACS

## Needed for New Workers



329,200 total renter-occupied units

Note: assumes all workers housed in the jurisdiction in which they work

# Housing Policy Issues

- Local jurisdictions are planning for an insufficient amount of housing to accommodate future workers.
- More housing is needed closer to jobs, in existing and growing regional employment centers.
- There is a need for more multi-family housing and smaller, more affordable owner and renter homes in the region.
- A lack of a sufficient supply of housing contributes to worsening traffic and quality of life and threatens our region's economic vitality.

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