

MEMORANDUM

To: City of Ketchum
From: Economic & Planning Systems
Subject: Feasibility and Commercial Demand Model Sensitivity Testing
Date: July 13, 2023

This memorandum contains a summary of sensitivity analysis performed to support the drafting of Ordinance 1234. EPS utilized variable factors within the Commercial Demand Model and the Development Feasibility Model to understand the relative impacts of different assumptions to further underpin the findings of the analysis.

Commercial Demand Model Sensitivity

EPS developed a commercial demand model to estimate the current unmet demand for commercial space in Ketchum and to estimate the future demand for commercial space driven by population growth in the City. The initial analysis estimated demand of between 30,000 and 40,000 square feet of new commercial space that would be driven by increased sales from new residents (both permanent and second homeowners). These estimates were based on the spending patterns of existing residents and the magnitude of growth estimated for the community. A major model input is the rate of estimated population growth in the community. The sensitivity analysis performed evaluated various rates of growth based on historic trends and other scenarios to illustrate the change in demand from variable rates of growth.

The Economics of Land Use



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Annual growth rates for permanent residents and then for second home, part-time residents were developed. The initial analysis estimated an annual growth rate of 1.9 percent for permanent residents over the next 10 years. This growth rate resulted in 644 new residents and demand for 17,348 square feet of commercial space driven by retail spending, as shown below in **Table 1**.

Four different rates were applied in the model to illustrate the changes in demand based on various levels of permanent resident growth over the next 10 years. The first sensitivity analysis was to apply a 1.5 percent growth rate for permanent residents which was based on an estimate developed by the City of Ketchum. This rate of growth results in 494 new residents and demand for 13,322 square feet of demand. Growth rates of 0.60% to 2.6% annually were tested, which results in a range of new permanent residents of 193 to 886 over the next 10 years. This level of population growth results in a range of demand of 5,188 to 23,783 square feet.

Table 1 Commercial Demand Model Permanent Population Growth Assumptions

Annual Growth Rate	Year-Round Residents				
	0.60%	1.00%	1.50%	1.90%	2.60%
Growth Rate Basis	Census PEP 2010-2019 (Ketchum)	ACS 2010-2021 (Blaine County)	City-determined rate	ACS 2010-2021 (Ketchum)	Census PEP 2010-2021 (Ketchum)
New Residents/Households	193	332	494	644	886
Supportable Square Feet					
Convenience Goods	1,359	2,345	3,488	4,543	6,251
Shopper's Goods	2,324	4,012	5,969	7,773	10,696
Eating & Drinking	1,058	1,826	2,716	3,537	4,867
Building Material & Garden	447	772	1,149	1,496	2,059
Total	5,188	8,955	13,322	17,348	23,873

Source: Economic & Planning Systems

The same approach used for permanent residents was used for new second home residents. The initial analysis assumed a 2.7 percent annual growth rate for second home residents based on the changes in the number of seasonally used units between 2010 and 2021 provided by the Census. This resulted in an estimated 542 new seasonal use households which will generate demand for 19,600 square feet of commercial space. Rates between 1.0 percent and 2.2 percent were also applied, as shown in **Table 2**. The range growth rates result in demand estimates between 6,780 and 19,600 square feet.

Table 2 Commercial Demand Model Seasonal Population Growth Assumptions

Annual Growth Rate	Seasonal Residents					
	1.00%	1.50%	1.70%	2.00%	2.20%	2.70%
Growth Rate Basis	Slow growth	City-determined population growth	ACS all vacant 2010-2021	Moderate growth	Middle of ACS all vacant/seasonal use 2010-2021	ACS vacant - seasonal use 2010-2021
New Residents/Households	187	287	328	390	433	542
Supportable Square Feet						
Convenience Goods	1,426	2,183	2,494	2,970	3,294	4,123
Shopper's Goods	3,953	6,050	6,912	8,231	9,128	11,427
Eating & Drinking	984	1,506	1,721	2,050	2,273	2,845
Building Material & Garden	416	637	728	867	962	1,204
Total	6,780	10,377	11,856	14,118	15,656	19,600

Source: Economic & Planning Systems

Combining demand from both permanent and seasonal resident growth results in a range of demand of between 12,000 and 43,000 square feet. EPS initial estimates of up to 40,000 square feet of demand from new residents fit within the range found in the sensitivity analysis. The finding of a potential for UP TO 40,000 square feet is a good barometer for demand over the next 10 years.

Development Feasibility Model Sensitivity

Sensitivity testing was performed using the development feasibility model to illustrate the impact of variable assumptions in the model. Through model testing and feedback from the Technical Advisory Group, sensitivity analyses were performed with variable assumptions for three of the major model inputs, the price per square foot for a Penthouse Unit, the cost per square foot of land, and the price per square foot for a smaller condo unit. EPS also tested the impact of allowing penthouses greater than 3,000 square feet in size on development feasibility and lower residential density minimums for all residential projects.

The sensitivity testing was performed using two different development program approaches for a standard interior lot. The first is a mixed-use program that includes ground floor commercial and the second is an all-residential program that meets the minimum density requirement of seven units. The static model return metric of "return on cost" was used to compare the programs. Return on cost is a comparison of the return, which is the estimated project value (sales proceeds plus value of rental spaces) minus the estimated project cost, to the total project cost. A target return of at least 15 percent indicates a feasible return.

Mixed Use Program

The first was an analysis of the Mixed-Use development program that includes 1,624 square feet (net) of ground floor commercial space, and 4 residential units totaling 7,500 square feet (net). The program includes two 3,000 square foot penthouse units, with one on floor two and one on floor three. Two additional units are located on floor two, both totaling 750 square feet in size, with one being designated as a community housing unit. The initial analysis performed by EPS estimated the program would generate a project

valued at \$13.99 million and would cost \$11.76 million to build. The return was an estimated \$2.21 million, which is 18.8% of the project cost. The results of the sensitivity testing are compared to this 18.8% return finding. The results of the sensitivity analysis are described below and shown in X.

Penthouse Price

A major finding of the initial analysis was that “The penthouse units pay for the cost of development and the community amenities included. The ability to achieve top of the market rates is essential.” The initial analysis estimated the achievable price per square foot for a penthouse unit is \$2,000 per square foot. Feedback from the TAG indicated concern that this was not an achievable price point or that there are limited actual sales to underpin this assumption despite most of stakeholders interviewed indicating this was the going rate for these units.

Penthouse prices based on \$1,700, \$1,800, and \$1,900 were tested. The reduction of the achievable price point for the penthouse units has a significant impact on return. Using a \$1,900 price per square foot, the project is marginally feasible with a return of 13.9%. The other two lower price points produced projects that are not feasible. This finding reinforced the importance of the penthouse sale proceeds on project returns.

Land Cost

The initial analysis used an estimated cost per square foot of land of \$235, which was based on recent sales analysis completed by the City and indicative of the purchase of vacant or mostly vacant lot. The model was run using \$300, \$400, and \$500 price points. At \$300 per square foot of land cost, the project is feasible with a 15.2 percent return. The other two land cost assumptions result in projects that are not feasible. Land cost is a major factor in feasibility of these projects and varies depending on the condition of the lot being sold/developed and the location within the community core.

Condo Price

The TAG also expressed concerns about the estimated price point for non-penthouse condos of \$1,250 per square foot. The model was also run using \$1,000, \$750, and \$500 per square foot price points. At all prices above \$750 per square foot, the project is estimated to be feasible with a return above 15%. The estimated return on costs at \$500 per square foot is 14.2%, which is potentially feasible. The achievable price point for a standard condo unit is not a major factor in feasibility assuming the project has penthouse units that can achieve top of the market rates.

Penthouse Size

Interim Ordinance 1234 limits the size of penthouse units to 3,000 square feet. The initial analysis performed by EPS resulted in the following recommendation “Increase or eliminate the 3,000 square feet limit on unit size OR allow larger unit sizes on top/third floor” to allow for greater project design flexibility. The Mixed-Use program modeled in the analysis assumes two penthouse units that are each 3,000 square feet. The program has a 1.95 floor area ratio, which is well below the cap of 2.25. Larger penthouse units can be accommodated within the FAR limits. EPS tested the impact of units sized at 3,300 sf, 3,600 sf, and 3,900 sf. Increasing the allowable size of the unit results in a unit that

can generate a greater price point and can allow for greater flexibility in project design. The increased unit sizes resulted in strong returns of between 24.9 and 36 percent depending on the average unit size for both penthouse units. This greater size flexibility can potentially help to offset the concerns about feasibility related to lower than achievable price points or higher land costs.

Penthouse Size with Lower Penthouse Prices

To illustrate the impact of greater unit sizes for the penthouse units in relation to a lower estimated achievable penthouse price per square foot, additional sensitivity analysis was performed changing these two factors. The same range of penthouse unit sizes from 3,300 to 3,900 square foot was used but with the lowest estimated price per square foot for a penthouse of \$1,750. Once the penthouse units increased in size to at least 3,500 square feet, the projects became feasible and produced an adequate return on cost.

Table 3 Development Feasibility Sensitivity, Standard Interior Lot Mixed Use Project

Sensitivity	Return on Cost Result
Penthouse Price	
	ROC
\$2,000 per sf	18.8%
\$1,900 per sf	13.9%
\$1,800 per sf	9.0%
\$1,700 per sf	4.1%
Land Cost	
	ROC
\$235 per sf	18.8%
\$300 per sf	15.2%
\$400 per sf	10.1%
\$500 per sf	5.4%
Condo Price	
	ROC
\$1,250 per sf	18.8%
\$1,000 per sf	17.2%
\$750 per sf	15.7%
\$500 per sf	14.2%
Penthouse Size	
	ROC
3,000 sf	18.8%
3,300 sf	24.9%
3,600 sf	30.6%
3,900 sf	36.0%
Pent Size Lower Price	
	ROC
3,000 sf	18.8%
3,300 sf and \$1750 per sf	11.8%
3,600 sf and \$1,750 per sf	16.8%
3,900 sf and \$1,750 per sf	21.4%

Source: Economic & Planning Systems

All Residential Program

A second set of sensitivity analyses were performed on the 100% residential program achieving the minimum residential density of seven units. The purpose of this second sensitivity analysis was to test the impact of reducing residential density to allow for a greater variety of project designs and address some feasibility concerns. Two base programs were initially modeled by EPS based on designs from Holst Architecture. These two programs each had seven units, but one had 1 penthouse and the other had 2 penthouses. These same two models were tested assuming six units in the buildings. The results of the modeling are shown below in **Table 4**.

Holst Architecture originally designed a project with seven units including one penthouse unit on a standard interior lot. The program had three ground floor units that were each 439 square feet in size, two of which are community housing units. The second floor had two larger condo units totaling 1,999 square feet each, and then the third floor had one 3,000 square foot penthouse and one 1,299 square foot condo unit. This project had a 2.09 FAR. This project produced a return on cost of 7.7% and is not a feasible program.

EPS suggested a modification to this base program of adding a second penthouse unit on the second floor and reducing the size of the other condo on that floor to accommodate it. This program had the same three, small units on the ground floor, but now had a 3,000 square foot penthouse and a 750 square foot condo unit on both floors two and three. This program results in a project with a strong return on cost of 27.2 percent.

Modified versions of the two-program described above were developed that reduced the number of units to six by eliminating the condo units on the third floor, which leaves just one penthouse unit on that floor. This change to the original one penthouse unit program does not significantly change the feasibility of the project. The resulting return on cost was 7.4 percent, which is slightly less than the original project. The reduction of a unit in the two-penthouse program increased the return on cost to 31.6 percent.

The testing indicates a few findings related to the minimum density requirement.

- The number, size, and configuration of the penthouse units in a project are the biggest factor in the project design and density. A developer will seek to maximize the number of penthouse units it can provide within the density and parking constraints but will not likely seek to maximize density using additional non-penthouse units.
- The ability to include two penthouse units is a major factor in feasibility for all residential programs.
- The reduction of the minimum density does not necessarily improve returns for the project, but it does create more opportunity to provide larger units and greater flexibility in design to do so, which can increase the return of the project depending on the program.
- The reduction of the minimum density is more important for the larger, interior long lots than the standard interior lots due to the challenges of designing projects with desirable units.

Table 4 Development Feasibility Sensitivity, Standard Interior Lot All Residential

Option	Option 1	Option 2	Option 3	Option 4	
Description	Seven Units, One Penthouse	Seven Units, Two Penthouses	Six Units, One Penthouse	Six Units, Two Penthouses	
MULTIFAMILY					
Gross Building Area					
Ground Level	2,471	2,471	2,471	2,471	
Floor 2	4,506	4,040	4,506	4,040	
Floor 3	4,506	4,040	3,100	3,100	
Total	11,483	10,551	10,077	9,611	
Efficiency Factor	83.7%	83.6%	82.5%	83.9%	
Net Leasable Area					
Ground Level	1,317	1,317	1,317	1,317	
Floor 2	3,998	3,750	3,998	3,750	
Floor 3	4,299	3,750	3,000	3,000	
Total	9,614	8,817	8,315	8,067	
Units					
Penthouse	1	2	1	2	
Condo	4	3	3	2	
Market Rate Rental	0	0	0	0	
Community Housing	2	2	2	2	
Total	7	7	6	6	
Average Unit Size					
Penthouse	3,000	3,000	3,000	3,000	
Condo	1,434	646	1,479	646	
Market Rate Rental	0	0	0	0	
Community Housing	439	439	439	439	
Community Housing Requirement	1,017	1,017	1,017	1,017	
Fee in Lieu Square Feet	139	139	139	139	
Rates/Prices					
For-Sale (Price per SF)					
Penthouse	\$2,000	\$2,000	\$2,000	\$2,000	
Condo	\$1,250	\$1,250	\$1,250	\$1,250	
For-Rent (Rent per SF)					
Market Rate	\$4.00	\$4.00	\$4.00	\$4.00	
Community Housing	\$2.68	\$2.68	\$2.68	\$2.68	
PARKING					
Parking Summary					
Surface	3	1	2	1	
Tuck Under	2	4	2	4	
Podium	0	0	0	0	
Underground Parking	0	0	0	0	
Total	5	5	4	5	
PROJECT COSTS					
Hard Costs					
Land Cost	per land sf	\$235	\$235	\$235	\$235
Site Costs	per land sf	\$15	\$15	\$15	\$15
Surface Parking Costs	per space	\$3,500	\$3,500	\$3,500	\$3,500
Tuck Under Cost	per space	\$5,000	\$5,000	\$5,000	\$5,000
Building Cost - Podium	per sf	\$80	\$80	\$80	\$80
Building Cost - Underground Parking	per sf	\$450	\$450	\$450	\$450
Building Cost - Multifamily	per sf	\$850	\$850	\$850	\$850
Building Cost - Commercial	per sf	\$650	\$650	\$650	\$650
PROJECT RETURN AND GAP					
PROJECT COST					
Total Cost		\$12,334,272	\$11,386,829	\$10,914,305	\$10,417,430
Per GBA		\$1,165	\$1,179	\$1,186	\$1,196
Per Unit		\$1,762,039	\$1,626,690	\$1,819,051	\$1,736,238
STATIC EVALUATION					
Return on Cost					
Total Project Value		\$13,284,264	\$14,487,864	\$11,725,464	\$13,712,264
Total Project Cost		\$12,334,272	\$11,386,829	\$10,914,305	\$10,417,430
Project Return		\$949,992	\$3,101,035	\$811,159	\$3,294,834
Return on Cost		7.7%	27.2%	7.4%	31.6%
Target		12%-15%	12%-15%	12%-15%	12%-15%
TIME SERIES					
Return on Cost					
Project IRR					
Hurdle Rate		9.15%	9.15%	9.15%	9.15%
Actual Rate		5.46%	17.02%	5.3%	19.49%
Gap/Surplus (NPV)		-\$652,488	\$1,259,575	-\$614,750	\$1,528,026
% of Total		-5.3%	11.1%	-5.6%	14.7%

Source: Economic & Planning Systems