

Incline Village Nevada

Nevada Tax Commission
Presentation
9/27/04

Prepared by me using information derived from the Washoe County and Douglas County assessors offices, Marshall Valuation Service, and personal inspections and interviews.

Three Topics

- **Incline Village property tax compliance with the uniform and equal standard**
- **Illustration of the Abstraction Method**
- **Summary and Recommendations**

The presentation covers three topics (read slide)

Topic One

Incline Village property tax compliance with the uniform and equal standard

(read slide)

The Uniform and Equal Standard

Article 10, Section 1, Nevada State
Constitution . . .

**“The legislature shall provide by law for
a uniform and equal rate of assessment
and taxation...”**

The uniform and equal standard has its basis in the state constitution and applies to both the rate of assessment (which is partly a function of taxable value) and taxation per se.

The Standard Applies in Two Ways

- *Among Different Counties (I)*
 - NRS §360.215 (3) “...assessments...made equal in each of the several counties...”
- *Within each county (II)*
 - NAC §361.624 “...equalize taxable valuation within....the whole county”

According to the Nevada Revised Statutes and the Nevada Administrative Code, the uniform and equal standard applies both among and between the State’s counties as well as within each county.

Demonstration of Current Taxable Value Inequities at Incline Village

Consequently, I looked at Incline Village inequities from the among/between counties perspective and the within Washoe county perspective.

Washoe County v Douglas County*

Washoe County (1,098 Tahoe Area Sales)

- Mean Assessment Ratio = 103.9%
- Median Assessment Ratio = 74.2%
- Coefficient of Dispersion = 56.3%

Douglas County (557 Tahoe Area Sales)

- Mean Assessment Ratio = 46.3%
- Median Assessment Ratio = 45.3%
- Coefficient of Dispersion = 18.8%

*January 2000 through January 2004 (Washoe Co.) and through December 2003 (Douglas Co.)

This slide presents an overview of the Washoe v Douglas County comparison for Lake Tahoe area residential sales activity during the approximately four year period of 2000, 2001, 2002, and 2003. For the purposes of this presentation “assessment ratio” is the taxable value of the sold property in the sale year divided by the sale price. A ratio of less than one indicates that the taxable value was less than the sale price. A ratio of more than one indicates that the taxable value was more than the sale price. A ratio equal to one indicates that the taxable value was equal to the sale price.

The “mean assessment ratio” is the arithmetic average of the ratios. The “median assessment ratio” is the middle value (half are larger and half are smaller). The “coefficient of dispersion” is a measure of how tightly clustered the ratios are around the median (mean absolute deviation from the median divided by the median). The larger the COD the less clustered the ratios are around the median.

Note that Lake Tahoe area sales exhibit taxable value to sale price ratios that tend to be systematically higher as measured by the mean and the median. Additionally, the ratios are much more variable in Washoe County as indicated by the higher COD. (quantified in next slide)

Washoe County Inequity Measures

Taxable Value to Sale Price Ratio:

Washoe County v Douglas County...

- Washoe Co. 2.24X higher, as measured by the mean
- Washoe Co. 1.64X higher, as measured by the median
- Washoe Co. 3.0X more variable, as measured by the coefficient of dispersion

Quantifying these differences, the Washoe County mean ratio is 2.24 times the Douglas County mean ratio. The Washoe County median ratio is 1.64 times the Douglas County median ratio. And, Washoe County ratios are 3 times as dispersed as indicated by the coefficients of dispersion.

Between-County Ratio Comparison Lake Tahoe (Douglas) v. Lake Tahoe (Washoe)

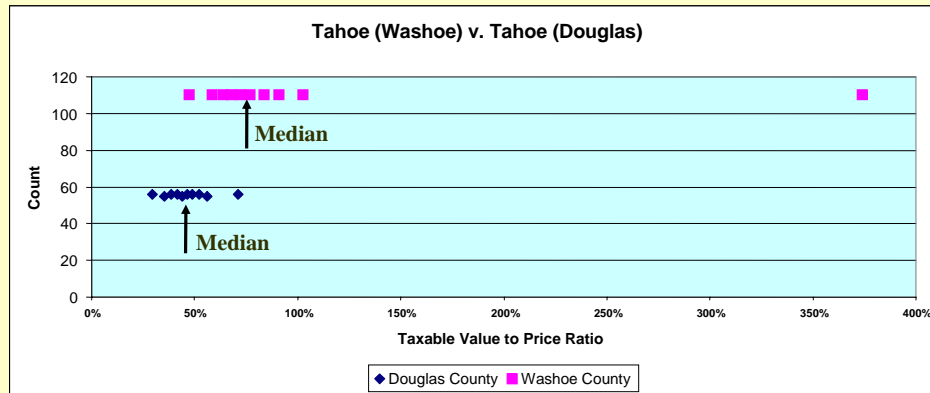
Percentile	Douglas Decile Mean Ratio	Washoe Decile Mean Ratio
100th	71.0%	374.0%
90th	55.9%	102.4%
80th	52.0%	91.0%
70th	48.7%	83.5%
60th	46.3%	77.1%
50th	44.0%	71.9%
40th	41.5%	67.7%
30th	38.5%	63.8%
20th	35.4%	58.8%
10th	29.5%	48.6%

COD = 18.8% COD = 56.3%
 MED = 45.3% MED = 74.2%

To further illustrate the dispersion difference, I divided the ratios from each county into deciles. Starting at the bottom of the percentile column on the left, Decile 1 is the 0th to 10th percentile, decile 2 is the 10th to 20th percentile, decile 3 is the 20th to 30th percentile, and so forth. Looking at the 10th percentile row, the average ratio for the Douglas County properties in this percentile is 29.5% (meaning that for this decile the average taxable value was 29.5% of the sale price), whereas the average ratio for the Washoe County properties in this percentile is 48.6%. Moving up the chart, notice that the disparity widens as we move up the deciles, and at the 90th percentile row the comparison is 55.9% v. 102.4% increasing in the 100th percentile row to 71% v. 374% (a more than 5 fold difference).

These deciles are presented graphically on the next slide to illustrate the difference in clustering.

Two County Comparison Taxable Value to Price Ratio Deciles



Here the deciles are spread out horizontally. The pink squares are the Washoe deciles, each containing about 110 sales ratios. The blue diamonds are the Douglas County deciles, each containing about 56 ratios. The horizontal axis is measured in percentages (a ratio of 1 is 100%). The black arrows mark the median ratios of 45.3% for Douglas County and 74.2% for Washoe County. The distance from the left marker to the right marker in each row is an indication of dispersion. A short distance is more clustered than a long distance. That is, a short distance has a lower COD than a long distance. The greater distance from the lowest decile to the highest decile in Washoe county is illustrative of the three fold higher coefficient of dispersion in this county compared to Douglas County.

Conclusion I

The among-counties uniform and equal standard is not being met for Lake Tahoe properties in Washoe and Douglas Counties.

(read slide) This standard fails on two measures: 1) central tendency based on the median and mean ratios, and 2) within-county uniformity based on the coefficients of dispersion.

In-County Ratio Comparison Lake Tahoe area v. Damonte Ranch

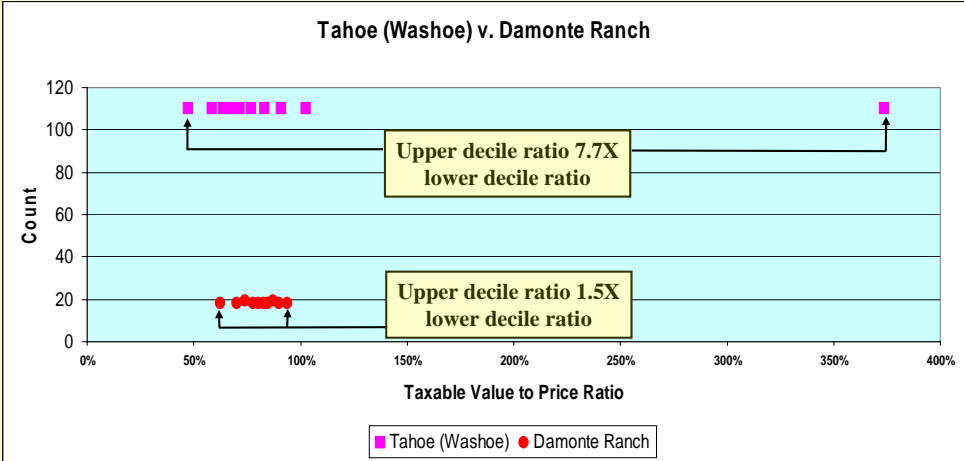
Percentile	Damonte Decile Mean Ratio	Incline Decile Mean Ratio
100th	94.0%	374.0%
90th	90.0%	102.4%
80th	86.9%	91.0%
70th	84.5%	83.5%
60th	82.8%	77.1%
50th	80.6%	71.9%
40th	77.9%	67.7%
30th	74.1%	63.8%
20th	70.2%	58.8%
10th	62.5%	48.6%

COD = 8.9% COD = 56.3%
 MED = 81.9% MED = 74.2%

Next, I looked at a neighborhood of relatively more homogeneous homes in Washoe County to investigate whether the inequity we found among counties held up within the county. We calculated ratios for 182 home sales occurring in 2003 and 2004 in Damonte Ranch (a more homogeneous development in terms of lot variability and home size/design located down the mountain nearer Reno). When compared to the Lake Tahoe area, the median ratio comparison is much more equitable than the preceding Washoe/Douglas comparison (81.9% v. 74.2%), but the dispersion comparison is less equitable. The Damonte Ranch ratios are highly clustered around their median, whereas the Lake Tahoe sales ratios are not.

I also illustrate this disparity graphically (next slide).

In-County Ratio Comparison Chart



At Damonte Ranch the upper decile mean ratio of 94% is 1.5 times the lowest decile mean ratio of 62.5%. In comparison, for the Lake Tahoe area properties, the upper decile mean ratio of 374% is 7.7 times the Lake Tahoe area’s lowest decile mean ratio of 48.6%.

Incline Village ratios are much more dispersed.

Within Washoe Co. Inequity

- **One out of every six Tahoe-area residences had a taxable value greater than the sale price.**
- **Mean Tahoe-area 10th decile ratios are 7.7X mean Tahoe-area 1st decile ratios**
- **Tahoe-area dispersion is 6.3X Damonte Ranch dispersion**

The inequities we noted by this comparison are stated here.

181 out of the 1,098 sales we examined at Incline Village in Washoe County had a taxable value greater than the sale price (a ratio of 1 out of 6 sales).

Point two restates information from the previous two charts. The upper decile mean ratio being 7.7 times the lowest decile mean ratio.

Additionally, the dispersion in the ratios is 6.3 times as high at Lake Tahoe than at Damonte Ranch.

Conclusion II

The within-county uniform and equal standard is not being met for Washoe County Lake Tahoe Area properties.

(read slide) This is evident by examination of the highly disperse, inconsistent taxable value to sale price ratios at Incline Village compared to Damonte Ranch.

Topic Two: The Abstraction Method

A Means for Achieving a More Uniform Assessment?

As you are aware, taxable values in Nevada combine land value in the existing use with an estimate of depreciated cost. Since the depreciated cost derivation is mostly formulaic, I believe that most of the dispersion in Incline Village taxable values and resultant inequities are a consequence of the difficulty of deriving valid land value estimates in this market, where land sales seldom occur. The abstraction method offers a means to estimate land values more consistently and reliably in such situations.

The Abstraction Method

is defined under NAC 361 and suggested as a method for use when sufficient vacant land sales are unavailable (as in the Lake Tahoe Area)

Because of this the abstraction method is defined in the Nevada Administrative Code, and suggested as a method for use when sufficient land sales data are unavailable.

Abstraction Definition

“...estimating the value of land by subtracting the full contributory value of the improvement(s) from the sales prices of improved parcels.” (NAC 361)

i.e., “reverse engineering” the cost approach, which adds the full contributory value of the improvements to the land value to estimate the value of the property as improved.

Abstraction is defined as “estimating the value of land by subtracting the full contributory value of the improvements from the sales prices of improved parcels.” In essence, it consists of reverse engineering the cost approach.

Full contributory value of the improvements is underlined here, because we will come back to this term as we investigate the abstraction method.

Why Is Abstraction Important?

...because the method generates “synthetic land sales” that can be further analyzed by traditional methods in order to reach credible and valid conclusions of land value in support of more equitable taxable value estimates.

First. We should think about why this method is important. It is important because of what it can accomplish. (Read the slide).

Define Full Contributory Value of the Improvements?

$$\begin{aligned} &+ \text{Hard Construction Costs} \\ &+ \text{Soft Construction Costs} \\ &- \text{Market Depreciation} \\ &= \text{Full Contributory Value of Improvements} \end{aligned}$$

The full contributory value of the improvements is defined as hard and soft costs (aka direct and indirect costs) of building the improvements on the date of sale minus market depreciation as of that date. What this concept captures is the amount of the sale price to be allocated to the value of the improvements.

Hard Construction Costs

- ***Included in Marshall & Swift SF Costs****
 - plans, specifications, surveys, building permits
 - interest on hard costs over construction period
 - material and labor costs (incl. sales tax)
 - normal site preparation
 - utilities from structure to lot line
 - contractor's overhead and profit
- ***Must Add to Marshall & Swift SF Costs****
 - an adjustment for pilings or hillside foundations
 - yard improvements

*Marshall & Swift Residential Cost Handbook, Introduction, p. 2.

If a cost service such as Marshall and Swift (aka Marshall Valuation Service) is used to estimate building costs, then one must understand what their cost estimates do and do not include. This slide and the next capture what the Marshall and Swift cost manual says about cost inclusions and exclusions.

Soft Construction Costs

Not Included in Marshall & Swift Cost Manual*

- costs of buying or assembling land
- land planning costs, interest on land, taxes on land
- environmental impact reports
- entrepreneurial or developer incentives
- marketing costs to create first occupancy
- contingency reserves

*Marshall & Swift Residential Cost Handbook, Introduction, p. 2.

(Read slide)

Abstraction Algorithm

- + Sale Price of Improved Property**
- Hard Construction Costs**
- Soft Construction Costs**
- + Market Depreciation**
- = Land Price Abstraction**

The abstraction algorithm (or recipe) is set forth here. We start with the sale price, then the next three items subtract the full contributory value of the improvements, leaving the land price abstraction. This is the amount of the sale price allocated to the land. It can therefore be used as what I've termed a "synthetic land sale."

Incline Village Considerations

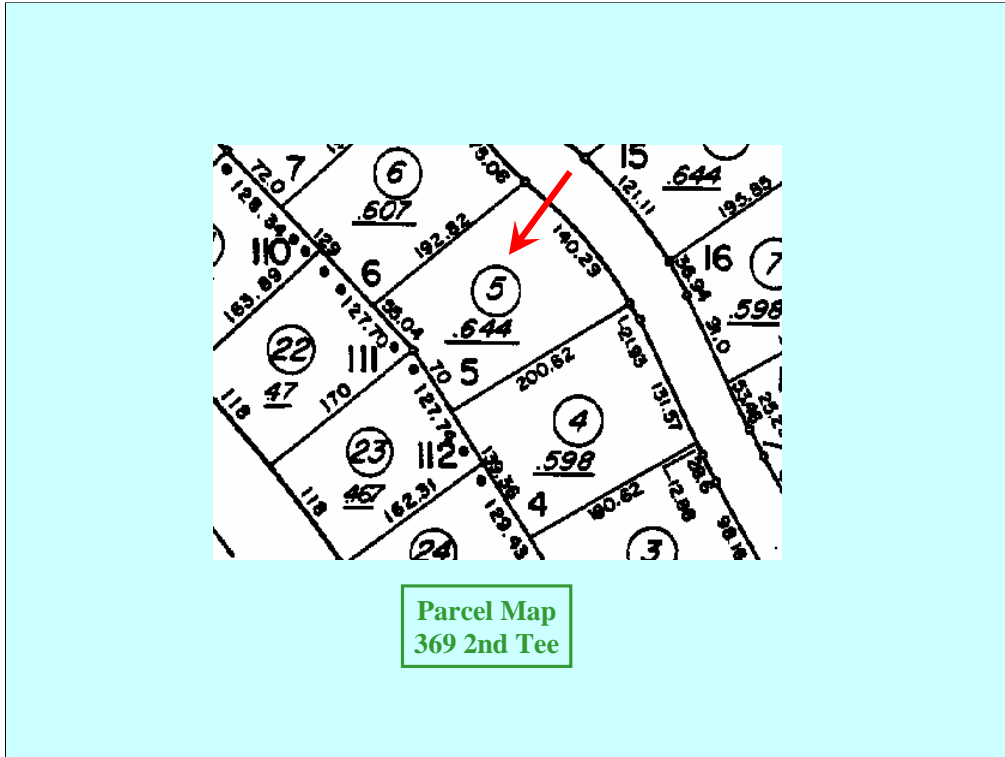
- *High local land planning, legal, and environmental compliance costs (TRPA)*
- *Small number of development projects per developer and high regulatory compliance risk, implying higher-than-typical developer profit percentage expectations*

At least two special considerations must be addressed when doing an abstraction in the Incline Village market. One is the high regulatory cost of building here, the other is the small size of the market and associated risks and return requirements that result in higher-than-typical developer profit expectations.

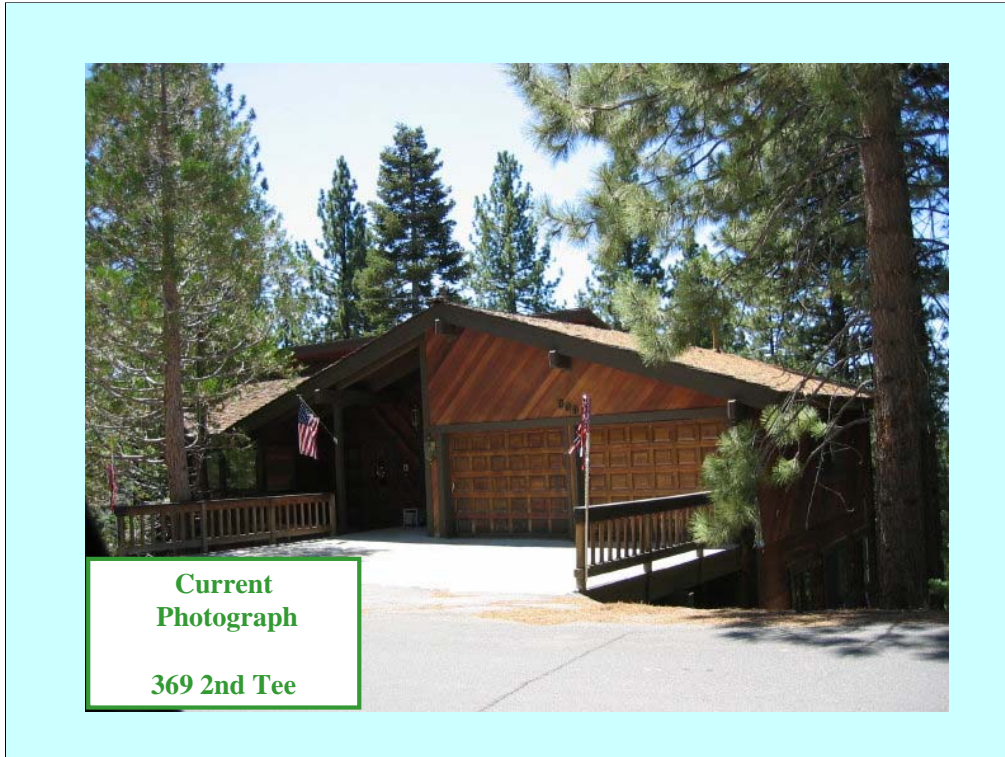
Abstraction Example

369 2nd Tee, Incline Village

I selected a house with what appeared to be an overly high taxable land value based on my first impression--369 2nd Tee, which sold in October of 2002--as an example of applying the abstraction method.



The home is located on a wooded, .644 acre lot (roughly 28,000 SF) a couple of streets removed from the golf course.



It is an attractive, wood sided structure built 22 years prior to the year of sale.

Marshall & Swift Cost New			
3980 SF @	72.45	=	288,351
480 SF @	25.46	=	12,221
Base House Cost			300,572
Floor Cover @ \$6.77/SF			26,945
Plumbing (15 Fixtures @ \$1,650)			24,750
Fireplaces (2 @ \$5,200)			10,400
Built-in Appliance Allowance			6,000
Wood Deck (706 SF @ 11.62)			3,526
Porch Slab (112 SF @ 6.35)			711
Porch Roof (214 SF @ 21.09)			4,513
Garage (440 SF @ 35.60)			15,664
Structure Cost			393,081
Yard Improvements			
Parking Deck (374 SF @ 20)			7,480
Average Landscape (3,000 SF @ 4.30)			12,900
Hard Cost New			413,461
Local Cost Adjustment (18%)			74,423
Tahoe Area Cost New			487,884
Time Adjustment (.966)			-16,588
Tahoe Hard Cost New (9/02)			471,296
Planning & environmental consulting			100,000
Entrepreneurial Incentive (20% of Sale Price)			158,000
Marketing Cost of First Occupancy (6%)			47,400
Total Hard & Soft Cost New			776,696

This slide illustrates my calculation of total hard and soft costs to build 329 2nd Tee as of the October 2002 date of sale. Soft costs include those that are specifically excluded from Marshall and Swift and applicable at that time, such as regulatory costs, entrepreneurial (or developer) incentive, and marketing costs of first occupancy.

**369 2nd Tee
As of October 2002**

Land Price Abstraction (10/02)			
Sale Price			790,000
Hard and Soft Construction Costs			-776,696
Accrued Depreciation (22 years)			155,339
Indicated Land Price			\$168,643
2002 Taxable Land Value			\$371,250

**Estimated Full Contributory Value of Improvements was \$621,357
(\$776,696 - \$155,339)**

This slide applies the abstraction algorithm. Note that the contributory value of the improvements (the amount of the sale price allocated to the improvements) was \$621,357, which is hard and soft costs less market depreciation. The land price allocation of \$168,643 differs substantially from the \$371,250 taxable land value in 2002.

Uses for Abstracted Land Prices

- **Compile into a data set with other land prices (abstracted or vacant land sales)**
- **Analyze compiled data to discover the contributory values of various land characteristics**
- **Analyze land price trends over time**
- **Incorporate into a taxable land value appraisal**

As I alluded to earlier, this abstracted land price can be viewed as a “synthetic land sale” which can be compiled into a data set that can be analyzed to discover the contributory value of land characteristics such as topography, view, shape and size. The data will also assist in understanding land price trends over time, and sales from this data set can be incorporated into taxable land value appraisals.

Use of Abstraction to Demonstrate Land Value Inequities

Comparison of three residences

- **733 Champagne Road (sold in March 2001)**
- **722 Allison Drive (sold in May 2003)**
- **644 Alpine View (sold in November 2000)**

I selected three residential property sales that all had the same view rating of V5 (on an ordinal scale). On-site inspection of the properties revealed the view at 644 Alpine View to be markedly inferior to the views at 733 Champagne Road and at 722 Allison Drive.

Aerial Photos



733 Champagne 1.036 Acres \$770,000 taxable land value	722 Allison 0.868 Acres \$630,000 taxable land value	644 Alpine View 0.660 Acres \$700,000 taxable land value
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As these aerial photos show, the 733 Champagne property is a full depth lot spanning from street to street, which prevents building of a structure on the downslope side (to the left in this photo), enabling and preserving the Lake Tahoe view.

The 722 Allison lot is positioned so that the view of Lake Tahoe is toward the bottom of this photo. While the owner of this property has no control over uses between it and the lake, however the land toward the lake is federal land and no obstructing improvements are likely to be built.

644 Alpine View faces the street. Trees and buildings across the street block the property's lake view (to the left in this photo), and render this view inferior to the other two residences.

The most recent taxable land values for these three V5 lots are shown here and are fairly equivalent.

All Views are Rated V5



733 Champagne

1.036 Acres

\$770,000 taxable land value

722 Allison

0.868 Acres

\$630,000 taxable land value

644 Alpine View

0.660 Acres

\$700,000 taxable land value

These photos are indicative of the views of Lake Tahoe from the main floor level of the homes on these lots. Also included is lot size information and a restatement of the current taxable land values.



733 Champagne



722 Allison



644 Alpine View

Abstraction Summaries

Sale Price \$2,285,000
Improvements -1,146,665
Land Price \$1,138,335
 (March 2001)

2001 Taxable Land Value
 \$467,500

2003 Taxable Land Value
 \$770,000

Sale Price \$1,675,000
Improvements -1,007,996
Land Price \$667,004
 (May 2003)

2003 Taxable Land Value
 \$630,000

2003 Taxable Land Value
 \$630,000

Sale Price \$1,495,000
Improvements -942,925
Land Price \$552,075
 (November 2000)

2000 Taxable Land Value
 \$375,000

2003 Taxable Land Value
 \$700,000

The photos here are of the homes built on these lots. I did land price abstractions for each sale, and of particular note is the disparity in relative land price allocations vis-à-vis the lack of disparity in taxable land values. The upshot is that 722 Allison seems to have been carrying its fair share of the tax burden during the sale year, while the other two properties were not. This is the sort of inconsistency that leads to a large coefficient of dispersion.

A Closer Look at 733 Champagne

- **Abstracted land price as of March 2001 is \$1,138,335**
- **House next door priced at \$1,510,000 in March of 2003 and was razed to accommodate new construction***
- **Current taxable land value is \$770,000**

*Interview with developer on site.

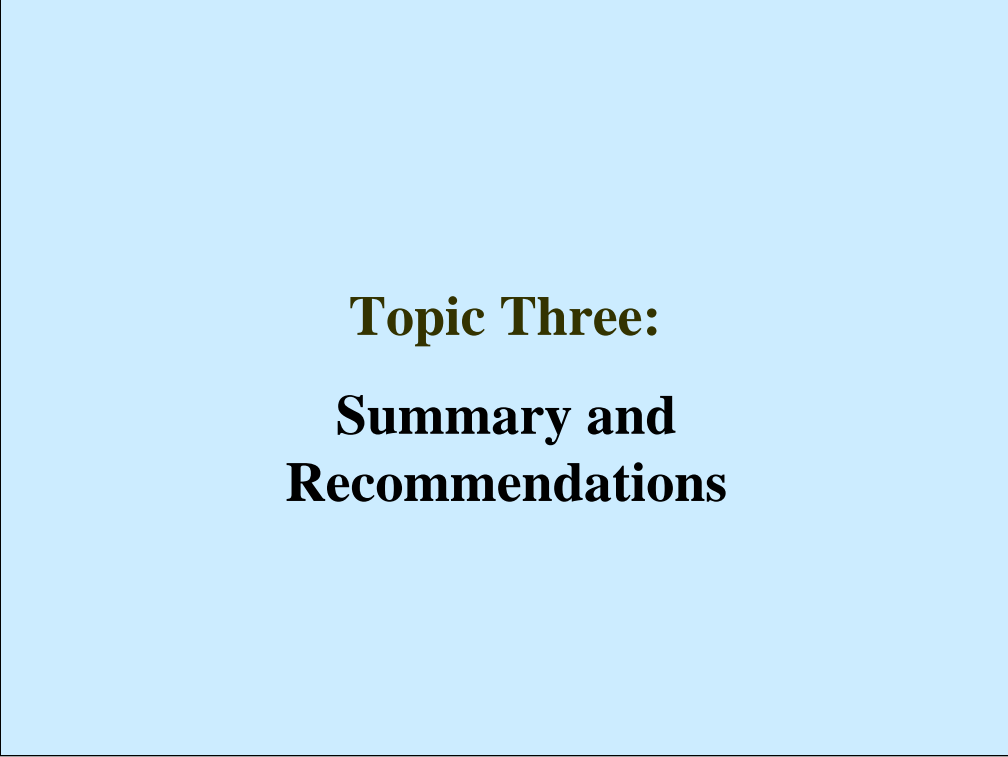
I was able to gather more information that supports the veracity of the land price allocation at 733 Champagne and the deviation from the current taxable land value. (read slide)

**Abstracted Land Prices for
these 3 Sales Indicate
a Lack of Uniformity and Equality**

<i>Land Price by Abstraction</i>	↔	<i>Taxable Site Value as of Abstraction Date</i>
\$1,138,335	↔	\$467,500 (.411)
\$667,004	↔	\$630,000 (.945)
\$552,075	↔	\$375,000 (.679)

In summary, this abstraction exercise reveals these inconsistencies. The taxable and value as of the year of sale for 733 Champagne was 41.1% of the indicated price allocation to the land, whereas the taxable land value at 722 Allison was 94.5% of the indicated price allocation to the land and it was 67.9% of the price allocation to the land at 644 Alpine View.

This sort of disparity leads to disproportionate allocation of the property tax burden.



Topic Three: Summary and Recommendations

The last stage of the presentation deals with a short summary of my findings and three recommendations.

Summary

- **Nevada's uniform and equal property tax standard is not being met in the Incline Village area**
- **One significant cause of inequality appears to be land valuation error**
- **Abstraction provides a tool for providing more accurate estimates of taxable land value**

(read slide)

Recommendation I

Require that an abstracted land price be correctly estimated for each improved sale in the Incline Village/Crystal Bay market area and that abstracted land prices be retained in a data base for future analytical use

(read slide) I believe this should be part of the assessment routine, done as each sale is reported to the assessor's office after the assessor is satisfied that the sale is an arms-length transaction suitable for abstraction of a land price allocation that is indicative of the market value of the land.

This data base will have a high analytical value.

Recommendation II

Require that a data base of land sale prices and abstracted land price estimates be used to develop and validate a land valuation model and a land-price, time-trend model

A land valuation model will reveal how variation in view, topography, lot size, vegetation, drainage, lot shape, frontage, and the like is priced by the market.

A land valuation model will facilitate verification and testing of human assessment of the quality of land/lot amenities and disamenities.

A land valuation model will reveal land price trends over time.

Recommendation III

Require uniformity between Tahoe areas of Washoe and Douglas Counties in terms of taxable value to price ratios and coefficients of dispersion

and

uniformity among Washoe County submarkets in terms of coefficients of dispersion

(read slide) These two recommendations boil down to a request to fix the problems uncovered by this research, which should diminish over time if the first two recommendations are adopted.