

# Memorandum

To: Joint Town/County Planning Commission

From: Employee Generation Taskforce

Date: December 16, 2009

RE: Employee generation from buildout potential

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In September 2009, the joint Town and County Planning Commissions asked that a taskforce be formed to come to consensus on the assumptions required to project the employee generation and population that would result from the buildout potential under the current regulations. The buildout potential used by this taskforce was that determined in September 2009 by the Buildout Taskforce convened by the joint Planning Commissions. Since their original request, the Planning Commissions have expanded their request regarding population and that information is not yet available. This memorandum and the attached tables detail the employee generation this taskforce has projected from potential development, and the assumptions the task force used to arrive at these projections.

The taskforce also looked at the amount of housing that would be demanded locally from this employee generation. The reason for this was to understand the order of magnitude of the issue of housing the workforce, NOT to recommend mitigation rates or housing mitigation programs because the absolute numbers are not accurate enough to make such recommendations. The task force did not consider existing employees or existing housing stock or the nature of existing and potential units and their projected use. The task force focused on understanding the order of magnitude of how the employees generated by potential development might affect housing needs in the community in order that policy makers might affect the vision of the community.

The tables below show the conclusions of our work. Following them is the detailed methodology of our assumptions.

<b>Projected Employee Generation from Potential Development</b>			
	<b>Town</b>	<b>County</b>	<b>Total</b>
<b>Existing Employees</b>			<b>22,693</b>
<b>Project Employees from Potential Development</b>	<b>8,451</b>	<b>11,051</b>	<b>19,501</b>
Residential	1,043	5,881	6,924
Operations/Maintenance	398	2,527	2,926
Construction	645	3,353	3,998
Commercial	6,436	3,899	10,335
Public	972	1,271	2,243
<b>Total Employees at Buildout</b>			<b>42,194</b>

<b>Local Housing Demand from Employees Generated by Potential Development</b>			
	<b>Town</b>	<b>County</b>	<b>Total</b>
<b>Employees Generated</b>	<b>8,451</b>	<b>11,051</b>	<b>19,501</b>
Employees per Household	1.8	1.8	1.8
Units Demanded	4,695	6,139	10,834
Percentage Provide Locally	65%	65%	65%
Units Demanded Locally	3,052	3,991	7,042
Potential Development	2,534	8,382	10,916

### **Projected Employee Generation from Potential Residential Development**

See the attached table for detailed calculations. The primary determinant of employee generation from residential development is house size. Calculating employee generation requires multiplying the potential units of a particular size by an employee generation factor for homes of that size. Factors such as ownership or occupancy have little effect on employee generation when compared to house size. Employee generation from residential development has two components – operations/maintenance and construction. Operations/maintenance employees are the employees needed to maintain the house such as cleaners, landscapers, etc. Construction employees are those contractors and subcontractors needed to build the house. Employee generation in the Town and County is broken into these two components.

**Column 1 – Home Size.** Potential homes are broken into ranges of habitable floor area. They are represented in 2,000 square foot increments to align the data with Column 8.

**Column 2 – ‘06-‘08 Distribution.** Based on 2006 – 2008 building permit data, this column shows the percentage of new units that fell into each home size range. For the purpose of this exercise the employee generation taskforce generally projected this distribution into the future with only the exceptions noted below.

**Column 3 – Base Potential.** The total number of base potential homes in the Town and County comes from the work of the buildout taskforce convened by the Joint Town/County Planning Commissions completed in September 2009. The potential number does not include homes already on the ground today. The numbers in each floor area range are calculated by multiplying the distribution in Column 2 by the total.

**Column 4 – PRD Potential.** The total number of Planned Residential Development (PRD) potential homes in the Town and County comes from the work of the buildout taskforce. The potential number does not include homes already on the ground today. The numbers in each floor area range are calculated by multiplying the distribution in Column 2 by the total.

**Column 5 – Potential ARUs.** The number of potential Accessory Residential Units (ARUs) in Town comes from the work of the buildout taskforce completed in September 2009. The potential number does not include ARUs already on the ground today. Because ARUs are limited in size, all ARUs will be less than 2,000 square feet. In the County only those potential ARUs associated with non-residential uses were included in the calculation because of the Joint Planning Commissions’ recommendation that ARUs associated with residential uses not be permitted. As in Town, ARUs in the County are limited in size and will all be less than 2,000 square feet.

**Column 6 – Potential Short-term Units.** The total number of potential new units in the County that may be rented short-term (less than 30 days) or occupied full-time without use specification comes from the work of the buildout taskforce completed in September 2009. The potential number does not include units already on the ground today. The numbers in each floor area range are calculated by multiplying the distribution in Column 2 by the total. In the Town all units must be either exclusively rented short-term or never rented short-term, so there are no units that fall into this category.

**Column 7 – Potential Employee Units.** The total number of potential new employee units in the Town and County comes from the work of the buildout taskforce completed in September 2009. The potential number does not include units already on the ground today. All potential units were assumed to be less than 2,000 square feet.

**Column 8 – Total Potential.** This is the sum of Columns 3-7. The potential number does not include units already on the ground today.

**Column 9 – Jobs/Unit.** This multiplier is taken from the Affordable Housing Impact Fee – San Miguel County, Colorado, 2002. The multipliers were compiled by RRC Consulting based on surveys of home owners in resort towns throughout the intermountain west. Data points in the San Miguel study were given at 2,000, 4,000, 6,000, 8,000 and 10,000 square feet, which is why Columns 1 and 2 are organized into 2,000 square foot ranges. All units in a range were multiplied by the upper limit of the range – inflating the employee generation slightly as all the homes in each range will not be built at the upper limit.

The operations/maintenance multipliers increase exponentially with home size. In regression studies of different factors throughout the intermountain west, home size has been the variable most responsible for changes in operations and maintenance employee generation and as home size increases the number of employees generated increases at greater rate. Factors such as unit ownership, rental period, and primary versus secondary residence have not proved to have significant effect on employee generation rates and are therefore not considered as variables in our calculations.

The construction multipliers increase linearly with home size. The assumption is that if the career of a contractor and the lifetime of a building are roughly the same, a new contractor will be needed to rebuild all of the work of a retired contractor as soon as that contractor retires. The rate we add employees will be determined by the rate of new construction, but at buildout the number of construction employees will depend on floor area. In the San Miguel multiplier, all construction employees are projected in association with residential development. Some of these workers will in fact be building nonresidential floor area, but for the purposes of this study the taskforce did not feel it was as important to determine what the employee was building as ensuring they were counted. The ratio of residential development to nonresidential development will remain similar moving forward and the rate of 0.11 jobs per 1,000 sf of residential floor area is generally consistent with the estimated existing relationship of construction employment to floor area, making the taskforce comfortable with this assumption.

**Column 10 – Job Generation.** Total jobs equals the generation rate from Column 9 multiplied by the total number of potential units from Column 8.

**Column 11 – Employee Generation.** In Teton County many individual employees hold multiple jobs – for example a person who works at Jackson Hole Mountain Resort in the day and at a restaurant at night. Therefore a calculation of jobs generated is not indicative of employee generation. To adjust for this a jobs per employee factor must be applied to the job generation to arrive at employee generation. Looking at Bureau of Economic Analysis (BEA) data for jobs in Teton County and Bureau of Labor Statistics (BLS) data for employees living in Teton County, the taskforce estimates 1.2 jobs per employee. This number was calculated by assuming that 35% of the permanent workforce commutes while less than 35% of the seasonal workforce commutes and adjusting the BLS data accordingly before dividing the number of jobs in Teton County by the number of people employed in Teton County. Column 10 divided by 1.2 yields the employees generated by potential development.

## **Employee Generation from Potential Commercial Development**

See the attached table for detailed calculations. Employee generation from nonresidential development that is not occupied by a public use is calculated as a function of floor area and type of use multiplied by a generation rate. Construction employment is not included as a function of nonresidential floor area because it was calculated as a function of residential potential.

Employee generation in the public sector is accounted for below.

**Column 1 – Current Sector Distribution.** Based on floor area by sector data from the 2002

Teton County, Wyoming Affordable Housing Support Study and the existing development identified by the buildout taskforce, these numbers represent the existing percentage of total floor area in each sector.

**Column 2 – Adjusted Sector Distribution.** In the Town no adjustments were made to the current sector distribution because the taskforce felt that the distribution was a reasonable expectation of buildout under the current regulations. It is important to note that if future business trends change this distribution, it will change the projections of our taskforce.

Because 20% of future floor area potential in the County is in the Business Park (industrial) zoning district and 58% is in the Resorts and available for lodging use, those numbers were inserted for those sectors. The amount of development in the remaining sectors was held proportional to existing distribution, but reduced to represent the remaining potential.

**Column 3 – Potential Gross Floor Area.** The total amount of potential gross floor area in the Town and County comes from the work of the buildout taskforce completed in September 2009. The potential number does not include floor area already on the ground today. The numbers in each sector are calculated by multiplying the distribution in Column 2 by the total.

**Column 4 – Potential Leasable Floor Area.** The employee generation rates in Column 5 are a function of leasable floor area. The conversion from potential gross floor area to potential leasable area was done by uniformly assuming that 85% of gross floor area would be leasable.

**Column 5 – Jobs/1,000 sf Leasable Area.** These multipliers are generally taken from the Affordable Housing Impact Fee – San Miguel County, Colorado, 2002. The multipliers were compiled by RRC Consulting based on surveys of business owners in resort towns throughout the intermountain west. The ‘office’ generation rate is the average of the ‘finance/banking’, ‘medical’, ‘other professional service’, and ‘real estate’ rates from the San Miguel study. Most employee generation rates for lodging are a function of number of rooms instead of floor area, but potential is measured in floor area. Instead of deriving a floor area per room adjustment factor, this taskforce derived a lodging generation rate as a function of floor area from 2002 Teton County, Wyoming Affordable Housing Support Study data. The ‘other’ category was derived by averaging the categories from the San Miguel study not yet included. All generation rates were checked against a few local businesses to verify general accuracy.

**Column 6 – Jobs Generated.** Jobs generated equals the generation rate from Column 5 multiplied by the potential leasable floor area from Column 4.

**Column 7 – Employees Generated.** In Teton County many individual employees hold multiple jobs – for example a person who works at Jackson Hole Mountain Resort in the day and at a restaurant at night. Therefore a calculation of jobs generated is not indicative of employee generation. To adjust for this a jobs per employee factor must be applied to the job generation to arrive at employee generation. Looking at Bureau of Economic Analysis

(BEA) data for jobs in Teton County and Bureau of Labor Statistics (BLS) data for employees living in Teton County, the taskforce estimates 1.2 jobs per employee. This number was calculated by assuming that 35% of the permanent workforce commutes while less than 35% of the seasonal workforce commutes and adjusting the BLS data accordingly before dividing the number of jobs in Teton County by the number of people employed in Teton County. Column 6 divided by 1.2 yields the employees generated by potential development.

### **Employee generation from future public facilities**

The buildout taskforce convened by the Joint Town/County Planning Commissions was unable to assume the amount of potential public facility floor area for federal, state, local, school district or hospital employees. As a result an employee generation rate as a function of potential floor area could not be applied. Instead, this taskforce looked at the existing percentage of the workforce employed in public sector land uses and applied that same percentage to future buildout. The taskforce acknowledges that with increased population comes economies of scale with regard to provision of public services and that the percentage of the workforce in the public sector would likely decrease as population grows. However, with no ability to predict the amount of the decrease no adjustment was made to the percentage of employees in public sector land uses.

When private health care and social services are factored out because they occupy already counted commercial floor area, 11.5% of 2007 jobs are in public sector uses according to the US Bureau of Economic Analysis.

### **Total employee generation from potential buildout**

For the purpose of comparison the table below shows existing development and potential development versus existing employees and potential employees. This comparison was done to insure that the conclusions drawn by this taskforce pass a common sense test when compared to existing conditions.

Existing residential units include base units, PRD units, ARUs, short-term rental capable units, and employee units in the Town and County. Existing employees were calculated by dividing the 2007 Bureau of Economic Analysis job total by 1.2 jobs per employee. Using Bureau of Labor Statistics data an existing employee number of 22,693 would indicate a resident workforce of 62% - which is generally consistent with Teton County Housing Authority estimates.

Based on this comparison this taskforce is comfortable that the assumptions made produce results that are consistent with existing conditions.

	<b>Existing</b>	<b>Potential</b>	<b>Potential Existing</b>
Residential Unit Total	10,972	10,216	93%
Commercial Floor Area	8,050,669	6,616,093	82%
Employees	22,693	19,501	86%

### **Housing demand from employees generated by potential buildout**

The housing demanded by the employees generated by potential buildout is a function of the number of employees per household and the percentage of employees housed locally. The taskforce used 65% of employees housed locally because that is the number identified by the

Teton County Housing Authority Board and the draft Comprehensive Plan as an appropriate goal for the community. For the number of employees per household the task force looked at the 2007 Housing Needs Assessment and the 2000 Census, both of which had a ratio of 1.8 employees per household. Employees per household is a ratio of employed persons to occupied houses. A vacant house is not a household, but the employees generated do not demand vacant houses, they only demand to-be-occupied houses or households. One of the limitations of the number used by this taskforce is that the ratio of 1.8 employees per household includes households that do not have employees – for example a retired couple. Thus, the appropriate ratio to calculate housing demand is probably greater than 1.8, but this taskforce cannot assume how the ratio should be adjusted and therefore used 1.8 acknowledging that the effect is an overestimation of the needed housing.

These numbers lack the accuracy needed to legally formulate affordable or employee housing mitigation programs, but they do give a sense of the magnitude of employee generation associated with potential development as allowed by the current regulations. When compared to potential housing that would be provided by current zoning they provide information useful in policy decisions such as conversion of non-residential potential to residential potential and increases or decreases to residential potential.

Projected Employee Generation from Potential Residential Development											
	Home Size	06-'08 Distribution	Base Potential	PRD Potential	Potential ARUs	Potential Short-term Units	Potential Employee Units	Total Potential	Jobs/Unit	Job Generation	Employee Generation
<b>Town of Jackson</b>											
	<2,000	47.6%	538	127	384	0	754	<b>1,802</b>	0.13	234	195
	2,000-4,000	31.4%	355	84	0	0	0	<b>438</b>	0.25	110	91
	4,000-6,000	20.0%	226	53	0	0	0	<b>279</b>	0.48	134	112
<i>Maintenance Total</i>										<b>478</b>	398
	<2,000	47.6%	538	127	384	0	754	<b>1,802</b>	0.22	397	330
	2,000-4,000	31.4%	355	84	0	0	0	<b>438</b>	0.44	193	161
	4,000-6,000	20.0%	226	53	0	0	0	<b>279</b>	0.66	184	154
<i>Construction Total</i>								<b>0</b>		774	645
<b>Town Totals</b>			<b>1,130</b>	<b>266</b>	<b>384</b>	<b>0</b>	<b>754</b>	<b>2,534</b>		<b>1,252</b>	1,043
<b>Teton County</b>											
	<2,000	22.3%	795	814	700	35	309	<b>2,653</b>	0.13	345	287
	2,000-4,000	35.8%	1,277	1,307	0	55	0	<b>2,640</b>	0.25	660	550
	4,000-6,000	28.7%	1,024	1,048	0	44	0	<b>2,116</b>	0.48	1,016	846
	6,000-8,000	11.1%	396	405	0	17	0	<b>818</b>	0.92	753	627
	10,000	2.0%	71	73	0	3	0	<b>147</b>	1.76	260	216
<i>Maintenance Total</i>										<b>3,033</b>	2,527
	<2,000	22.3%	795	814	700	35	309	<b>2,653</b>	0.22	584	486
	2,000-4,000	35.8%	1,277	1,307	0	55	0	<b>2,640</b>	0.44	1,161	968
	4,000-6,000	28.7%	1,024	1,048	0	44	0	<b>2,116</b>	0.66	1,397	1,164
	6,000-8,000	11.1%	396	405	0	17	0	<b>818</b>	0.88	720	600
	10,000	2.0%	71	73	0	3	0	<b>147</b>	1.1	162	135
<i>Construction Total</i>										<b>4,024</b>	3,353
<b>County Totals</b>			<b>3,567</b>	<b>3,651</b>	<b>700</b>	<b>155</b>	<b>309</b>	<b>8,382</b>		<b>7,057</b>	5,881
<b>Town + County Totals</b>			<b>4,697</b>	<b>3,917</b>	<b>1,084</b>	<b>155</b>	<b>1,063</b>	<b>10,916</b>		<b>8,309</b>	6,924

Projected Employee Generation from Potential Commercial Development							
	Current Sector Distribution	Adjusted Sector Distribution	Potential Gross Floor Area	Potential Leasable Floor Area	Jobs/1,000 SF Leasable Area	Jobs Generated	Employees Generated
<b>Town of Jackson</b>							
Office	10%	10%	343,680	292,128	4.0	1,169	974
Industrial	10%	10%	343,680	292,128	1.3	380	316
Restaurant/Bars	5%	5%	171,840	146,064	6.5	949	791
Retail	22%	22%	756,096	642,681	3.3	2,121	1,767
Lodging	33%	33%	1,134,143	964,022	1.1	1,059	883
Other	20%	20%	687,360	584,256	3.5	2,045	1,704
<b>Town Totals</b>			<b>3,436,798</b>	<b>2,921,278</b>		<b>7,723</b>	<b>6,436</b>
<b>Teton County</b>							0
Office	10%	4%	127,172	108,096	4.0	432	360
Industrial	10%	20%	635,859	540,480	1.3	703	586
Restaurant/Bars	5%	2%	63,586	54,048	6.5	351	293
Retail	22%	8%	254,344	216,192	3.3	713	595
Lodging	33%	58%	1,843,991	1,567,392	1.1	1,723	1,435
Other	20%	8%	254,344	216,192	3.5	757	631
<b>County Totals</b>			<b>3,179,295</b>	<b>2,702,401</b>		<b>4,679</b>	<b>3,899</b>
<b>Town + County Totals</b>			<b>6,616,093</b>	<b>5,623,679</b>		<b>12,402</b>	<b>10,335</b>

Projected Total Employee Generation from Potential Buildout			
	Town	County	Total
Residential	1,043	5,881	6,924
Ops/Maintenance	398	2,527	2,926
Construction	645	3,353	3,998
Commercial	6,436	3,899	10,335
Public	972	1,271	2,243
<b>Total</b>	<b>8,451</b>	<b>11,051</b>	<b>19,501</b>