Wayland High School: Enrollment projections

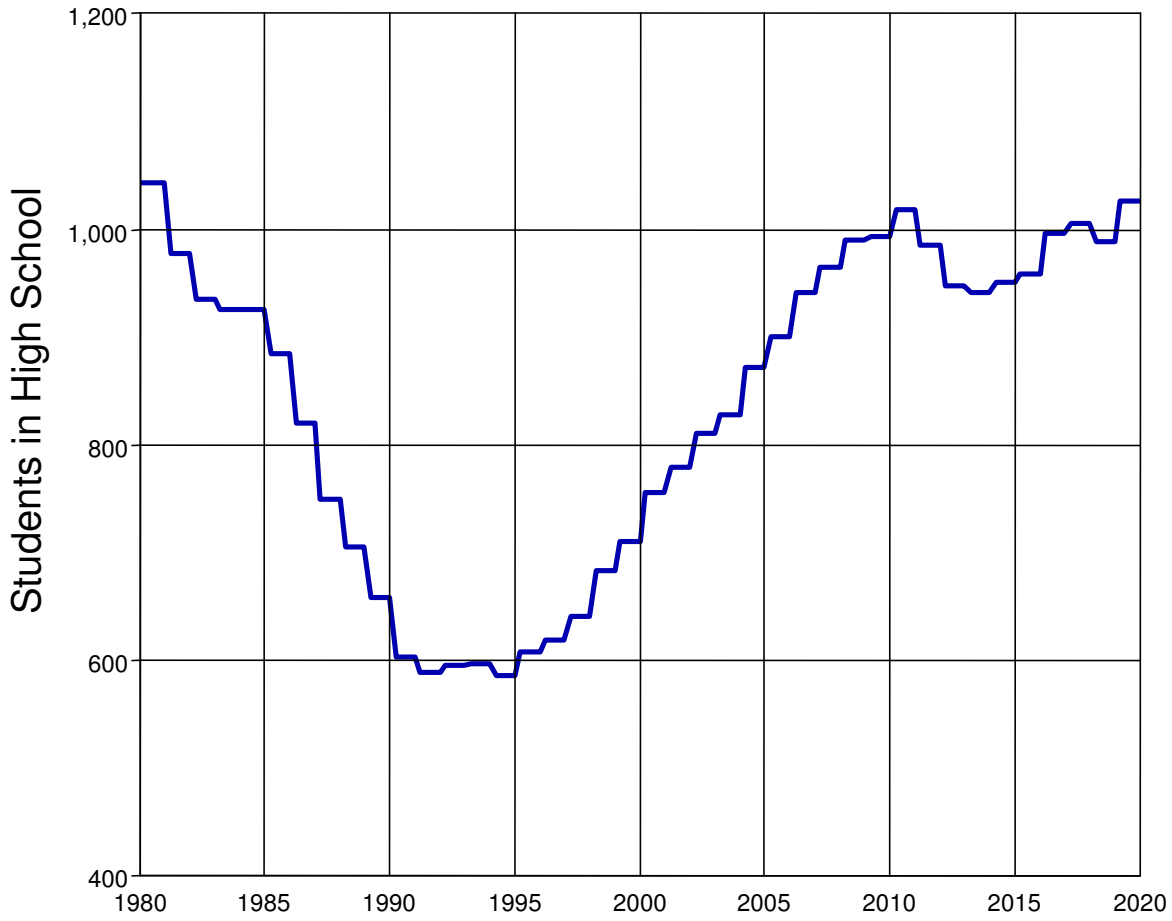
September 11, 2003

Enrollment Subcommittee

Enrollment Subcommittee Summary

- Future enrollment should peak (and hover) at 1000-1100 students in the mid-term future (through 2020, the period through which future students have already been born)
- *However*, there is considerable uncertainty in projections beyond 2020, and plans should account for possible enrollment figures that will reach about 1200 (conceivably as high as 1300)

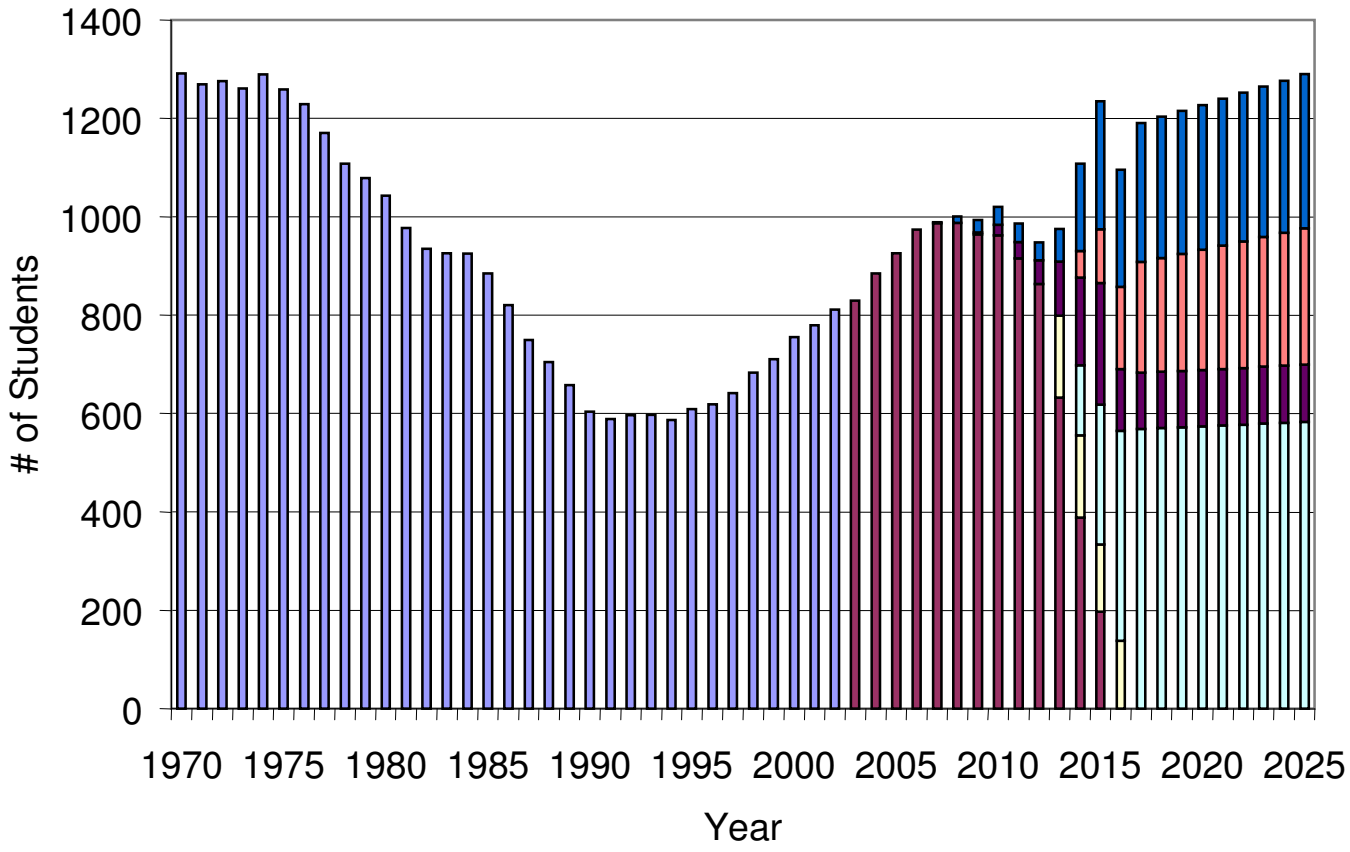
Mid-term future enrollment projection peaks at 1000-1100



The baseline projection is shown in the chart to the left.

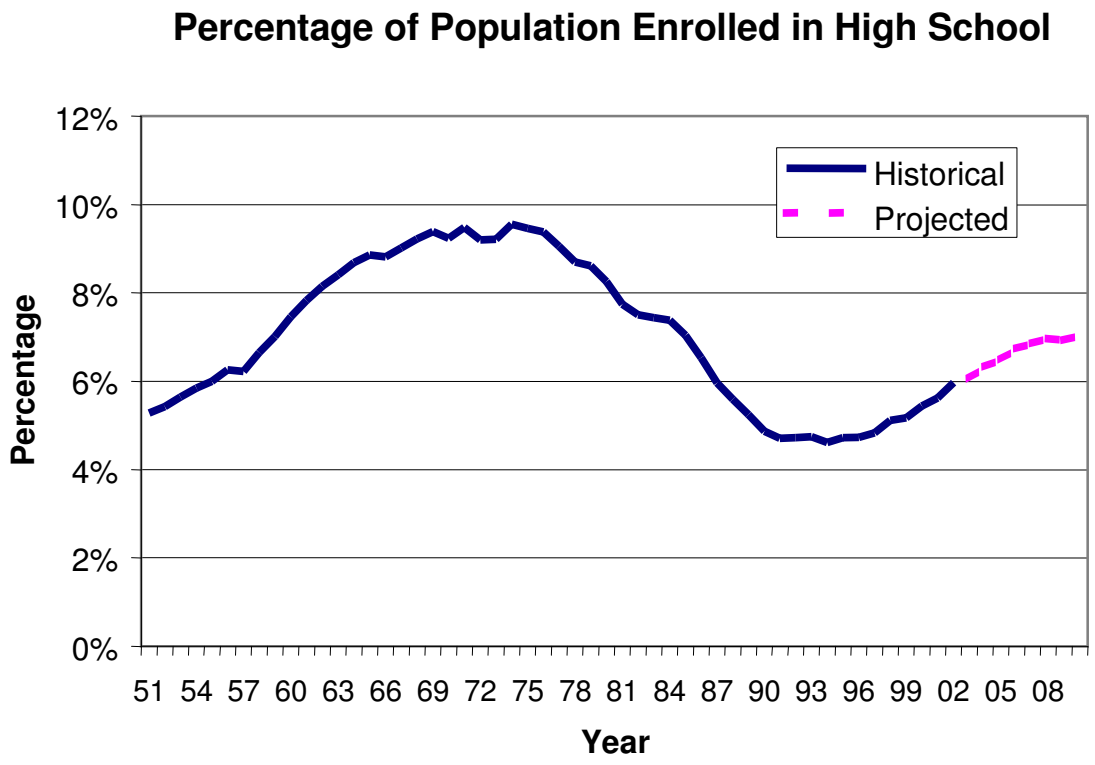
This forecast represents a mid-range (based on traditional school enrollment projection methods), assuming birth, and migration rates will continue at recent historical average rates. It is consistent with prior studies conducted for the town.

Mid-term peaks are relatively certain



Mid-term population levels are based on students already in the Wayland school system, and are unlikely to deviate far from projections. Longer-term projections are based on estimates of population, birth rates and in-migration, and are subject to far more uncertainty.

Future population will have higher highs, lower lows than straight-line forecasts

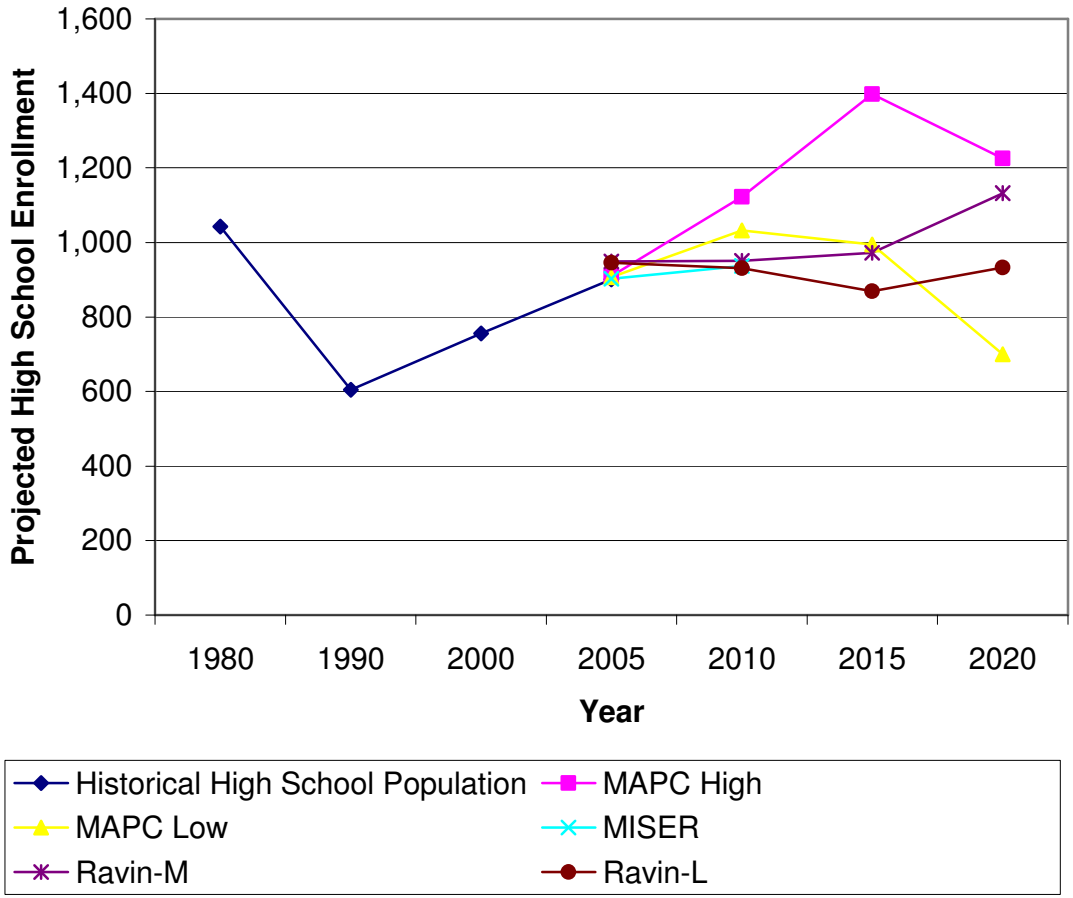


High School population has historically varied from 5-10% of the population. The upcoming peak will hit at least 7% and could be somewhat higher.

The town master plan estimates Wayland's build-out capacity at 16,680.

At build-out, we can roughly estimate school populations that will vary around 1000 students, ranging at various times from lows of around 800 to highs around 1200.

There is a large range of uncertainty around this forecast



We compare projections from MAPC and MISER (based on 85% of their projections of population for the 15-19 age group, which closely tracks the high school population), against Ravin projections.

The range varies widely beyond 2010. The MAPC Baseline is their "High" projection, which peaks at over 1600 in 2015, or about 1400 high school students)

This population seems highly unlikely in that time horizon, but is consistent with longer-term population peak projections.

Factors that could cause variance from projections

- Higher (or lower) rate of turnover than seen historically (the biggest uncertainty in future forecasts)
- More (or less) new construction than expected
- Increase (or decrease) in average family size
- Change in attractiveness of Wayland school systems (resulting in different in-flow rates of new students)
- Economic conditions (housing prices, interest rates, unemployment, etc.)

Appendix

The baseline forecast, and an assortment of miscellaneous data we reviewed to improve the forecast

Future Enrollment

What has previously been done to study enrollment?

What are the findings of previous studies?

What questions remain?

What is our best estimate for the likely future enrollment profile?

What has previously been done to study enrollment?

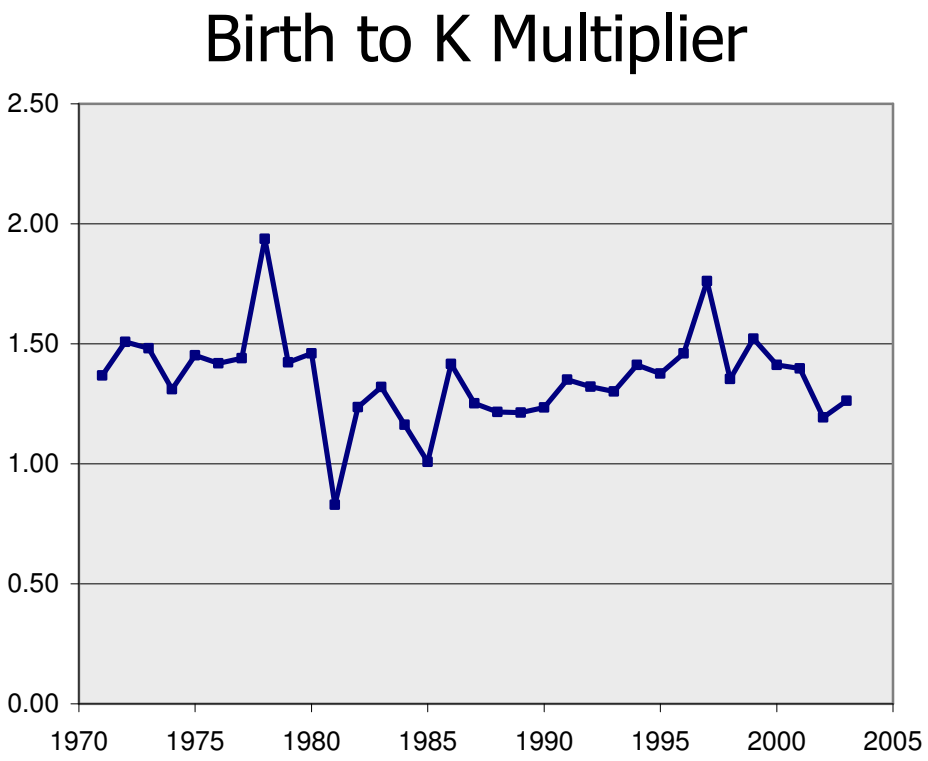
Three sources are available:

1. NESDEC
2. Lani Ravin study (part of the prior feasibility study)
3. School Committee projections

Methodology is common to prior models

- Students in a class year are projected by applying a multiplier to the number of students in the prior class one year earlier (except K students, which are projected using births 5 years earlier)
- The multipliers are based on recent averages. Given the K class, projections for later years are quite accurate. However, there is variation in the Birth-K multiplier (it averages 140%, but ranges from 113-175%)
- Births are projected based on birth rate (averaged over recent history, around 1%) and projected population (typically assume constant % growth, also around 1%)

Variation in Birth to K multiplier



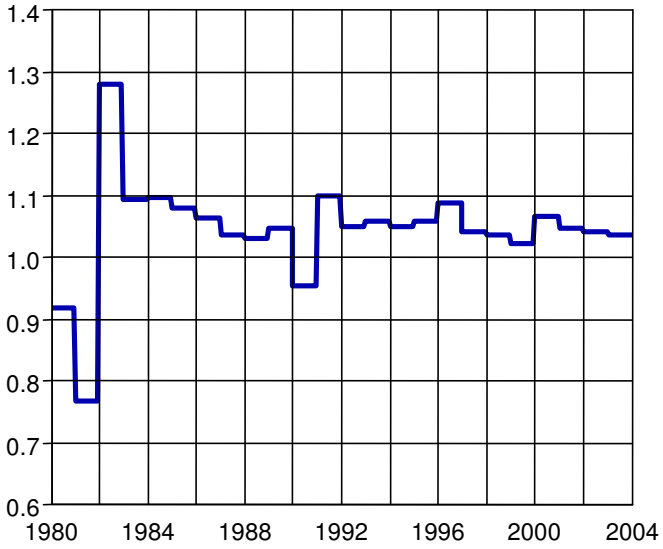
B to K Statistics (excluding '02)

	30 Year	10 Year	5 Year	3 Year
Average	1.363	1.415	1.389	1.358
St. Dev	0.193	0.139	0.094	0.082
Min	0.829	1.301	1.263	1.263
Max	1.938	1.761	1.521	1.412

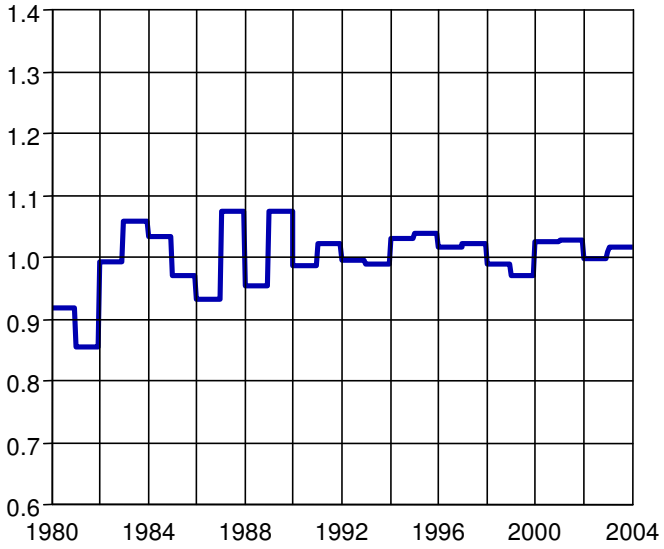
Recent low B-K multipliers are assumed to be an anomaly resulting from the change in cut-off date for K.

Multiplier variations are far less significant for other grades

Grade to Grade Multipliers for Grade 1

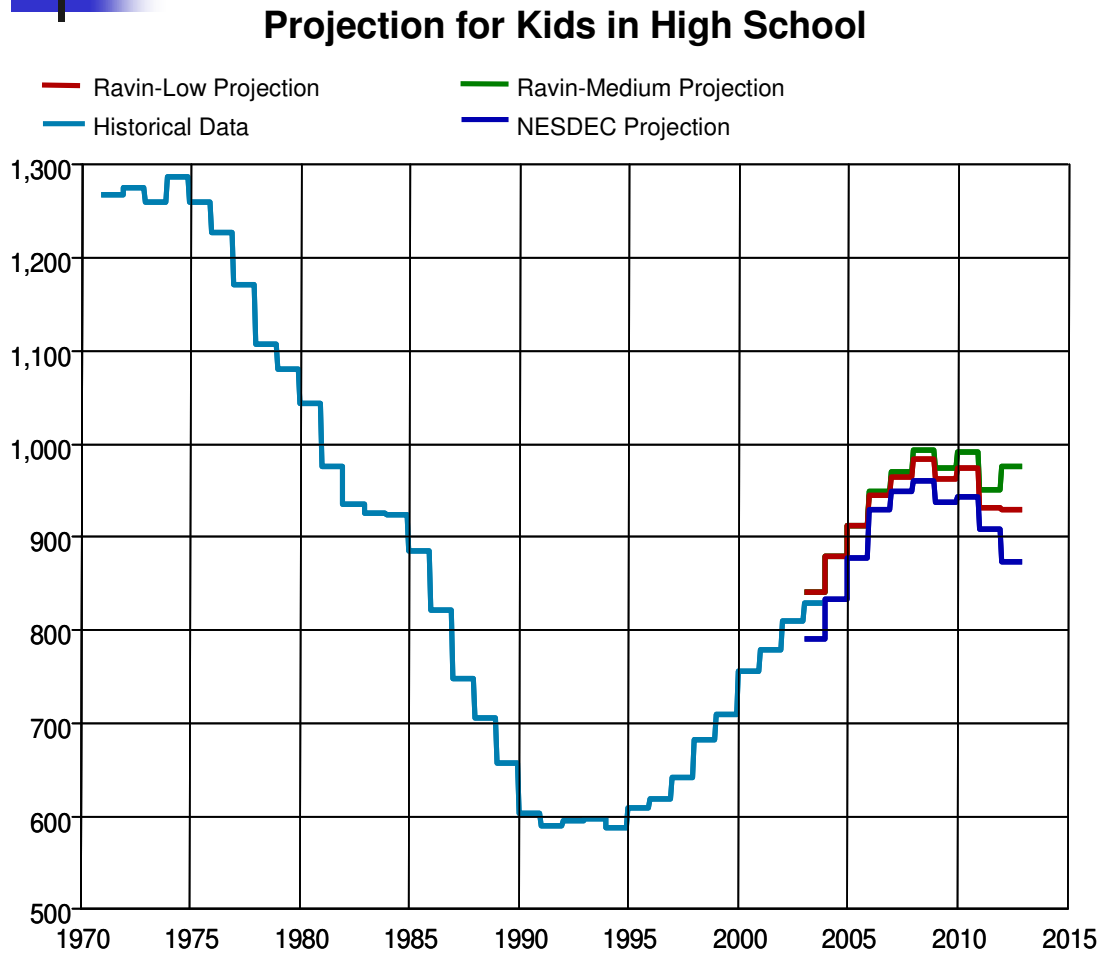


Grade to Grade Multipliers for Grade 2



The other grades tend to have much more stable values, averaging just over 1.0 for elementary school, middle school and Grade 12, and just below 1.0 for Grades 9-11

What are the findings of prior studies?



Projections peak just under 1000 students.*

There is little variability among the studies for population projections for the next ten years.

This is not surprising as most of the students who will be in high school in that time period are already in the Wayland school system.

* These forecasts would have been higher if they had been updated to reflect the latest birth data – the Ravin-M projection would have peaked at 1100 students in 2014)