

INTRODUCTION

This is an information package for those interested in the challenge of providing quality educational facilities in the Mountain View Whisman School District (MVWSD) and the Mountain View-Los Altos Union High School District (MVLA) as the City of Mountain View accommodates a significant amount of new development over the coming decades. These districts currently have excellent facilities and noted student achievement; everyone involved wants this to continue to be the case in the future.

The districts have already conducted a more extensive study of their facility needs focused on the North Bayshore Precise Plan (NBPP) area and have produced more information than is included in this document. This package differs in that it has a city-wide perspective on the relationship between new development and school facility needs, leading to an identification and analysis of potential funding to provide the needed facilities. It also includes information on the efforts of other nearby districts to provide facilities needed to accommodate enrollment from new large developments.

The information begins with the amount of projected city-wide development, especially residential. Then, it considers the number of students that could be generated by this development, identifies some options the districts could use to provide adequate enrollment capacity, and addresses the possible costs of such facilities. Finally, it identifies and evaluates the roles that varying financial sources could play in funding facilities. As noted above, MVWSD and MVLA are continually looking ahead to future facility needs and, in doing so, have provided information about all of these matters, though with only a limited consideration of funding options. That information is only briefly summarized in this package, along with references to district documents with more information.

It should be emphasized that this document does not make a projection of student generation, nor does it recommend appropriate school facilities, determine their cost. Analyzing future enrollment and determining facility needs is particularly the responsibility of the school districts. Information on these topics is included here only for the purpose of considering possible funding options.

It should also be recognized that the community is addressing issues of student generation, facilities, and costs over several decades at a time when the factors affecting these are changing rapidly and have inherent features that will drive future changes over these decades. The average age of employees will be changing, housing choices and commute patterns will be changing, and land for development and for school sites, in particular, will become increasingly scarce. Also, time is of the essence as remaining funding associated with development will decrease if a deficit builds up before a funding program is in place.

Future Development

[Tentatively projected residential development, broken out by type of housing unit and separately for the NBPP area, is shown in the table. More information is provided later.]

PROJECTED RESIDENTIAL DEVELOPMENT

	CITYWIDE UNITS		NORTH BAYSHORE			ELSEWHERE		
	Total	% of total	# of units	# owner	# rental	# of units	# owner	# rental
Market-rate units	16,000		8000			8000		
Studio/Micro	3968	25%	3200	320	2880	768	77	691
1 bed	4677	29%	2400	720	1680	2277	683	1594
2 bed+	7356	46%	2400	1920	480	4956	3965	991
BMR units (inclusionary)	2500		1250			1250		
Studio/Micro	620	25%	500	50	450	120	12	108
1 bed	731	29%	375	113	263	356	107	249
2 bed+	1149	46%	375	300	75	774	619	155
Subsidized, non-senior affordable	1050		525			525		
Studio/Micro	368	35%	184		184	184		184
1 bed	210	20%	105		105	105		105
2 bed+	473	45%	236		236	236		236

*There are also 450 subsidized senior/disabled affordable units that are not expected to generate significant numbers of students and are generally not included in related development projections.

STUDENT GENERATION

The projection of the number of students that will be generated by new development is an obvious necessity in estimating the costs of facilities that will be required. Any projected change in enrollment from existing homes is also a factor in projecting facility needs. Since the construction of housing is a durable product which has a useful life of 40-50 years, the long-term impact of such must be considered.

Jack Schreder & Associates (JSA), a firm specializing in school demographics and enrollment, has undertaken several studies for MVWSD and MVLA. Most recently, JSA provided a projection of student generation for residential development in the NBPP area. SCI Consulting Group (SCI), which provides public financing consulting services, has reviewed JSA's projections of enrollment on behalf of the largest developer, Google, and communications between the two firms have clarified some of the issues integral to projections of student generation. The outcome of studies conducted by JSA and SCI resulted in the following comparison of student generation rates

SCI – JSA SGR Comparison				
	<u>SCI</u>		<u>JSA</u>	
Micro Units	.016		.016	
Condo/Rowhouses	.067		.067	
1-3 Bdrm MR Apartments	.159	Over 50 units development	.171	All 8,429 units
BMR Units	.25 to .5	Newer construction	.867	All non-senior units

Source: SCI Consulting Group, Jack Schreder & Associates, Inc.

There is agreement on SGR for micro and condo/rowhouses and the difference with regard to 1-3 bedroom units can be attributed to the fact that SCI did not include housing projects with less than 50 units. The below market rate units differ due to the sample set used by SCI and JSA. SCI used non-senior newly constructed units, and JSA used all non-senior units including older units that allow lower rental rates.

Student Generation in Developed Units

SGRs are the ratio of students to homes, e.g., 20 kindergarten through 12 grade (K-12) students living in 100 housing units exhibits a K-12 SGR of 0.20. The previous section set forth the expected allocation into housing types, including differentiating between studio/micro-units, single-bedroom units, and two+-bedroom units. The ideal approach is to project enrollment by multiplying the number of units in each category by an appropriate SGR; providing information for doing this is the purpose of most of this section.

Most of the units now being constructed in Silicon Valley have very low SGRs, i.e., they are generating relatively few students compared to past SGR patterns in the area.

Multi Family Unit Student Generation Rate (SGR) Comparison by District

	MVWSD/ MVLA	Palo Alto USD	Santa Clara USD	San Jose USD	Fremont USD	Fremont HSD	Sequoia HSD	Campbell HSD	Redwood City ESD	Cupertino ESD	Menlo Park ESD	Sunnyvale ESD	Burlingame ESD	Millbrae ESD	
Source	OPSC	JSA	DecisionInsite	Cooperative Strategies	Odell Planning & Research	Cooperative Strategies	Schoolhouse Services	OPSC	Cooperative Strategies	LPA/ DecisionInsite	Schoolhouse Services	Enrollment Projections	Internal	SchoolWorks	SchoolWorks
Grade	SGR	SGR	SGR	SGR	SGR	SGR	SGR	SGR	SGR	SGR	SGR	SGR	SGR	SGR	SGR
K - 5	0.4000	0.0740	0.2300	0.1171	0.0960	0.2032							0.104	0.2067	0.1797
6 - 8	0.1000	0.0460	0.1200	0.0418	0.0410	0.0799							0.052	0.0525	0.0644
K - 8	0.5000	0.1200	0.3500	0.1589	0.1370	0.2831			0.1720	0.3300	0.2050	0.156	0.2592	0.2441	
9 - 12	0.2000	0.0570	0.1500	0.0500	0.0530	0.0788	0.0900	0.2000	0.0906						
K - 12	0.7000	0.1770	0.5000	0.2089	0.1900	0.3619									

MVWSD/MVLA SGR vs. Average SGR of 13 Area Districts (Provided by Seven Different Consultants)

	MVWSD/MVLA	Avg of Other Districts
K - 8	0.1200	0.2295
9 - 12	0.0570	0.1187
Total	0.1770	0.3483

Jack Schreder and Associates, Inc. August 29, 2018

These SGR's reflect the nature of the units: they are small; they are contained in higher-density buildings without much play space on the property; and, perhaps most important, they are quite expensive. They tend to have very few young families living in them. The nature of these new units reflects, to a large extent, market demand. The current surge in employment, and hence housing demand, is in the tech industry. These employees are young, most typically in their twenties or early thirties, and relatively highly paid.

[The following paragraphs, especially, need to be discussed and revised as necessary, as they cite information from JSA and SCI which may be mis-interpreted, out-of-date, etc.)]

Student Generation Change over Time

Mountain View Whisman School District (MVWSD) and Mountain View Los Altos High School District (MVLA) need to project the number of students that will be enrolled decades into the future, as it takes a long time to construct new facilities, particularly if a new school site (or an addition to an existing campus) will be necessary. It was noted earlier that SGRs can change over time as circumstances change. Knowing that the districts have to be prepared to accommodate whatever students are generated, JSA has projected enrollments based on SGRs for existing (not just recent) housing units, implicitly assuming that as employees mature their families will accept the new units.

The two firms also have a different perspective regarding the effects of the affordability requirements. The few affordable units in the newer mid-rise buildings do not appear to be exhibiting very large student generation. However, the city also includes five family-oriented low-rise BMR residential complexes. These units exhibit a 0.867 SGR, reflecting their family-friendly orientation and affordability. Quite large SGRs are typical for such complexes in other districts. Noting the commitment to BMR units in new development projects, JSA implicitly suggests that the districts be prepared to have all affordable units eventually generate students at that rate. SCI notes that, if the 17 BMR complexes oriented more to seniors and to disabled residents are included, the SGR for all BMR complexes is 0.226 students per unit. It also calls attention to the question as to whether BMR units in mid-rise and high-rise buildings will have similar SGRs to units in low-rise structures. JSA notes that since legislation provides mandatory restrictions on fees for senior housing, it would be inappropriate to include senior housing in the sample mix.

Student Generation from Maturing Households

In summary, a projection of student generation from new units in the next decade based on recent buildings is relatively accurate; but generation is likely to increase as the average age of employees increases over time

Enrollment from Existing Housing

The next section will provide information about school facilities (and their costs) that might be planned to provide future capacity for enrollment from the approximately 20,000 new units possible under city zoning. MVWSD already enrolls 4,000 students from about 29,500 existing homes and MVLA's Mountain View High School has an enrollment of 2,000 from the 18,500 of these units within its attendance boundaries (with an inflow of somewhat over 200 students from outside its attendance boundaries and an outflow of somewhat less than 200 students to schools outside the area). Changes in enrollment from these homes could also affect the districts' need for capacity; the districts therefore consider the possibility of enrollment increases or decreases from these homes and will include this information when making decisions about new facilities.

Projecting enrollment from existing homes is straight forward. We compare addresses of dwelling units with the student list and establish a SGR. This process is generally accepted by most demographers. The information available about enrollment trends allows for relatively accurate short-term forecasts.

SCHOOL FACILITIES AND THEIR COSTS

Introduction to School Facilities and Their Costs

It is not the purpose of this document to plan facilities for the school districts. It is necessary, however, to formulate some hypothetical pictures of facilities that might be planned to meet enrollment needs so that the order of the magnitude of the financial cost involved can be estimated. MVWSD and MVLA have already generated information as to the facilities that might be necessary, and that information constitutes the majority of the information in this section.

As previously mentioned, it should be understood that this document is not setting forth definitive numbers. It is rather providing some information about school costs and picking a set of reference costs with the understanding that anyone can adjust the assumptions to reflect the effects of different cost assumptions.

Considering facilities that could provide the needed enrollment capacity also includes consideration of the land that might be required. This is critical, as land in Mountain View is incredibly expensive and current opportunities for suitable school sites are likely to be utilized for other purposes in the rapidly developing city.

[Land \$15 million per acre based on recent sale; more information to be added.]

Elementary School Facilities

The large majority of the current elementary students in the Mountain View Whisman School District (MVWSD) attend a school in their neighborhood.

The reference forecasts [might] cite a range of 900 to 1,175 elementary students as benchmarks for which to anticipate school facility needs. MVWSD has understandably indicated that a single elementary school of typical size would not be adequate to house all of- the students in the range considered here; eventually two schools seem appropriate for that number of students.

The District assumes that a new school in the NBPP area would be necessary, as the 101 Freeway makes access to a school northeast of the freeway from the rest of the city very difficult. The housing types in this area are projected to include more studios and fewer two-bedroom units, proportionately, than the development anticipated elsewhere in the city. It should be remembered that these numbers assume a maturing employee and resident populations and buildout of about 10,000 units. It will take time for this to come about.

It would seem, given the probability of 500+ students from new development other than the NBPP area as well as the 101 freeway barrier, there is a priority to identify sites for, if possible, two schools. Even if enrollment never reaches the range used here, that is probably not a problem, as alternative plans for a site can be determined later.

Elementary School Costs

Based on the 2019 cost to construct an elementary (K-5) school in the MVWSD, estimated by Todd Lee – consultant for Greystone, the per student cost is \$101,143. Our line-item cost estimate is based on Concept “B” provided by Artik’. While it is far from comprehensive it does provide a more detailed look at the scope of work and reinforces the cost per square numbers previously provided. We calculated an Anticipated Bid Amount of \$45.3M in 2019 Construction Dollars which equates to \$70.8M in Total Project Cost, again in 2019 Construction Dollars. When we escalate for three years at 7%, the number climbs to \$86.7M consistent with the numbers previously discussed. We did not assume any significant offsite work or utility upgrades outside the property. Nor did we assume demolition of the existing structures.

Additional Capacity at Existing Schools

The cost of adding enrollment capacity at existing campuses clearly varies depending on what facilities are added. Since this would vary by campus, it is impossible to estimate the typical cost with any confidence. It is important to recognize, however, that adding capacity simply by adding relocatables or a new classroom wing is usually not feasible (unless adjacent land is added to the campus). Neighboring districts (and MVWSD at Castro School) have usually added capacity by replacing older classrooms with new two-story classroom wings. The cost per student is moderately higher for two-story buildings; a more important consideration is that the enrollment capacity gain is reduced by the loss of the older buildings. The need for increased capacity in support facilities, such as multi-purpose rooms, restrooms, and parking, is also frequently a consideration when adding classroom capacity. In other words, it should probably not be expected that costs per student for additional capacity will be any less for capacity added at existing campuses than for construction of a new school.

Land Costs

The Mountain View Whisman School District (MVWSD) has considered the land that would be necessary for two elementary school campuses, giving attention to the scarcity and cost of land. It set forth the possibility of five-acre campuses. This is only about half of the state standard, though the state standard does not reflect the difficulty and cost of securing sites in the Mountain View situation. Reductions in lawn and physical education fields and two-story construction both play roles in adjusting to the smaller campuses. These adjustments are significant.

MVWSD further indicates a willingness to share 2.5 acres of physical education field at each campus with an adjacent city park, reducing the separate land need at each school to 2.5 acres. At \$15 million per acre, the land cost would be \$37.5 million per school and \$75.0 million total for the two elementary schools.

Middle School Facilities

The numbers of students from new development needing to be accommodated in MVWSD schools per the reference assumptions are [perhaps] 575 and 725 students. The district’s two middle schools average 786 students.

The reference numbers indicate that an additional comprehensive middle school might be smaller than the existing schools. On the other hand, the larger reference amount could not be accommodated at the existing two schools without substantial rebuilding of classroom buildings and support facilities (e.g., a cafeteria), as well as land added to at least one of the campuses. Possible concepts for a school include the following. (1) at least until an additional middle school is justified, a K-8 school, either southwest of the freeway or, especially, given its isolation, in the NBPP area, where it would increase enrollment at that school closer to a typical size; and (2) a middle school with some programs, e.g., a curriculum with a special focus, perhaps tied to one of the existing middle schools for some academic and athletic programs. In any case, since it would probably be far in the future before enrollment from new development would justify a new middle school, planning needs to include adequate facilities to accommodate students in the interim. However, that does not mean that the consideration of siting for eventual facilities can be postponed.

Costs

MVWSD estimates the cost per middle school student at \$71,428 per student. This is also based on the cost of the Castro School improvements, adjusted for a slightly large floor area for middle school students.[?]

Land Costs

The MVWSD district has considered the land that would be necessary for a small middle school; again, the district compromised on the campus due to the scarcity and cost of land. The MVWSD district set forth the possibility of an eight-acre campus, a significant adjustment from the size of traditional campuses.

HIGH SCHOOL FACILITIES

The Mountain View-Los Altos District currently houses almost all of its student in two high schools, with Mountain View High School serving the Mountain View Whisman Elementary School District area, almost all of the City of Mountain view. The Mountain View School currently enrolls 2,062 students; Los Altos High School has an enrollment of 2,227 (as of October 2018).

A New Comprehensive High School - MVLA

The reference assumptions project a range of [perhaps] 600 to 900 high school students. The MVLA board has had a policy of accommodating almost all students in comprehensive high schools. The district's quality facilities include up-to-date science labs, rooms for choral, band, etc. and practice rooms, theatre venues, and sports facilities such as gyms, fields for football and soccer, a running track, a swimming facility, tennis courts, wrestling facilities, weight rooms, changing facilities, etc. It has had a plan prepared for a comprehensive facility for 600 students, within the range of reference enrollments, lacking only a running track, tennis courts, a second gym, and without significant attendee seating at its modest football/soccer field.

The cost for a 600-student comprehensive high school is:

MVLA HIGH SCHOOL DISTRICT		MOUNTAIN VIEW LOS ALTOS HIGH SCHOOL DISTRICT NEW COMPREHENSIVE HIGH SCHOOL COST ANALYSIS				QUATTROCCHI KWOK ARCHITECTS		KRAMER PROJECT DEVELOPMENT COMPANY, INC.						
NEW COMPREHENSIVE HIGH SCHOOL FOR 600 STUDENTS														
School Site Required	11.8	Acres	514,000	sf										
Building Site area			372,000	sf										
Turf field and parking area			142,000	sf										
							Construction cost escalation factor (10 year average of 3.37%)							
							0.00%	103.37%	106.85%	110.45%	114.18%	118.02%	122.00%	
A. School Site Development														
	Quantity	Unit	Cost per unit	Cost source	Multiplier to 2018 cost	2018 Cost	2019 Cost	2020 Cost	2021 Cost	2022 Cost	2023 Cost	2024 Cost		
Aquatic facility	1	each	\$ 3,320,000	MVHS Aquatic facility 2012 escalated to 2018	1.24	\$ 5,320,000								
Synthetic turf field	80,000	sf	\$ 49.00	LGHS Lower field turf 2016 escalated to 2018	1.09	\$ 3,920,000								
Site clearing	514,000	sf	\$ 5.80	LGHS Classroom and music building 2018	0.00	\$ 2,981,200								
Site Utilities & Power per sf of building site	372,000	sf	\$ 12.33	Steindorf K8 School 2016 escalated to 2018	1.09	\$ 4,586,760								
Building Pads	74,000	sf	\$ 9.30	LGHS Classroom and music building 2018	0.00	\$ 688,200								
Landscaping	40,000	sf	\$ 8.90	Steindorf K8 School 2016 escalated to 2018	1.09	\$ 356,000								
Hardscape	225,000	sf	\$ 27.93	Steindorf K8 School 2016 escalated to 2018	1.09	\$ 6,284,250								
Total Site Development				Parking cost is in section D		\$ 24,136,410	\$ 24,949,807	\$ 25,790,616	\$ 26,659,759	\$ 27,558,193	\$ 28,486,904	\$ 29,446,913		
B. School Teaching Spaces														
	Area Each Teaching Space	Number	Qty	Unit	Cost per unit	Cost source	Multiplier to 2018 cost	2018 Cost	2019 Cost	2020 Cost	2021 Cost	2022 Cost	2023 Cost	2024 Cost
Classrooms	960	23	22,080	sf	\$ 625.00	LGHS Classroom and music building 2018	0.00	\$ 13,800,000						
Labs	1600	5	8,000	sf	\$ 625.00	LGHS Classroom and music building 2018	0.00	\$ 5,000,000						
Music	2500	2	5,000	sf	\$ 625.00	LGHS Classroom and music building 2018	0.00	\$ 3,125,000						
Dance Studio	2000	1	2,000	sf	\$ 625.00	LGHS Classroom and music building 2018	0.00	\$ 1,250,000						
Drama Classroom	2000	1	2,000	sf	\$ 625.00	LGHS Classroom and music building 2018	0.00	\$ 1,250,000						
Art	1600	1	1,600	sf	\$ 625.00	LGHS Classroom and music building 2018	0.00	\$ 1,000,000						
Staff Teacher Collaboration		1	1,000	sf	\$ 625.00	LGHS Classroom and music building 2018	0.00	\$ 625,000						
Toilet custodial storage		1	5,500	sf	\$ 625.00	LGHS Classroom and music building 2018	0.00	\$ 3,437,500						
Subtotal			47,180											
Circulation Space	30%		14,154	sf	\$ 625.00	LGHS Classroom and music building 2018	0.00	\$ 8,846,250						
Total Teaching Spaces			61,334					\$ 38,333,750	\$ 39,625,597	\$ 40,960,980	\$ 42,341,365	\$ 43,768,269	\$ 45,243,260	\$ 46,767,958
C. School Support Spaces														
	Number	Qty	Unit	Cost per unit	Cost source	Multiplier to 2018 cost	2018 Cost	2019 Cost	2020 Cost	2021 Cost	2022 Cost	2023 Cost	2024 Cost	
Student Services	1	15,500	sf	\$ 625.00	LGHS Classroom and music building 2018	0.00	\$ 9,687,500							
Library	1	9,000	sf	\$ 625.00	LGHS Classroom and music building 2018	0.00	\$ 5,625,000							
Cafeteria Food Kitchen	1	6,000	sf	\$ 756.00	Steindorf K8 School kitchen 2016 escalated to 2018	1.09	\$ 4,536,000							
Gymnasium	1	15,000	sf	\$ 694.00	Fisher Gymnasium 2016 escalated to 2018	1.09	\$ 10,410,000							
Auxiliary gym with multi-use space	1	-	sf	\$ 694.00	Fisher Gymnasium 2016 escalated to 2018	1.09	\$ -							
Theater of 200 seats	1	8,500	sf	\$ 625.00	LGHS Classroom and music building 2018	0.00	\$ 5,312,500							
Locker Room Bldg	1	9,000	sf	\$ 735.00	Fisher Gymnasium 2016 escalated to 2018	0.00	\$ 6,615,000							
Weight and wrestling room	1	3,000	sf	\$ 625.00	LGHS Classroom and music building 2018	0.00	\$ 1,875,000							
Total Support Spaces			66,000				\$ 44,061,000	\$ 45,545,856	\$ 47,080,751	\$ 48,667,372	\$ 50,307,463	\$ 52,002,824	\$ 53,755,519	
D. Parking														
	Quantity	Unit	Cost per unit	Cost source	Multiplier to 2018 cost	2018 Cost	2019 Cost	2020 Cost	2021 Cost	2022 Cost	2023 Cost	2024 Cost		
Parking Spaces Required	218	spaces												
Surface Parking w/curbs and lighting	218	spaces	\$ 11,172	Steindorf K8 School 2016 escalated to 2018	1.09	\$ 2,435,496								
Parking Structure	0	spaces	\$ 45,000	Approximate cost per space (various parking structure case studies)		\$ -								
Total Parking						\$ 2,435,496	\$ 2,517,572	\$ 2,602,414	\$ 2,690,116	\$ 2,780,773	\$ 2,874,485	\$ 2,971,355		
E. Site Acquisition														
Recommended Building Site	11.8	Acres	\$ 14,870,000			2018 Cost	2019 Cost	2020 Cost	2021 Cost	2022 Cost	2023 Cost	2024 Cost		
						\$ 175,466,000	\$ 181,379,204	\$ 187,491,683	\$ 193,810,153	\$ 200,341,555	\$ 207,093,066	\$ 214,072,102		
Summary														
Total Cost of School Construction (A+B+C)						2018 Cost	2019 Cost	2020 Cost	2021 Cost	2022 Cost	2023 Cost	2024 Cost		
						\$ 106,531,160	\$ 110,121,260	\$ 113,832,347	\$ 117,668,497	\$ 121,633,925	\$ 125,732,988	\$ 129,970,190		
Total Cost of School Construction with Parking Facility (A+B+C+D)						\$ 108,966,656	\$ 112,638,832	\$ 116,434,761	\$ 120,358,612	\$ 124,414,698	\$ 128,607,473	\$ 132,941,545		
Total Cost of School Construction with Parking Facility plus Site Acquisition (A+B+C+D+E)						\$ 284,432,656	\$ 291,018,037	\$ 303,926,441	\$ 314,168,766	\$ 324,756,253	\$ 335,700,539	\$ 347,013,647		

MVA\GD\New Comprehensive High School Campus - Cost analysis 10.4.2019
7/19/2019

Other specialty high school programs in the area are not acceptable to the Mountain View Los Altos School District Board of Education. They plan on an additional comprehensive high school.