Estimating the Impact of Varying Multi-family Assessment Rates on Current and Future Tax Revenue

This project was undertaken to explore the potential impact on property tax revenue should the rate of assessment decrease from 40% for commercial multi-family units. The project was divided into two scenarios: (1) impact on current revenue and (2) impact on future revenue.

Scenario #1: Current landscape

Only multi-family properties that are currently taxed at the commercial rate of 40% (CLASS = 'C') were considered. From this initial group, properties whose current land use matched one of 5 multi-family codes (Table 1) were selected for analysis.

For an estimate of current revenue, the total assessed value (*Assessor code:* RTOTASMT) for these properties were summed, then depending upon their placement jurisdictionally, multiplied by the City of Memphis and Shelby County tax rates of 3.20% and/or 4.05%, respectively.

Land Use Code	Descriptions	Median Number of Units
003	APARTMENT HIGH RISE	52.5
002	APARTMENT COMPLEX	32
067	APARTMENT GARDEN	6
061	TRIPLEX	3
059	DUPLEX	2

Figure 1. Median number of units by land use code.

The iterative analysis was structured in such a fashion that the potential revenue outcome could be evaluated across a permutation of plausible tax rates and count of living units. To minimize the number of permutations, the count of living units ranged from 2 to 20 with a unit increase for each iteration. Similarly, assessment rates varied from 25% to 40%, incrementally increasing by 2.5% (i.e., 25%, 27.5%, 30%, 32.5%, 35%, and 40%).

Different permutations of each list were evaluated to determine the impact on revenue. A single iteration would multiply a lower assessment rate against the total appraised value (*Assessor code*: RTOTAPR) for one group of properties with a specified number of living units. This total, which represented the adjusted total assessment was then multiplied against a municipal rate or county rate. For all remaining properties with a total number of living units greater than or less than the current total, the current rate of 40% was applied to calculate the amount of potential tax generated, so the total resulting revenue reflects the potential impact that a single class (number of living units) of multi-family property has on the overall revenue alone.

Figures 1 and 2 illustrate the results of Scenario #1 analysis. Figure 1 shows the results for a range of living units between 2 and 20 while the Figure 2 removes 2-unit structures to better highlight the range of estimated tax revenue for 3 to 20 units. As can be seen from Figure 1, structures containing 2 living units contribute the greatest loss in potential tax revenue. The reduction in potential revenue for 2-unit structures ranges from a high of 26.04% at a rate of 25% to

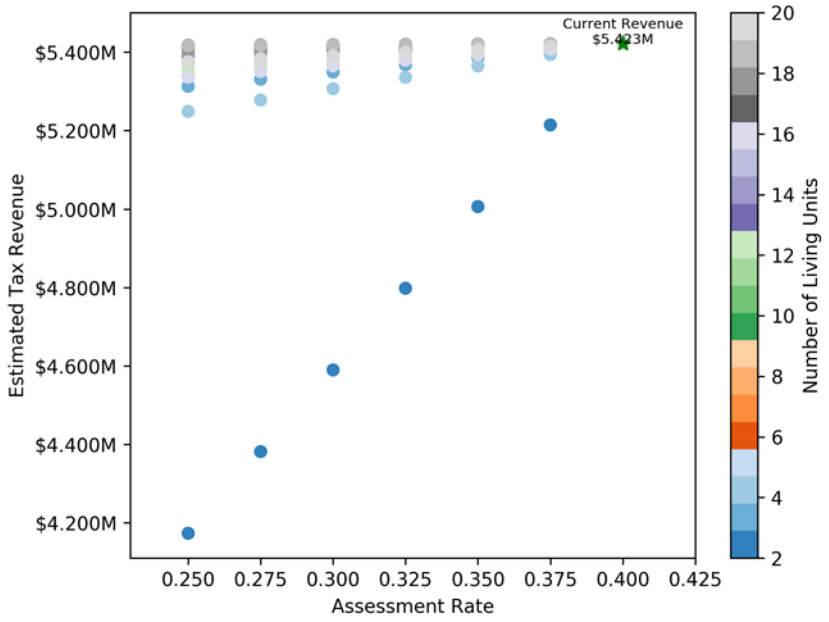

Figure 1. Estimated tax revenue for 2- to 20-living-units across variable assessment rates

a low of 3.92% at 37.5%.

Comparatively for all other units (3 to 20), the range of impact ranges from a high of 3.2% for 4-unit structures at 25% to a low of 0.02% for 19-unit structures at 37.5%. While there is some variation in impact for all units at each hypothetical tax rate, The overall loss of revenue for each land use code for each assessment rate is linear with some fluctuation at each assessment rate, but the median percent difference ranges between a low of 0.09% to a high of 0.53%

While the results of the first analysis may suggest that 2-unit structures are the most valuable in terms of tax revenue impact, this is mostly the result of a low-density development pattern

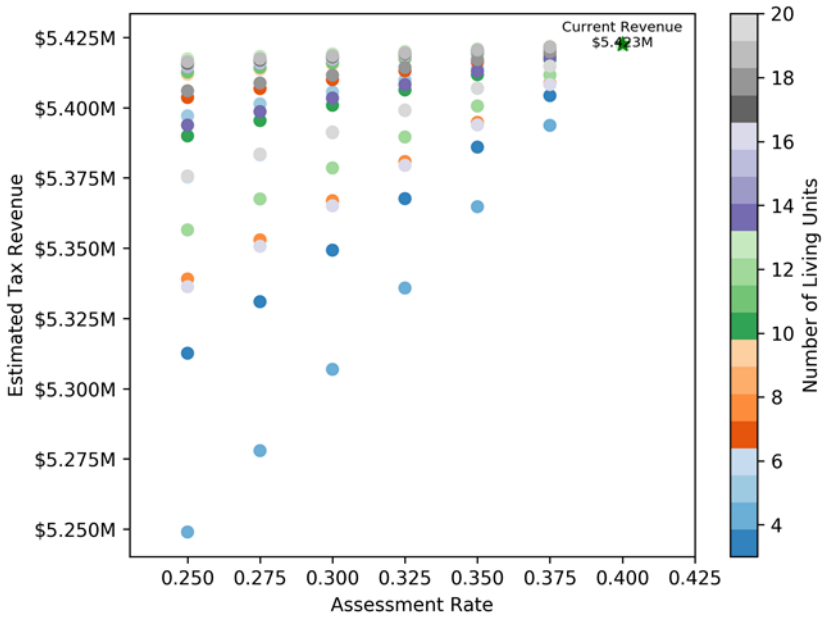

Figure 2. Estimated tax revenue for 3- to 20-living-units across variable assessment rates.

prevalent throughout the area.

Figure 3 shows the total appraised value by living units. The total value for all 2-unit structures is not so much a reflection of the value of these properties as it is a indication of their shear total number. If the same chart is displayed normalizing the appraised value by the number of units, the shape of the chart shifts dramatically towards properties with a greater number of living units (Figure 4).

What Figures 3 and 4 demonstrate is that while 2-unit structures represent a disproportionate contribution to the overall amount of revenue generated by multi-family properties, the revenue total is actually lower should a greater emphasis be placed on higher count unit structures.

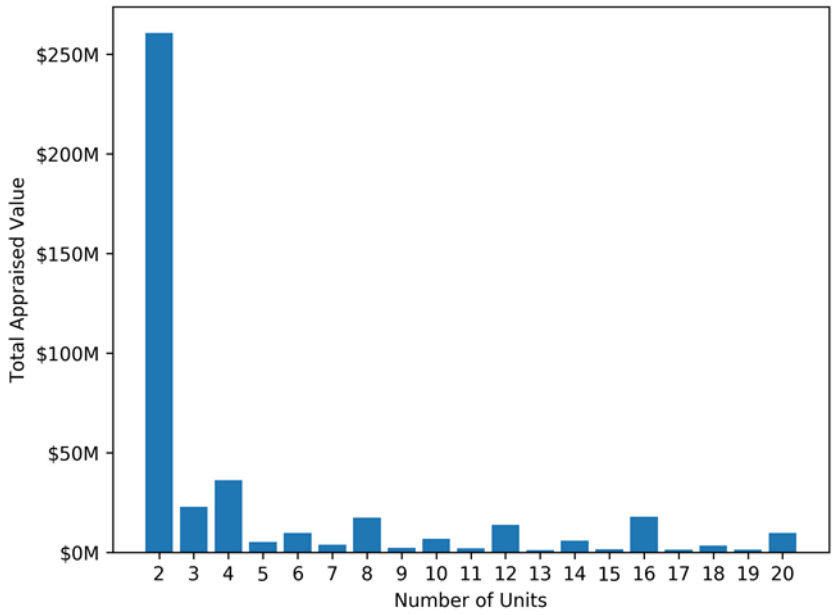

Figure 3. Total appraised value based on number of living units per structure.

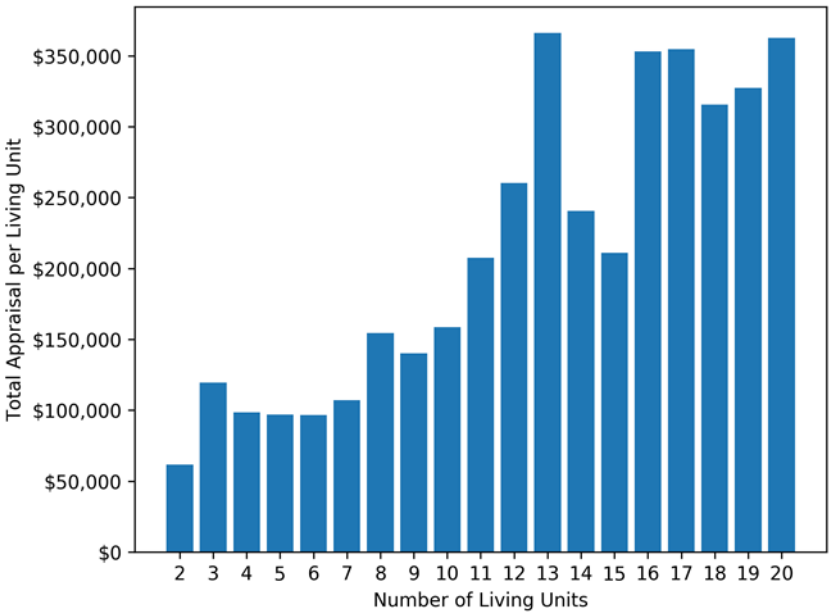

Figure 4. Total appraised value per living unit (normalized) based on number of living units per structure.

Scenario #2: Alternative projection

For the second half of this effort, potential revenue is estimated by generating new multi-family units.

Rather than focusing on the number of living units, this analysis instead targeted current zoning for vacant properties throughout the City. Zones in turn were matched to multi-family residential land use codes in decreasing order of density so that the land use codes that represented the greatest number of living units were allocated first to all vacant property according to what its respective zoning would allow (see Table 1).

To better reflect the true value of these properties throughout the city, the median value for each land use type was calculated using Census tracts as neighborhood proxies so that the estimated revenue more accurately reflected cross-city differences. If a particular land use did not exist within a given neighborhood for a property's current zoning, the median value for each land use for the entire city was used in its place.

Median values were then applied to each vacant property as a representative total appraised value, then was multiplied against by the adjusted assessment rate and city tax rate to arrive at an estimated total potential revenue.

Subsequently, a second estimate of potential revenue was factored based on if all available vacant land was developed using land use distribution patterns similar within each neighborhood. For this analysis, single family residential properties (Land Use Code 062) were included to better reflect local development patterns and while their frequency of designation varies among neighborhoods, city-wide they comprise over 95% of all residential property types (see Table 2).

Table 1. Designation of land use codes listed in a progressively downward living unit density for each vacant property zoning type.

Zoning / Land use code	RU-1	RU-2	RU-3	RU-4	RU-5	RW	OG	CMU-1	CMU-2	CMU-3	CBD	CMP-1	CMP-2
Decreasing living unit density ↓	059	067	002	002	003	003	003	003	003	003	003	003	003
		061	067	067	002	061	067	067	067	067	002	067	067
		059	061	061	067	067	059	059	059	059	067	059	059
			059	059	061	059							

Table 2. Percent of total properties by land use code.

Land Use Codes	Percent of Total
003	0.02%
062	95.80%
067	0.42%
061	0.10%
059	3.18%
002	0.48%

Conclusion

The revenue differences between the scenarios are striking (see Figure 5). To continue following current development practices that favor single family, estimated revenue streams may range from $5.8M to $9.3M over the assessment rates of 25% to 40%. Yet across the same assessment rates range, preferring multi-family unit structures suggests an approximate revenue stream of $49.9M to $79.9M.

There are ancillary factors that should be acknowledged when considering these results:

- Does not take into account the ability of current infrastructure to handle the additional density
- Does not consider current population growth rates and which areas are experiencing this type of growth
- May need additional consideration to ensure that the land use codes have been matched with the appropriate zoning districts

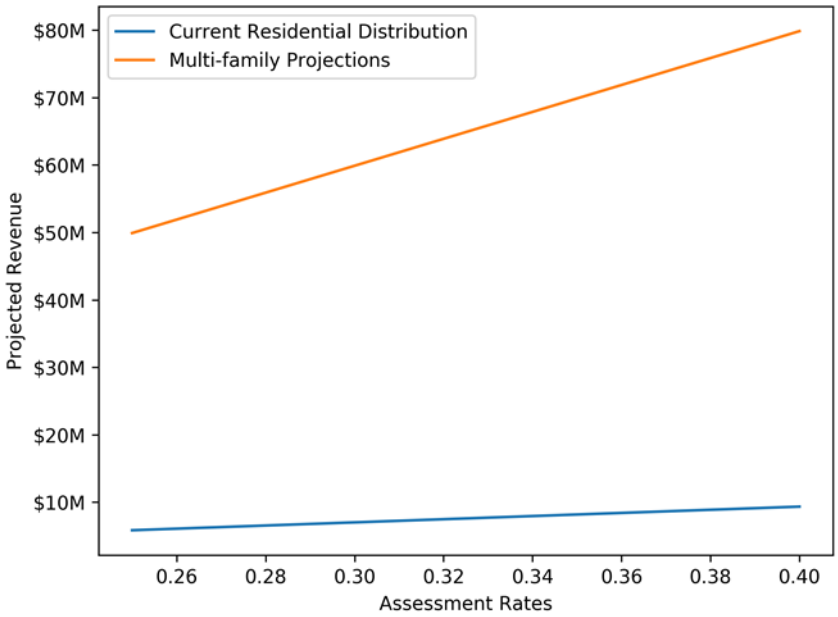

Figure 5. Comparison of projected revenue for Scenario #1 (blue) and Scenario #2 (orange).