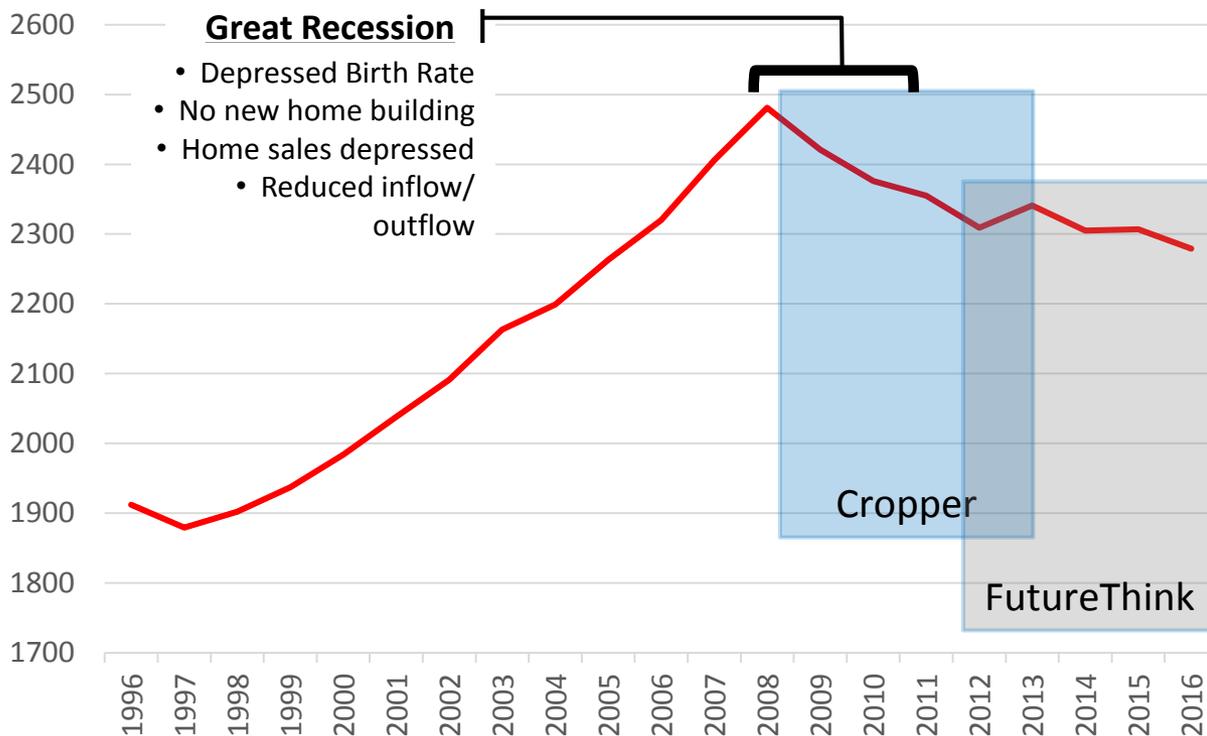


The methodologies used by both Cropper and FutureThink use historical data to predict future trends – in both studies the estimates are greatly influenced by the impact of the Great Recession in 2008-2010

Wellesley Elementary Enrollment
1996 - 2016



Key Questions

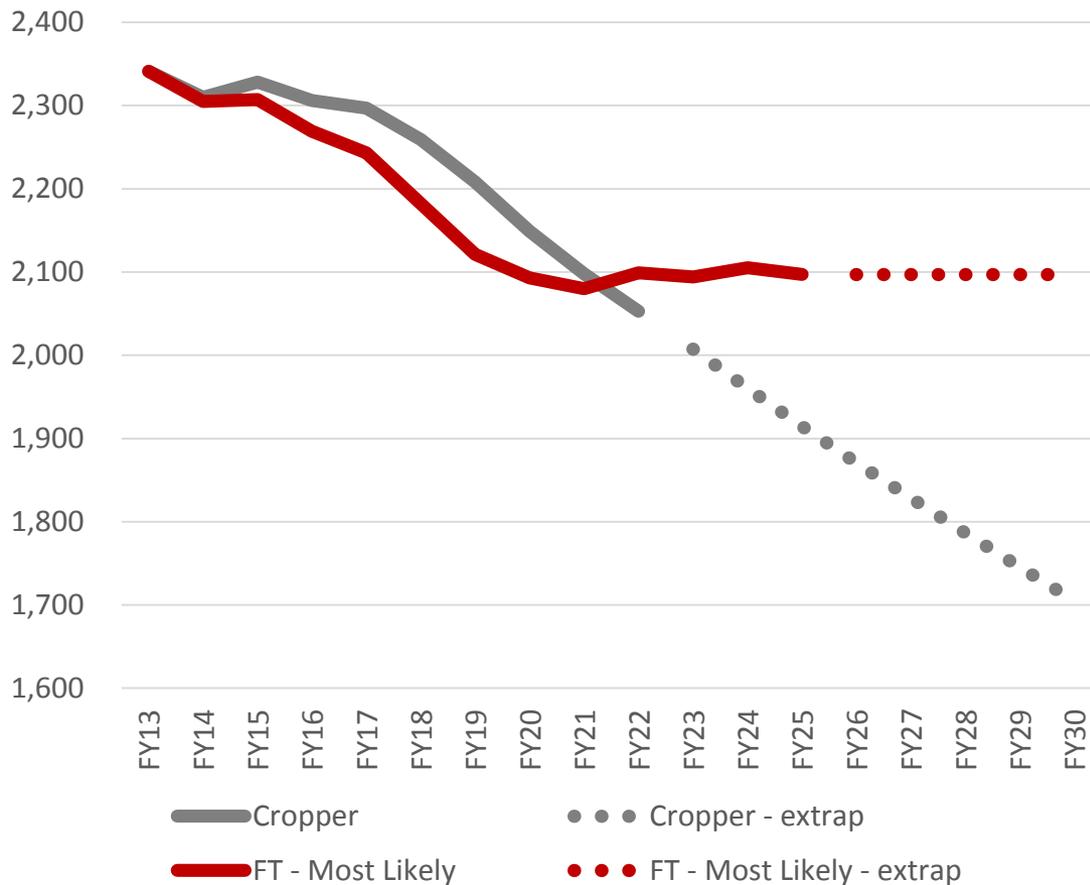
How does the economic change impact the forecast?

Do we think these historical trends will be norm in the future?

Over what time period are we most interested in the enrollment? 5, 10, 20 years?

Cropper and FutureThink have provided dramatically different forecasts of future enrollment, particularly when looking at the later years of the forecasts and the trends they predict

WPS Elementary Enrollment Forecasts 2013 - 2030



Key Questions

How important is a 10 year forecast?

Based on the trend, what do we think is going to happen beyond the forecast period?

What are the limitations of the methodology used?

FutureThink has used an enhanced cohort survival methodology that is driven entirely by two key estimates - # of live births in Wellesley and the survival / projection ratios for each grade

FutureThink forecast is based on:

Live birth data

Historical enrollment

Non-public school enrollment

Community demographics

Housing information



In the model, these are consolidated to 2 types of assumptions:

① # of Live Births in Wellesley

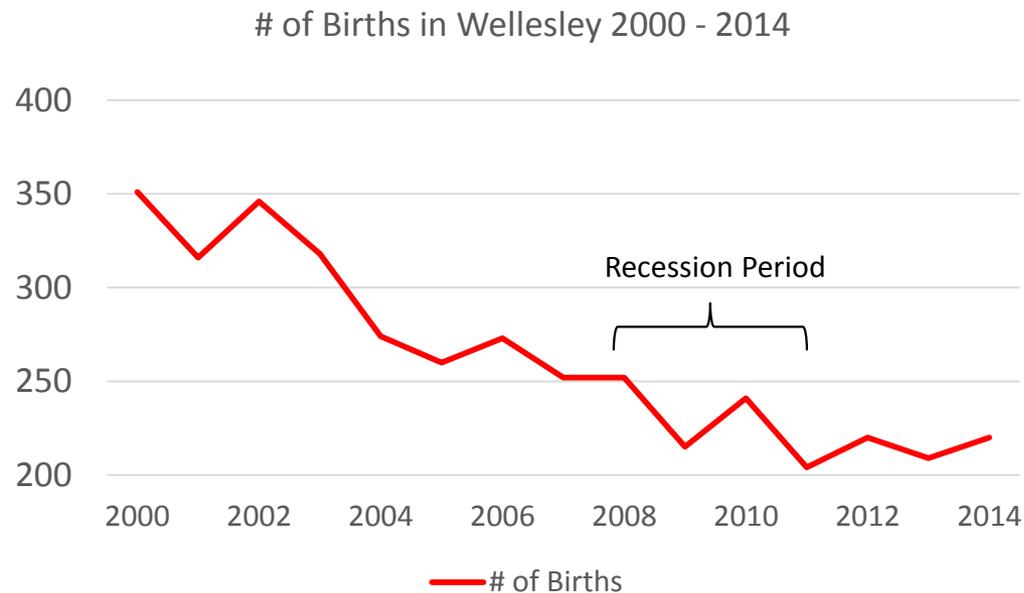
② Survival / Projection Ratios

ENROLLMENT DATA

1 Live Births in Wellesley

Looking at the historical data for live births in Wellesley we see that over the last 15 years the number of births has ranged from ~205-350, with an median of ~250 births per year

Year	Total
2000	351
2001	316
2002	346
2003	318
2004	274
2005	260
2006	273
2007	252
2008	252
2009	215
2010	241
2011	204
2012	220
2013	209
2014	220



3 yr Avg	216
5 yr Avg	219
10 yr Avg	235
15 yr Avg	264

FT
Estimate

Survival ratios are used as a blended estimate to account for all factors that contribute to inflow of children into the school system after birth – e.g. housing dynamics, private school enrollment, etc.

FutureThink Estimates

Projection Ratios	birth -> K	K->1	1->2	2->3	3->4	4->5
Most Likely	144%	109%	104%	102%	102%	100%
High	147%	109%	105%	103%	103%	100%
Moderate	142%	108%	104%	102%	101%	99%
Low	139%	107%	104%	101%	101%	99%

Historical Averages

Projection Ratios	birth -> K	K->1	1->2	2->3	3->4	4->5
10 yr average	138%	107%	102%	102%	101%	100%
5 yr average	149%	107%	104%	102%	101%	99%
3 yr average	154%	108%	104%	102%	101%	99%

As can be seen above the most important years in terms of overall contribution to enrollment are in influx between Birth and Kindergarten – as this is where the majority of new children enter the system and the K population evolves through the whole forecast period

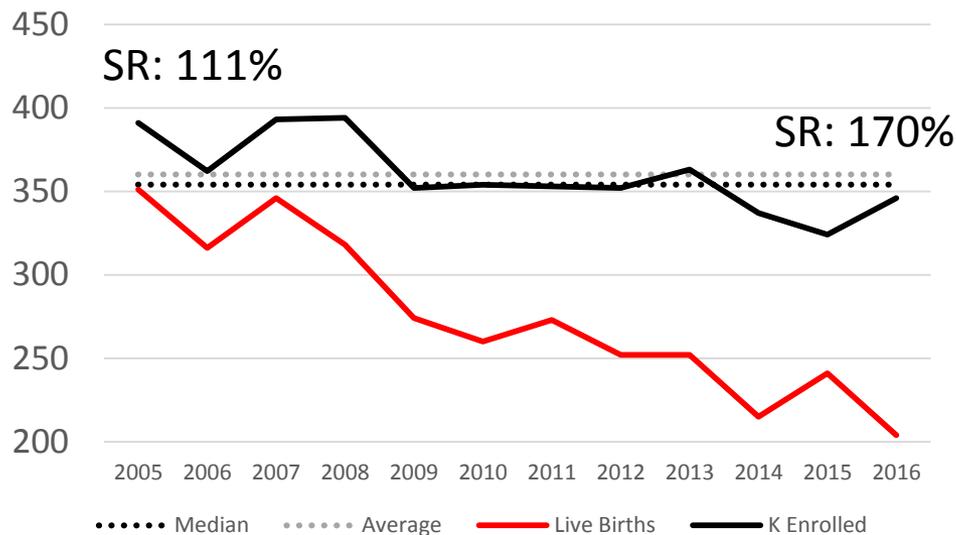
ENROLLMENT DATA

2 Survival Ratios – Birth to Kindergarten

While annual number of births have varied by ~150, kindergarten enrollment has remained relatively steady at ~350/year, and not varying more than 10% from that value over the last 15 years

Birth Year	Births	School Year	K Enrollment
2000	351	2005-06	391
2001	316	2006-07	362
2002	346	2007-08	393
2003	318	2008-09	394
2004	274	2009-10	352
2005	260	2010-11	354
2006	273	2011-12	353
2007	252	2012-13	352
2008	252	2013-14	363
2009	215	2014-15	337
2010	241	2015-16	324
2011	204	2016-17	346
2012	220	2017-18	
2013	209	2018-19	
2014	220	2019-20	

Live Births vs. Kindergarten Enrollment
2005-2016



- Kindergarten enrollment rates have stayed relatively steady (391 to 346; diff. 45) despite a difference in birth rates of ~150
- Median kindergarten enrollment since 2005 has been ~350
- All years within 10% of median and 67% within 5%

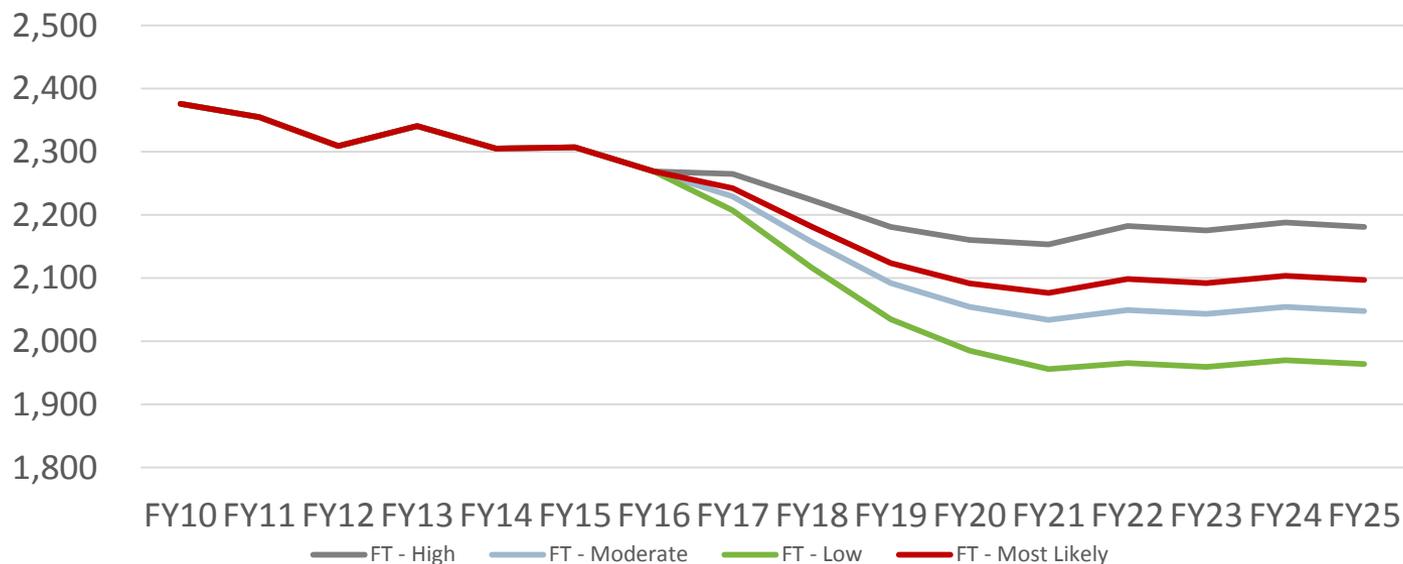
ENROLLMENT DATA

FutureThink Enrollment Forecast

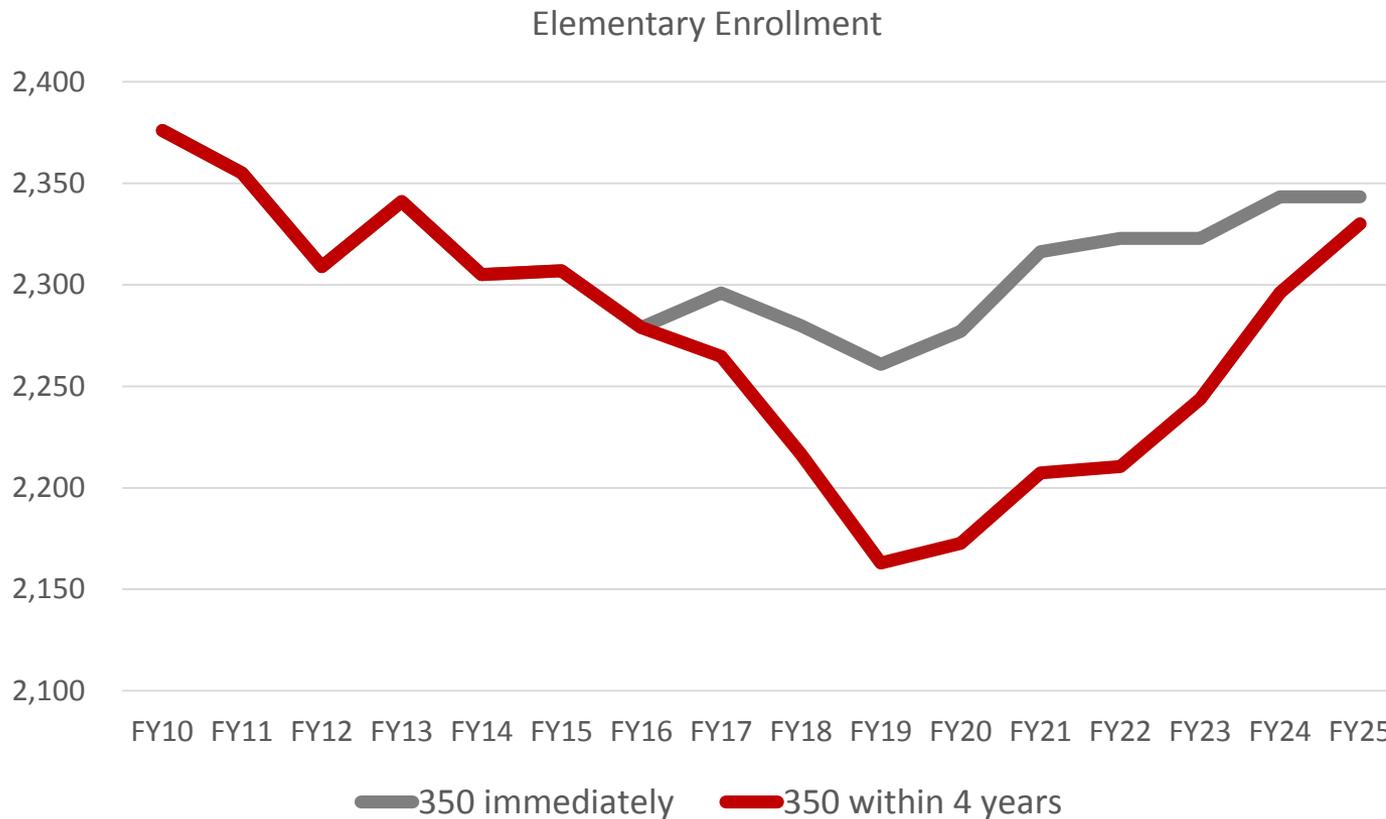
Using a model based on a fixed birth estimate and varying the Birth->K Survival Ratio, FutureThink arrived at a 2025 enrollment range of 2,000-2,200 based on kindergarten populations of 305-320

FutureThink Scenario	Birth -> K	Births	K Pop
High	147%	216	320
Most Likely	144%	216	315
Moderate	142%	216	310
Low	139%	216	305

Elementary Enrollment



Using the same methodology employed by FutureThink, if we assume a standard Kindergarten population of ~350, as has historically been the case, then a likely 2025 enrollment is 2,300-2,350



The difference in the two curves is simply the time it takes to get to a steady Kindergarten population of 350 – the red curve assumes low near-term SRs in line with FT estimates (~145%); red curve assumes high near-term SRs in line with those seen in 2015 and 2016 (~160%)

ENROLLMENT DATA

Additional Considerations

A number of other scenarios could contribute significant numbers of students over the forecast period but will vary in terms of likelihood of occurrence and timing

Scenario	Description	Assumption	Potential Impact
40B Compliance	<ul style="list-style-type: none"> To bring the town in line with 40B requirements would require 400 – 600 new SHI (Subsidized Housing Inventory) units – these are presumed to be multi-family attached homes 	0.25*-1 students/unit ~2 kids / family @ 12-50% Family occupancy	100-600 students
Return to Pre-2008 K Population	<ul style="list-style-type: none"> Assumes Kindergarten populations start to return to those levels seen prior to the recession Not an FT-identified scenario 	K pops of 360-380	75-200 students
New Single Family Construction	<ul style="list-style-type: none"> Based on FT analysis of existing lots within the Single Residence District and Single Residence District A, it has been determined that it is possible for 327 net new single family lots to be created 	0.5*-1.5 students/unit ~2 kids / family @ 25%-75% Family occupancy	164 - 490 students
New Multi Family Construction	<ul style="list-style-type: none"> Based FT review of existing lots within the districts allowing for multi-family dwelling units, would allow for the creation of 259 net new multi-family dwelling units. 	0.25*-1 students/unit ~2 kids / family @ 12-50% Family occupancy	65 - 259 students

* Source: FutureThink assumption

Total – 404 – 1,549

ENROLLMENT DATA

Capacity Requirements

Using similar utilizations estimates to those used by the SFC previously (80%), and a target range of 2,100-2,300, the appropriate total capacity required is between 2,625 and 2,875

Total Capacity (@ 80% Utilization)

2,625 – 2,875

Contingency of 525-575

School	Rooms	Total Capacity
Fiske	18	396
Schofield	18	396
Sprague	19	418
Bates	19	418

1,628



HHU

Capacity

1,000 – 1,250