

**SILVERTHORNE, COLORADO
DRAFT
NEXUS/PROPORTIONALITY ANALYSIS
FOR EMPLOYEE HOUSING MITIGATION PROGRAMS**

Introduction

This report demonstrates the relationship between the need for affordable housing in the Town of Silverthorne and the number of employees generated per square foot of both residential and commercial development. It provides a rationale for determining the percentage of employees that should be mitigated by new development through linkage programs and presents a formula for determining the amount of fee that could be paid in lieu of producing units. This report satisfies the Nollan/Dolan “rational nexus” rule for exactions.

It should be noted that, based on current Colorado impact fee requirements, a nexus/proportionality analysis is not required for impact fee programs. Rather a community need only show that the impact fee is “reasonably related to the overall cost of the service.”¹ However, by meeting the Nollan/Dolan “rational nexus” rule, the county has the flexibility to alternatively require the developer, as a condition of approval, to mitigate the impact on employee housing through discretionary fees, or exactions.

Context

Linkage programs require developers of commercial and residential space to contribute to the provision of housing in proportion to the housing need that they generate by creating new employment. As a matter of policy, local governments determine the income group to be targeted under the mitigation program, which usually includes households who are not able to afford homes under current market conditions. The basic premise of employee housing mitigation programs is that new commercial and residential development fuels demand for housing by generating new employees. In Silverthorne, the private market tends to supply housing that is priced beyond the reach of many local employees. This creates an undersupply of housing that is affordable for low- to middle-income employees and results in housing prices that have increased much faster than wages.²

Purpose

This report establishes the link between new commercial and residential development and the demand for employees. It provides a rationale for determining the percentage of employees

¹ Source: “Paying for Growth: Impact fees under Senate Bill 15.” Colorado Municipal League, 2002.

² Average yearly wages in Summit County increased about 17.8 percent between 1999 and 2004; the median sale price of single family homes increased 39 percent and the median sale price of townhomes increased about 16 percent. Condominiums declined from median of \$363,000 in 2001 to \$279,000 in 2004. Prices increased another 13 percent between 2004 and 2005, for a median sale price of all homes of \$372,950 in 2005. See Appendix A for sales prices.

that should be mitigated by new development through linkage programs and presents a formula for determining the amount of fee that could be paid in lieu of producing units. A formula for calculating a fee-in-lieu based on an inclusionary zoning requirement and an impact fee based on this same inclusionary requirement is also presented. This report does not address inclusionary zoning percentage requirements, given that a nexus/ proportionality analysis is not required for inclusionary programs.

Summary

Level of Service: This report finds that housing linkage programs that target employee households earning less than 80 percent AMI could require up to a 31 percent mitigation rate in Silverthorne based on current housing service levels in the Town. Linkage programs that target employee households earning less than 100 percent AMI could require up to a 52 percent mitigation rate. And, for programs targeting 120 percent AMI households or below, a 66 percent mitigation rate could be supported. The Town may require mitigation rates different from the above service levels depending upon local needs, supplemental housing programs and development undertaken by the Town, and desired outcomes from linkage housing programs.

Legal Tests

There are several legal considerations involved in the design of impact linkage regulations. First, a “rational nexus” must be demonstrated between the impacts caused by a development and the nature of the mitigation required. Second, there must be a “rough proportionality” between the extent of the impacts generated and the extent of the mitigation required. In other words, there must be a direct relationship between the need for affordable housing and the parties upon which mitigation requirements are imposed. In addition, the fee must be no greater than the cost of mitigating the direct impacts from the specific developments. Therefore, it must be demonstrated that new development creates the need for affordable housing and that the fee assessed will be no greater than the cost of providing housing for employees generated by the development.

Methodology

The following seven-step process is used to establish a nexus/proportionality formula for these employee mitigation programs. The process uses well-documented statistics from primary research conducted in Silverthorne and other mountain resort communities in Colorado and neighboring states to provide a method for quantifying the number of jobs and corresponding housing demand generated by development. The report concludes with an estimate of the gap between affordable and market costs and a calculation of the payment in lieu based both on existing inclusionary zoning requirements and linkage requirements presented herein.

The steps are:

1. Identifying the level of service that has been set for Silverthorne in terms of the percentage of low to moderate-income households and employees for which housing is to be ensured;
2. Determining the number of jobs generated by existing commercial and residential development to calculate the housing demand generated by new development;

3. Accounting for multiple job holding to avoid double counting employees;
4. Converting the number of employees to households by applying an employees per household ratio;
5. Identifying the households to target in the employee housing mitigation programs by examining the income levels of Silverthorne’s residents;
6. Crediting developments for contributions to employee housing; and
7. Consolidating the information on job generation, job holding patterns, employees per household, and income levels into a formula that can be applied to commercial, residential, or mixed-use projects to calculate mitigation requirements.

The above procedure often results in a fraction of a dwelling unit being required. When this occurs, or in other circumstances as may be permitted by the Town’s Housing Guidelines, a pro-rata share of the fees can be paid in lieu of producing units or a rounding factor can be applied. The amount of the payment in lieu is based on the affordability gap, which is the difference between what targeted households can afford to pay and market prices for housing.

Level of Service

Programs that require new development to produce affordable housing as mitigation for the housing demand generated by the development must conform to level of service standards applicable for both existing and future needs. The level of service indicates the current level of affordable housing that exists in the community and provides a guideline for workforce housing mitigation requirements. It should be noted, however, that new development requirements need not be limited by the current level of service in the community if the Town is active in adopting and implementing housing programs to increase the Town’s current level of service. This test stems from the fact that mitigation programs cannot be used to correct existing problems unless they are matching existing efforts.

The level of service is defined by the current percentage of households residing in the study area that earn within the income range targeted by the adopted housing program. For example, 31 percent of Silverthorne’s households earned less than 80 percent of the AMI in 2005. If Silverthorne adopted a housing linkage program requiring developments to mitigate employee households earning less than 80 percent of the AMI, the town could require up to a 31 percent mitigation rate – equal to the current service level of the town (see Table 2, below).

Orienting programs to the County’s median family income, as published by the U.S. Department of Housing and Urban Development (HUD) each year, corresponds with State and Federal programs that might be used by private developers as well as the public sector to produce employee housing, as these programs also base income levels on the County’s median family income. The following table shows U.S. Department of Housing and Urban Development (HUD) estimates of the median household incomes in Summit County for one- through five-person households in 2005.

Table 1. 2005 Median Family Incomes for Summit County: HUD

AMI Range	Persons Per Household					
	1	2	2.5*	3	4	5

50% AMI	\$27,400	\$31,350	\$33,300	\$35,250	\$39,200	\$42,300
60% AMI	\$32,880	\$37,620	\$39,960	\$42,300	\$47,040	\$50,760
80% AMI	\$40,600	\$46,400	\$49,300	\$52,200	\$58,000	\$62,650
100% AMI	\$54,800	\$62,700	\$66,600	\$70,500	\$78,400	\$84,600
120% AMI	\$65,760	\$75,240	\$79,920	\$84,600	\$94,080	\$101,520
150% AMI	\$82,200	\$94,050	\$99,900	\$105,750	\$117,600	\$126,900

Source: US Department of Housing and Urban Development (HUD)

*Average household size in Summit County based on the 2000 Census is 2.48 persons and 2.44 persons based on DOLA 2004 estimates. Note: households in Silverthorne average about 2.88 persons in 2004.

Special tabulations of the 2000 US Census data (CHAS) were used to determine the number and percentage of Silverthorne households within each AMI category shown above. For purposes of this analysis, it was assumed that the percentage distribution of households in 2005 across all AMI categories remained the same as that in 2000. As shown in the following table, about 31 percent of Silverthorne's households earn less than 80% AMI, 35 percent earn between 80 and 120% AMI and 34 percent earn over 120% AMI.

Table 2. Income Distribution of Silverthorne Households By Tenure: 2005 Estimates

	Renters		Owners		Total	
	#	%	#	%	#	%
30% AMI or less	31	4.7%	23	3.2%	54	3.9%
30.1-50% AMI	127	19.4%	44	6.0%	171	12.4%
50.1-80% AMI	142	21.6%	64	8.8%	206	14.9%
80.1-100% AMI	172	26.3%	115	15.8%	287	20.7%
100.1-120% AMI	76	11.6%	121	16.6%	197	14.2%
120.1% AMI or more	108	16.5%	360	49.6%	468	33.9%
TOTAL	656	100.0%	727	100.0%	1,383	100.0%
<80% AMI	300	45.7%	131	18.1%	431	31.2%
<100% AMI	472	72.0%	246	33.8%	718	51.9%
<120% AMI	548	83.5%	367	50.4%	915	66.1%

Source: U.S. Census Bureau; CHAS; Colorado Department of Local Affairs; RRC Associates, Inc.

It is recognized that a portion of the households in Silverthorne that earn less than 100 percent of the AMI are cost-burdened or have other housing problems³. However, these households are still residing in the Town regardless of their ratio of income to housing payments and are, therefore, being served by housing in the community. Employee housing programs are intended to ease the burden on these lower-income households and provide more suitable housing options for local workers. This not only results in a more stable and content workforce,

³ Based on year 2000 US Census data (CHAS compilations), about 64 percent of households in Silverthorne earning less than 100% AMI were cost-burdened (paid over 30% of income for housing), living in overcrowded conditions and/or living in substandard units.

but also helps the Town compete with other areas for employees by providing suitable and affordable housing for the workforce.

The above approach generates a potential measurement for the Town's existing level of service for housing residents earning incomes at different AMI levels. The data comfortably support a mitigation level of 31 percent for households earning less than 80 percent of the AMI; 52 percent for households earning less than 100 percent of the AMI and about 66 percent for households earning less than 120 percent of the AMI. It is important to recognize that alternative interpretations of the level of service standard may be more or less conservative than presented herein, potentially supporting higher or lower mitigation rates. It is recommended that communities consult with their attorney regarding mitigation rates that conform to the level of service standard.

Job Generation Rates

When new commercial/industrial/lodging/residential projects are built, additional employment is generated. New commercial employment may be from new businesses or from businesses relocating from another space (thereby freeing up that space for other tenants). Regardless, the net effect over time is a net increase in employment in the community. Job generation rates that measure the number of jobs typically generated by residential units and in various types of commercial spaces can be used to estimate the number of jobs that will be created by new development.

Commercial Linkage

RRC Associates and Rees Consulting, Inc., both members of The Housing Collaborative, LLC, have been conducting housing needs assessments in mountain resort communities throughout Colorado and in neighboring states since 1990. As part of these studies, public and private sector employers were surveyed concerning the number of jobs they offer and the amount of space they occupy. From these surveys, a total of 1,857 employers were used to compile a database on job generation ratios, which are expressed as the number of total jobs (full and part time combined, not FTE) per 1,000 square feet of space. The study area includes both core resort areas as well as nearby communities, which are listed below, with survey dates ranging between 1990 and 2004.

- Blaine County, ID: 1990, 1996
- Chaffee County: 1994
- Copper: 2001
- Eagle County: 1990, 1999, 2001
- Estes Park: 1991, 1999
- Frisco: 1998
- Grand County: 1992, 2001
- Gunnison County: 1992, 1998
- Composite of Pitkin, Eagle, and Garfield Counties (from Healthy Mountain Communities surveys of 1997/98 season)
- Keystone: 2001
- Pitkin County: 1991, 2004
- Routt County: 1990
- San Miguel County: 2000
- Snowmass Village: 1999
- Summit County: 1990, 2001
- Telluride: 1993, 1996, 2001
- Aspen 2002
- Garfield County 2004

The composite database shows that about 2.8 employees work in every 1,000 square feet of commercial space overall. The ratios are considerably higher for restaurants and bars (8.0 per 1,000 SF), recreation-related establishments (5.8 per 1,000 SF), real estate/property management offices (5.9), office uses (3.7 per 1,000 SF) and slightly higher for retail space (3.0 per 1,000 SF). Generation rates in Summit County vary compared to the composite database for most categories – with some businesses showing higher generation rates (office, Government, real estate/property management and service) and others being lower (education, retail sales, recreation/attractions/amusements). However, Summit County figures are based on a total of 201 responses in 1990 and 2001 combined, whereas the entire database has over 1,850 responses.

Table 3. Commercial Job Generation Rates

	Merged Database	Summit County 1990, 2001
Bar/restaurant	8.0	7.9
Construction	4.0	4.3
Education	1.4	0.8
Office (Finance/Banking, Legal, Medical, Professional Services)	3.7	4.1
Government	1.8	2.0
Lodging/hotel/housekeeping	0.7/room	0.6/room
Personal services	2.5	-
Real estate/property management (office)	5.9	7.3
Retail sales	3.0	2.5
Service	1.4	3.1
Recreation/attractions/amusements	5.8	3.6
Utilities	1.4	-
Property Management (units)	0.4/unit	0.6/unit
Overall	2.8	2.1

Source: RRC Associates, inc.

Considerations for Commercial Linkage Requirements

When developing commercial linkage requirements, some communities use a single average while others combine similar categories into several groups. The rates are usually used to estimate employment when the PUD or building permit application is filed. The rates can be

applied to new development and to redevelopment that results in additional space being created. Using a single average makes it less problematic when the exact use of space is not defined at the time of project approval; however, it can place disproportionate burden on commercial uses that have lower job generation rates. Utilizing multiple rates can complicate the situation when a change in use occurs. Some programs consider change in use to be exempt while others provide a credit. *Most programs should and do provide the opportunity for the applicant to provide their own job generation estimates in the event that the proposed use is expected to generate jobs at a different rate than established by the community.*

The following table shows job generation rates aggregated into five categories. The overall rate would be applied to uses that do not fit within the specified categories, unless shown otherwise by the applicant. "Office" includes such uses as finance/banking, legal and medical professions and other professional services. This shows that commercial operations in Summit County are slightly less labor intensive than uses in the merged database as a whole, but this is based on a substantially fewer number of cases than the merged database.

Table 4. Commercial Job Generation Rates by Condensed Categories

	Merged Database	Summit County 1990/2001	Units
Bar/restaurant	8.0	7.9	Emps/1,000 sq. ft.
Lodging/hotel	0.7/room	0.6/room	Emps/room
Commercial retail	3.0	2.5	Emps/1,000 sq. ft.
Property Management	0.4/unit	0.6/unit	Emps/unit
Office	3.7	4.1	Emps/1,000 sq. ft.
OVERALL	2.8	2.1	Emps/1,000 sq. ft.
N=	1,591	28	

Source: RRC Associates, inc.

The merged database contains 201 valid cases from Summit County. The compared composite database has 1,850 valid cases sampled from 1990 through 2004 and combines surveys from commercial core areas, where space tends to be intensively used, and nearby communities and unincorporated areas, where employment is often less. It is recommended that the merged dataset be used rather than specific local figures for the following reasons:

- The smaller number of cases in individual counties/communities is less statistically valid than the merged data set, particularly when broken down by types of businesses;
- Surveys of individual counties/communities provide point-in-time estimates of job generation during the year of the survey. These rates are subject to change depending on many factors, including local and regional economic conditions and changes in development incentives, ordinances and regulations that may affect the intensity of commercial space usage in the community;
- The merged data set provides a more general sample of the types of businesses and intensity of uses found in mountain communities over a period of time that includes both economic booms and slumps. This results in numbers that represent average commercial job generation that can be comfortably used over an extended period of time, rather than constantly changing with point-in-time economic conditions.
- The merged data set also provides a more general sample of the intensity of uses of businesses in multiple resort communities. Because each community represents a different "maturation" state, the database presents an average mix of intensities that could be expected as communities change and as businesses move into and out of communities. The merged database provides job generation rates that recognize the

economic mix of communities change over time, both within and between different industries, and accommodates this change.

Residential Linkage

Residential dwelling units generate demand for housing through their operation and maintenance. Activities including exterior and interior maintenance and upkeep, house cleaning, meal preparation, childcare, personal services, and home office support generate jobs, many of which are relatively low paying. The employees that fill these jobs generate demand for modestly priced housing. Further, homes built for second homeownership reduce the land and number of units available for the local workforce. As a result, the more homes that are built in Silverthorne, the more the affordable housing problem is aggravated.

Since 1999, RRC Associates and the Housing Collaborative, LLC, have collected over 7,000 responses on homeowner surveys in the following mountain resort communities:

- Eagle County, Co. (2001);
- Teton County, Wy. (99/00);
- Gunnison County, Co. (99/00);
- Breckenridge/Upper Blue, Co. (00/01);
- San Miguel County, Co. (99/00);
- Blaine County, Id. (2002); and
- Pitkin County (2004).

These homeowner surveys were used to estimate the number of permanent jobs associated with various types and sizes of residential units. The studies focused on jobs directly generated as a result of the residential unit. That is, jobs associated with housing maintenance and operations, including property and rental management, homeowner's association, gardeners, snow removal, exterior maintenance, housekeepers, kitchen help/chef, child care provider/nanny, caretaker/concierge/butler, personal trainer/administrative assistant and other related employees. The studies did not include workers generated through construction of the home. The data clearly show that employment generation intensifies as the size of the dwelling unit increases.

Average job generation rates by residential units size were calculated from the composite database to support an employee housing mitigation program that is fairly simple to administer, yet responsive to the finding that large residential units generate more jobs than smaller units. The job generation rates, expressed in full-time equivalents (FTE) per unit, vary by square footage according to the following exponential function:

Equation of Residential Employee Generation by Home Size

$$\text{Total FTE} = 0.158 * e^{(.0002)(\text{Square Footage})}$$

The following table of FTE employee generation rates was calculated by applying the above formula to the mid-point of each of the residential square-footage categories shown in the first column.

Table 5. Residential Employee Generation Rates By Home Size

Size of Residential Unit (Square Feet)	FTE Employees	Size of Residential Unit (Square Feet)	FTE Employees
< 500 s.f.	0.17	6,000 – 6,499	0.55
500– 999	0.18	6,500 – 6,999	0.61
1,000 – 1,499	0.20	7,000 – 7,499	0.67
1,500 – 1,999	0.22	7,500 – 7,999	0.74
2,000 – 2,499	0.25	8,000 – 8,499	0.82
2,500 – 2,999	0.27	8,500 – 8,999	0.91
3,000 – 3,499	0.30	9,000 – 9,499	1.00
3,500 – 3,999	0.33	9,500 – 9,999	1.11
4,000 – 4,499	0.37	10,000 – 10,499	1.23
4,500 – 4,999	0.41	10,500 – 10,999	1.36
5,000 – 5,499	0.45	11,000 – 11,499	1.50
5,500 – 5,999	0.50	11,500 – 12,000	1.66

Source: RRC Associates, Inc.

Considerations for Residential Linkage Requirements

When considering the impact of residential uses on local job generation and developing regulations that respond to those impacts, the following issues need to be considered:

- Communities considering commercial linkage and residential linkage must ensure that the adopted programs are not “double-charging” for the same employees. In other words, if residential developments are required to mitigate for all jobs created through homeowner expenditures (direct basic jobs and secondary jobs, including property management as well as retail jobs, service jobs, etc.), commercial linkage figures must ensure that employees housed by residential linkage requirements are not also required to be housed through commercial linkage and
- There is a positive correlation between household size and job generation – the larger the home, the more jobs that are generated by the residence. To ensure fairness in implementation, requirements should vary by size of the home. The implementation of requirements segmented by broad categories of mitigation (e.g., less than 3,000 square feet and 3,000 square feet or more) does not equitably distribute job generation and employee mitigation.

It should be noted that the direct employment figures presented herein include the above considerations. Residential job generation figures purposefully only include employees directly hired by property owners to avoid double-counting employees that are needed by local commercial operations. Residential generation figures also purposefully include all property owners. This negates the complexity of trying to determine whether properties will be purchased by locals or second homeowners and provides a middle-ground figure that results in mitigation fitted to the life of the property (including changes in ownership).

Accounting for Multiple Job Holding

The job generation ratios for commercial space measure the total number of full- and part-time employees combined; no adjustment was made when counting part-time jobs. Some of the employees, particularly the part-time workers, may also hold other jobs. To avoid double counting and potentially requiring two different commercial developments to pay for housing the same employee, the number of total employees in commercial space that generate demand for housing in Silverthorne needs to be adjusted for multiple job holding. Because job generation rates for residential dwellings are presented in terms of full-time equivalents (FTE), they do not need to be adjusted for multiple job holding.

Revised estimates from the Department of Local Affairs (since the January 2005 Summit County Housing Needs Assessment) show that employees held about 1.12 jobs on average in Summit County in 2005. The Department of Local Affairs projects this ratio will decline slightly through 2015.

Table 6. Average Jobs Per Employee: Summit County – 2005 to 2015

	2005	2010	2015
Total Jobs	21,845	28,240	34,263
Persons Holding Jobs	19,586	25,653	31,350
Jobs per Employee	1.12	1.10	1.09

Source: Department of Local Affairs

Converting from Workers to Households

Employees often live together in family and unrelated roommate households. Housing requirements need to recognize these lifestyle patterns. The number of employees per household was estimated from the 2000 Census by finding the percentage of the resident population that is in the labor force and applying this percentage to the average household size in Silverthorne and the county.

There are 1.80 employees per household on average in the County as a whole, with slightly more in Silverthorne (1.96 on average). Therefore, the number of employee households generated by a project equals the number of new employees divided by the multiple job holding rate for the community.

Table 7. Average Employees Per Household by Place of Employment: 2000

	Summit County total	Silverthorne
Population (2000)	23,548	3,196
Labor force (2000)	17,081	2,161
Average Household Size	2.48	2.9
Employees per Household	1.80	1.96

Source: 2000 US Census

Identifying Program Methods and Household Targets

A decision must be made as to which types of programs will be targeted by Silverthorne's proposed residential and commercial employee housing mitigation programs. It is important that developers not be "double-charged" by housing requirements to avoid the need for crediting developments for payments made through other mechanisms (see the section on Credits in this report). For example, many programs implemented in other Colorado mountain resort communities typically employ either residential linkage or inclusionary zoning to avoid "double-charging" residential developments for the same employees. As another approach, draft guidelines proposed by Eagle County require inclusionary and linkage requirements to target different household income ranges (80 to 100% AMI and 60 to 80% AMI, respectively). Yet another consideration is that mitigation rates for both commercial and residential linkage could be implemented at low enough rates so that they "share" the requirements for housing the workforce without overlapping in their requirements.

Income ranges served by programs are unique for each community and county depending on their specific household needs. Most programs adopted in other Colorado mountain communities require housing to be built for households earning anywhere between 60 percent and 120 percent AMI, with many requiring that employee units average 80 percent AMI mitigation. Different ranges can be targeted based on local needs – for example, Aspen/Pitkin County have eight service-level categories, covering from low-income households through four levels of upper income categories.

With specific regard to Silverthorne, households earning less than 120 percent of the AMI have difficulty affording homes in Silverthorne.⁴ This is reflected in the fee-in-lieu calculations, below. As home prices continue to climb in the area, the relative affordability of homes will change and should be tracked accordingly.

The Town has the discretion to require different mitigation rates for residential and commercial development, provided the rates are based on a legitimate public purpose. For example, commercial development can be assessed a lower mitigation rate than residential provided there is a finding of fact that doing so achieves a public purpose, such as the encouragement of economic development and the support of fiscal soundness through the generation of sales tax revenues.

Credits

Any taxes or fees paid by new development that are used to address existing housing deficiencies must be credited for the amounts paid.

⁴ See Appendix B for median home sale prices by Basin in 2005.

Linkage Mitigation Formula

To determine the number of affordable housing units that commercial, residential, or mixed-use projects must produce under a linkage program, the following formula is used. For illustrative purposes, the below table is based on the assumption that a 20 percent mitigation rate is required for commercial and 20 percent for residential mitigation. Other mitigation rates could easily be substituted, if desired.

Table 8. Calculation of Commercial and Residential Linkage Requirements

Commercial	Factor	Calculation
Size of Development		Leasable Square Feet
Jobs generated	Rate per 1,000 SF	rate x SF/1,000
	Bar/restaurant – 8.0	
	Commercial retail – 3.0	
	Office – 3.7	
	Other – 2.7	
Employees generated	1.11 jobs per employee	Jobs generated / 1.11
Households generated	1.96 employees per unit	Employees generated/1.96
Units Required	20% mitigation rate	Households generated x 20%
Lodging and Property Management		
Size of Development		# Rooms or # Units
Jobs generated	Lodge/Hotel - 0.7/Room	# rooms x 0.7
	Prop. Management - 0.4/Unit	# units x 0.4
Employees generated	1.11 jobs per employee	Jobs generated / 1.11
Households generated	1.96 employees per unit	Employees generated/1.96
Units required	20%	Households generated x 20%

Residential	Factor	Calculation
Size of Development		# Units
Employees generated	Unit Size See <i>Residential Employee Generation Rates By Home Size Table 5</i>	# units x approximate job generation rates
Households generated	1.96 employees per unit	Employees generated/1.96
Units required	20% mitigation rate	Households generated x 20%

- The size of the project is first multiplied by the appropriate job generation rates to estimate the number of jobs that will be created;
- The number of jobs generated for commercial space and lodging is then divided by the average job holding ratio of 1.11 jobs per employee to estimate the number of new employees that will be generated by the development;
- The number of new employees is then divided by the number of employees per household (1.96) to estimate the number of new households generated by the project; and

- The total number of households is then multiplied by the percent mitigation rates, as approved by the town, to determine the number of units required.

The number of new households for which housing must be provided is a function of public policy as well as proportionality. Silverthorne can require developers to provide housing for up to 100 percent of the income-targeted households generated by the development. Based on the analyses presented in this report, a 52 percent mitigation rate would be supported for programs targeting households earning 100 percent of AMI or less. The mitigation requirements can be less than the maximum permitted for residential or commercial development, or both, based on the desires of the Town to achieve its goals and objectives for community housing through mechanisms other than employee housing mitigation.

Fee in Lieu Calculation

The gap between the *cost of housing* and the ability of the targeted households to *pay for housing* defines the subsidy, or fee-in-lieu, required to bring the cost of housing down to affordable levels. Therefore, the fee-in-lieu does not cover construction costs of a project, but rather fills the gap between market rate and the affordable purchase prices for targeted households. The fee-in-lieu amount would be paid in lieu of producing units under certain circumstances. The fee varies by the income level of the targeted household and whether homeownership or rental housing is to be provided.

To generate one number for each targeted income category that represents the gap between affordable and market costs, a series of calculations must be made, as follows:

1. The income range of targeted households is first established. The basis used herein is the median family income for a 2.5-person household in Summit County, given that the average household size in Summit County as of 2004 is 2.44 persons (as estimated by the Department of Local Affairs). The income range must be updated annually to reflect changes in the published median income figures, which is used as an eligibility measure. As a result, the amount of the gap and resulting payment in lieu will fluctuate yearly.
2. The target income point within the range is then set so that a single gap calculation can be performed. For the calculation for incomes at or below 80 percent of the median, the target point is set at 60 percent of the median⁵; for units affordable to households earning between 80 and 100 percent of the AMI, the target point would be set at 90 percent of the median; etc.
3. The affordable monthly housing payment is next established based on a commonly used standard: 30 percent of gross income equals the housing payment.
4. The affordable monthly housing payment is then converted to an affordable purchase price by assuming the cost of property taxes and insurance is equal to 20 percent of the total affordable housing payment, then assuming that mortgage terms based on the remaining 80 percent of the payment include a 5 percent down payment and a 6.5 percent fixed rate of interest for 30 years.

An average size for each income category is set taking into consideration the Town's housing goals and objectives, which include providing a variety of housing units for multiple types of households. Guidelines for the Town's program should establish both an allowable

⁵ This rationale can be supported by the fact that the funds received from payments in lieu will be used by Silverthorne to leverage funds to develop employee housing (the fee only covers the gap) and 60 percent of the median income is often targeted by Federal and State financing programs.

range of sizes and a required average size for the income categories. For purposes of this report, the average and median size of homes owned by Summit County residents⁶ was estimated from Summit County Assessor records as of December 2004 and are shown in the below table. As shown below, estimates used herein assume an average size of 900 square feet for a 2.5-person 80 percent AMI household; 1,050 for a 2.5-person 100 percent AMI household and 1,150 for a 2.5-person 120 percent AMI household. These sizes are based on the current size of homes occupied by locals that would be affordable to each income range.⁷

Table 9. Average Single Family Home Size Owned By Summit County Locals Based on Home Value

Value	Average size (actual)	Median size (actual)	Unit size (for calculations)
Under \$150,000 (approximately 80% AMI)	1,009	854	900
Under \$200,000 (approximately 100% AMI)	1,072	960	1,050
Under \$250,000 (approximately 120% AMI)	1,243	1,110	1,150

Source: Summit County Assessor data (Dec. 2004); RRC Associates, Inc.

- The per square foot sales prices of dwelling units recently purchased in Silverthorne is used as the basis for housing costs. These varied throughout the county, as shown in Table 10, below.

Table 10. Median Sale Price per Square Foot: Single Family, Condominium and Townhome Sales Combined (2005)

	Summit County total	Silverthorne	Dillon	Breckenridge	Frisco
Median	\$258	\$227	\$236	\$353	\$261

Source: 2005 Summit County Assessor 2005 sales data; RRC Associates, Inc.

The above Summit County figures include sales both within the towns and in the unincorporated areas that occurred in January through December 2005. Town data shown are sales that occurred within the boundaries of each town during the same time period. Sales of employee restricted units (of which there were about 61 total in the county in 2005) were not included in the sale price analysis, given that these units sell for below-market prices and would artificially skew median sale prices lower than actual market values.⁸ The sale price of units rather than the cost of construction has been used for several reasons:

- Market-rate prices on a per square foot basis can be readily obtained and can be used to update the fee on a regular basis;
- Construction costs vary widely, depending upon numerous variables. Adding the cost of land further complicates the calculation; and

⁶ This is based on analysis of Summit County Assessor records as of the end of 2004. Summit County resident ownership is defined as those owners having a Summit County mailing address. The average size single-family home owned by residents was calculated for homes valued under \$150,000; under \$200,000; and under \$250,000.

⁷ The square footages herein roughly equal the mid-point between the average and median size home occupied by locals for each price point/income range. Silverthorne may choose an alternative method of defining square footage requirements for employee housing, which would then be substituted for the values used in this report.

⁸ See Appendix B for information on sales in 2005.

- The Town may use the fees obtained to purchase existing units, provide rent subsidies, or support other housing efforts in addition to new construction projects.
6. The affordability gap is the difference between the cost (median per square foot price of recently purchased dwellings multiplied by the average size of units required for each income category) and the affordable purchase price.

Tables showing the calculation methodology are shown in Appendix A to this report for three potential employee housing mitigation ranges: less than 80% AMI; 80 to 100% AMI and 100 to 120% AMI. These calculations are summarized in Table 11 and show that the fee-in-lieu would vary by town and by AMI affordability range.

Table 11. Summary of Fees in Lieu by AMI Affordability of Units Mitigated

AMI Affordability:	Silverthorne
<80% AMI (900 sq ft home)	\$70,892
80 - 100% AMI (1,050 sq ft home)	\$38,353
100-120% AMI (1,150 sq ft home)	\$16,661

To determine the final fee-in-lieu payment, the number of units the development is required to provide, as determined from the residential or commercial linkage formula presented in the “linkage mitigation formula” section above, is then multiplied by the respective “payment per unit in lieu” amount presented in the above table (Table 11). Alternatively, if an inclusionary program is used, then the number of units required as calculated from the inclusionary percentage (E.g., 10 percent of a proposed 20-unit development equals 2 units required) will be multiplied by the respective payment per unit in lieu of development for each income range for which units are to be provided (in Table 11, if a development was being built in Silverthorne and was required to provide units for 80 to 100 percent AMI households, this would equate to a payment in lieu for 2 units of \$76,706).

For reference, Table 12 shows the current 2005 Area Median Income levels for Summit County Households and Table 13 shows the estimated affordable purchase price of homes for each income category.

**Table 12. Area Median Income by Household Size:
Summit County, 2005**

AMI Income	1-person	2-person	2.5-person	3-person	4-person	5-person
60% AMI	\$32,880	\$37,620	\$39,960	\$42,300	\$47,040	\$50,760
80% AMI	\$40,600	\$46,400	\$49,300	\$52,200	\$58,000	\$62,650
100% AMI	\$54,800	\$62,700	\$66,600	\$70,500	\$78,400	\$84,600
120% AMI	\$65,760	\$75,240	\$79,920	\$84,600	\$94,080	\$101,520

Source: Department of Housing and Urban Development

**Table 13. Affordable Purchase Prices of Homes* by AMI:
Summit County, 2005**

AMI Income	1-person	2-person	2.5-person	3-person	4-person	5-person
60% AMI	\$109,487	\$125,271	\$133,063	\$140,855	\$156,639	\$169,026
80% AMI	\$135,194	\$154,508	\$164,165	\$173,821	\$193,135	\$208,619
100% AMI	\$182,479	\$208,785	\$221,772	\$234,759	\$261,065	\$281,710
120% AMI	\$218,975	\$250,542	\$266,126	\$281,710	\$313,278	\$338,052

Source: Department of Housing and Urban Development, RRC Associates, Inc.

*Assumes a 30-year, 6.5% fixed rate loan, with 5% down and 20% of monthly payment for property taxes, insurance and HOA fees, with no more than 30% of household income used for housing payments.

Conversion to a Per-Square Foot Impact Fee

This section presents one method for calculating a housing fee per square foot of development. Table 11 shows the fee in lieu per employee unit required to be provided by a development. Dividing the fee-in-lieu per unit by the required square footage for each AMI range shown in Table 11 (e.g., 900 square feet for 80% AMI or below; 1,050 square feet for 80 to 100% AMI units; etc.) generates a fee-in-lieu per square foot.

**Table 14. Summary of Fees Per Square Foot by
AMI Affordability of Units Mitigated**

Fee per square foot:	Silverthorne
< 80% AMI	\$79
80 - 100% AMI	\$37
100 - 120% AMI	\$14

Given the fee per square foot shown in Table 14, if Silverthorne has a 10 percent inclusionary requirement for residential construction, then a development proposing 10,000 square feet of residential construction would be required to provide 1,000 square feet of employee housing. The above fee-in-lieu would be applied to only the employee housing requirement (1,000 square feet), not the entire development. Likewise, if Silverthorne determined a per square foot impact fee applied to all development was appropriate and a 10 percent mitigation rate was desired, then the fee per square foot applied to all residential construction should be applied at this 10 percent mitigation rate, as shown in Table 15, below.

**Table 15. Impact Fee per Square Foot for All Development Given a 10 Percent
Mitigation Rate for Employee Housing**

Fee per square foot:	Silverthorne
< 80% AMI	\$7.88
80 - 100% AMI	\$3.65
100 - 120% AMI	\$1.45

*Figures in this table were calculated by multiplying each fee per square foot presented in Table 14 by 10% - the assumed residential mitigation rate for employee housing.

Appendix A – Fee-In-Lieu Calculation Examples

Table 16. Calculation of Fees in Lieu based on Median Income Limits

**Fee In Lieu for Units Priced for Households Earning
Less than 80% AMI; 80 to 100% AMI; 100 to 120% AMI**

	<i>Less than 80% AMI</i>	<i>80 – 100% AMI</i>	<i>100 – 120% AMI</i>
Income Range (2.5-person households)	\$ 0 - \$49,300	\$66,600	\$79,920
Target Income Point (60%; 90%; 110% AMI)	\$39,960	\$59,940	\$73,260
Affordable Monthly Housing Pmt.	\$999	\$1,499	\$1,832
Property Taxes/Insurance/HOA estimate (20% of Aff. Monthly Hsg. Pmt.)	\$200	\$300	\$366
Mortgage Payment	\$799	\$1,199	\$1,465
Max. Mortgage Amount*	\$126,410	\$189,615	\$231,752
Affordable Purchase Price	\$133,063	\$199,595	\$243,949
Average Sq. Ft of Units	900	1,050	1,150
Median per Sq Ft.	\$227	\$227	\$227
Cost per Unit	\$203,956	\$237,948	\$260,610
Affordability Gap / Payment per Unit in Lieu	\$70,892	\$38,353	\$16,661

* Assumes 5% down, 6.5% interest for 30 years and 20% of monthly payment for property taxes, insurance and HOA fees, with no more than 30% of household income used for housing payments .

**It should be noted that the calculations presented above assume that any HOA fees (plus property taxes and insurance) would be covered by 20 percent of the “affordable monthly housing payment.” This percentage can be amended depending upon expected HOA dues being lower or higher than this allowance. For developments that result in a fraction of a housing unit being required, the payment is determined by applying that fraction to the per-unit in lieu amount.

Appendix B – 2005 Summit County Sales

Median Sale Price of Homes 2005

	Summit County total	Breckenridge	Dillon	Silverthorne	Frisco
Single family homes	\$555,000	\$893,900	\$452,500	\$469,000	\$658,000
Townhomes	\$347,000	\$560,000	\$315,000	\$324,500	\$327,500
Condominiums	\$234,500	\$300,000	\$229,950	\$232,450	\$275,000
TOTAL	\$300,000	\$390,000	\$256,500	\$372,950	\$325,000
Median price per square foot	\$258	\$360	\$236	\$227	\$261
Number of sales	2,672	642	101	134	246

Source: 2005 Assessor Sales Data; RRC Associates, Inc.

*excludes sales of employee housing units

Median Sale Price of Homes in Silverthorne: 2001 to 2005

	2001	2002	2003	2004	2005	% change (2001 to 2005)
Single family homes	\$337,000	\$363,750	\$420,000	\$395,250	\$469,000	39.2%
Townhomes	\$280,500	\$285,000	\$299,500	\$285,000	\$324,500	15.7%
Condominiums	\$363,011	\$279,300	\$279,000	\$279,000	\$232,450	-36.0%
TOTAL	\$338,450	\$330,900	\$328,000	\$328,700	\$372,950	10.2%

Source: 2004 and 2005 Assessor Sales Data; RRC Associates, Inc.

*excludes sales of employee housing units

**Median Sale Price of Homes in Summit County 2005:
Employee Units and Market Units Compared**

	Employee Unit	Market Unit	% difference
Single family	\$337,500	\$550,000	63%
Townhome	\$255,950	\$347,000	36%
Condominium	\$149,125	\$234,500	57%
TOTAL	\$190,000	\$300,000	58%
Total sales	61	2,683	-

Source: 2005 Assessor Sales Data; RRC Associates, Inc.