

Projecting K-12 Public School Enrollments: Monitoring and Evaluating Data Changes *for the Los Angeles Unified School District*

Afternoon Roundtable Presentation
USC/SCAG 26th Annual Demographic Workshop
“BIG CHANGES AHEAD IN POST-RECESSION CALIFORNIA”

Valerie Edwards, Chief Enrollment Analysis Coordinator

Mary Ehrental Prichard, Demographic Research and Planning Analyst II

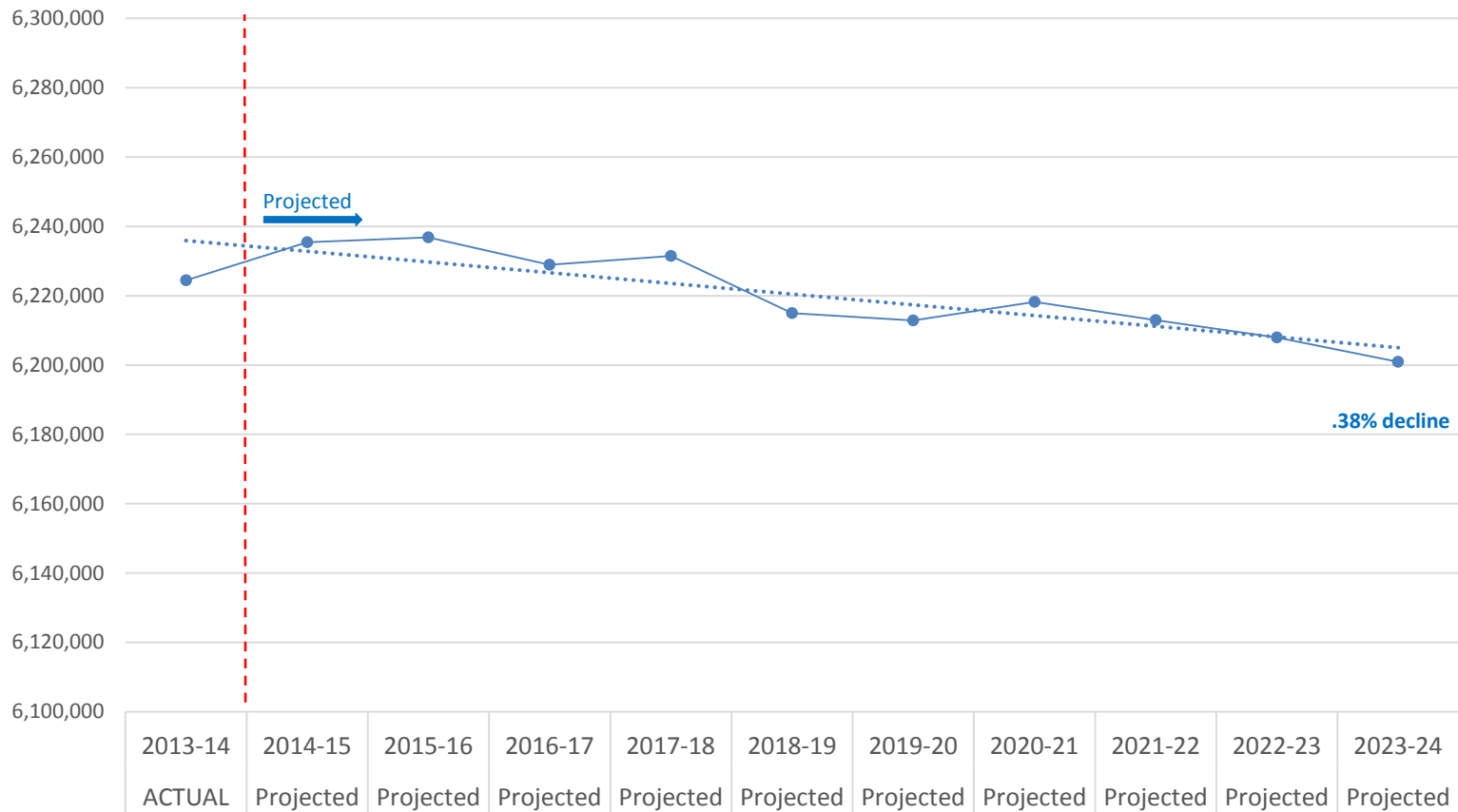
LAUSD Master Planning and Demographics Unit

Rena Perez, Director

June 1, 2015

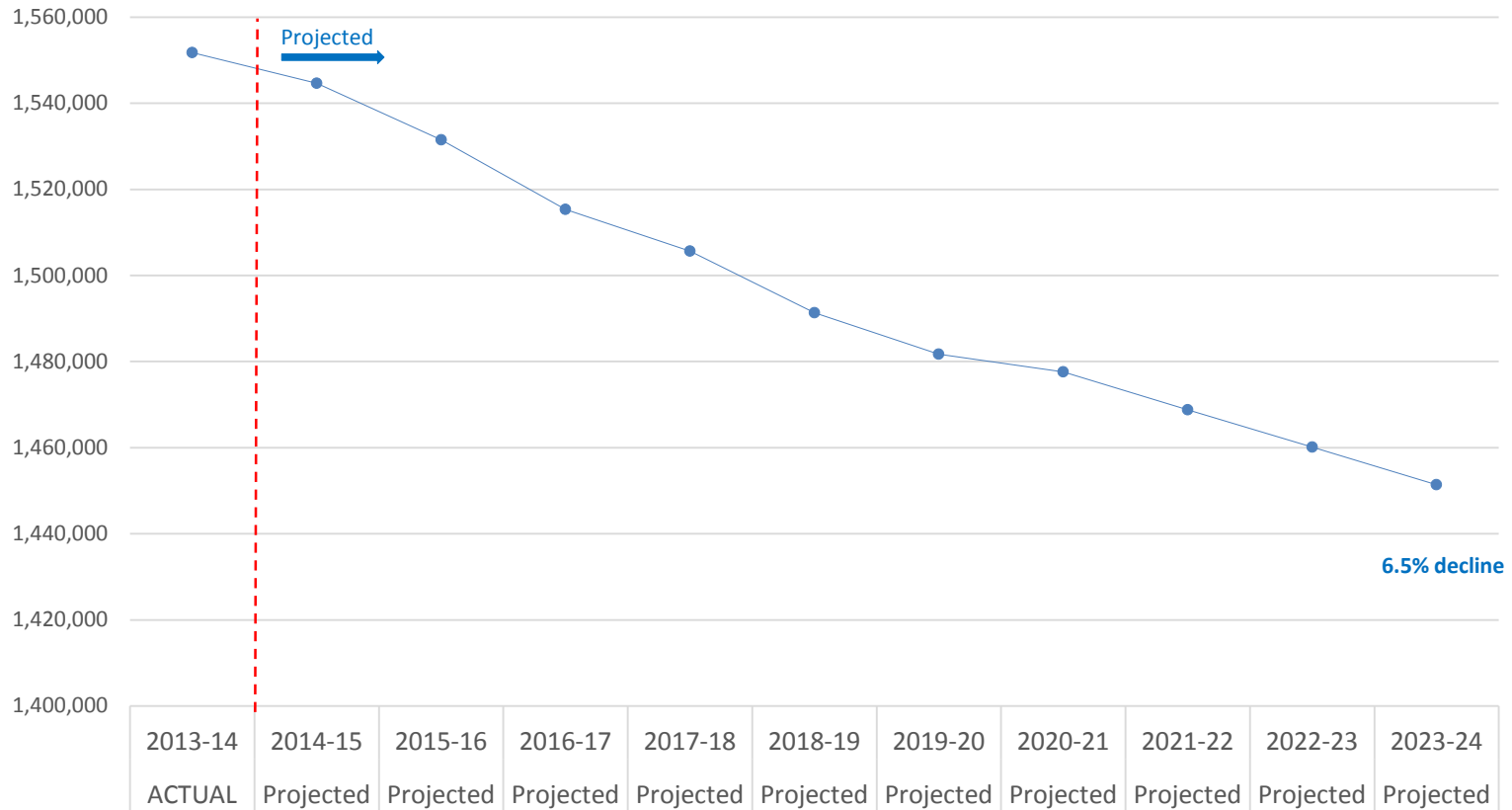


DOF K-12 Enrollment Projections for California (2014 Series)



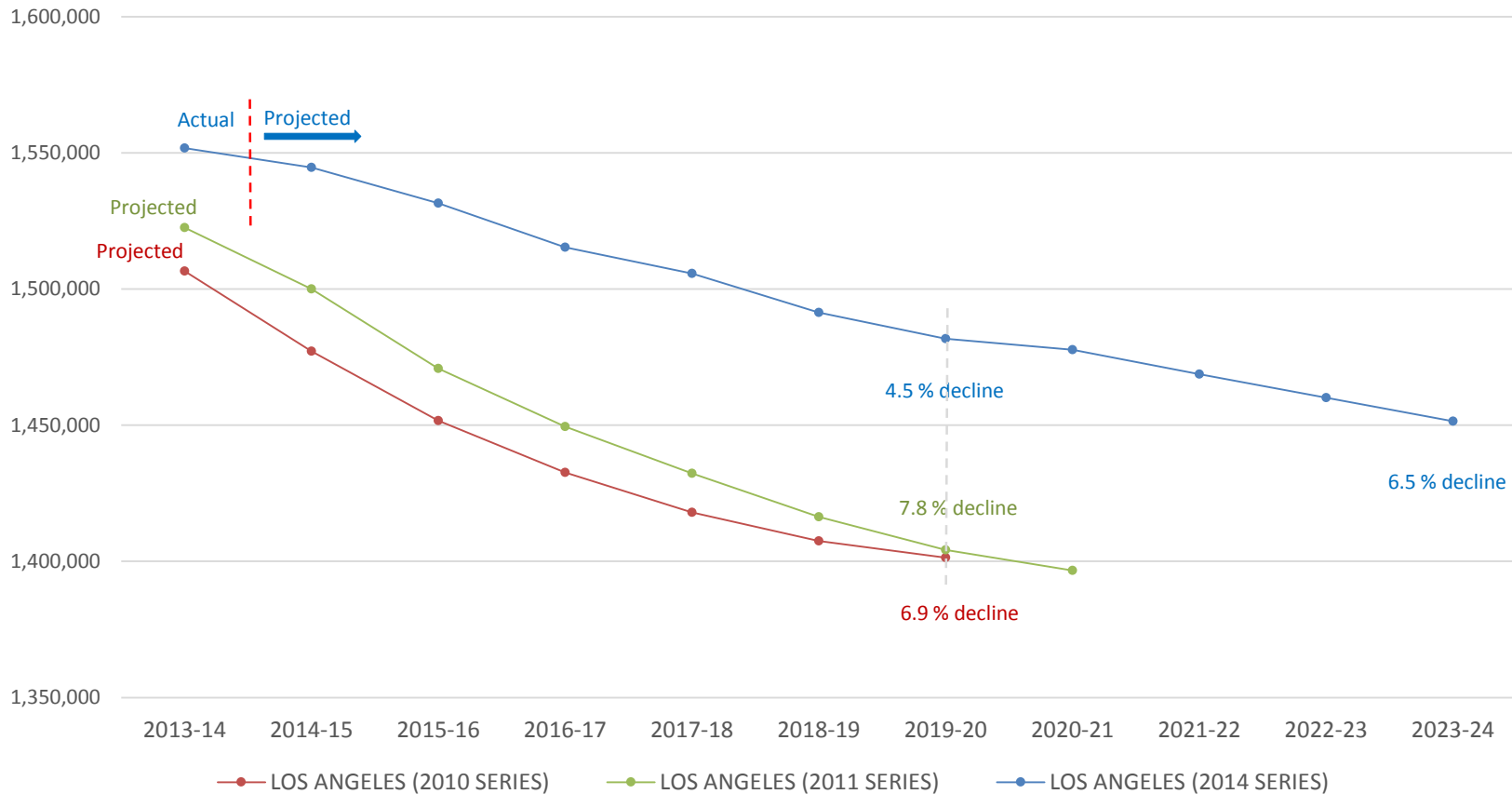
Today we will focus on whether or not substantial changes are occurring in projected enrollments and births at the State and County levels and within LAUSD. The LAUSD Master Planning and Demographics Unit (MPD) uses enrollment projections from the California Department of Finance (DOF) as a baseline to evaluate our own local projections. The DOF is currently projecting very little change in state-wide public K-12 enrollments.

DOF K-12 Public Graded Enrollment Projections for LA County (2014 Series)



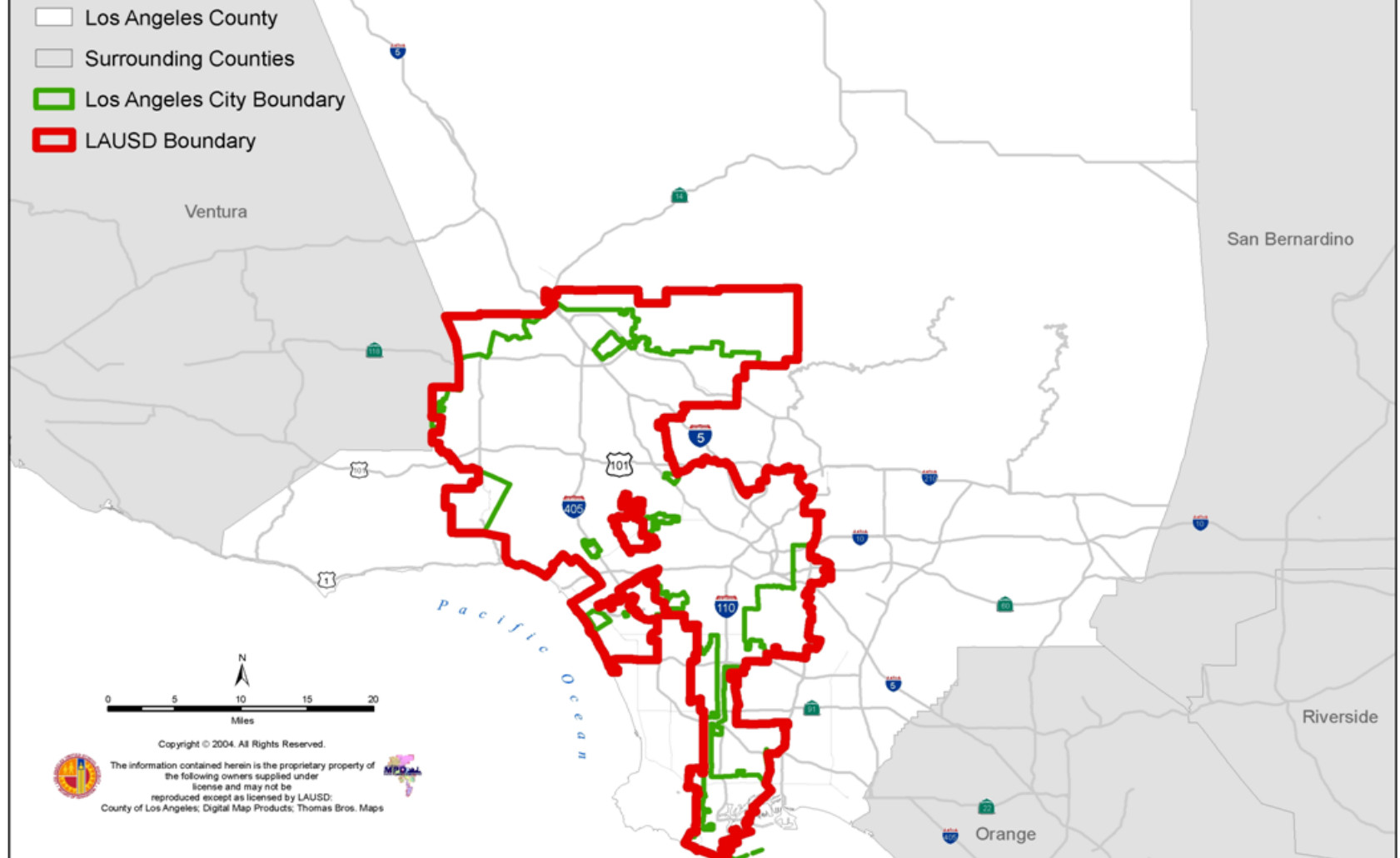
The DOF projects that, of California’s counties, Los Angeles and Orange will experience the greatest decline in enrollments over the next decade. For Los Angeles County, K-12 enrollments are projected to steadily decline through the projection horizon (and possibly beyond), reaching a 6.5% decline by school year 2023-24.

Comparing DOF K-12 Enrollment Projections for LA County



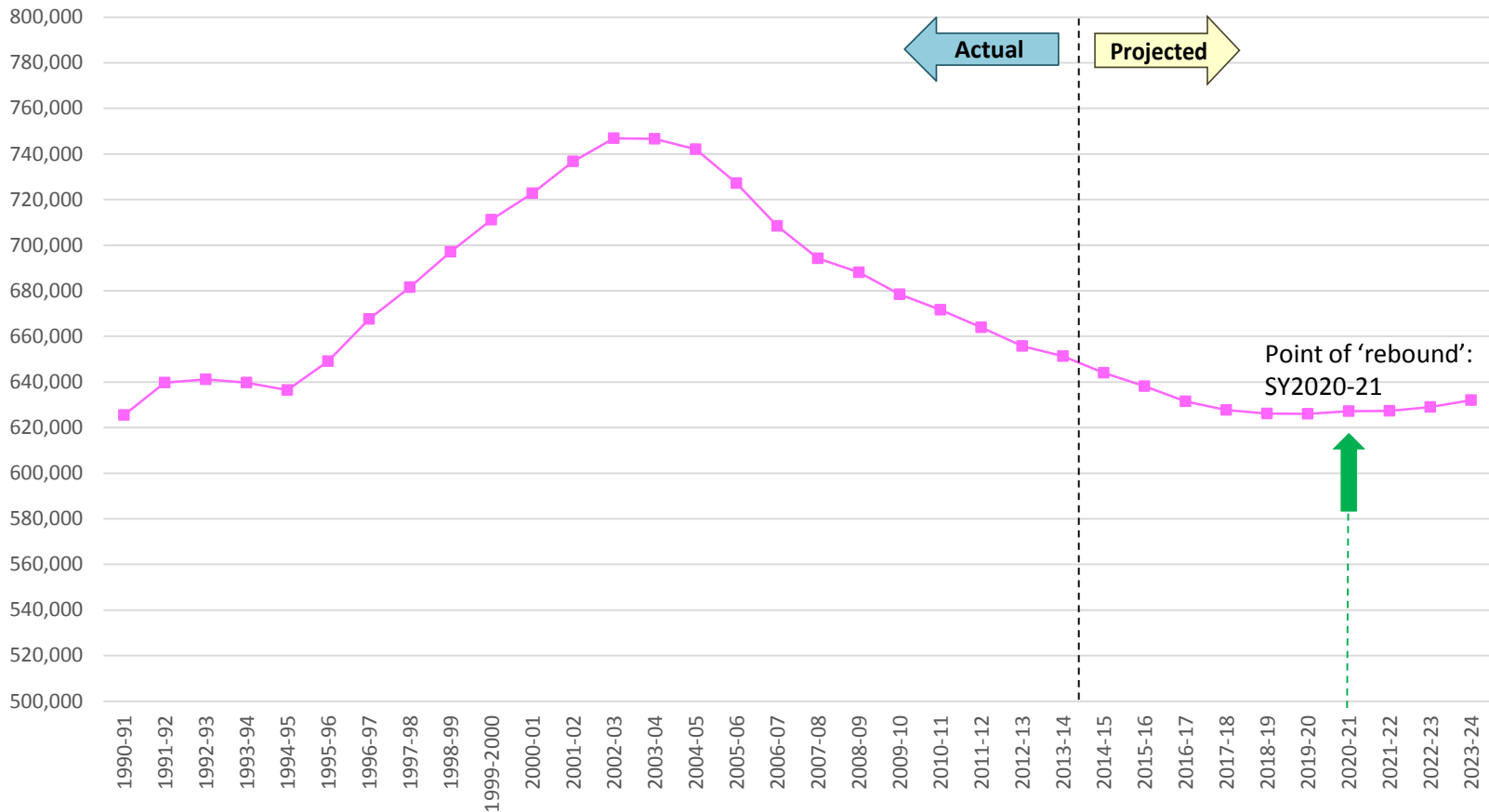
In its 2010 series, the DOF projected a 6.9% decline between SY2013-14 and SY 2019-20, with about 1.4 million students expected in SY2019. In the 2011 series, there were more students projected in SY 2013-14 and a steeper decline of 7.8% by SY2019-20. Now, in their most recent 2014 projection series, the DOF projects more students overall with a slower rate of decline, 4.5% expected by SY2019-20.

Orientation of LA County, LAUSD and surrounding counties



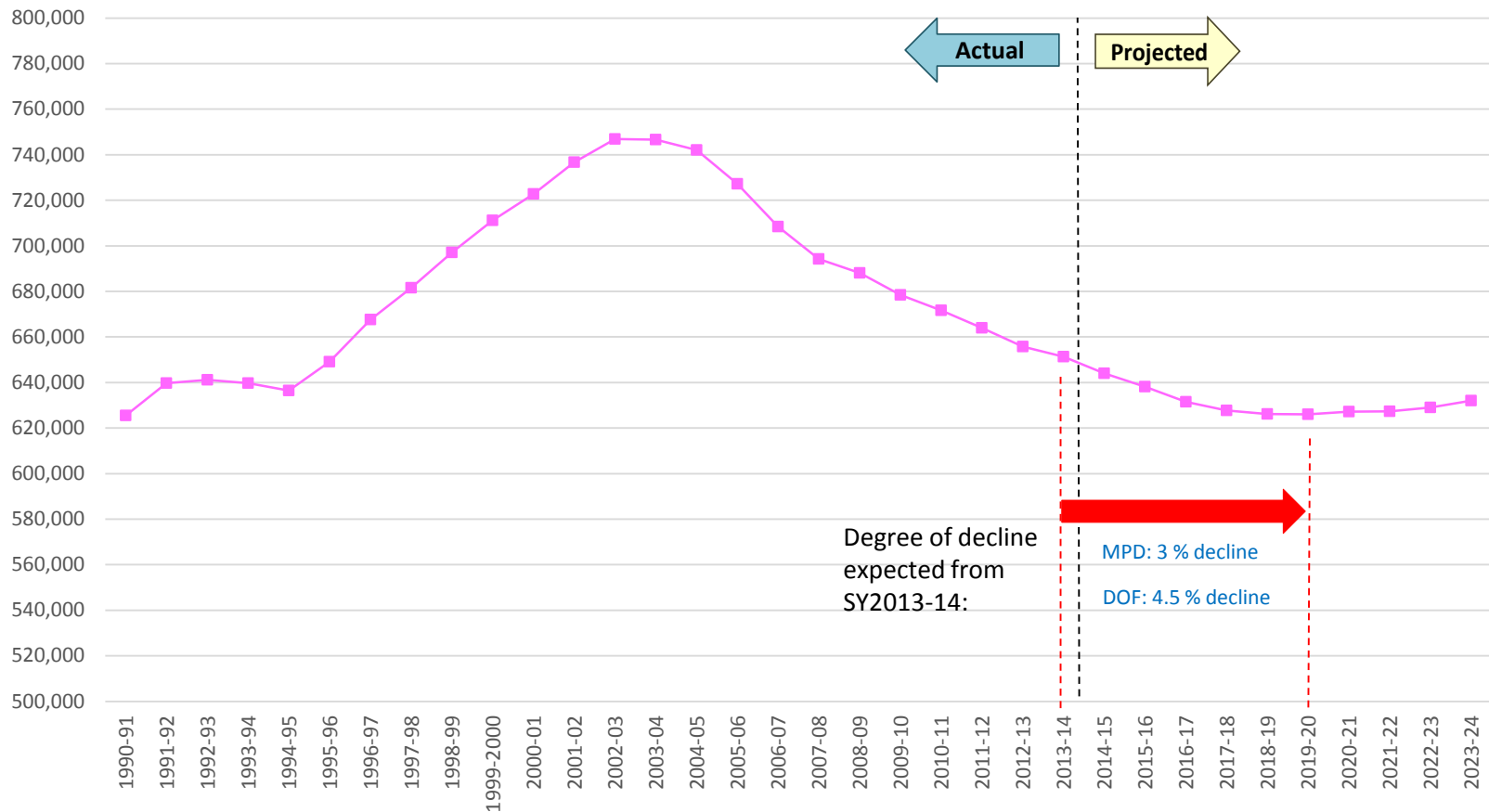
In order to put LAUSD's attendance area into context, this map illustrates the geographic relationship between the L.A. County boundary relative to the LAUSD boundary. LAUSD serves the entire City of Los Angeles, along with all, or portions of, over 25 other cities. LAUSD currently serves about 41% of L.A. County's publically enrolled K-12 students.

MPD K-12 Enrollment Projection for LAUSD (2014-15 Series)



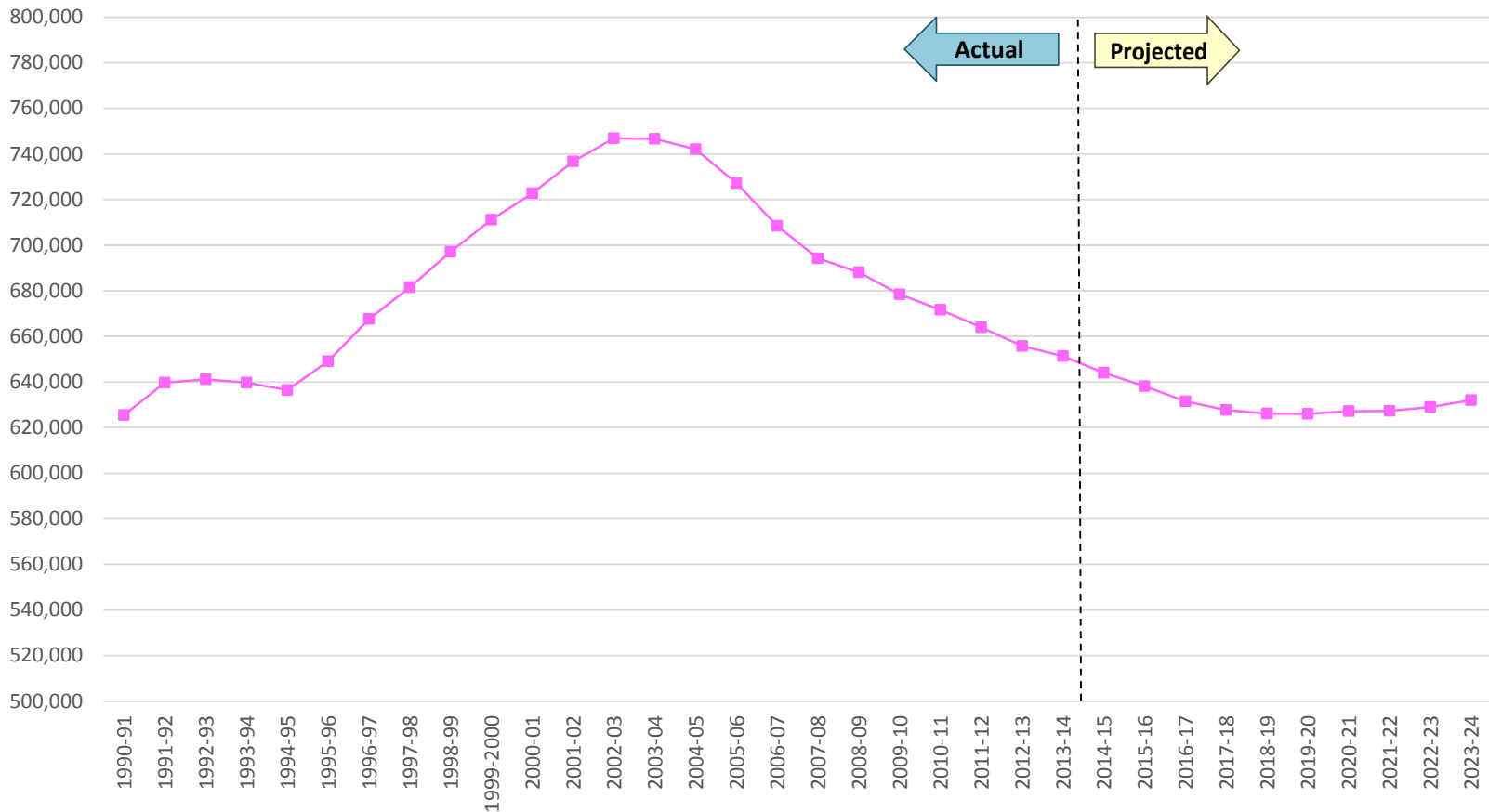
This chart illustrates LAUSD's historical K-12 enrollments, along with MPD's own projections for LAUSD. Overall, enrollment has been gradually declining since the peak in 2002. Each year, when MPD updates projections, they look for any changes in the year when enrollments are expected to rebound. MPD's latest projection series indicates gradual decline continuing through SY 2019-20, and places the point of rebound in SY2020-21.

MPD K-12 Enrollment Projection for LAUSD (2014-15 Series)



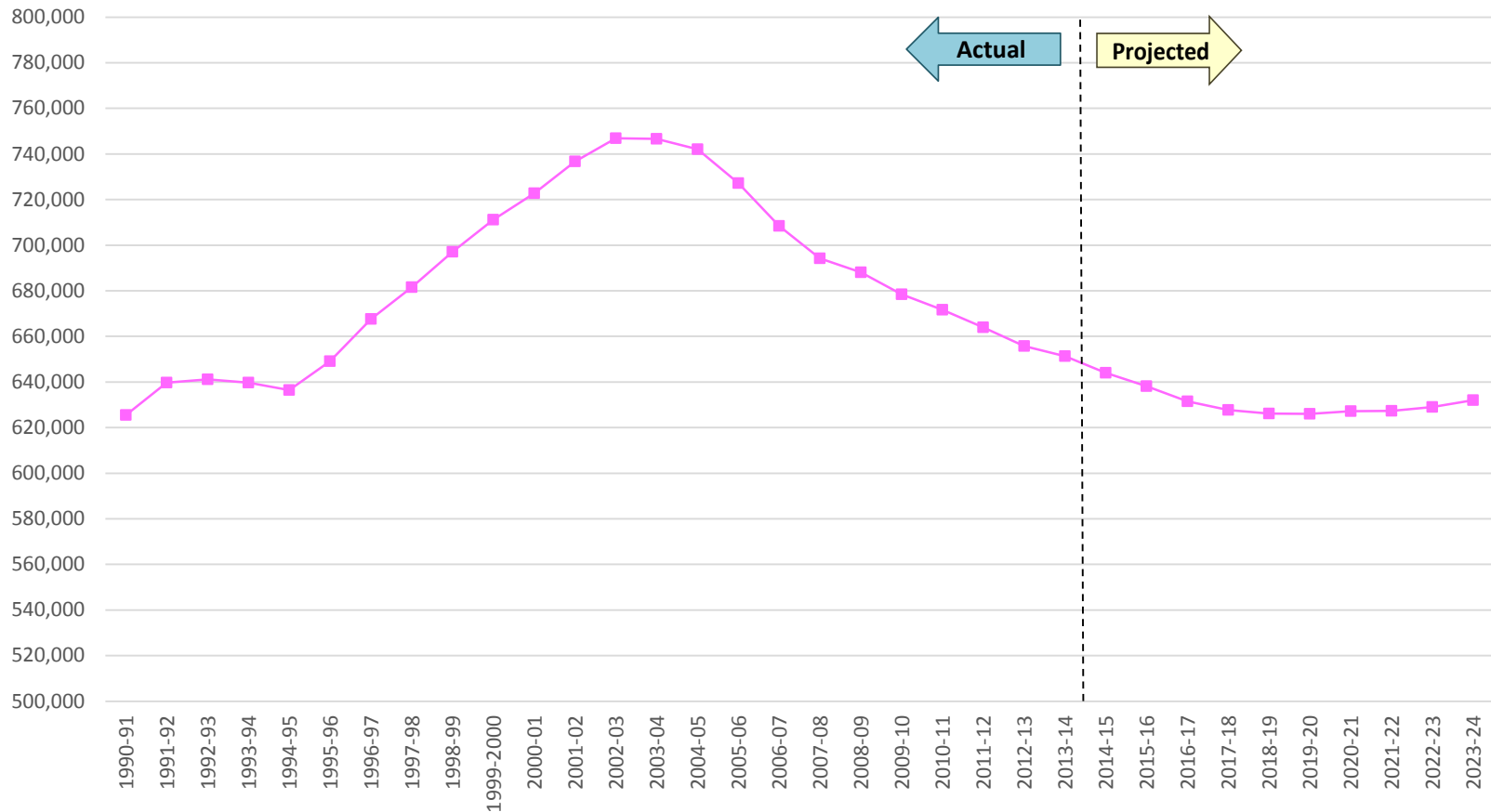
Up until SY2019-20, LAUSD's projections are in general agreement with the DOF's countywide projection trend. Where the projections differ is in how much of a change will occur, both in terms of the rate of decline and the expectations for a rebound. MPD has a more optimistic outlook than the DOF, with a 3% decline expected between SY2013-14 and SY2019-20, versus the DOF's with a 4.5% decline expected.

MPD K-12 Enrollment Projection for LAUSD (2014-15 Series)



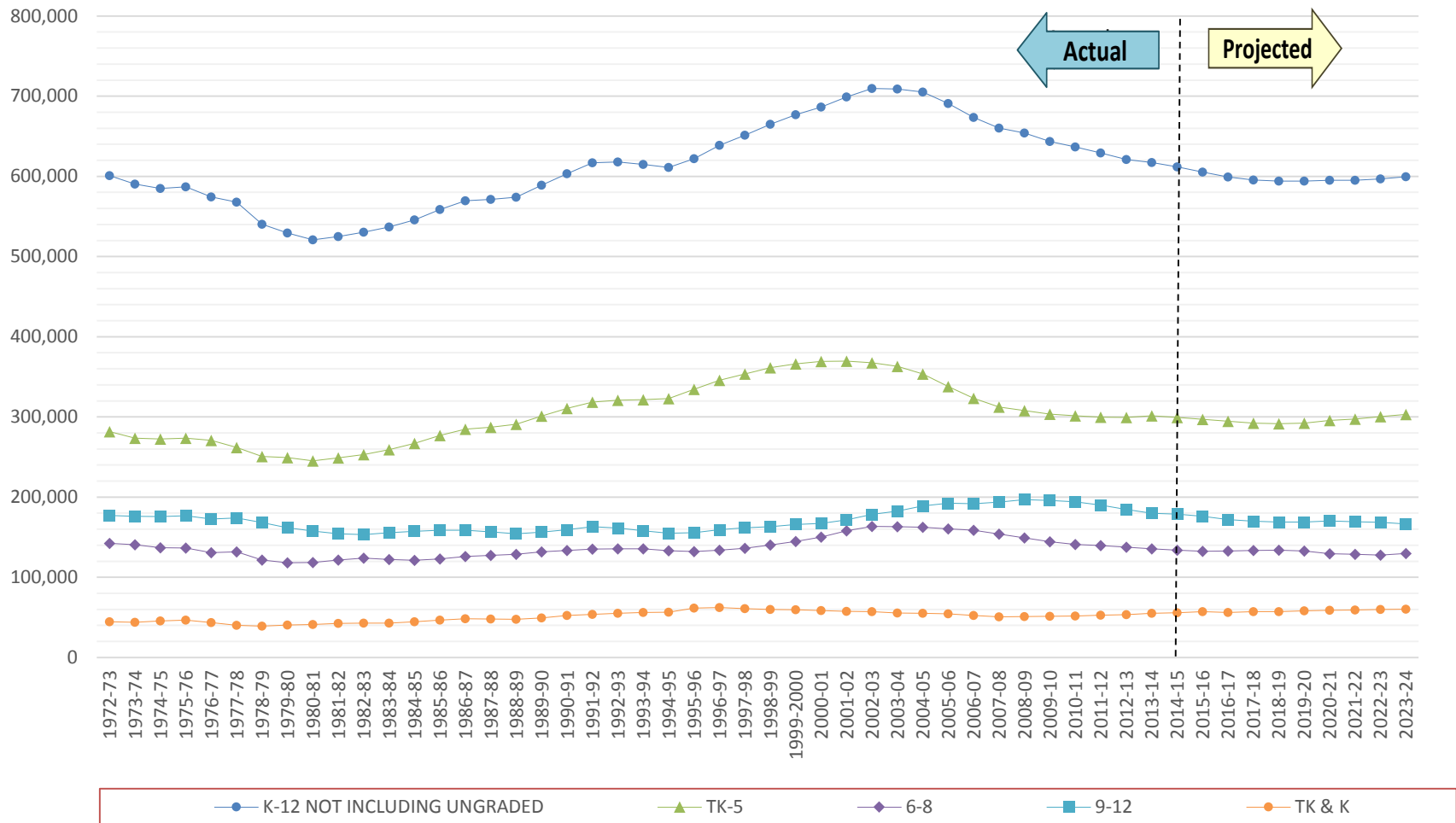
LAUSD's projection is more optimistic than the L.A. County projection primarily because of programmatic reasons. LAUSD expects improvements in its grade-to-grade retention rates, meaning that a higher proportion of students is expected to stay in school as the students move through each grade, either due to greater educational programming success or to slowing of out-migration of families from Los Angeles and its public schools, or both.

MPD K-12 Enrollment Projection for LAUSD (2014-15 Series)



The housing market's improvement as the economy recovers may attract families and soon-to-be parents into LAUSD boundaries, but the high cost of housing in the LAUSD area may be pricing out middle- and lower-income families. This, coupled with falling birth rates and rising charter school enrollments, has prompted MPD to revisit some of the assumptions made about LAUSD's long-range projections.

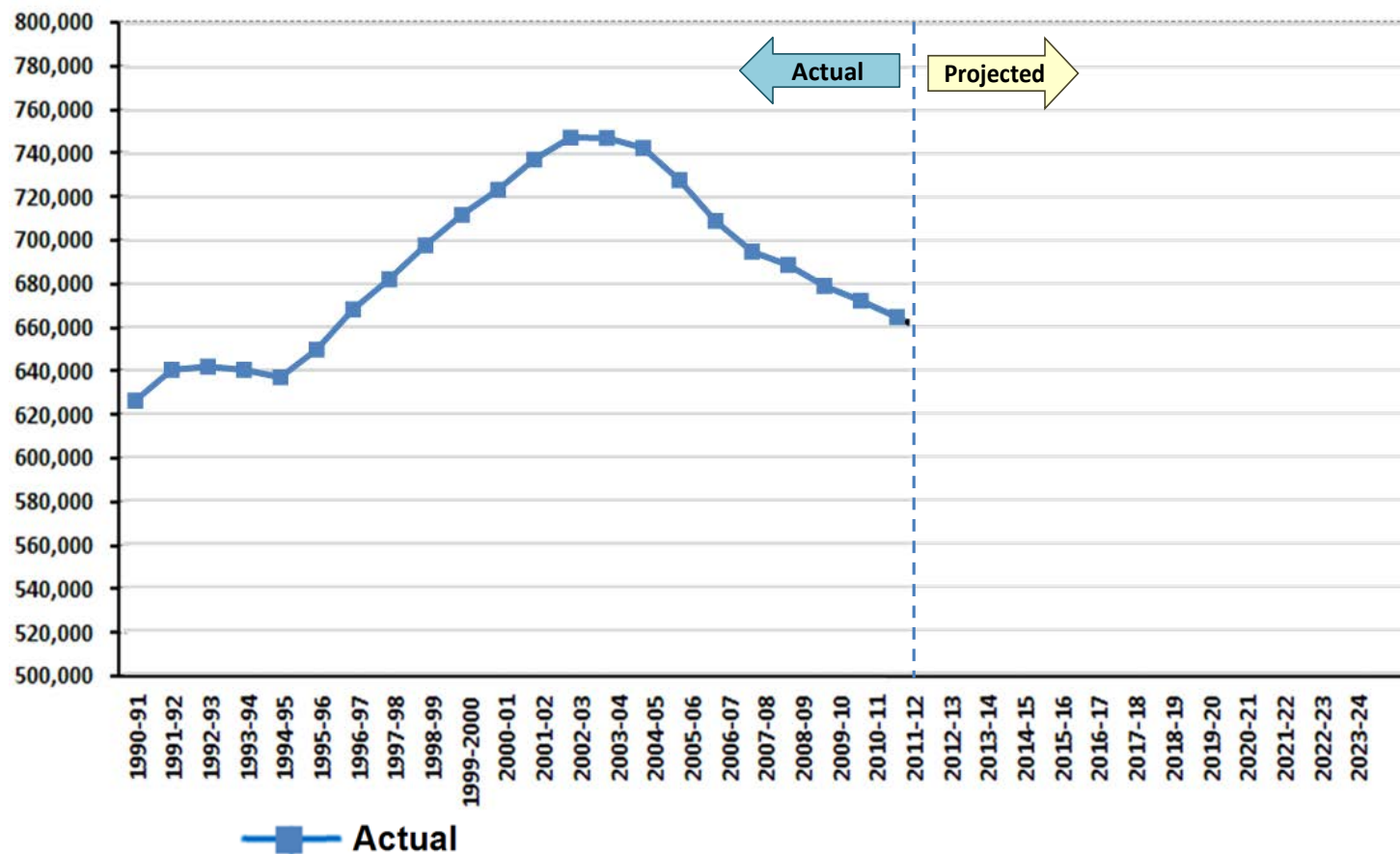
MPD K-12 Projection for LAUSD (2014-15 Series) By Grade



Broken out into grade ranges, K-5 is projected to grow from 2020 onward. Grades 1-5 are projected to grow by 2.8%, and kindergarten by 11.5%. Grades 6-8 will fluctuate with a net 1.3% growth. Grade 9-12 will fluctuate with a net 6.1% decline. The rebound for projected enrollment will be due primarily to growth in grades K-5.

Comparing MPD's K-12 Projections for LAUSD

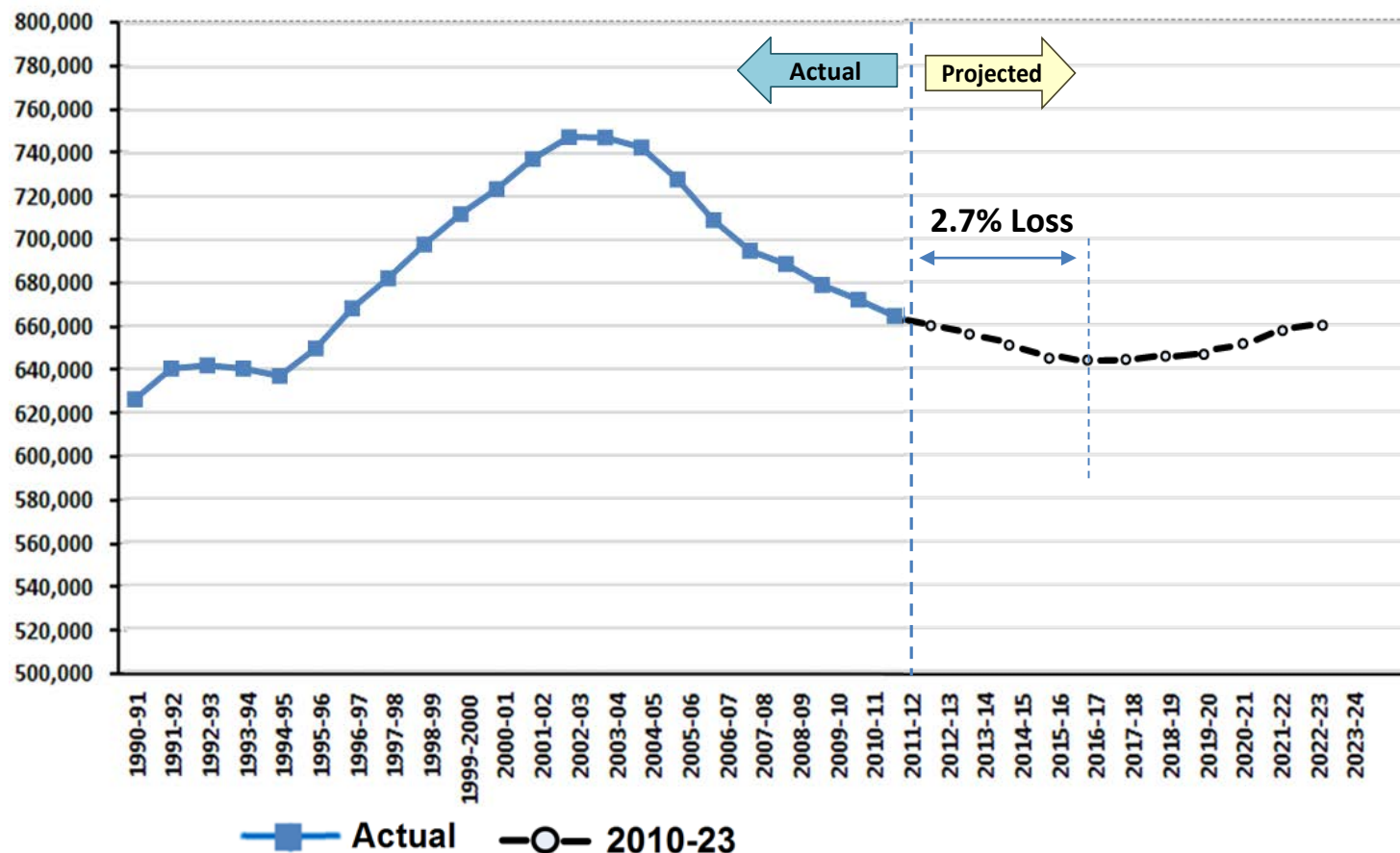
Los Angeles Unified School District
Projected Public K-12 Graded Enrollment through SY 2023-24



Now we'll look at MPD's enrollment projection comparisons for the same time periods as the DOF projections.

Comparing MPD's K-12 Projections for LAUSD

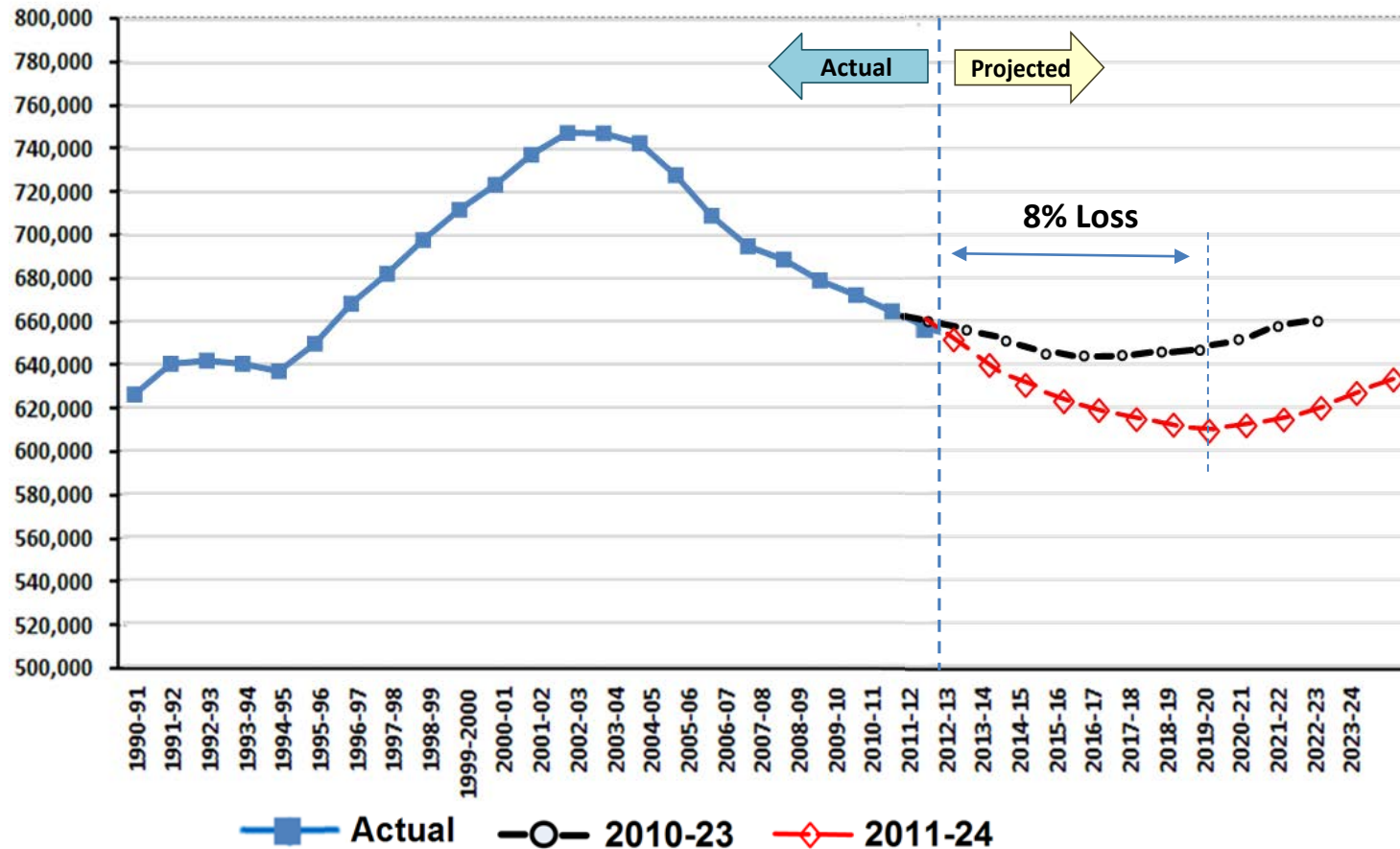
Los Angeles Unified School District
Projected Public K-12 Graded Enrollment through SY 2023-24



The earliest projection we'll include is the 2010 series, which expected that enrollments would decline by only 2.7% between 2011-12 and 2016-17, a loss of about 27,000, and then rebound close to SY2011-12 levels.

Comparing MPD's K-12 Projections for LAUSD

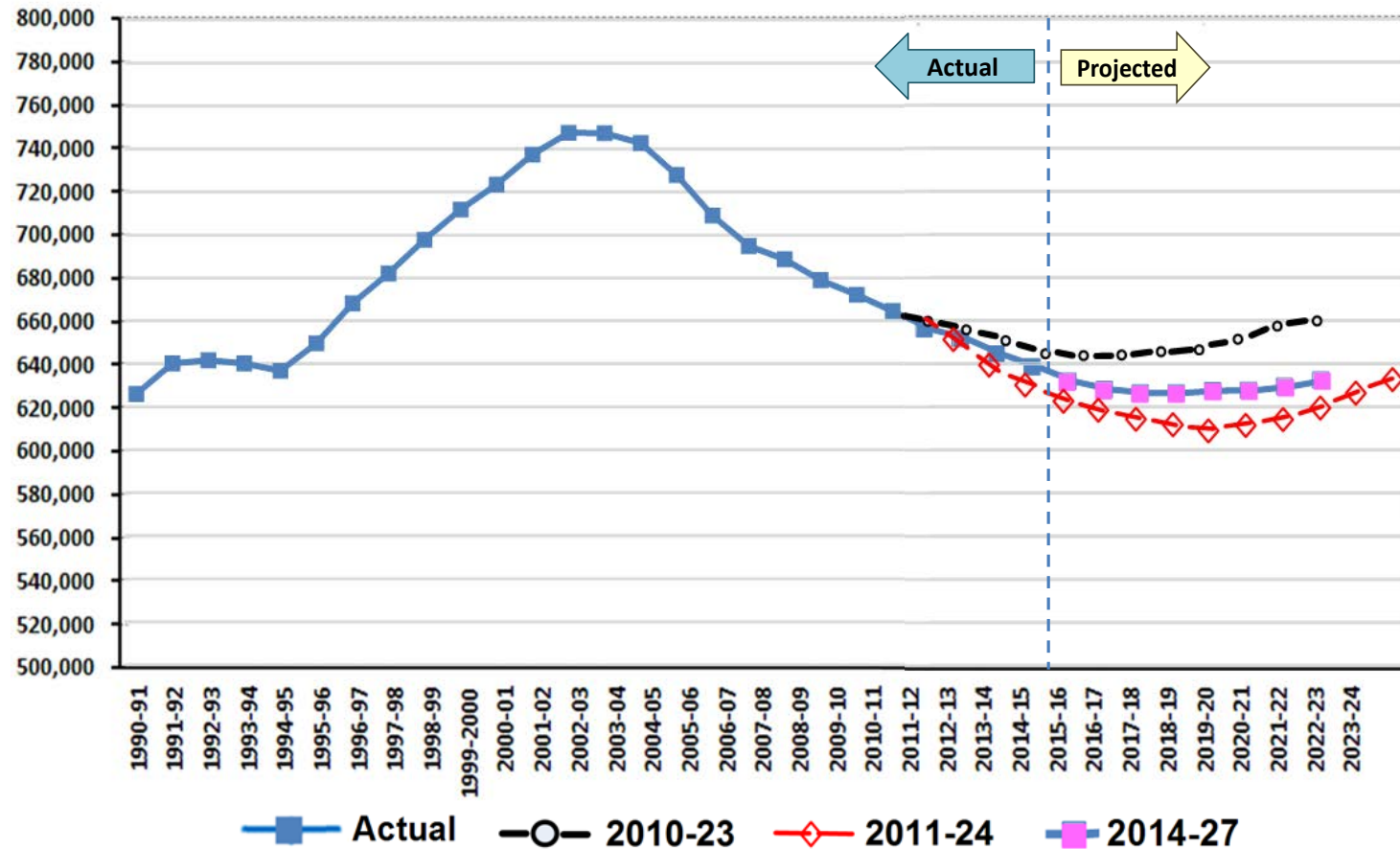
Los Angeles Unified School District
Projected Public K-12 Graded Enrollment through SY 2023-24



The following year, MPD's 2011 projection series for LAUSD was adjusted to show a steeper decline than previously projected, similar to the DOF's projections. The 2011 projection series showed a loss of about 8%, or about 53,000 students, before rebounding, but gaining back less than half of the students lost during the projection period.

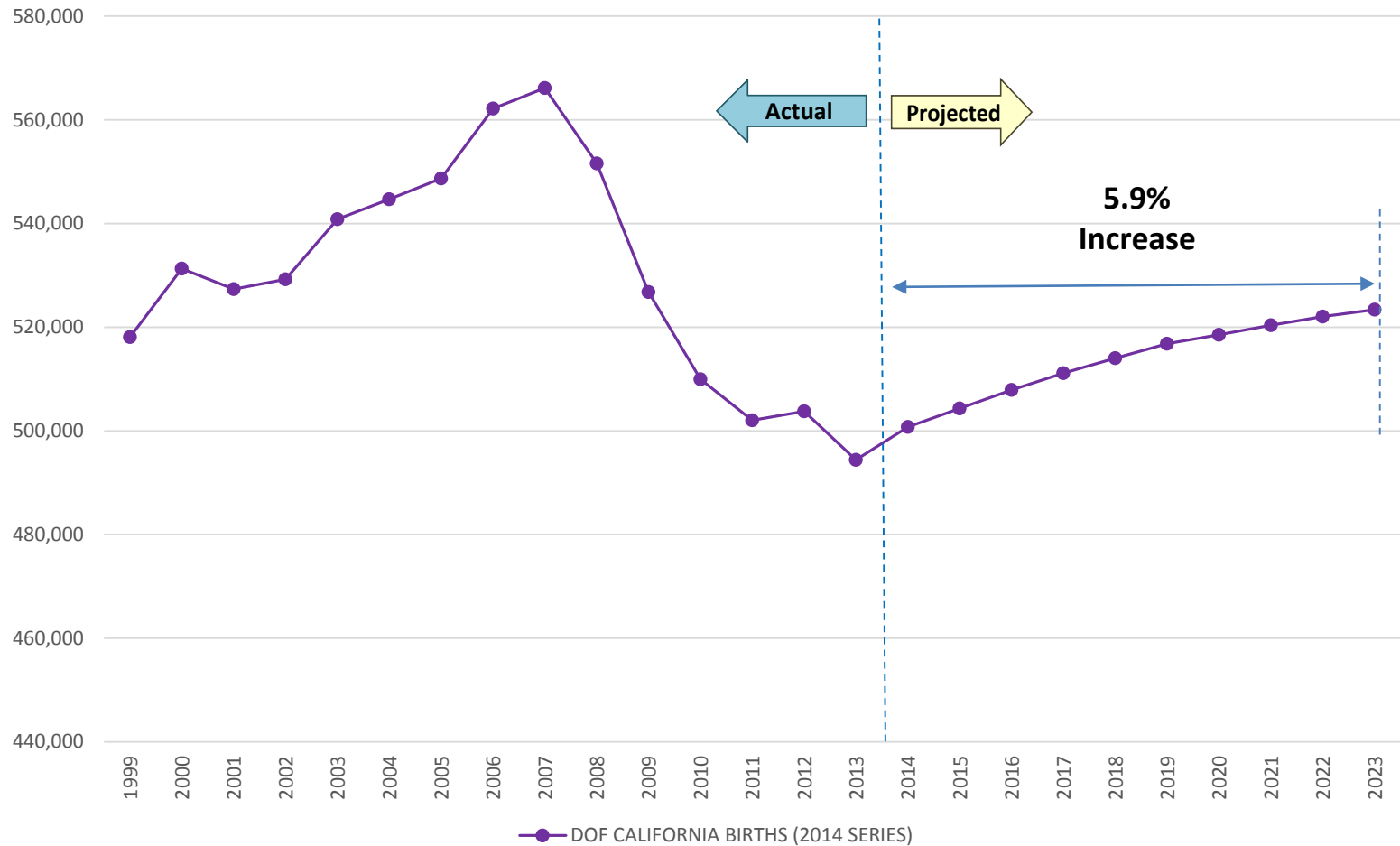
Comparing MPD's K-12 Projections for LAUSD

Los Angeles Unified School District
Projected Public K-12 Graded Enrollment through SY 2023-24



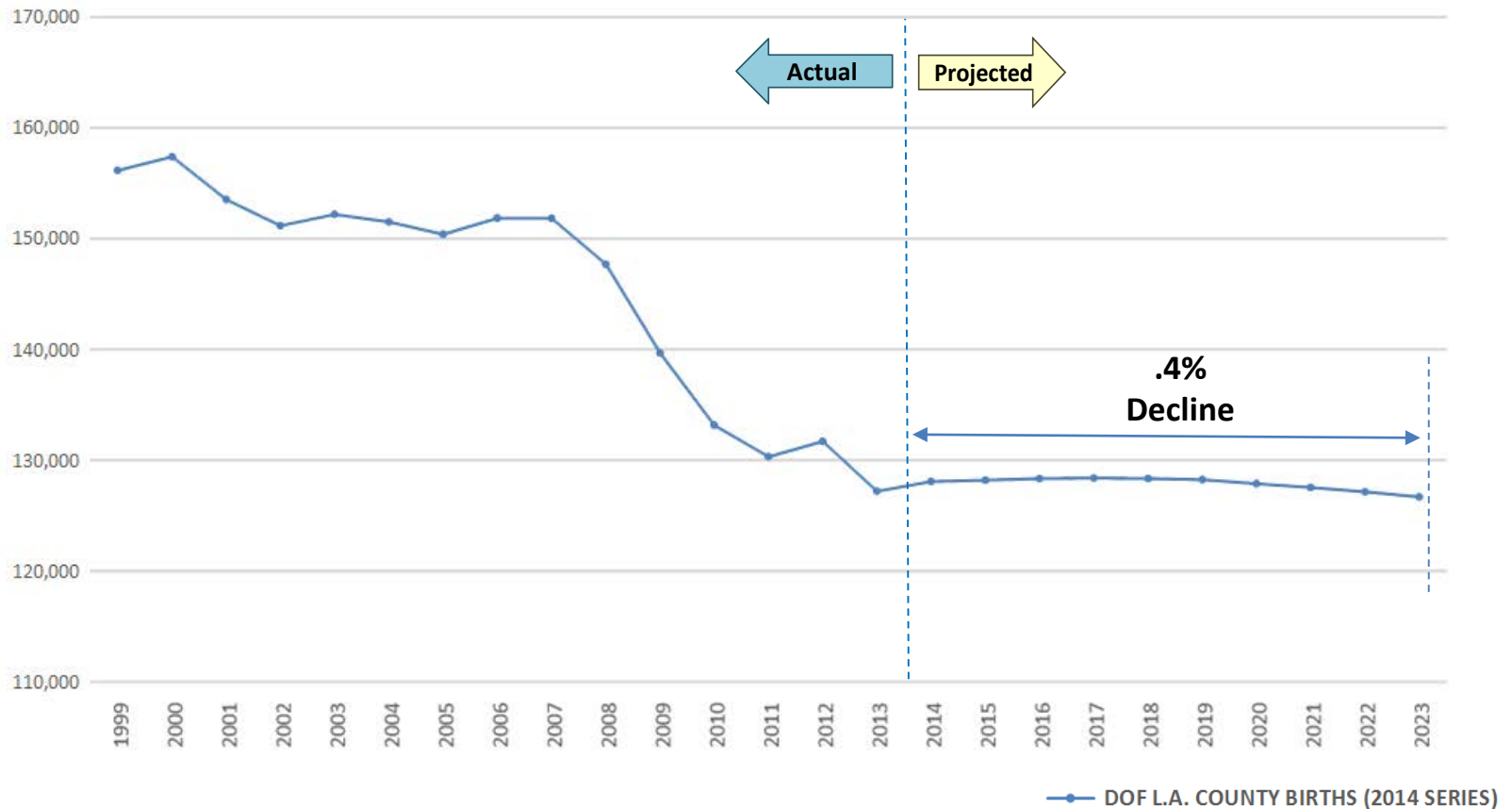
Three years later, the current 2014 projection series tempers the decline as well as the rebound. Both LAUSD and the DOF have expected some degree of decline into the coming decade, but, unlike the DOF, LAUSD now expects enrollments to rebound slightly.

DOF Birth Projections for California (2014 Series)



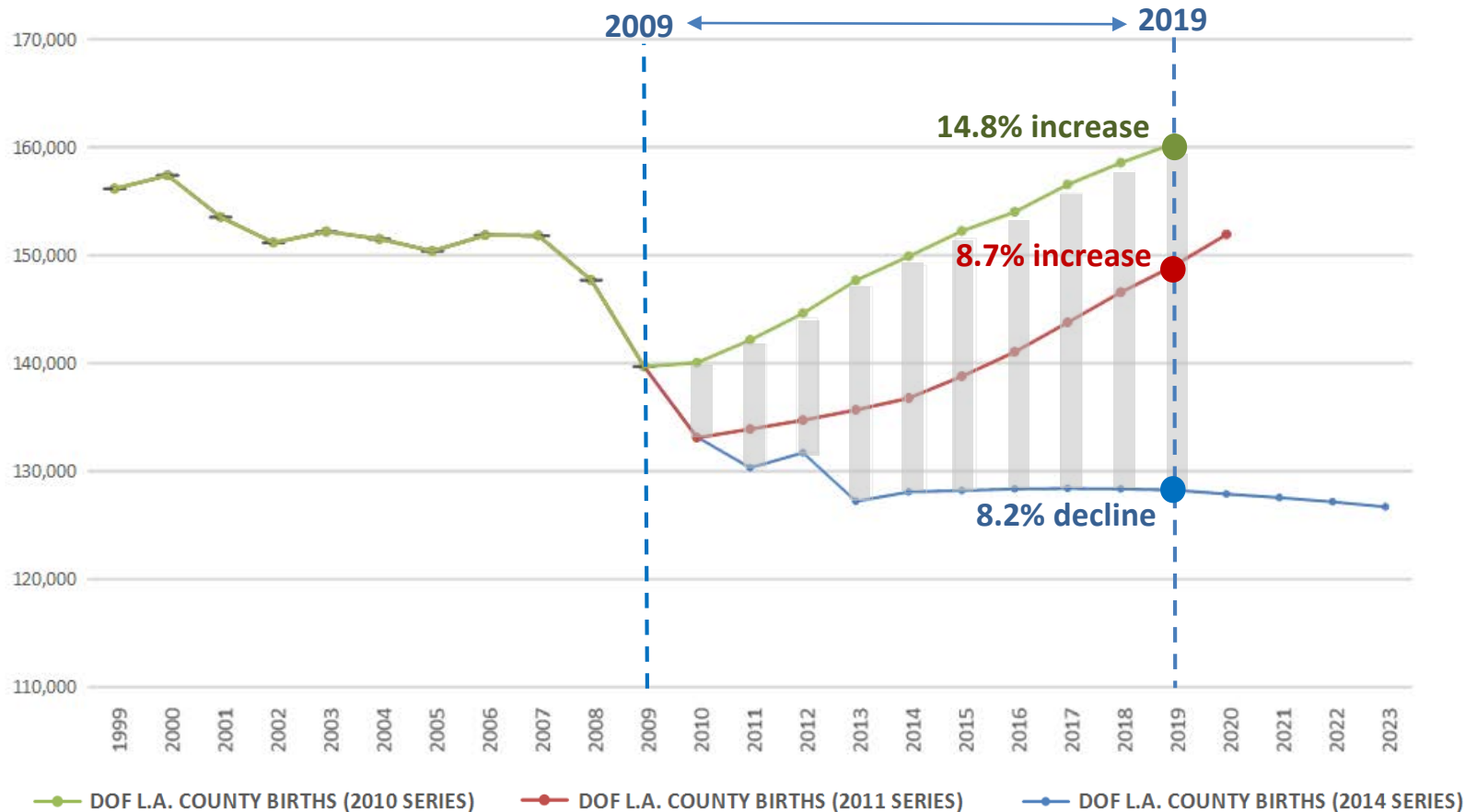
The DOF's birth projections are a key component of LAUSD's forecasting model. The DOF expects California's births to increase each year for a net increase of 5.9% over the course of the ten-year projection period from 2013 to 2023.

DOF Birth Projections for LA County (2014 Series)



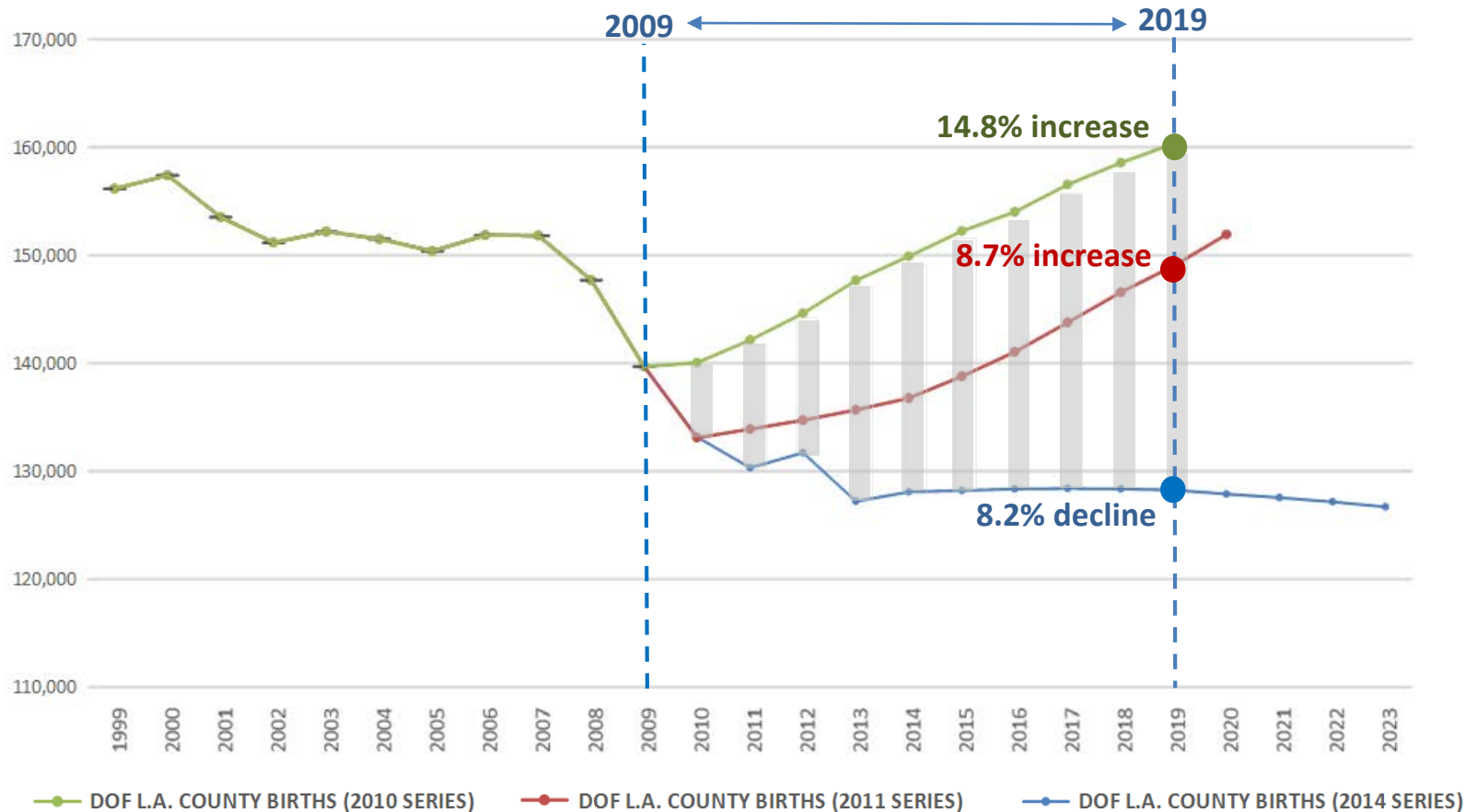
By contrast, LA County births have been steadily declining, and the DOF's 2014 projections for LA County show a flat trajectory for the coming decade.

DOF Birth Projections for LA County - Comparison



This is a different outlook from the DOF's earlier LA County birth projections. Their 2010 series projected a 14.8% increase between 2009 and 2019, and their 2011 series, although less optimistic, still projected a 6.7% increase for the same period. Now, in their 2014 series, the DOF projects an 8.2% decline from 2009 levels.

DOF Birth Projections for LA County - Comparison



The DOF's 2014 trajectory seems more consistent with what we know about LA County population dynamics: declining birth trends coupled with a continued slowing of international in-migration among younger adults.

Orientation of LA County, LAUSD and surrounding counties

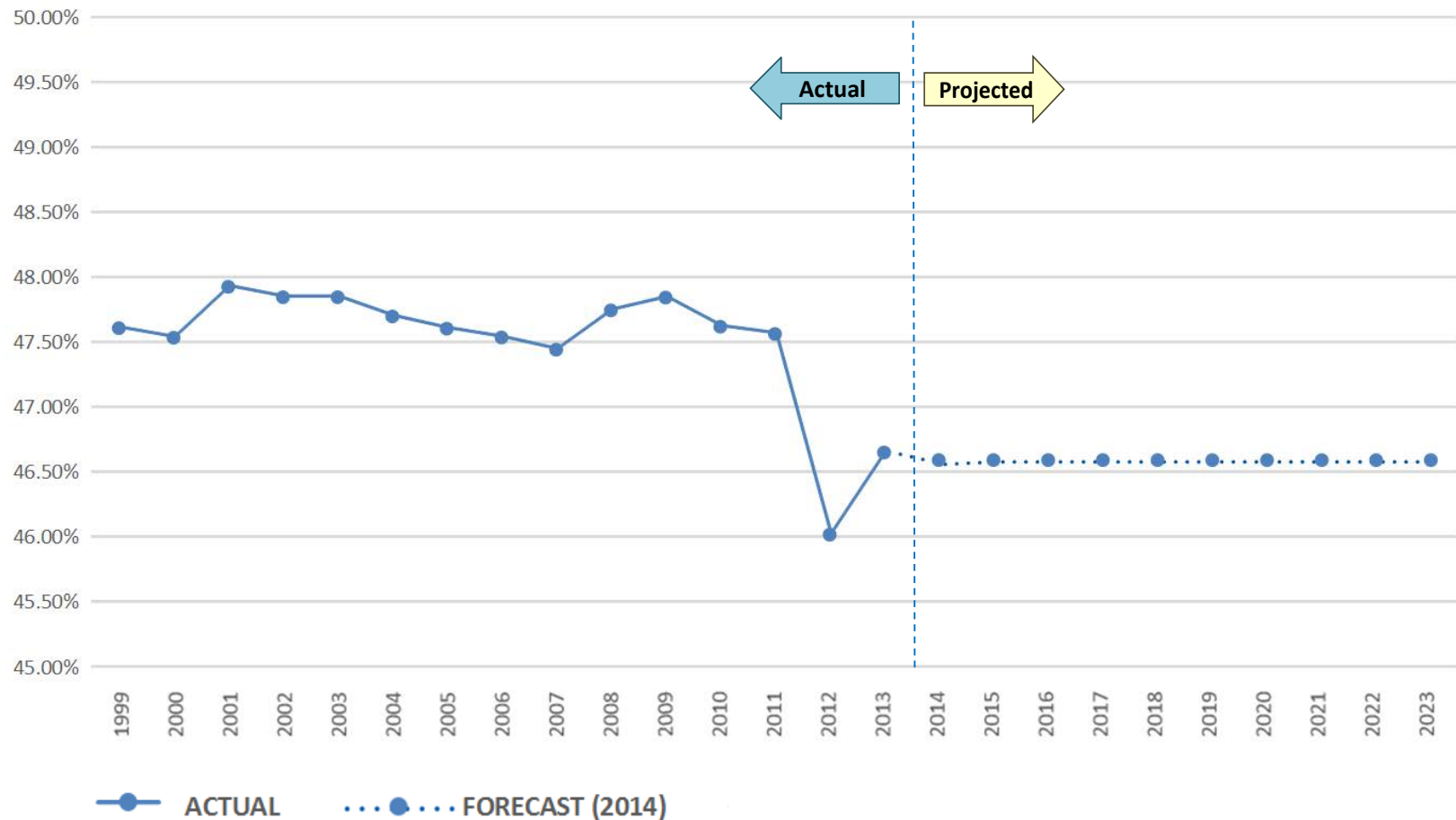
This map illustrates the geographical orientation of Los Angeles County, the Los Angeles Unified School District (LAUSD), and its neighboring counties. The map includes the following elements:

- Legend:**
 - Los Angeles County
 - Surrounding Counties
 - Los Angeles City Boundary
 - LAUSD Boundary
- Geographical Features:**
 - Counties:** Ventura (northwest), San Bernardino (northeast), Orange (southeast), and Riverside (east) are shown as surrounding counties.
 - Ocean:** The Pacific Ocean is located to the west of the landmass.
 - Highways:** Major interstate highways (I-5, I-10, I-15, I-405, I-101) and state routes (SR-99, SR-67, SR-210, SR-138, SR-14) are depicted with their respective shields.
 - Cities:** Key cities such as Santa Ana, Anaheim, Fullerton, and Orange are labeled.
- Scale and Orientation:**
 - A scale bar indicates distances from 0 to 20 miles.
 - A north arrow points towards the top of the map.
- Copyright and Licensing:**

Copyright © 2004. All Rights Reserved.
The information contained herein is the proprietary property of the following owners supplied under license and may not be reproduced except as licensed by LAUSD:
County of Los Angeles; Digital Map Products; Thomas Bros. Maps

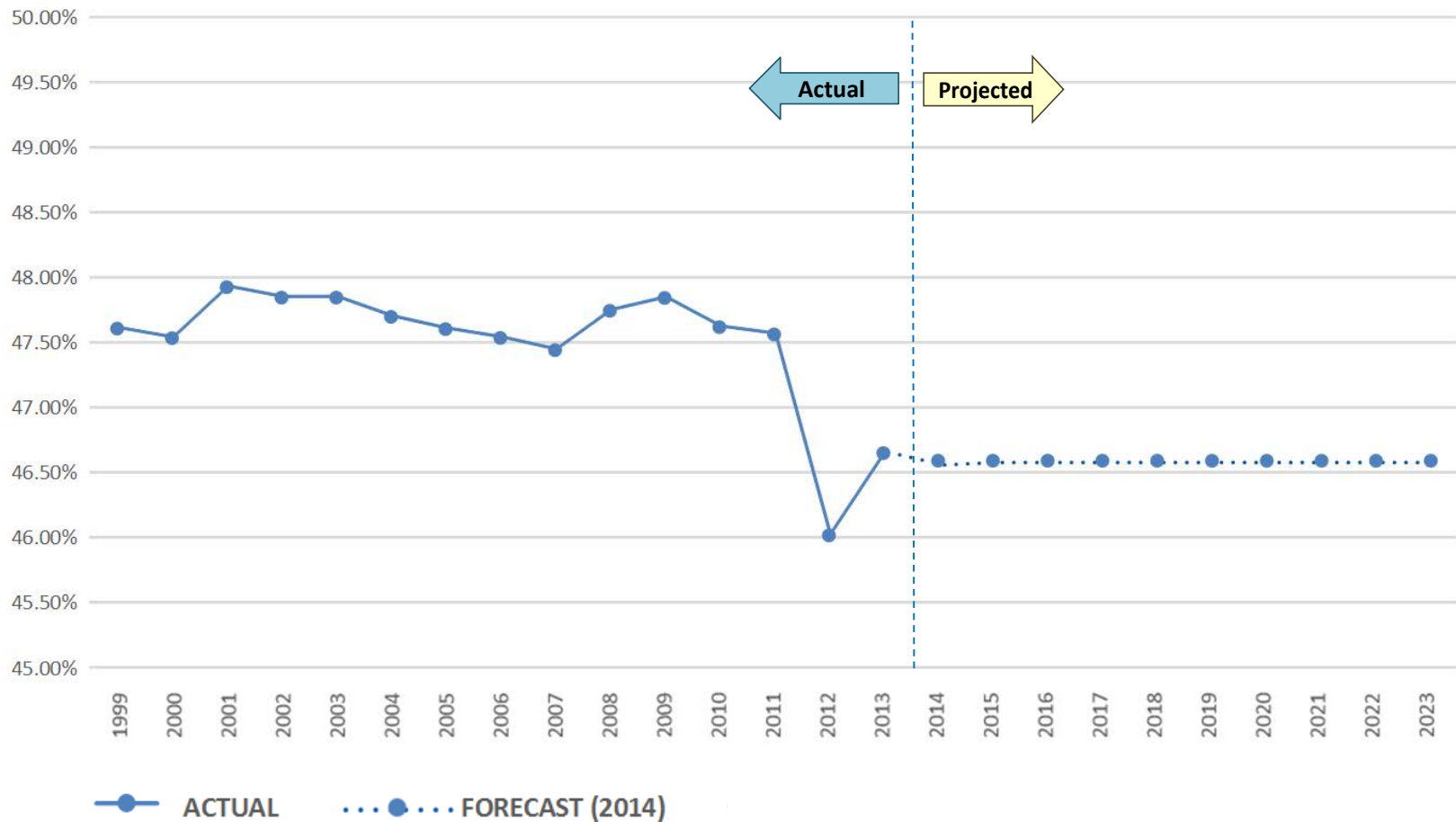
Because no other agency produces birth projections that match LAUSD's unique geography, we create our own birth projections using a combination of the DOF's LA County birth projections and individual birth records from the California Department of Public Health (CDPH). First, using the mother's address, we geocode each individual CDPH birth record to our base street map. This allows us to calculate the number of births within the LAUSD boundary.

Proportion of LA County Births in LAUSD Boundary



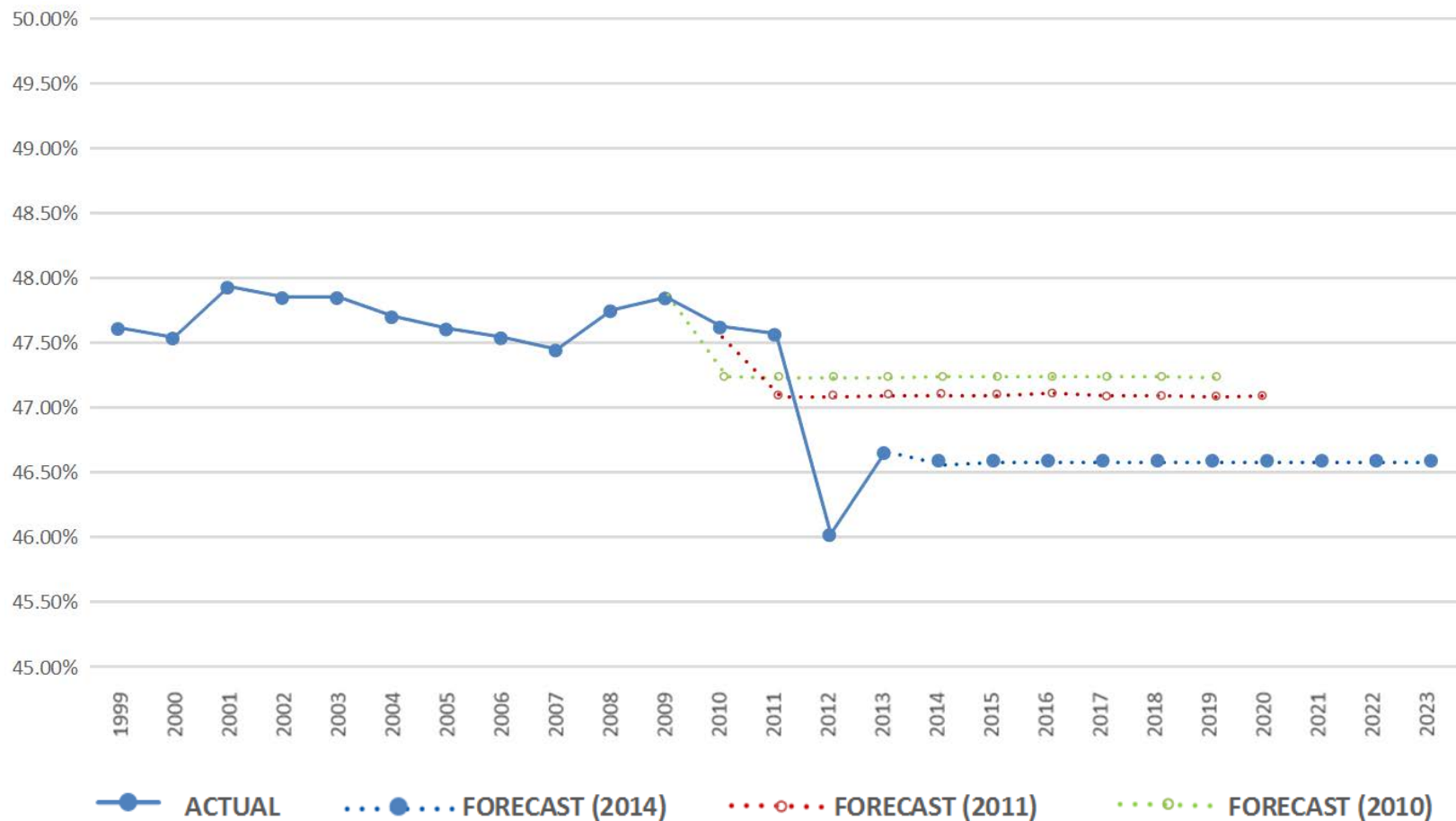
Next, we compute the ratio of actual LAUSD births to actual LA County births. We derive a weighted average, typically using the most recent 3 years, which we apply to the DOF's LA County forecast births in order to project the number of forecast LAUSD births. LAUSD's share of LA County births has remained consistent, hovering between 47% and 48% of total LA county births. In 2012, the share dropped below 47% for the first time in over a decade.

Proportion of LA County Births in LAUSD Boundary



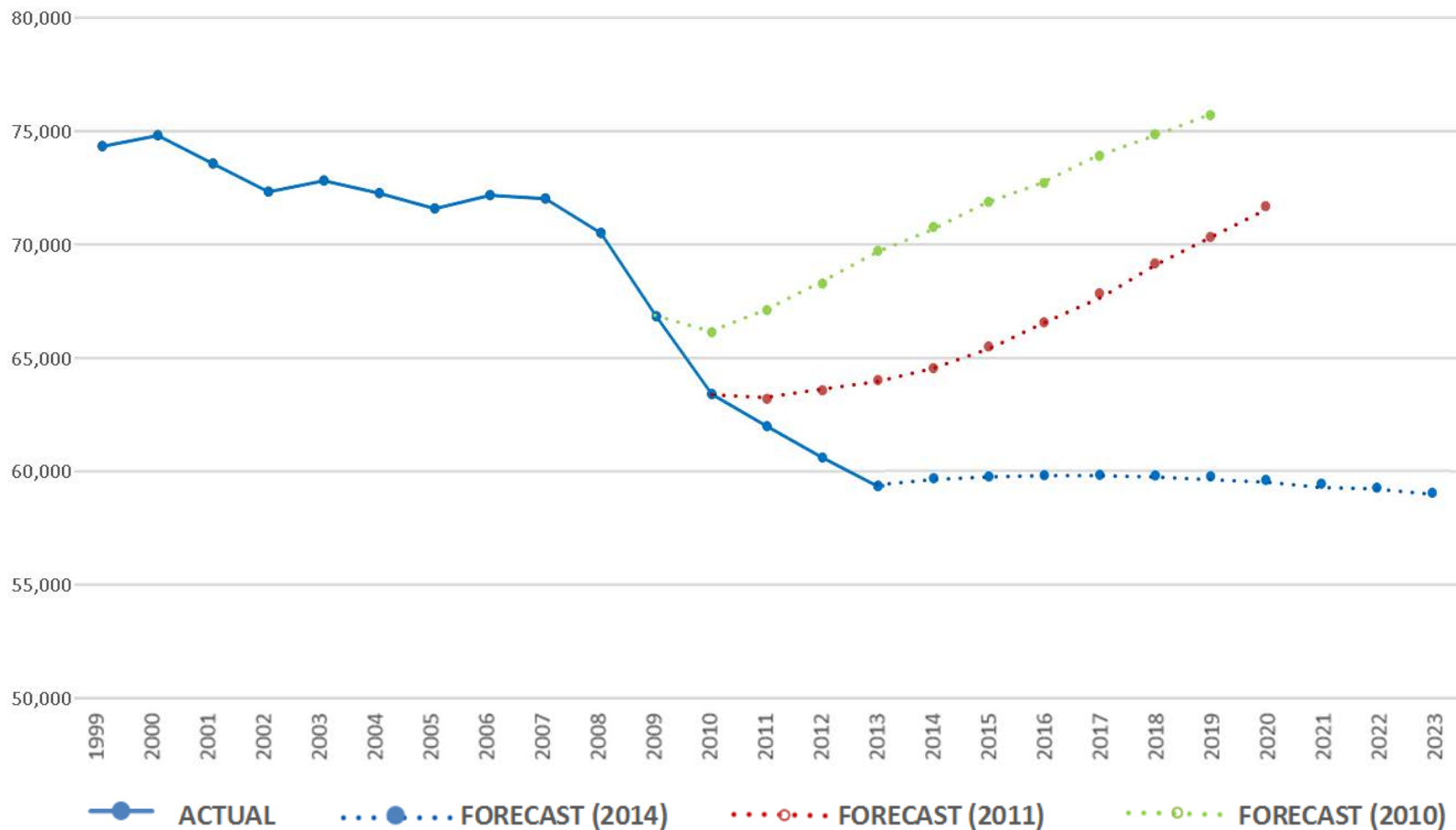
Any shift in the DOF's birth projections will be reflected in a corresponding shift in LAUSD's birth projections. LAUSD's 2014 birth projection series proportions are tied to the DOF's 2014 LA County birth projection series.

Proportion of LA County Births in LAUSD Boundary



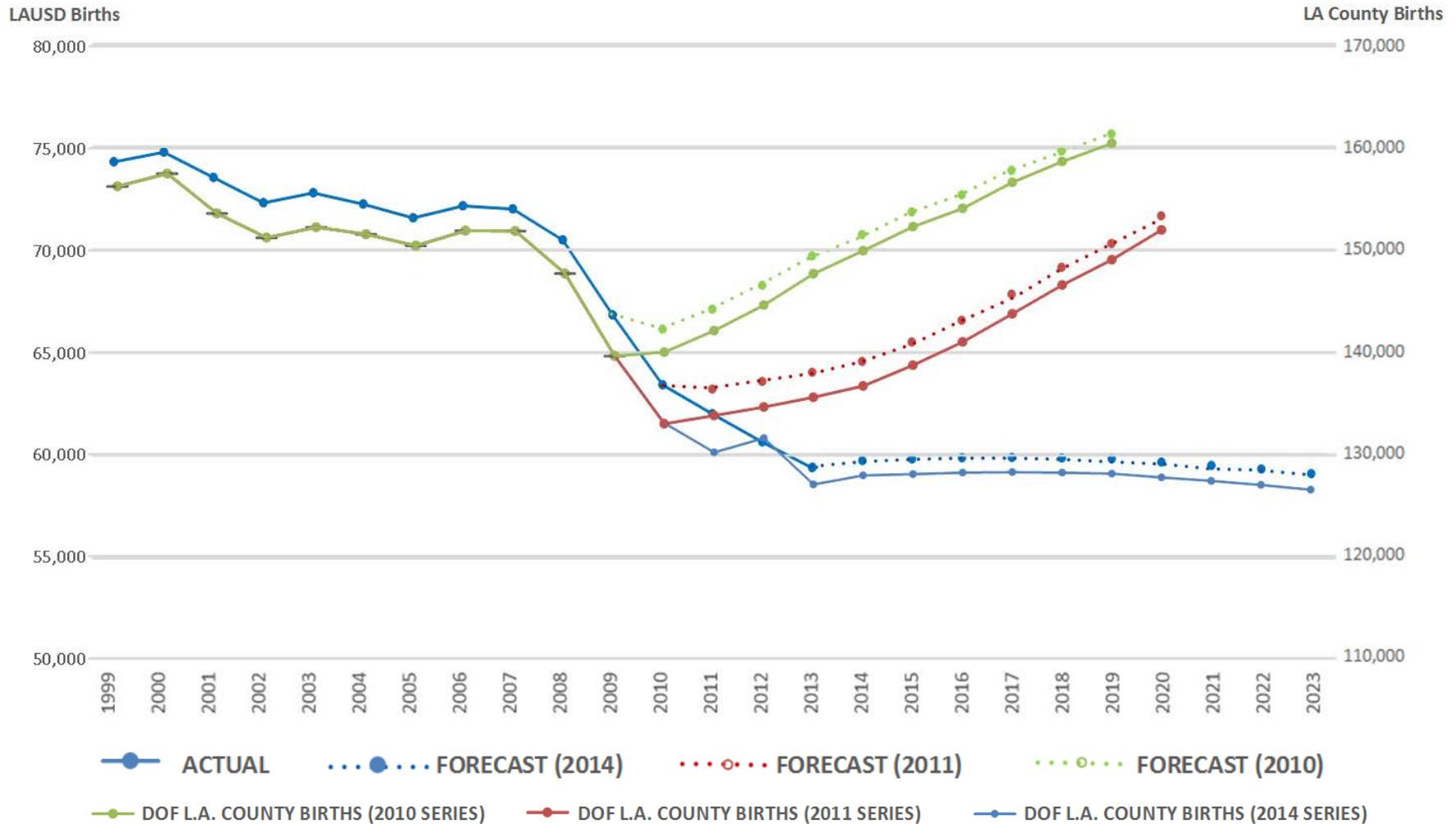
When we overlay LAUSD's birth forecast proportion series from 2010 and 2011, we see the influence of the progressive ramping-down of the DOF's LA County birth projections in their corresponding 2010 and 2011 series.

Comparing LAUSD Birth Projections



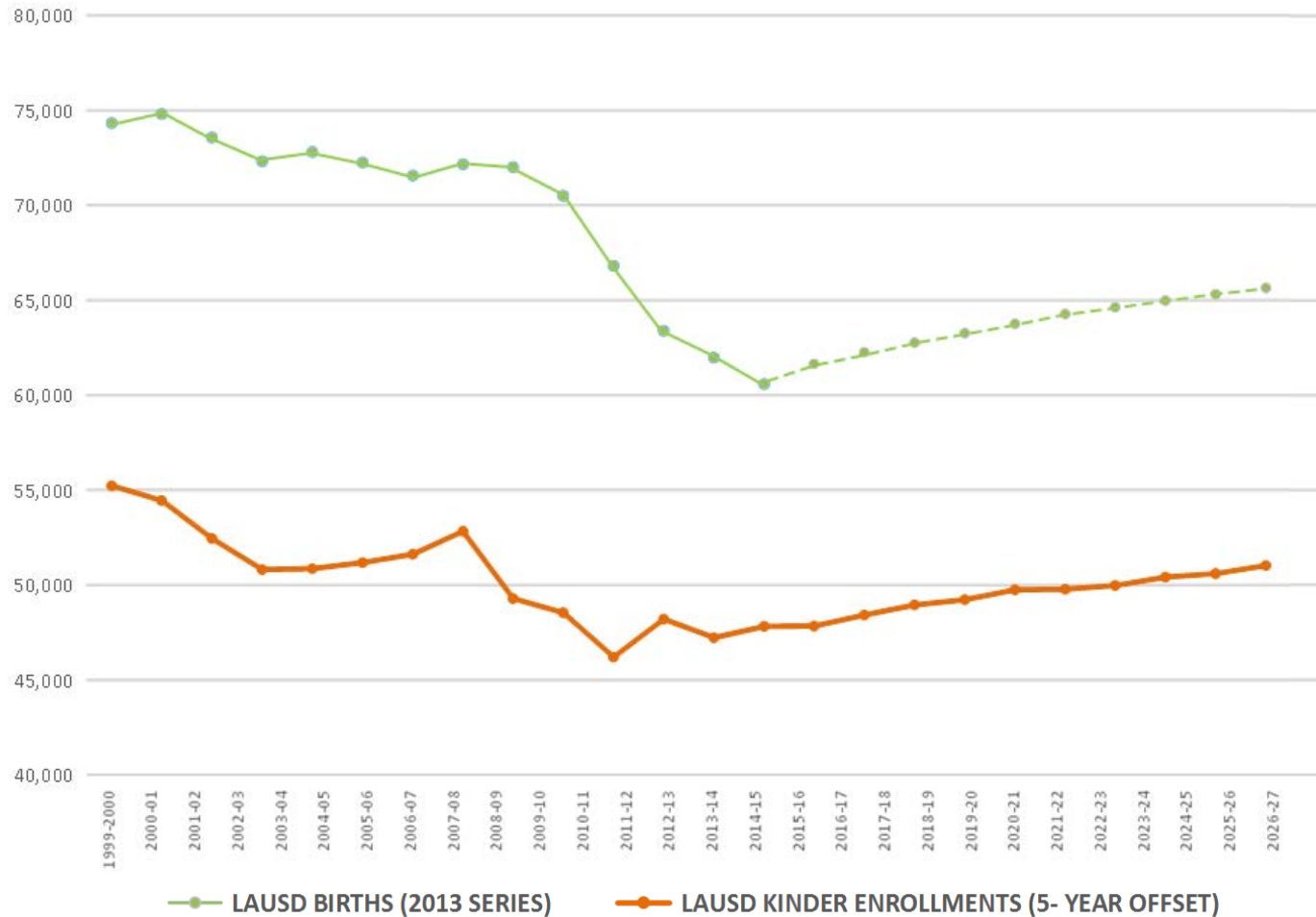
The influence of the progressive shifts in the DOF's birth projection series from 2014, 2011 and 2010 is even more pronounced when we look at LAUSD's corresponding birth projections series from 2014, 2011 and 2010.

Comparing LAUSD Birth Projections



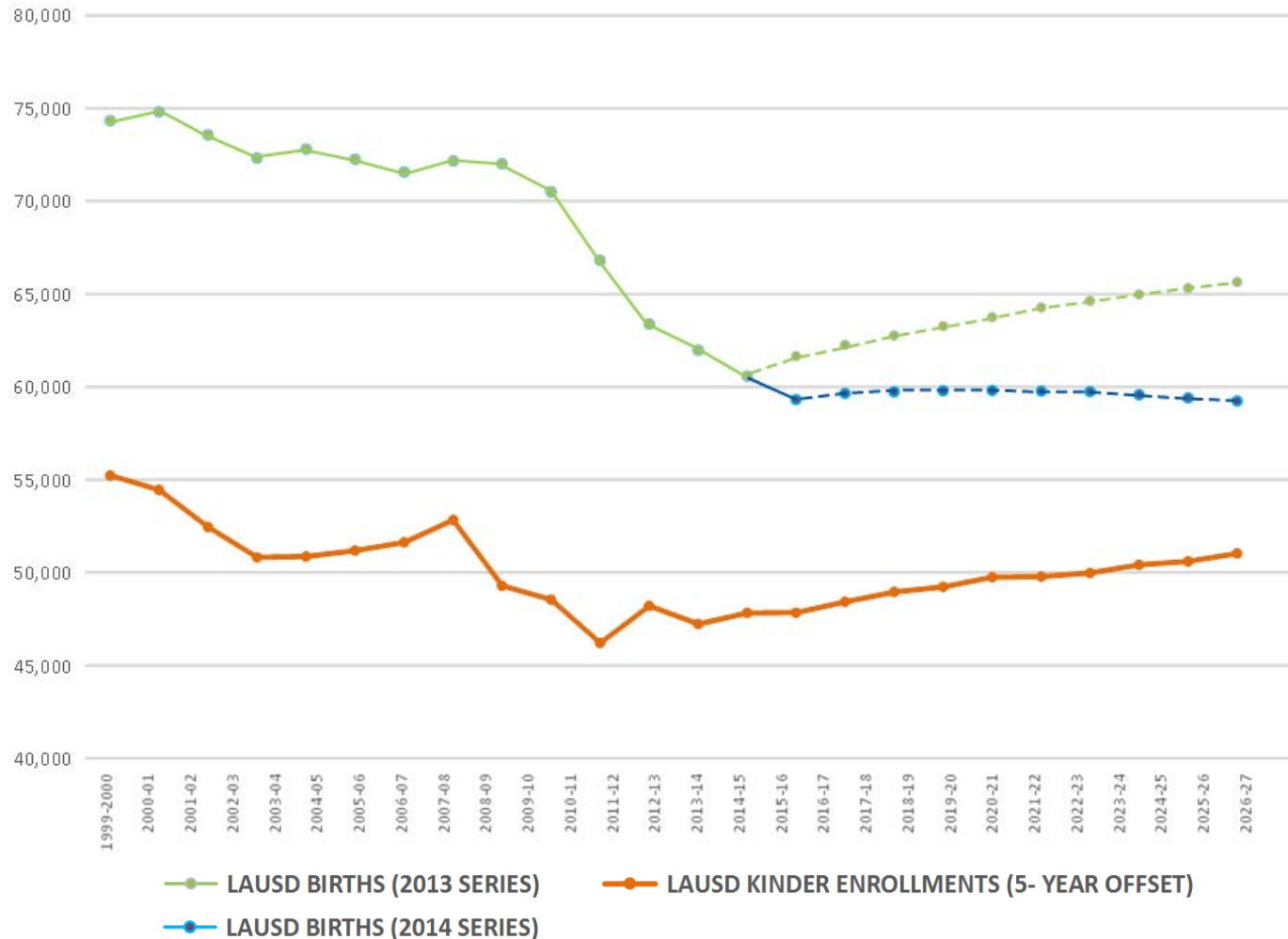
Overlaying the DOF's LA County birth projections on top (with appropriate scale on the right) graphically illustrates the relationship of proportionality between the two. The accuracy of LAUSD's actual and projected births is critical because projections for Kindergarten and 1st Grade enrollments are keyed off of the actual and projected births that occur 5 years earlier for Kindergarten, and 6 years earlier for 1st Grade.

Evaluating LAUSD's Kindergarten Projections



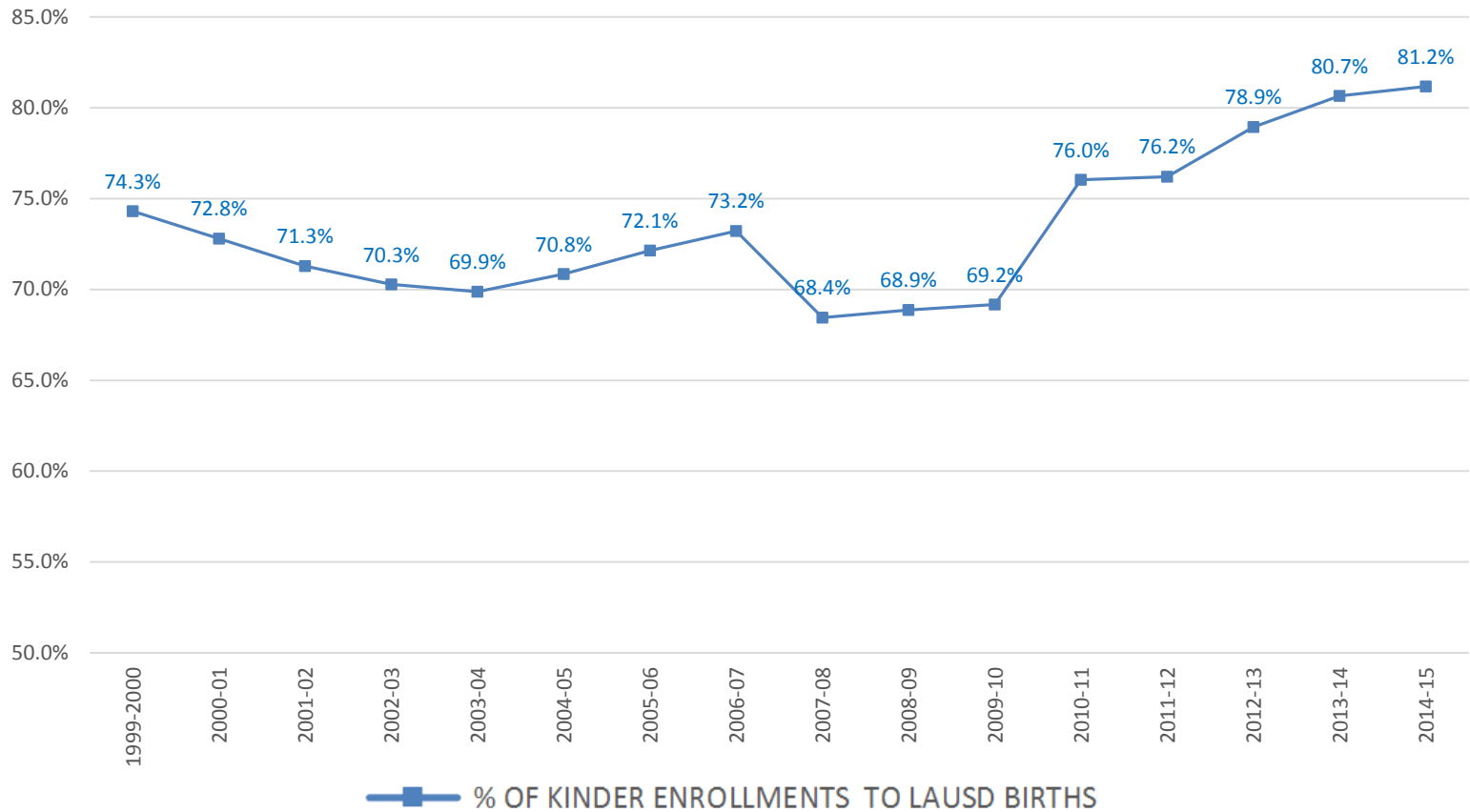
Because the DOF's 2014 birth projections were not available in time to use for MPD's 2014 projection cycle, MPD developed LAUSD's birth and kindergarten projections based on the DOF's 2013 birth projection series. Notice how the LAUSD 2013 birth projection series drives the trend of the kindergarten projection series in a similar growth pattern.

Evaluating LAUSD's Kindergarten Projections



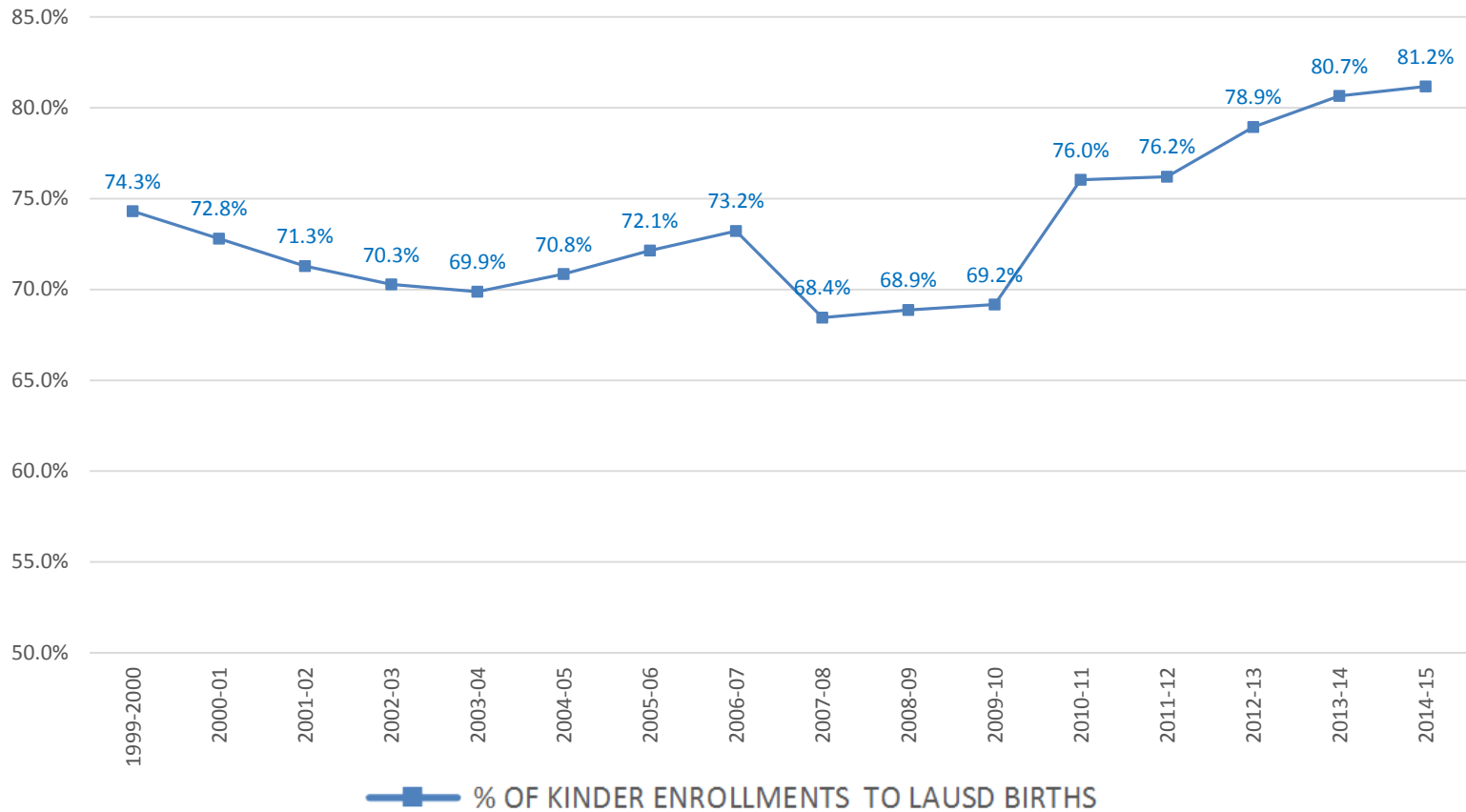
When the DOF's 2014 birth projection series became available, MPD developed its LAUSD 2014 birth projection series. With this newest birth projection, MPD's kindergarten enrollments may need to be adjusted. When determining how much adjustment is needed, MPD considers the proportion of kindergarten enrollments relative to births 5 years earlier.

Proportion of LAUSD Kindergarten Enrollments to Births



Since 2007, the proportion of LAUSD kindergarten enrollments relative to births 5 years earlier has increased each year, and most notably into the post-recession years, at a time when births have been declining.

Proportion of LAUSD Kindergarten Enrollments to Births



This apparent increase in LAUSD's share of children born 5 years earlier might be attributed partly to LAUSD's programmatic changes such as Transitional Kindergarten, which has been rolled out in the past few years. This trend will be one of the considerations MPD will use when evaluating kindergarten projections during MPD's upcoming annual enrollment projection cycle.

Upcoming MPD Research

To answer questions about enrollment, operations and school capacity:

In addition to conducting its annual birth and enrollment projections, MPD is actively pursuing research that helps answer questions about current and future K-12 enrollments, school district operations, school seating capacities, and educational facilities programming.

Upcoming MPD Research

To answer questions about enrollment, operations and school capacity:

- Trends in High School Tenure

A key interest is identifying trends in high school tenure by analyzing currently enrolled student cohorts and their grade-to-grade progression throughout the duration of their entire high school careers, not just at the points where they enter and exit high school.

Upcoming MPD Research

To answer questions about enrollment, operations and school capacity:

- Trends in High School Tenure
- Impact of High School Tenure on graduation rates and seating capacity

We can then assess the impact of high school tenure on graduation rates, as well as develop a dynamic model of high school seating capacity. This research can help maximize the efficient use of classrooms, and may also help inform the design and implementation of more effective student retention and drop-out prevention strategies.

Upcoming MPD Research

To answer questions about enrollment, operations and school capacity:

- Trends in High School Tenure
- Impact of High School Tenure on graduation rates and seating capacity
- Comparing students who attend Resident vs. Non-Resident schools

LAUSD's attendance policies revolve around resident school boundaries. Identifying resident versus non-resident attendance patterns among LAUSD students may enable us to determine whether there are any measureable differences between students who attend their resident schools and those who attend schools outside of their home schools.

Upcoming MPD Research

To answer questions about enrollment, operations and school capacity:

- Trends in High School Tenure
- Impact of High School Tenure on graduation rates and seating capacity
- Comparing students who attend Resident vs. Non-Resident schools
- Effect of new school construction on attendance and academic progress

With the completion of LAUSD's strategic execution program for construction of new school facilities, we have an opportunity to investigate what the impact of the new schools has been on attendance patterns and academic progress.

Conclusions

- Current LAUSD projections don't indicate substantial changes in K-12 enrollments through the next decade.
- Over the past few years, substantial changes have occurred in LAUSD birth projections, which are driven by changes in the DOF's birth projections.
- LAUSD evaluates and incorporates new data to improve and revise its enrollment projections each year.
- MPD is actively pursuing research that helps answer questions about current and future K-12 enrollments, school district operations, school seating capacities, and educational facilities programming.

Los Angeles Unified School District
Ramon Cortines, Superintendent
Rena Perez, Director, Master Planning and Demographics

About the Master Planning and Demographics Unit

The Los Angeles Unified School District is the nation's second largest public school system, serving approximately 680,000 children in grades K-12. The Master Planning and Demographics Unit supports the Los Angeles Unified School District's mission to educate students through its dedication to the research and analysis utilized in the planning for the optimal utilization of existing schools and determining the need for new school facilities. For more information, please contact us at 213-241-8044 or visit us on the web at www.lausd.net or <http://www.laschools.org/new-site/mpd>.

About the Authors

Valerie Edwards, Chief Enrollment Analysis Coordinator

Ms. Edwards leads strategic planning and coordination of demographic analysis, enrollment projections, and initiatives that improve data analysis and operational processing. She heads **E-CAST**, LAUSD's online school forecasting review application, that successfully migrated the District's enrollment forecast review process from the annual on-site event known as "Roadshow" to an electronic web-based process in 2010, reducing Principals' forecast review time and corresponding District costs by over 70%. Ms. Edwards has extensive experience with school choice modeling. With her team at LAUSD, she developed the SABR (*School Assignment By Record*) Engine, which determines students' resident school assignments by using an algorithm that simulates school choice behavior for every student living in an option area. She holds a Master's degree in city planning from the Massachusetts Institute of Technology.

Mary Ehrenthal Prichard, Demographic Research and Planning Analyst II

Ms. Prichard's work has involved strategic planning for demographic analysis and student enrollment projections; production of short and long range enrollment forecasts for the District's 600+ schools; planning for and production of specialized demographic research and analysis, including analysis of internal LAUSD trends relative to general demographic trends. She has worked extensively with spatially referenced U.S. Census data within a GIS environment. She is responsible for obtaining confidential data, including individual birth records and state-wide student-level data. She is currently designing research intended to detail enrollment choices and trends among students entering and exiting the LAUSD. She is also involved with efforts to develop District-wide approaches aimed at improving student data collection and management. She holds B.A. and M.A. degrees in the field of Geography (Cal State, LA, 2001).



For further information contact: Master Planning and Demographics 213-241-8044 mpd@lausd.net
valerie.edwards@lausd.net 213-241-7589
mary.prichard@lausd.net 213-241-3355