



Enrollment Projections for Skyline College

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March 22, 2006

Executive Summary

This report describes the enrollment projections for Skyline College for the years 2010 through 2030. The projections are based on the ratios of enrollments by gender, age, race/ethnicity and county to the corresponding population estimates provided by the U.S. Census Bureau. Several scenarios are examined to illustrate the likely return from various courses of action the college may choose to pursue. In the first scenario, we assume that all enrollment shares in 2005 are held constant through 2030. In scenario B, we increase the Hispanic population ages 15-24 college participation rate through 2020. The Hispanic subgroup is the largest growing segment in the college's service area. Likewise, we increase the college participation rates of all students of color ages 15-24 through 2020 in scenario C. The fourth scenario (D) provides for an increase in the share of 25-34 year olds, a subgroup that is prone to attend community colleges to increase employment skills. Finally, in the last scenario (E), we look at the additive effects of all of the increases in college participation rates in scenarios B and D.

Demographic trends suggest that the population base for San Francisco County will decline over the next twenty years, making it more difficult for Skyline College to attract more students from this region. Likewise, the Hispanic subgroup is predicted to grow faster than other race/ethnicity groups in the region over this period. Finally, the age distribution of the region's population is shifting to the right. These projections show that if the market shares of the population remain constant through 2030, overall enrollments at Skyline College would be predicted to increase by about 5 percent by 2020, and then hold constant through 2030. However, modest increases in market shares in select categories could lead to substantial enrollment growth, with the most likely markets being Hispanics, and the San Mateo and Outside regions.

Enrollment Projections for Skyline College

Overview

Successful long-range planning for colleges requires having information about the demand for educational services and how they might change in the future. Enrollment projection models are used by institutions of higher education to provide them with a starting point to estimate total demand for future services. An enrollment projection model is also useful for examining the impact of “what-if” scenarios that can also affect demand. For example, the institution may implement policies to increase the market share of Hispanics ages 15-24. The impacts of these changes can be simulated by making assumptions about the magnitudes of the changes in market share and when they will occur. While this introduces some imprecision into the enrollment forecasts, it provides the institution with information about the likely magnitudes of enrollments changes that might occur when market shares change.

Enrollment projection models are also useful for illustrating how external demographic trends are likely to impact an institution's enrollments. The general population from which institutions draw students is constantly changing in size and composition. Demographers have noted for years that the "baby boomer generation" and their children ("baby boomer echo") have led to a significant rightward shift in populations across the United States. This has obvious implications for institutions of higher education, which rely most heavily on individuals under the age of 30 for their enrollments. In addition, demographers have observed that there is a significant shift in population by race/ethnicity, with the Hispanic population growing at a faster rate than most other race/ethnicities. It is also possible that different jurisdictions within a given community college's service area may experience different growth rates due to a wide range of factors. Given that institutions typically draw students from multiple places, this is potentially important information. The Geographical Information System maps prepared for Skyline College provide a visual method for determining age, race/ethnicity, income, and growth patterns by Census Tract. By observing how these and other trends might affect the market for an institution of higher education, the institution can better understand what might happen in the future to their enrollments and what markets are most, and least, promising to pursue in the future.

Data Description for Enrollment Projections

The enrollment projection model for Skyline College was developed using an Excel spreadsheet. The model relies on two main pieces of information: (1) current enrollments at Skyline College, and (2) actual and projected population counts. The enrollment data were obtained from Skyline College for the years 1999-00 through 2004-05, and represent unduplicated headcounts within each term across an entire academic year. The population

counts and projections were obtained from the U.S. Census Bureau for the years 2000, 2010, 2020, and 2030. To provide as much precision to guide the college from existing data, we obtained enrollment and population counts broken down by gender, race/ethnicity, age, and county.

Turning to the specifics, we identified the following seven categories for race/ethnicity: white, Hispanic, Asian, Pacific Islander, Black, American Indian, and All Other. In order to match the data from Skyline with the data from the U.S. Census Bureau, we had to make the following adjustments to the data:

- Filipino students at Skyline were combined into the Asian category;
- Students at Skyline with Other or Unreported race/ethnicities were combined into the All Other category;
- Multirace populations from the U.S. Census were included in the All Other category
- Students at Skyline with missing information on gender or age were omitted from the projections. Because the number of students in this category is relatively small, it should have very little impact on the projections.

The eleven age categories that we used (15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, and 65+) were chosen so that the enrollment data from Skyline and the population data from the U.S. Census Bureau could be matched. Finally, we identified three primary markets from which Skyline draws its current students: San Mateo County, San Francisco County, and Outside Counties. The markets were defined at the county level due to the structure of the Census data. For the Outside Counties, we used the Census data for Santa Clara County as the best approximation.

Methodology

The projections were based on the estimated shares of the relevant populations enrolling in Skyline College in 2004-05. Because the Census did not provide actual population counts for 2005, we began by estimating the population by gender, race, age, and county in 2005 by taking the average of the actual population counts in 2000 and the projected population counts for 2010. We then found the shares of each population group enrolling in Skyline College as follows:

$$(1) \quad \text{Share}(g,r,a,c) = \text{Enrollment}(g,r,a,c) / \text{Population}(g,r,a,c)$$

where $\text{Enrollment}(g,r,a,c)$ = Skyline enrollments by gender, race, age, and county in 2004-05, $\text{Population}(g,r,a,c)$ = Estimated population by gender, race, age, and county in 2005, and $\text{Share}(g,r,a,c)$ = share of relevant population enrolling in Skyline College. To illustrate, the Census Bureau reports that for San Mateo County, there were 6,678 white males ages 20-24 in 2000 and a projected total of 9,036 by 2010. Based on this information, we estimated that there were 7,857 white males ages 20-24 in San Mateo County in 2005. In 2004-05 there were 574 white males ages 20-24 in San Mateo County who enrolled in Skyline College. Accordingly, the estimated share of white males ages 20-24 in San Mateo County enrolling in Skyline College was .0731 (= 574 / 7,857). Because there were two gender categories, seven race/ethnicity categories, and eleven age categories in our dataset, this gave rise to 144 enrollment shares for each of the three counties (432 shares total).

Table 1 provides the market shares for Skyline College by age, gender, and county of residence:

Table 1: Estimated Enrollment Shares for Skyline by Age and County, 2005

Age Category	San Mateo Males	San Mateo Females	San Francisco Males	San Francisco Females	Other County Males	Other County Females
15-19	7.2%	8.0%	3.9%	3.5%	0.2%	0.3%
20-24	11.4%	14.9%	6.0%	5.1%	0.5%	0.8%
25-29	3.6%	5.9%	1.5%	1.8%	0.3%	0.4%
30-34	1.6%	3.2%	0.6%	0.6%	0.2%	0.2%
35-39	1.1%	2.2%	0.3%	0.3%	0.2%	0.2%
40-44	0.7%	2.0%	0.2%	0.3%	0.2%	0.1%
45-49	0.7%	1.7%	0.2%	0.2%	0.1%	0.1%
50-54	0.6%	1.4%	0.2%	0.2%	0.1%	0.1%
55-59	0.6%	1.1%	0.2%	0.1%	0.1%	0.1%
60-64	0.4%	0.6%	0.1%	0.1%	0.1%	0.1%
65+	0.8%	0.9%	0.1%	0.2%	0.0%	0.0%

From Table 1, it can be seen that the largest market shares for Skyline College are drawn from the San Mateo County area and in the age categories 15-19, 20-24, and 25-29. The market shares decline significantly for ages 30 and older. The market shares also vary considerably by race/ethnicity and gender, as shown in Table 2 for San Mateo County ages 20-24 (Table 2).

Table 2: Enrollment Shares for Skyline by Race and Gender, Selected Ages 2005

Race and Gender	Ages 15-19	Ages 20-24	Ages 25-29
White Males	4.0%	7.3%	2.0%
White Females	4.9%	10.1%	2.8%
Hispanic Males	4.8%	5.7%	2.0%
Hispanic Females	5.1%	9.0%	4.3%
Asian Males	16.1%	28.0%	8.2%
Asian Females	17.1%	30.1%	11.2%
Pacific Islander Males	6.8%	15.7%	5.5%
Pacific Islander Females	12.9%	19.4%	7.2%
Black Males	7.8%	8.0%	4.5%
Black Females	5.1%	12.4%	8.2%
American Indian Males	4.2%	8.2%	9.9%
American Indian Females	10.3%	23.5%	12.3%
All Other Race Males	13.2%	18.1%	5.6%
All Other Race Females	14.1%	26.1%	13.1%

Overall, Skyline College appears to draw most heavily from the Asian and the All Other Race categories. In addition, the enrollment shares for females within these age categories are higher than for males in virtually every race/ethnicity category. It should also be noted, however, that the enrollment shares for ages 30 and higher are significantly lower than those shown in Table 2.

For the enrollment projections, we had to make assumptions about how each of these enrollment shares would change over the next twenty-five years. We consider four different scenarios here. In the first scenario (A), we assume that all enrollment shares in 2005 are held constant through 2030. In scenario B, we increase the Hispanic population ages 15-24 college participation rate through 2020. Likewise, we increase the college participation rates of all students of color ages 15-24 through 2020 in scenario C. The fourth scenario (D) provides for an increase in the share of 25-34 year olds enrolling at Skyline. Finally, in the last scenario (E), we look at the additive effects of all of the increases in college participation rates in scenarios B through D.

Scenario A: Baseline Enrollment Projections

Table 3 contains the summary results from the baseline enrollment projections (Scenario A) where we held the market shares for each gender, race, age, and county constant through 2030.

Table 3: Enrollment Projections for Skyline by County – Scenario A

Totals by County	2005	2010	2020	2030
San Mateo County	16394	16645	17422	17140
San Francisco County	6079	5417	5054	4681
<u>Other Counties</u>	<u>2626</u>	<u>2656</u>	<u>2786</u>	<u>2813</u>
Total	25099	24717	25263	24633

Overall, enrollments for Skyline College would be predicted to hold relatively constant through 2020 and then would decline slightly through 2030 if the college were able to maintain the same market shares through 2030 for each gender, race, and age group. However, the enrollment changes would vary dramatically by county. Note, for example, that while enrollments from San Mateo and Other Counties would rise slightly over this twenty-five year period, the enrollments from San Francisco County would decline considerably. This can be seen more clearly in Table 4, which shows the percentage changes in enrollments by county relative to 2005:

Table 4: Percentage Changes in Skyline Enrollments by County – Scenario A

Pct Change by County	2005	2010	2020	2030
San Mateo County	n/a	1.53%	6.27%	4.55%
San Francisco County	n/a	-10.89%	-16.85%	-23.00%
<u>Other Counties</u>	<u>n/a</u>	<u>1.13%</u>	<u>6.09%</u>	<u>7.12%</u>
Total		-1.52%	0.65%	-1.86%

The decline in students from San Francisco County is due to the falling population projections for the county provided by the U.S. Census Bureau. Because San Francisco County is a relatively small share of Skyline College’s current market, however, the magnitude of this estimated decline can be more than offset by the smaller projected population gains for San Mateo and Santa Clara (“other”) counties. Nonetheless, the falling population for San Francisco

County is a very important demographic trend facing the college and has important consequences for marketing and strategic planning purposes.

In Table 5, we provide breakdowns of enrollments by race/ethnicity for Skyline College under Scenario A:

Table 5: Enrollment Projections for Skyline by Race/Ethnicity – Scenario A

Race/Ethnicity	2005	2010	2020	2030
White	6115	5956	6134	6392
Hispanic	4602	4885	5207	5437
Asian	11468	10854	10417	9948
Pacific Islander	477	500	457	413
Black	889	770	725	600
American Indian	113	141	138	123
<u>All Other</u>	<u>1435</u>	<u>1612</u>	<u>2185</u>	<u>1720</u>
Total	25099	24717	25263	24633

Table 5 demonstrates that the projected changes in enrollments for Skyline College would be very uneven with regard to race/ethnicity over the next twenty-five years. The largest gains in students would be found for Hispanic students and those in the “All Other” category. At the same time, Asian and Black students would decline over this period, and white students would increase slightly. These changes are also driven by changing demographics within the three counties.

Table 6 provides a breakdown of the baseline enrollment projections by age:

Table 6: Enrollment Projections for Skyline by Age – Scenario A

Age Category	2005	2010	2020	2030
15 to 19	4820	4963	5218	4527
20 to 29	12792	12143	12449	12491
30 to 39	3468	3213	3010	3164
40 to 49	2187	2298	2060	1954
<u>50 and over</u>	<u>1832</u>	<u>2100</u>	<u>2525</u>	<u>2498</u>
Total	25099	24717	25263	24633

Roughly half of all enrollments for Skyline College come from the more traditional age categories for college students – ages 20-29. However, Skyline also attracts significant interest from adult students as shown in Table 6. Due to the shifting demographic trends by age in the region, Skyline is predicted to see slight reductions in enrollments in the age categories 20-29 and 30-39 over the next twenty-five years. There is some potential to increase enrollments in the highest age group as the “baby boomers” move into the 50 and over age category; however, their participation rates are typically much lower.

Scenario B: Increase in Market Shares for Hispanics Ages 15-24

In Scenario B, we simulated the impact of increasing Skyline’s market shares for Hispanics ages 15-24 in each county by two percentage points. The first one percentage point increase will be phased in through 2010 and the second percentage point increase phased in by 2020, to provide Skyline College the lead time if it decides to pursue this scenario in earnest. All of the remaining market shares by gender/race/age/county in years 2010 through 2030 are assumed to be the same as in 2005 and are held constant. Table 7 provides a summary of the enrollments from this simulation:

Table 7: Enrollment Projections for Skyline by Race -- Scenario B

Race/Ethnicity	2005	2010	2020	2030
White	6115	5956	6134	6392
Hispanic	4602	6134	8023	8435
Asian	11468	10854	10417	9948
Pacific Islander	477	500	457	413
Black	889	770	725	600
American Indian	113	141	138	123
<u>All Other</u>	<u>1435</u>	<u>1612</u>	<u>2185</u>	<u>1720</u>
Total	25099	25966	28080	27632
Changes from 2005	2005	2010	2020	2030
White	0	0	0	0
Hispanic	0	1249	2817	2998
Asian	0	0	0	0
Pacific Islander	0	0	0	0
Black	0	0	0	0
American Indian	0	0	0	0
<u>All Other</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	1249	2817	2998

Under Scenario B, total enrollments would increase by almost 3,000 students by 2030 (+12%) if Skyline were able to achieve two percentage point increases in the Hispanic market shares for ages 15-24. Approximately 70 percent of this increase would be due to enrollment growth in the outside counties, with San Mateo (+655) and San Francisco (+215) counties contributing smaller amounts to this total.

Scenario C: Increase in Market Shares for All Minorities Ages 15-24

In Scenario C, we increased the market shares for all of students of color by two percentage points through 2020 in the same manner as the increases for Hispanics in Scenario B. All remaining market shares are held constant at their levels in 2005. The resulting enrollment projections are shown in Table 8:

Table 8: Enrollment Projections for Skyline by Race – Scenario C

Race/Ethnicity	2005	2010	2020	2030
White	6115	5956	6134	6392
Hispanic	4602	6134	8023	8435
Asian	11468	11912	12613	12039
Pacific Islander	477	535	512	461
Black	889	921	967	808
American Indian	113	156	167	154
<u>All Other</u>	<u>1435</u>	<u>1767</u>	<u>2608</u>	<u>1928</u>
Total	25099	27382	31025	30216

Changes from 2005	2005	2010	2020	2030
White	0	0	0	0
Hispanic	0	1249	2817	2998
Asian	0	1058	2197	2091
Pacific Islander	0	35	54	47
Black	0	152	242	208
American Indian	0	15	29	31
<u>All Other</u>	<u>0</u>	<u>156</u>	<u>424</u>	<u>208</u>
Total	0	2665	5762	5582

Increasing the market shares for all non-white race/ethnicity groups by 2020 would result in an approximate gain of 5,600 students by 2030 (+25%). The largest gains would be realized for Hispanics and Asians, with all of the remaining gains by race/ethnicity being relatively moderate.

Scenario D: Increases in Market Shares Ages 25-34

In Scenario D, we increased the market shares for Skyline in the age categories 25-34 by one percentage point through 2030. Because the market shares for this age group are notably smaller than for the more traditional-age groups examined in earlier scenarios, a one percentage point increase represents a large relative increase in enrollments. All of the remaining market shares, including race/ethnicity for ages 15-24, are held constant at their 2005 levels. Thus, Scenario D does not build on the assumed gains from Scenarios B and C. Rather, it simulates the

gain the college might make from increasing its share of early working-age adults. Table 9 contains the resulting enrollment projections and changes from 2005:

Table 9: Enrollment Projections for Skyline by Race – Scenario D

Race/Ethnicity	2005	2010	2020	2030
White	6115	6654	7520	7921
Hispanic	4602	5563	6672	7045
Asian	11468	11481	11590	11116
Pacific Islander	477	517	494	442
Black	889	845	876	729
American Indian	113	150	156	141
<u>All Other</u>	<u>1435</u>	<u>1668</u>	<u>2339</u>	<u>1930</u>
Total	25099	26878	29647	29324

Changes from 2005	2005	2010	2020	2030
White	0	698	1386	1529
Hispanic	0	678	1466	1607
Asian	0	627	1173	1168
Pacific Islander	0	17	36	28
Black	0	76	151	129
American Indian	0	9	19	18
<u>All Other</u>	<u>0</u>	<u>56</u>	<u>154</u>	<u>210</u>
Total	0	2161	4385	4691

Table 9 shows that a one percentage point increase in the market share of 25-34 year olds enrolling in Skyline College would result in an increase of approximately 4,700 students by 2030. The percentage changes by county are shown in Table 10:

Table 10: Percentage Change in Projected Enrollments for Skyline by County – Scenario D

Pct Change by County	2005	2010	2020	2030
San Mateo County	n/a	4.32%	12.59%	11.00%
San Francisco County	n/a	-2.49%	-3.65%	-8.60%
<u>Other Counties</u>	<u>n/a</u>	<u>46.53%</u>	<u>103.08%</u>	<u>112.11%</u>
Total		7.09%	18.12%	16.83%

Overall, enrollments at Skyline College would increase by about 18 percent by 2020 if the college were able to achieve a one percentage point increase in the market shares of 25-34 year olds.

Scenario E: Increase Market Shares for Minorities and Students 25-34

Finally, in the last scenario, we combined the increased market shares for students of color ages 15-24 and all students ages 25-34. This is a combination of Scenarios C and D. The resulting enrollment projections are shown in Table 11:

Table 11: Enrollment Projections for Skyline by Race and County – Scenario E

Race/Ethnicity	2005	2010	2020	2030
White	6115	6654	7520	7921
Hispanic	4602	6812	9489	10043
Asian	11468	12539	13786	13207
Pacific Islander	477	552	548	489
Black	889	997	1118	937
American Indian	113	166	185	172
<u>Other</u>	<u>1435</u>	<u>1823</u>	<u>2763</u>	<u>2138</u>
Total	25099	29543	35409	34906
Pct Change by County	2005	2010	2020	2030
San Mateo County	n/a	7.88%	19.63%	17.88%
San Francisco County	n/a	5.89%	10.79%	2.40%
<u>Other Counties</u>	<u>n/a</u>	<u>106.40%</u>	<u>245.08%</u>	<u>256.29%</u>
Total		17.71%	41.08%	39.07%

When combined, the increased market shares for traditional-aged students of color and all students ages 25-34 would result in a 41 percent enrollment increase by 2020.

Summary

The enrollment projections provided in this report are intended to help illustrate several important pieces of information for Skyline College. First, the demographic changes occurring in the markets served by Skyline College will have important ramifications for their long-range

planning. As the age distribution shifts to the right and the children of the baby boomers exit the postsecondary system, there will be fewer traditional-aged people from which to draw students to the college. The San Francisco County region is also slated to experience a significant drop in population over the next twenty years, which will make it more difficult for Skyline to recruit new students from this region. Increasing the market shares for younger students and students from San Francisco County will add to overall enrollment health. There are similarly some important changes with regard to race/ethnicity, in particular that the Hispanic population is predicted to experience the largest growth among the various race/ethnicities considered here.

The results for Scenario A show that if Skyline were successful in maintaining their current market shares within each of the 432 gender/race/age/county groups in our analysis, total enrollments would remain fairly constant over the next twenty-five years. There would, however, be notable shifts within this student population with fewer students coming from San Francisco County and fewer Asian and Black students. Increasing the market shares for students of color may be a promising strategy, especially given the projected increase in the Hispanic population and their below-average market shares as of 2005. Likewise, Skyline may be able to achieve enrollment growth through pursuing more non-traditional aged students in the region.