



Howard County

Memorandum

DEPARTMENT OF PLANNING AND ZONING

To: Howard County Council

From: Jeff Bronow, Chief of Research Division, DPZ

Date: November 2, 2015

Subject: Updated Student Yield Scenarios for Fiscal Impact Analysis of Downtown Columbia Joint Housing Recommendations

A question was raised on the difference between the total number of students projected as a result of future development in Downtown Columbia shown in the fiscal study conducted by MuniCap dated September 17, 2015 and in the October 9, 2015 memorandum prepared by the Howard County Public School System (HCPSS). Both of these items were presented during the October 13th County Council work session. The County Council has also requested that a range of student yields be tested. This memorandum responds to the question raised and outlines the scenarios to be tested.

The yields used in both studies (MuniCap's fiscal and the HCPSS memorandum) were based on recent data for the existing apartment units in Downtown Columbia shown in the table on the top of the next page—0.057 for elementary school, 0.028 for middle school, and 0.036 for high school, for a total of 0.121 students per unit. These standing yields were provided to MuniCap from the DPZ Research Division in consultation with the HCPSS Office of Planning, who agreed that these yields were reasonable given they reflect actual yields from apartments in Downtown Columbia now.

It was also stated during the October 13th work session that these yields are *conservative* given that high-rise apartment buildings 5-stories and above to be built in Downtown Columbia (with higher average rents and many studio and 1-bedroom units) will likely generate fewer numbers of students than the existing garden-style apartments. It was stated that the original fiscal impact study conducted on the original Downtown Columbia Plan in 2009 tested a low and high scenario—the low scenario used 0.085 total students per unit (all grades) and a high of 0.167 total students per unit (all grades). This low scenario of 0.085 was based on existing yields in Downtown Columbia at that time *including* condominiums (which generally generate lower yields). That fiscal study assumed 40% condos and 60% rental apartments, so including condos in the yield determination was deemed reasonable. In addition, at that time planners at Fairfax County Schools were contacted to see what they used for yield estimates for buildings 5-stories and above—they used a yield of 0.087, very similar to the existing yields in Downtown Columbia. The high scenario using 0.167 was based on countywide averages for newly constructed rental and condo units in Howard County. Having low and high scenarios is helpful to provide a range of fiscal impacts given the uncertainty of what future yields will actually be. Note that the 0.121 used in MuniCap's recent fiscal study is just about right in the middle of the 0.085 to 0.167 range that had been used in the 2009 fiscal study for the proposed Downtown Columbia Plan.

Columbia Town Center - Standing Student Yields (5 year averages)

Name/Description	Type	Units	Year	Students				Yields			
				ES	MS	HS	Total	ES	MS	HS	Overall
Archstone Rentals	Rental Apt	531	9/30/07	30	14	13	57	0.056	0.026	0.024	0.107
		531	9/30/08	31	11	15	57	0.058	0.021	0.028	0.107
		531	9/30/09	39	16	21	76	0.073	0.030	0.040	0.143
		531	9/30/10	43	19	27	89	0.081	0.036	0.051	0.168
		531	9/30/11	31	19	27	77	0.058	0.036	0.051	0.145
		Average		35	16	21	71	0.066	0.030	0.039	0.134
Gramercy Rentals	Rental Apt	210	9/30/07	12	5	2	19	0.057	0.024	0.010	0.090
		210	9/30/08	5	5	4	14	0.024	0.024	0.019	0.067
		210	9/30/09	5	5	8	18	0.024	0.024	0.038	0.086
		210	9/30/10	8	3	7	18	0.038	0.014	0.033	0.086
		210	9/30/11	9	6	10	25	0.043	0.029	0.048	0.119
		Average		8	5	6	19	0.037	0.023	0.030	0.090
TOTAL RENTALS		741	9/30/07	42	19	15	76	0.057	0.026	0.020	0.103
		741	9/30/08	36	16	19	71	0.049	0.022	0.026	0.096
		741	9/30/09	44	21	29	94	0.059	0.028	0.039	0.127
		741	9/30/10	51	22	34	107	0.069	0.030	0.046	0.144
		741	9/30/11	40	25	37	102	0.054	0.034	0.050	0.138
		Average		43	21	27	90	0.057	0.028	0.036	0.121
Whitney Town Center Condos	Condo Apt	108	9/30/07	1	1	0	2	0.009	0.009	0.000	0.019
		108	9/30/08	1	1	1	3	0.009	0.009	0.009	0.028
		108	9/30/09	0	1	3	4	0.000	0.009	0.028	0.037
		108	9/30/10	0	2	2	4	0.000	0.019	0.019	0.037
		108	9/30/11	0	2	5	7	0.000	0.019	0.046	0.065
		Average		0	1	2	4	0.004	0.013	0.020	0.037
Lakeside Town Center Condos (New Ryland Condos)	Condo Apt	48	9/30/07	0	0	1	1	0.000	0.000	0.021	0.021
		48	9/30/08	1	0	1	2	0.021	0.000	0.021	0.042
		48	9/30/09	0	0	1	1	0.000	0.000	0.021	0.021
		48	9/30/10	2	0	1	3	0.042	0.000	0.021	0.063
		48	9/30/11	0	0	1	1	0.000	0.000	0.021	0.021
		Average		1	0	1	2	0.013	0.000	0.021	0.033
TOTAL CONDOS		156	9/30/07	1	1	1	3	0.006	0.006	0.006	0.019
		156	9/30/08	2	1	2	5	0.013	0.006	0.013	0.032
		156	9/30/09	0	1	4	5	0.000	0.006	0.026	0.032
		156	9/30/10	2	2	3	7	0.013	0.013	0.019	0.045
		156	9/30/11	0	2	6	8	0.000	0.013	0.038	0.051
		Average		1	1	3	6	0.006	0.009	0.021	0.036
TOTAL CONDOS AND RENTALS		897	9/30/07	43	20	16	79	0.048	0.022	0.018	0.088
		897	9/30/08	38	17	21	76	0.042	0.019	0.023	0.085
		897	9/30/09	44	22	33	99	0.049	0.025	0.037	0.110
		897	9/30/10	53	24	37	114	0.059	0.027	0.041	0.127
		897	9/30/11	40	27	43	110	0.045	0.030	0.048	0.123
		Average		44	22	30	96	0.049	0.025	0.033	0.107

Source: Howard County Public School System - official September 30 student counts.

The table below summarizes the number of students projected using the 0.121 yield rate (0.057 for elementary, 0.028 for middle, and 0.036 for high) in MuniCap's September 17, 2015 fiscal study for the total 6,750 new housing units projected in Downtown Columbia assuming buildout of the joint housing recommendation (5,500 original units in the Downtown Columbia Plan plus the 1,250 addition units resulting from the joint housing recommendation including the Columbia Flier building) compared to the total students projected in the October 9, 2015 memorandum from the HCPSS.

	Total Students at Buildout	
	Fiscal Study (1)	HCPSS (2)
Elementary School	349	890
Middle School	171	600
High School	221	710
Total	741	2,200

- (1) September 17, 2015 fiscal study (MuniCap). Note that MuniCap applied yields to a 90% occupancy rate for the rental units.
- (2) Determined from charts in October 9, 2015 HCPSS memorandum subtracting buildout student totals from the existing base student totals.

The same yields were used in both studies, so why the large discrepancy? The reason is due to the fact that the HCPSS did not maintain the standing yield of 0.121 students per housing unit over time for the new units projected in Downtown Columbia. Rather they used their typical model for feasibility planning that includes the following components: new construction yields (which they applied the standing yield rate to), cohort survival ratios, apartment turnover impacts, birth to kindergarten ratios, estimated preschool move-ins, and net out-of-district impacts. Their model also included existing development already on the ground. This methodology using all these components is currently used by HCPSS for all school districts in the county and is useful to account for existing neighborhood housing turnover—that is, in neighborhoods where there may not be a lot of new construction relative to existing housing, which is typically the norm. Furthermore, it tends to work better for short-term (1 to 2 years) to mid-term (3 to 5 years) capital budget-related impacts. It doesn't work as well when trying to analyze the direct impacts due to a single large development over a longer time-frame, such as what is proposed in Downtown Columbia. For that type of analysis it is best to utilize a standing yield methodology. After observing the results of the two methodologies and further discussions with DPZ planning staff and MuniCap, HCPSS planning staff agreed that the standing yield methodology is the more appropriate methodology to use for the Downtown Columbia analysis.

As suggested by Council members during the October 13th County Council work session it would be prudent to evaluate a range of yields for fiscal impact sensitivity testing. As indicated in the original 2009 fiscal analysis for the Downtown Columbia Plan, studying a range of yields is important because:

...the economy, societal preferences, and trends can certainly change...For example, it can be argued that as the housing supply becomes more limited as the County approaches “build-out,” more pressure will be put on existing and new housing (including multi-family housing) to hold more students given the excellent reputation of the HCPSS. Thus, testing a scenario with higher student yields is prudent, particularly given education takes such a large portion of the operating and capital budgets in Howard County.

The table below summarizes the range of yields to be tested in MuniCap's revised fiscal impact analysis utilizing a standing yield methodology. The expected scenario is based on recent student yield data acquired from Montgomery County. (Please see attached memo from Montgomery County.) Note that the 0.118 countywide average yield rate for multi-family high-rise buildings (5-stories and above) is within 2% of the 0.121 that had been used in MuniCap's September 17th fiscal impact analysis. Since Howard County does not currently have much in the way of high-rise multi-family buildings (5-stories and above), Montgomery County yields were used as a proxy. For a higher yield scenario Howard Countywide 5-year average yields for newly constructed multi-family units were used.

	Student Yields	
	Expected (1)	County Avg (2)
Elementary School	0.060	0.101
Middle School	0.025	0.045
High School	0.033	0.036
Total	0.118	0.182

(1) Based on Montgomery County student generation rates for multi-family high-rise units 5-stories or more, 2013 analysis. (rental and condo apts.)

(2) Based on 2009 to 2014 average Howard Countywide yields from newly constructed multi-family units. (rental and condo apts.)

As another point of reference, Fairfax County Public Schools were also contacted to learn what yield rates they use. (See attached memo from Fairfax County.) Yield rates in Fairfax for multi-family buildings 5-stories and above are slightly less than those in Montgomery County, ranging from 0.087 to 0.110 students per unit over a seven year sample, with the most recent year being 2013-2014. These yields in Fairfax are used to determine per student proffer dollar contributions that are commonly collected from developers as a condition of rezoning approval. Such proffers are a common practice in Virginia.

It is important to note that the expected yield scenario in this case should be considered the *likely* outcome given the type of housing planned in Downtown Columbia, and the countywide average yield scenario should be considered a high end-point for fiscal impact sensitivity testing—that is, a risk assessment to help garner an understanding of how higher yields may impact the fiscal results. The units in Downtown Columbia will likely consist of a large proportion of studio and one-bedroom units in high-rise buildings, and current empirical evidence shows that this generates lower yields as seen in both Montgomery and Fairfax Counties. The table below shows the expected mix of future units based on recent information provided by Howard Hughes. This unit mix, with 50% of the total planned to be studio and 1-bedroom units and another 40% 2-bedroom units. Only 10% are expected to be 3-bedroom units.

Unit Type	Percent Mix
Studio	15%
1-bedroom	35%
2-bedroom	40%
3-bedroom	10%

Source: Howard Hughes

The tables below summarize the total students generated from the original Downtown Columbia plan of 5,500 units and the joint housing recommendation that would result in 6,750 units for both the expected and the countywide average yield scenarios. These same scenarios will be incorporated into MuniCap’s model to test the fiscal impacts of this range.

	Student Totals - 5,500 units	
	Expected	County Avg
Elementary School	330	556
Middle School	138	248
High School	182	198
Total Students	649	1,001

	Student Totals - 6,750 units	
	Expected	County Avg
Elementary School	405	682
Middle School	169	304
High School	223	243
Total Students	797	1,229