

Why is the Los Angeles Unified School District's Enrollment Declining-- When the Los Angeles Area is Growing?

A Preliminary Analysis of Enrollment Dynamics
in LAUSD's Student Population, SY1997 - SY2005

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For more information, please visit <http://paa2006.princeton.edu/default.aspx> and <http://www.popassoc.org/>.

Summary

Why is the LAUSD's enrollment declining while the LA area's population is growing?

- From SY2003 through SY2005, the non-school-aged age cohorts in Los Angeles (LA) County have been growing independently of the school-aged cohort, creating the foundation for why LA County's population has been growing even while the Los Angeles Unified School District (LAUSD) has been declining. LA County's proxy for LAUSD's students, its 5-17-year-old cohort, has seen its growth slowing, and could easily decline without stopping the overall growth in LA County.

What are the dynamics behind LAUSD's declining enrollment?

- LA County births have been declining since 1990. Based on births, LAUSD's demographic planners expected an enrollment decline after SY2003, but not as fast or as steep as what was observed.
- The number of new incoming students continued to decline even after they were expected to stabilize in SY2004. Again, births explain most of the new-student dynamics, but not the continuing decline between SY2004 and SY2005.
- The number of students leaving the LAUSD increased during the same time period, increasing the difference between those who were leaving and those new to the district.
- An increasing number of LAUSD families are moving eastward out of the LAUSD area into inland California counties such as Riverside and San Bernardino and north to Kern County, and others even further eastward into the states of Nevada, Arizona and Texas, and the families moving out of the areas served by the LAUSD appear to have more children than the families moving in.
- The net-negative domestic migration and slowing immigration occurring within LA County, in concert with the relatively smaller families of in-migrants, appear to be the prime reasons for the additional decline being observed in LAUSD's enrollment beyond that which can be attributed to a decline in births.

The Los Angeles Unified School District:

- Enrolled 727,117 students in grades K-12 in SY05-06
- Is second only to New York City Public Schools in size (within the U.S.A.)
- Covers 710 square miles
- Serves all or part of 28 cities and multiple unincorporated areas
- Serves over 40% of LA County's general & school-aged populations
- Had a \$13.17 billion total School District Budget in SY05-06
- Had a \$19.2 billion new school construction and repair program, the largest in U.S. history, scheduled to be completed in 2012
- In SY05-06, was composed of:
 - 858 K-12 Schools and Centers
 - 194 Adult, Special and Occupational Schools and Centers
 - 79 Independent K-12 Charters and Centers
 - 37,026 Regular Teachers
 - 40,728 Administrators, Support and Classified Staff



Our research will begin to answer the question, “Why is the LAUSD’s enrollment declining while the greater Los Angeles area’s population is growing?” This study provides another piece to California’s larger demographic puzzle that demographers and school district educators are all interested in, involving the dynamics of migration and transformation. This research includes a first-pass examination of some of LAUSD’s student ‘leaver’ data that just became available from LAUSD’s Student Information System Branch, which provide an initial look at patterns of how students move in and out of the District.

Our report drills into the details about the dynamics of LAUSD’s student enrollment trends, giving a sense of who came in and who left, over time. We fit these dynamics into the larger context of the Los Angeles area’s demographic landscape, and what emerges is a story about migration.

As a backdrop to these trends, we have assembled local and regional demographic data to make a circumstantial case about how to explain the dynamics we see. Our case, being circumstantial, does not provide proof, nor does it define causality. We are simply assembling the pieces that we feel make a compelling case while connecting with existing demographic research that addresses population shifts currently being observed in southern California and the surrounding region.

An important note:

This study does not focus on drop-out behavior, graduation rates, nor the effect of charter school enrollments. Defining and measuring drop-out and graduation rates is an educational programming issue, and requires analyses that are beyond the scope of this study. The report does take a closer look at students who left the district— i.e., those who were expected to return, but did not-- to see who they were and where they went (for example, moved from California, or enrolled in another California public or private school). The report does not distinguish charter schools from other California public schools.

Figure 1 orients the reader to LAUSD's boundary relative to Los Angeles County and the City of Los Angeles. LAUSD is marked by the red outline, LA City is the green outline, and LA County is represented by all the white area. The LAUSD serves all or part of 28 cities, including almost all of the City of Los Angeles. Over 40% of Los Angeles County's total and school-aged populations reside within the LAUSD boundary.

Translated into total population and school-aged population, we see that:

- LAUSD's total school enrollment = 727,117 in (SY05-06)
- The City of Los Angeles, total population = 3,912,244 (LA County statistics, 1/04)
- Total population within LAUSD's boundaries = 4,502,647 (estimated; LA County Statistics, 1/04)
- LA County, total population = 10,047,300 (LA County statistics, 1/04)
- School Enrollment for LA County = 1,736,248 (LA County Office of Education, 2004-05)

Figure 1

- Los Angeles County
- Surrounding Counties
- Los Angeles City Boundary
- LAUSD Boundary

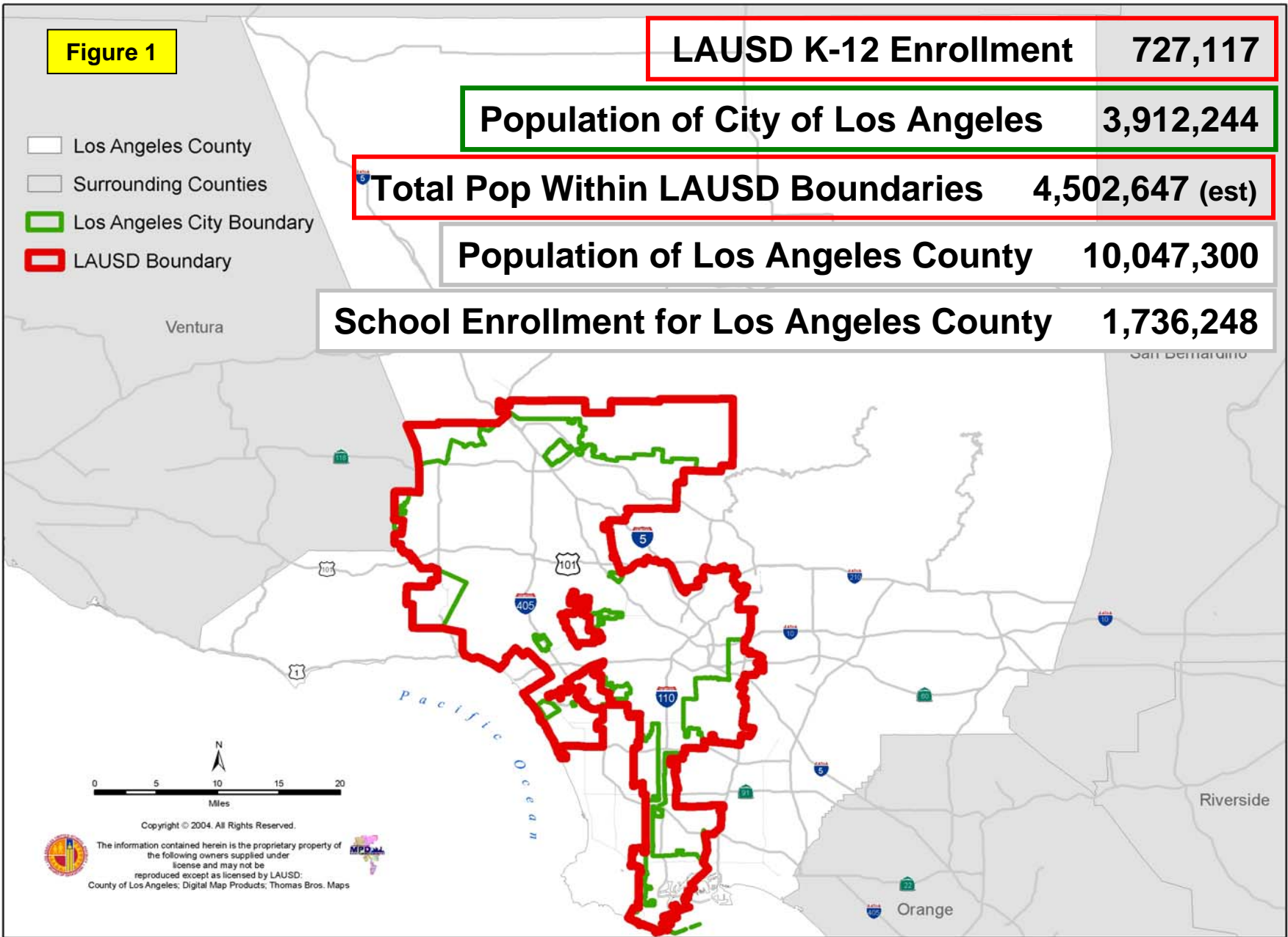
LAUSD K-12 Enrollment 727,117

Population of City of Los Angeles 3,912,244

Total Pop Within LAUSD Boundaries 4,502,647 (est)

Population of Los Angeles County 10,047,300

School Enrollment for Los Angeles County 1,736,248



With that orientation, we are ready to delve into an initial answer to our research question, “Why is the LAUSD’s enrollment declining while the LA area’s population is growing?”

Figure 2 looks at LA County by age cohorts between 1999 and 2003 (2003 was the last year for which we had reliable age-cohort data). We examine the-school aged population, the 5-17 year-olds, which is the group that contains LAUSD’s enrolled K-12 population, which has been declining recently. But we see that, County-wide, this 5-17 year-old group is not in decline, at least not yet, although it’s growth has been slowing substantially. Why the paradox?

The paradox can be explained in large part by the fact that the total LA County 5-17 year-old population includes all children ages 5-17, regardless of whether or not they go to school, and regardless of what kind of school they may go to. Not every 5-yr-old goes to kindergarten, and many teenagers have stopped attending school. Recall also that not every child in this cohort goes to public school— many go to private school or are home-schooled. So we see that there are distinct differences between the general school-aged 5-17 year-old population and a K-12 population enrolled in public school.

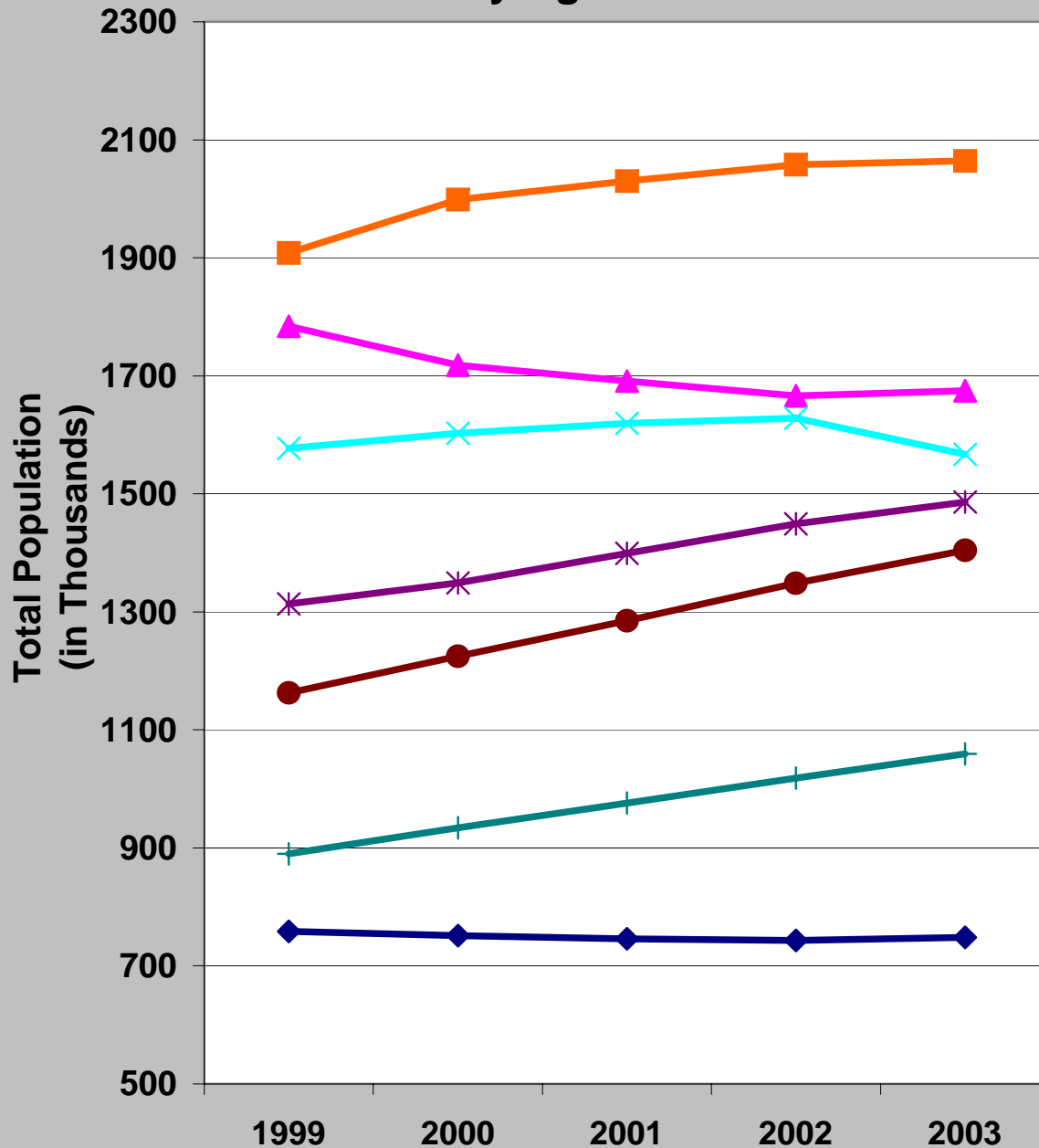
Despite these differences, let’s consider the 5-17 year-olds as a proxy for the County’s K-12 population, and let’s pull it out of the equation for the moment. When we examine the age cohorts we have left, we see that, generally speaking, the age cohorts not falling within the K-12 parameter are growing, and that when those cohorts are combined, we see that the net change for LA County’s population in 2002-2003 was +87,711.

This illustrates that the non-school-aged cohorts have been growing independently of the school-aged cohort, so we see a substantial reason why LA County’s population has been growing even while the LAUSD has been declining. LAUSD’s proxy, the 5-17 population, has seen its growth slowing, and we see by the data how it could go into decline, just like LAUSD, without triggering a net decline in the general LA County population.

There is also a geographic component to the explanation. The 5-17 year old cohorts are not distributed evenly across the County and those that live within the LAUSD boundary may be migrating outside the LAUSD, but remaining within the County boundary. This could result in a greater decline in LAUSD’s enrollments relative to county-wide declines. The 5-17 year old population may also be leaving LA County altogether. The degree to which these trends may be happening is explored in this report.

Figure 2

LA County Population 1999-2003: By Age Cohorts



Age	2002	2003	Change
0-4	742,880	748,305	5,425
18-29	1,666,073	1,674,962	8,889
30-39	1,627,939	1,567,118	-60,821
40-49	1,449,329	1,486,303	36,974
50-64	1,348,296	1,404,402	56,106
65+	1,018,144	1,059,282	41,138
NET CHANGE			87,711
			(without ages 5-17)

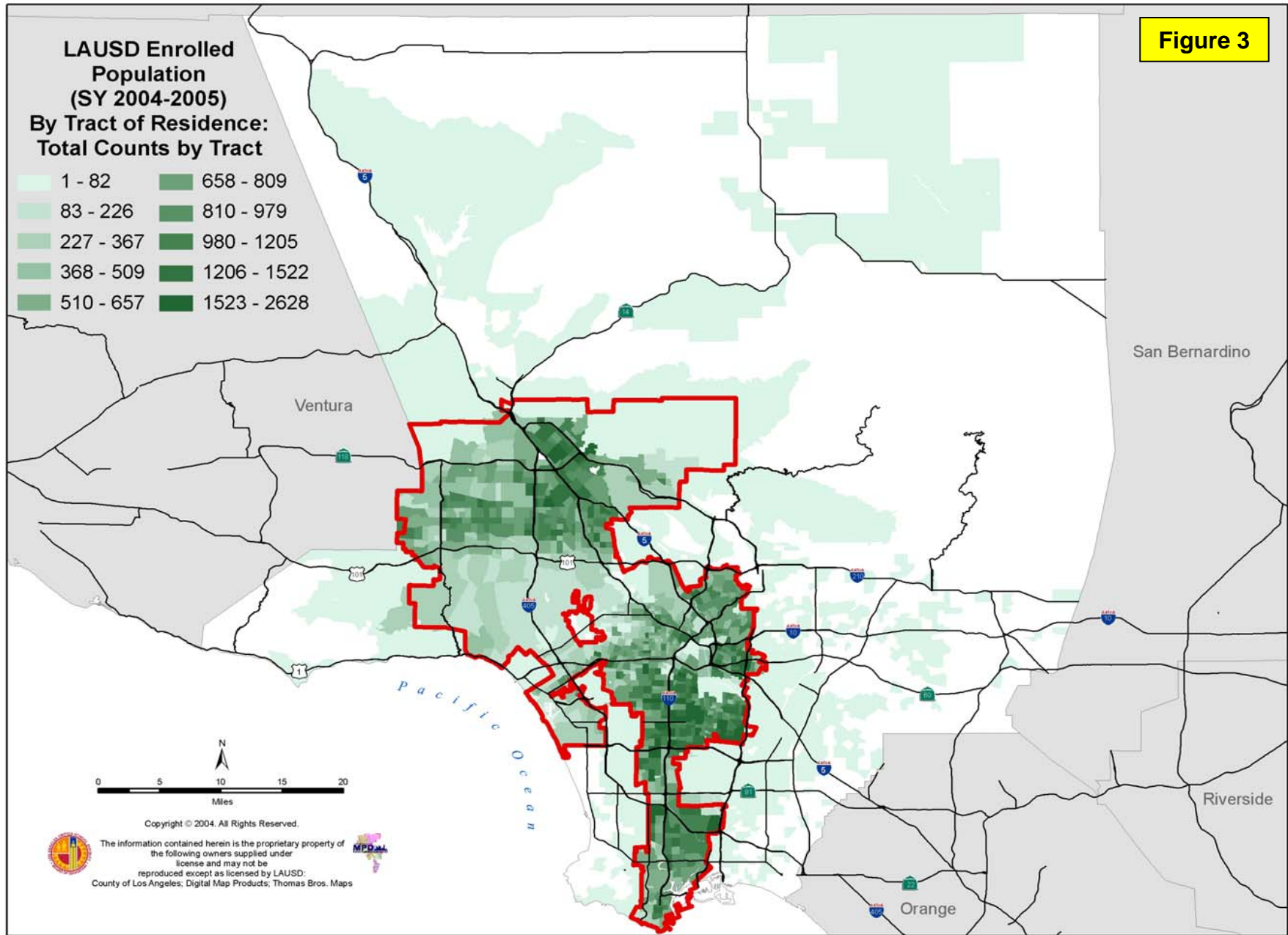
- Age 5-17
- ▲— Age 18-29
- ×— Age 30-39
- *— Age 40-49
- Age 50-64
- +— Age 65 +
- ◆— Age 0-4

Having established an initial working answer to our question, let's dig deeper into the data to better explain why LAUSD's enrollment has been declining.

Figure 3 shows the geographic distribution of LAUSD's enrolled K-12 students in SY 04-05, by census tract. Notice that the student population is not distributed evenly across the landscape.

Also note that about 5% of LAUSD's enrollment consists of students who live outside the District's boundaries. Most of these students attend LAUSD on special permits or transfer arrangements.

Figure 3



By looking into LAUSD's enrollment dynamics, we can assess the net change of in-coming students vs. out-going students to explain why LAUSD is declining.

To study the in-coming students, we first look at births. According to the California Department of Finance, the number of births in LA County had been growing since 1973, and peaked in 1990. The 13 largest birth years– in other words, the years needed to generate the largest K-12 population at one time-- were 1986 to 1998.

By tracking these largest cohorts through time, we'd expect to see the largest school-aged concentration in SY2003-2004, which is exactly what we do see, peaking in SY2003 (**Figure 4**).

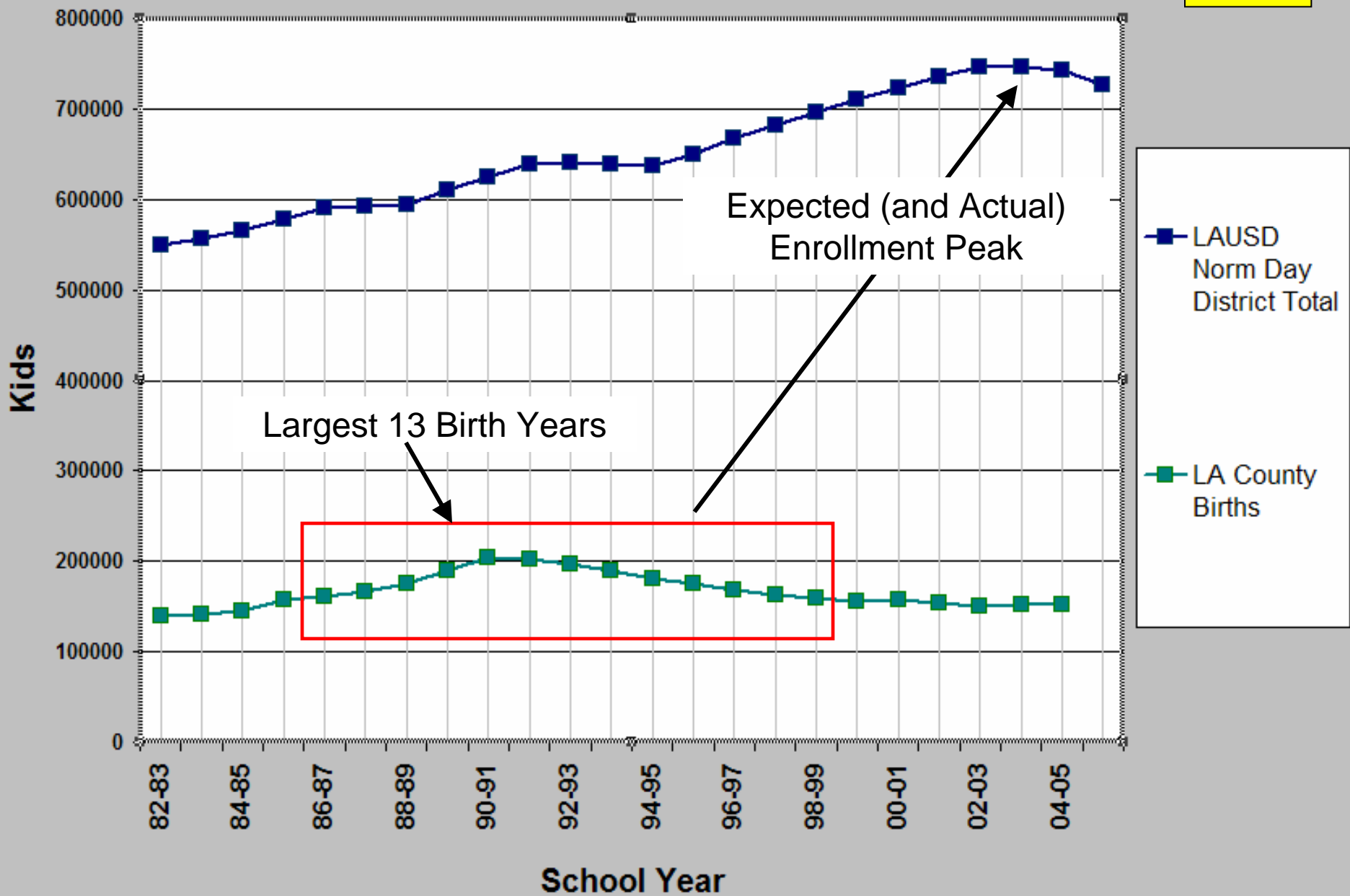
LAUSD's demographic planners did expect to see a decline after SY03 due to declining births in prior years, but the decline was faster and steeper than was expected.

Why?

Births explain most of that enrollment trajectory, but not all of it.

LAUSD Enrollment vs. LA County Births

Figure 4



In **Figure 5**, we look at incoming students who were new to the district each year, from 1998 through 2005. The number of new students has been declining since SY1999 (the slight upturn in 1999 is attributed to a data collection anomaly, and not to a demographic event), both in absolute numbers and as a percentage of the student body, as we would expect given declining births.

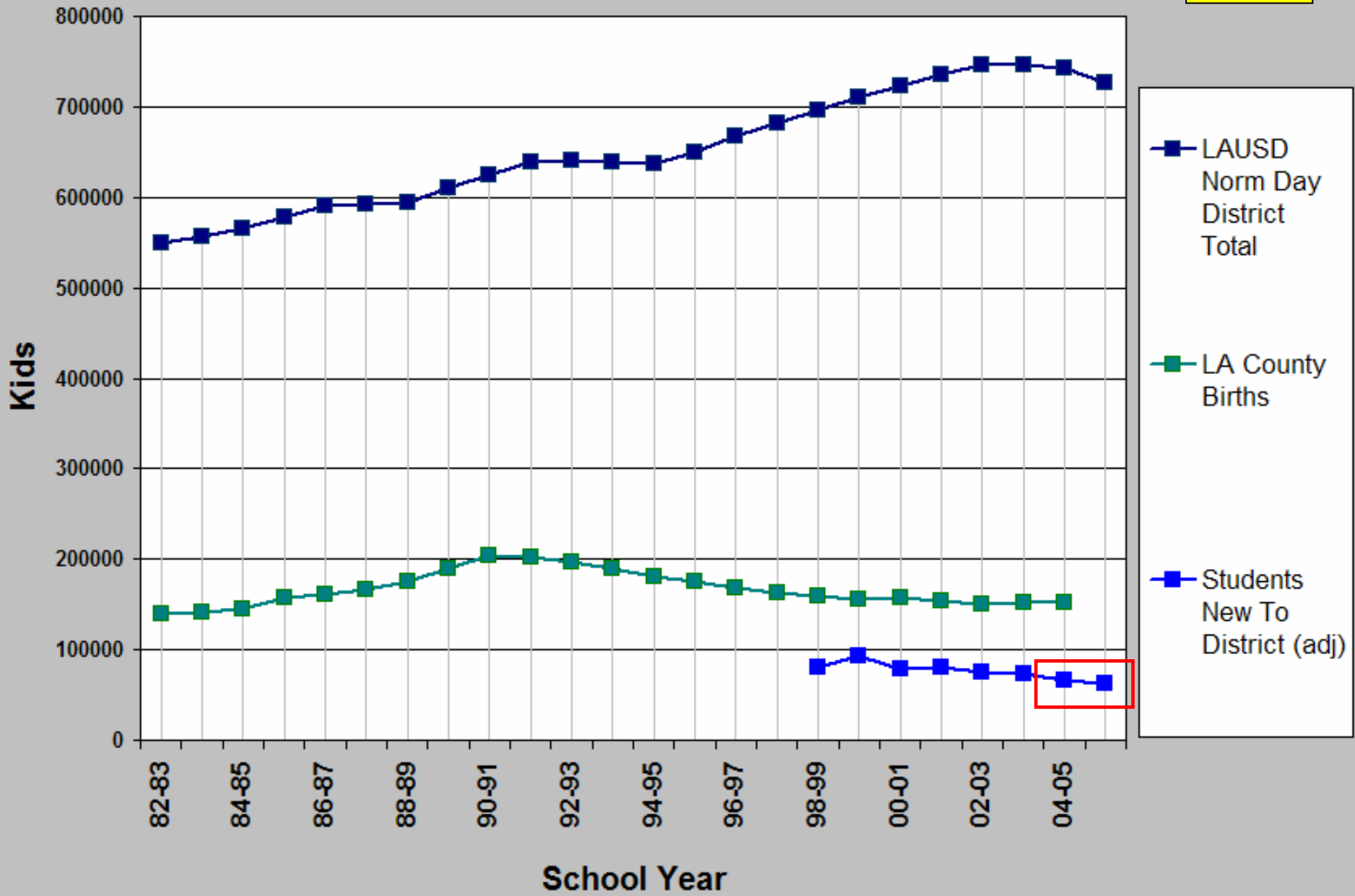
The new students we examined were composed primarily of kindergarten children, followed by 1st graders— also what we'd expect to see. In every year, over 71% of all the new students were kindergarteners, over 90% of whom were enrolling in school for the first time. Their enrollment trajectory matches the birth trajectory closely.

The proportion of those born in LA County to those entering LAUSD five years later, as kindergarten, has remained constant at about 35%, and the proportion of births to those entering six years later, as 1st graders, has even increased slightly, up to about 37% in SY2005. All this looks consistent with what we would expect.

However, while the slope of births flattened between 1998 and 2004, the slope of new students to the district continued on a downward trajectory. The number of new students continued to decline through 2005, when we would have expected it to start stabilizing around SY2004, so there is something separate from the birth-to-kindergarten dynamic going on here. Again, births explain most of the new-student dynamics, but not the continuing decline between SY2004 and SY2005.

LAUSD Enrollment Dynamics: Students New to the District

Figure 5



If we look at the relationship between students who left the district and students who were newly enrolled in the district (**Figure 6**), we see the delta (the difference) between those who did not return from the prior year and those who were new to the district has increased.

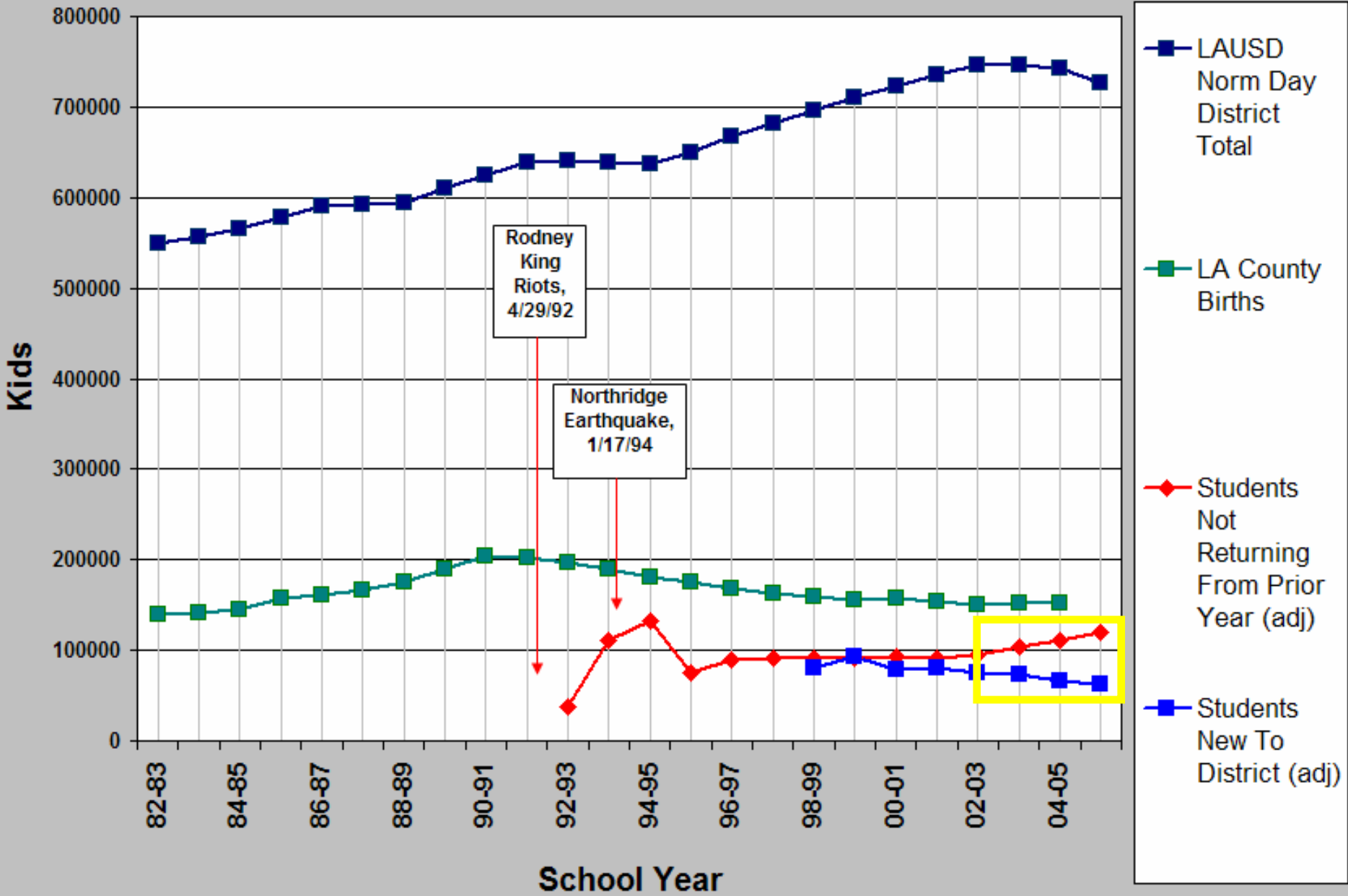
This widening delta is the key to understanding the dynamics of LAUSD's recent enrollment behavior. The widening delta explains the steeper-than-expected enrollment decline over the last two years.

Still the decline of about 10,000 students between SY2003 and SY2004 caught LAUSD by surprise. We adjusted our forecasts following SY2004, but there was still another additional unexpected decline of 5,000 students between SY2004 and SY2005, even after adjustments had been made to our projections.

Why? To find an explanation, we explored in more depth the dynamics of students who left the District and did not return from the prior year.

Figure 6

LAUSD Enrollment Components



To look into who left the LAUSD, we used a 'leaver' dataset provided by LAUSD's Student Information System Branch (**Figure 7**). The data identified students that had left the LAUSD, grouping them into five 'leaver' categories: 12th graders who had graduated; students who had gone to other public schools in California; students who had gone to other non-public schools in California; students who had left California; and the largest group, students whose destination was unknown.

To proceed despite the large number of students whose destinations were unknown, we made several critical, and somewhat problematic, assumptions. The first was that LAUSD knows without ambiguity when a student graduates, and thus no students who graduate would be included in the 'unknown' category. The second assumption was that the distribution of students in the 'unknown' category would mirror the distribution of students in the remaining three categories, which allowed us to ignore any unique distribution information that may have been contained in the 'unknown' category on the grounds that it would mimic the distributions within the remaining three categories. Our working position was that the remaining three categories could serve as proxies for the whole group, once graduates were controlled for.

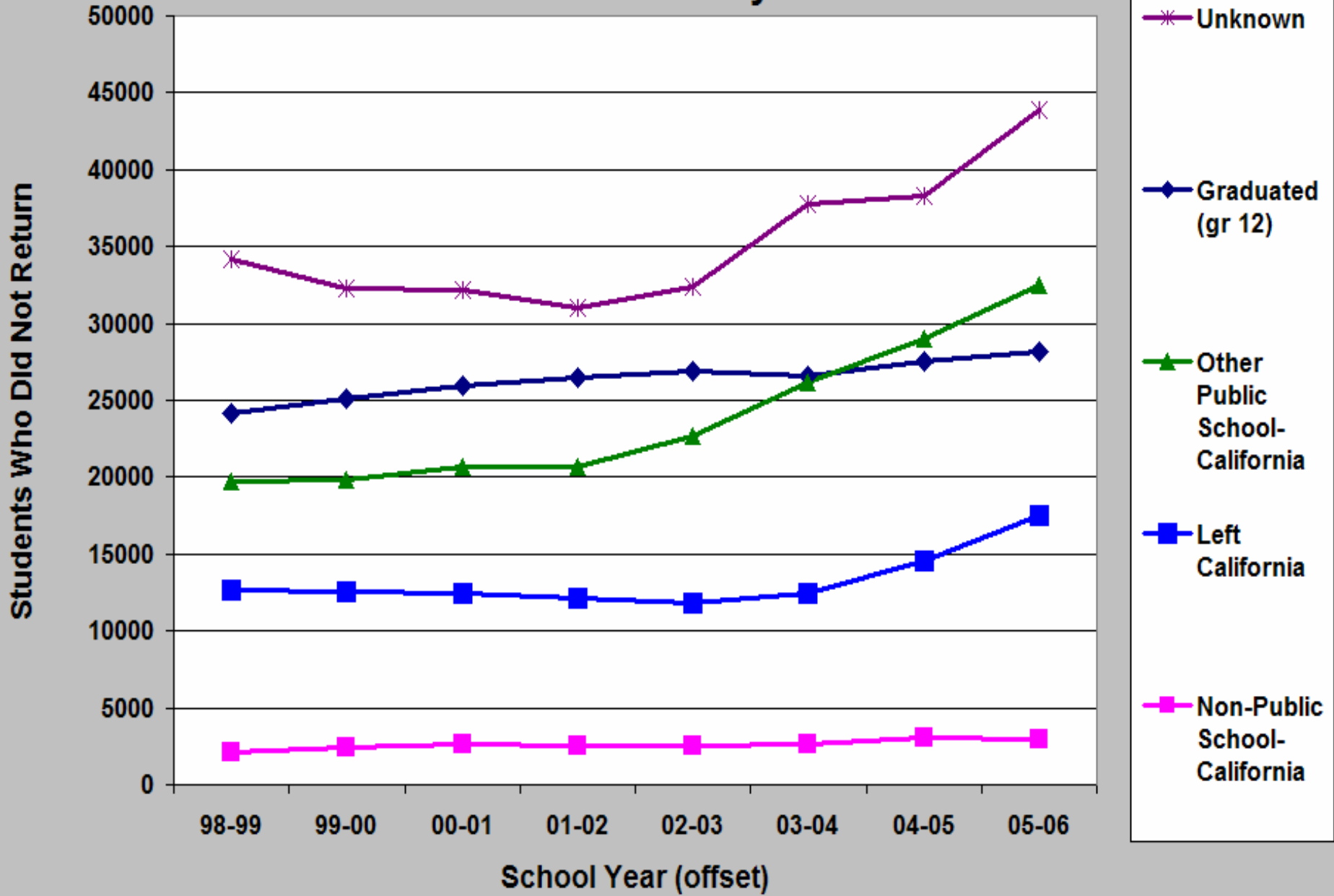
Onto this foundation, we layered our third assumption: that these three categories could be used as markers of student location, and not just as indicators of a change in enrollment category.

Students who went to 'other public schools in California' either moved to somewhere in California outside of LAUSD's boundary, were already living outside of LAUSD's boundary but attending LAUSD on a permit and had returned to their home school district, or left to attend one of California's public charter schools. Students in 'other non-public schools in California,' i.e., those who left to attend private or parochial schools, may have moved outside of LAUSD's boundary or may not have moved at all, but rather changed from LAUSD to a non-public school while continuing to reside within LAUSD's boundary. Note that the number and proportion of those students who left LAUSD to attend private schools in California has remained relatively constant across the years (**Figures 7 and 8**), so private school enrollment is not responsible for the greater-than-expected decline. Students who 'left California' either migrated to another U.S. state or left the country.

Later in our report we discuss students who left to attend 'other public schools in California' in the context of California's larger demographic trend of Eastward migration away from the coast.

Figure 7

Where Did They Go?



In **Figure 8** we review the leaver category data in terms of their *proportions*. Note the key changes between SY2003 and SY2004, as we see that the proportion of students who left LAUSD to attend other public schools in California (“other public”) and those who left California (“left CA”) both increased.

Recalling that we are still pursuing an explanation for why the delta between students who left LAUSD and students new to the District showed a steeper-than-expected slope over the last two years, the behavior of these two leaver categories is now of prime interest.

We will now follow the “other public” and “left CA” categories to see if they will shed light on our delta issue.

Let’s look first at the students who left LAUSD to attend other public schools in California.

Figure 8

% Where Did They Go?

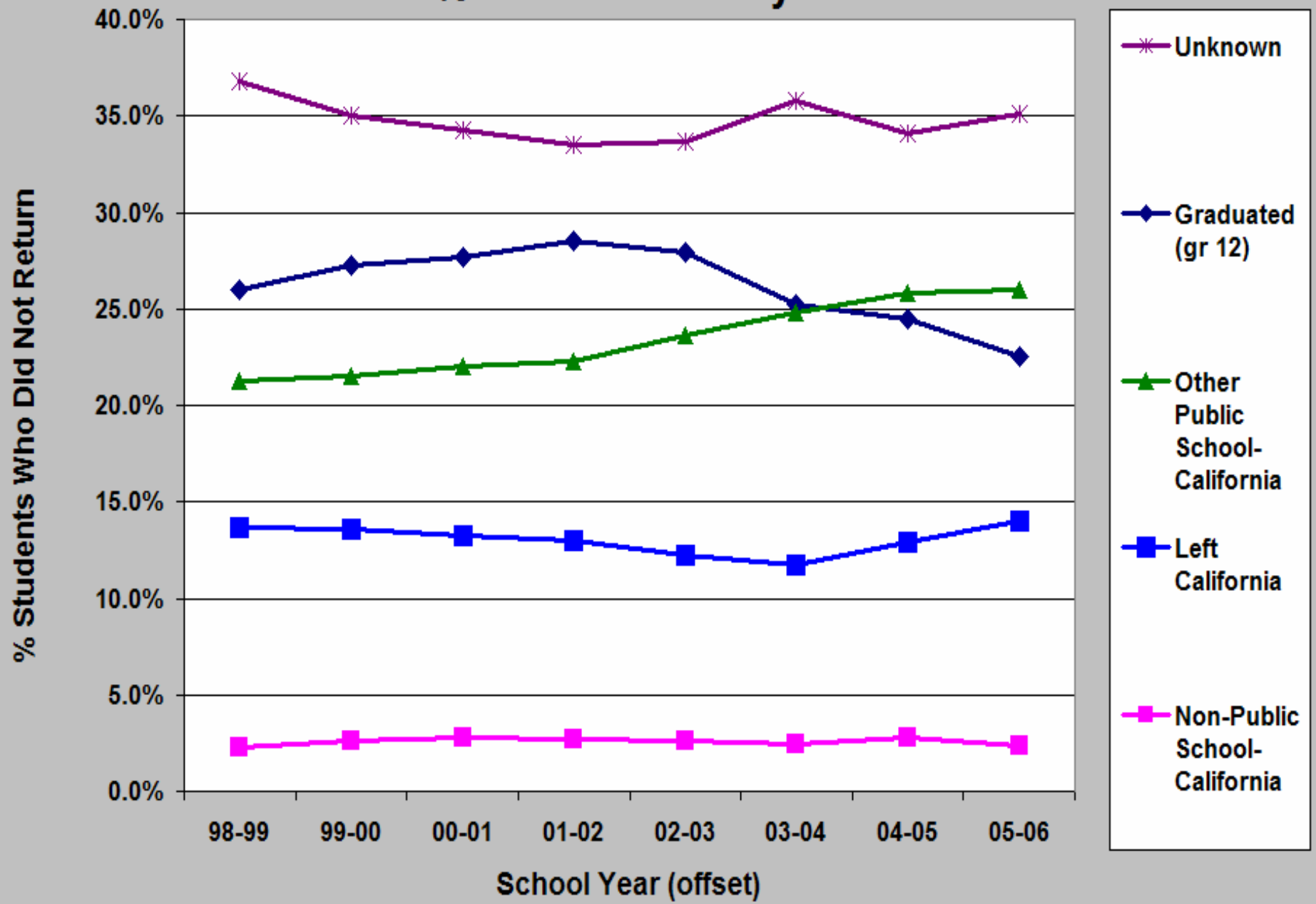


Figure 9 plots those students, from 1997 to 2004, who left LAUSD to attend other public schools in California. They are mapped to the place where they resided before leaving the LAUSD.

While, approximately 7% (58,057 out of 811,194) of leavers in all categories lived outside of LAUSD's boundary, of the students who left LAUSD to attend other public schools in California ("other public"), approx 33% of them lived outside of the LAUSD's boundary.

Let's now look at the map of the *proportion* of "other public " leavers by place of residence.

Figure 9

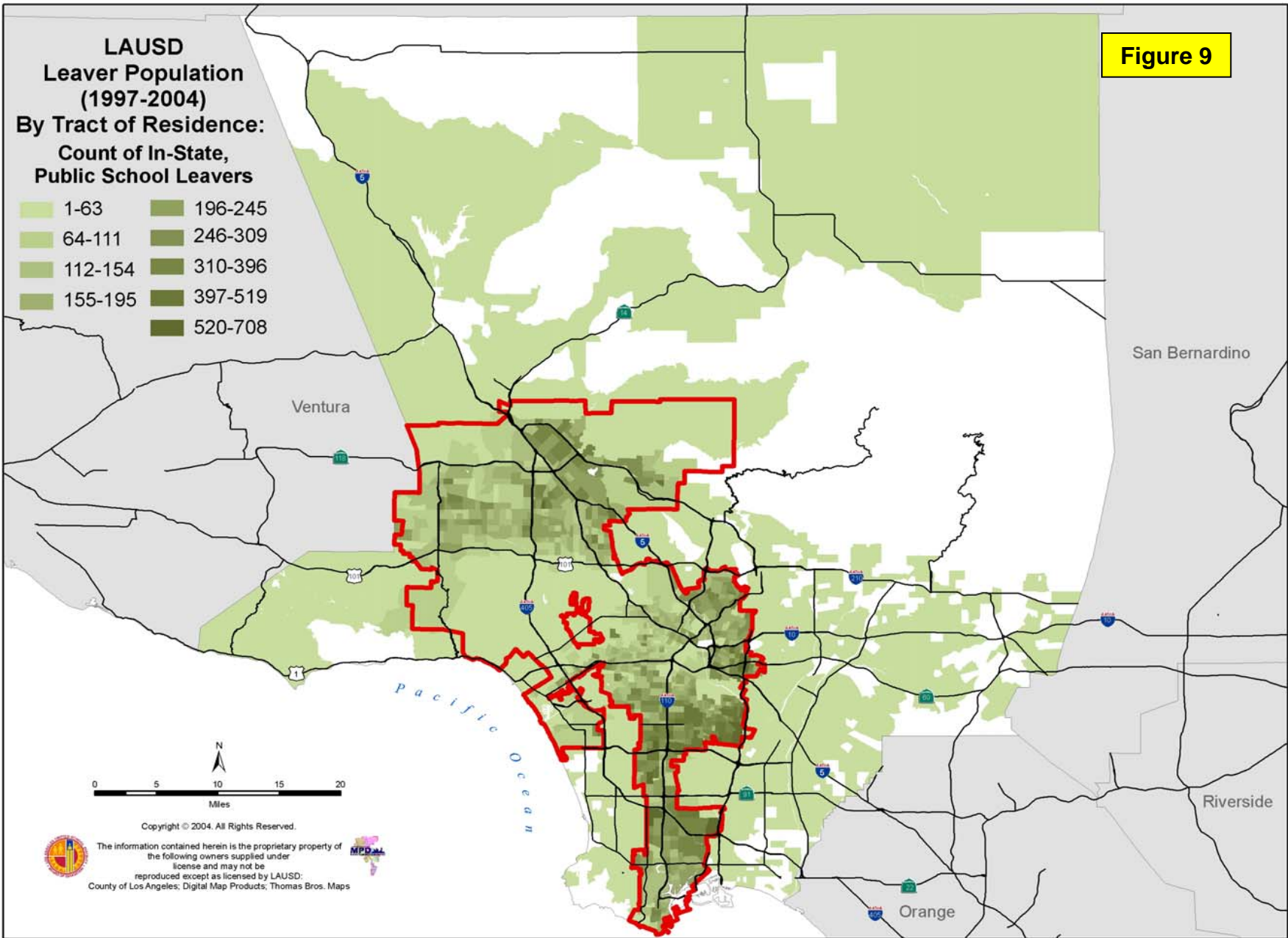


Figure 10 shows these same students, by proportion. Notice that higher proportions of this classification of leavers live outside LAUSD, which tends to support the assumption that many were attending LAUSD on a permit arrangement and are now returning to their home school districts.

However, many in this leaver category may be migrating. Those that lived within the LAUSD boundary are very likely to be relocating to other areas in LA County, or to other Southern California counties, primarily Riverside, San Bernardino, and Kern Counties.

Figure 11 shows why we believe that LA County's neighbors to the east and north are likely destinations for LAUSD's 'leavers'. As the charts show, each county has been experiencing significant population growth.

The component that has contributed the most to the growth has been domestic in-migration into these counties, as opposed to changes in natural increase or foreign immigration. Notice that in each county, the trend of net domestic in-migration strongly influences the overall trend of total net migration.

Now, let's look at county-wide enrollment trends among the K-12 school-aged population living in Southern California.

Components of Population Change Within the Inland Empire and Kern Counties

Figure 11

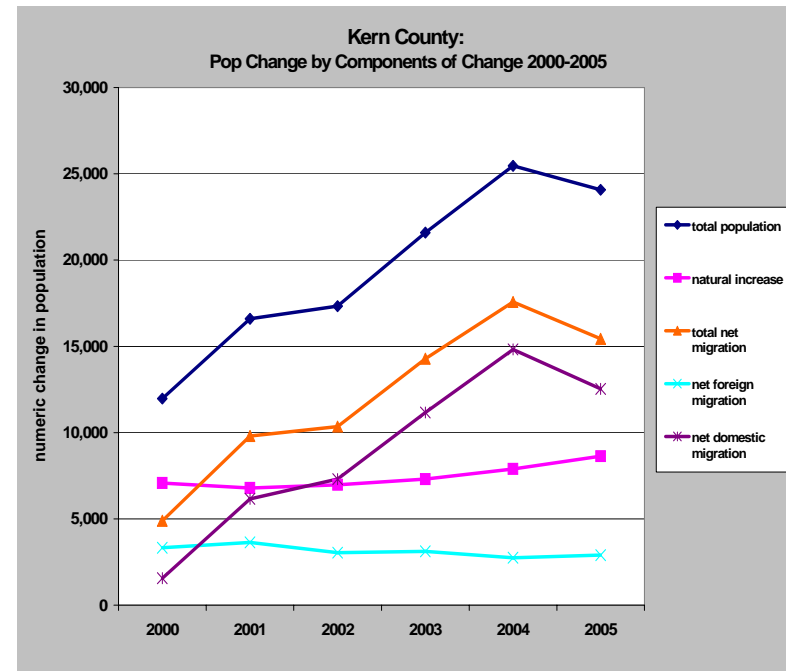
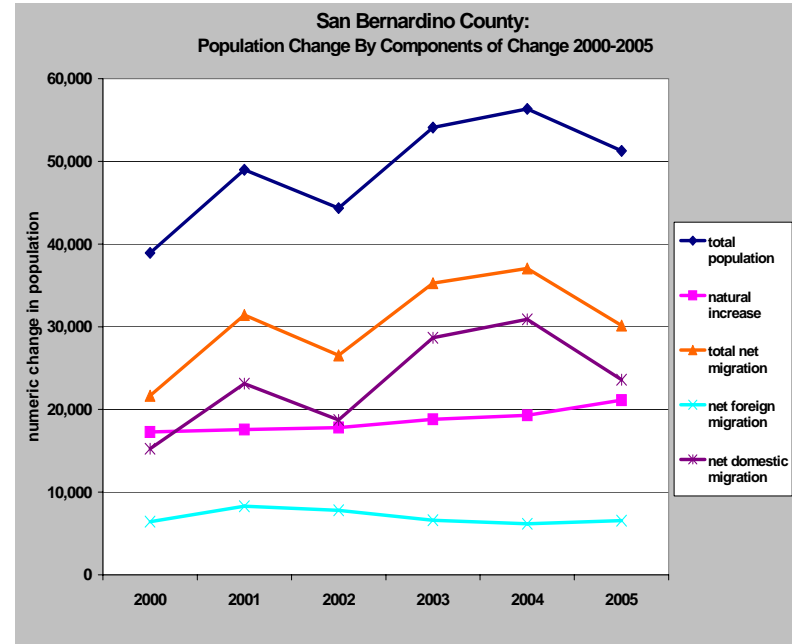
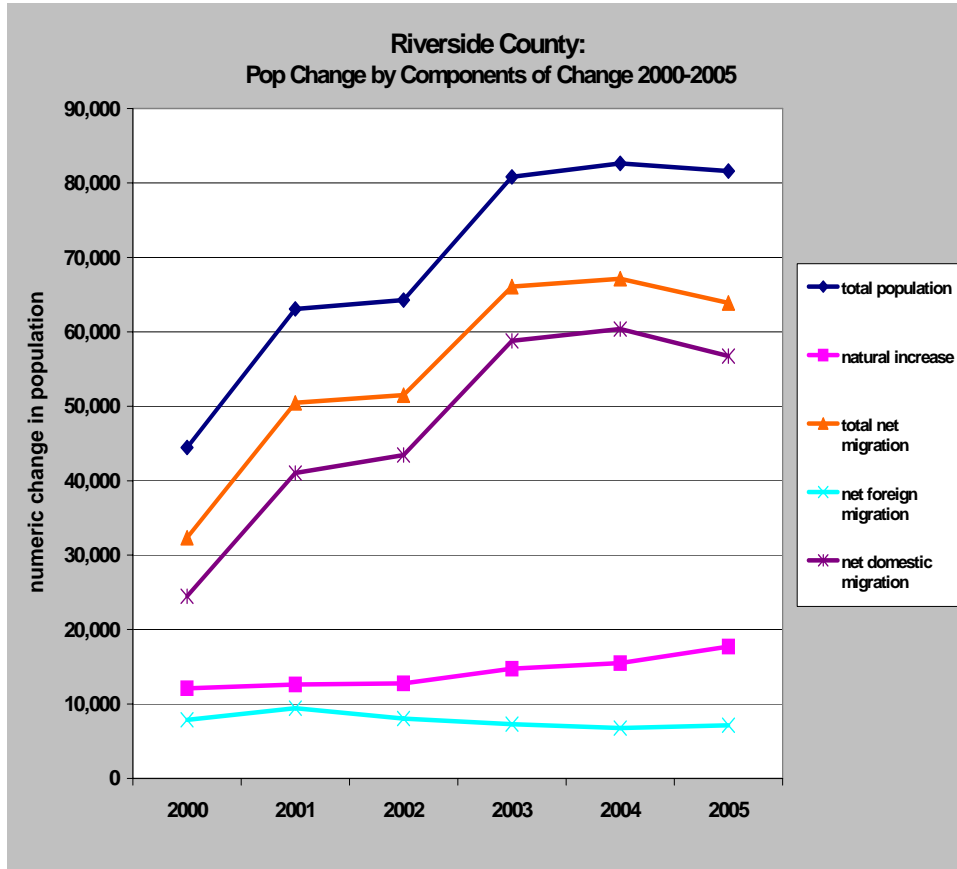
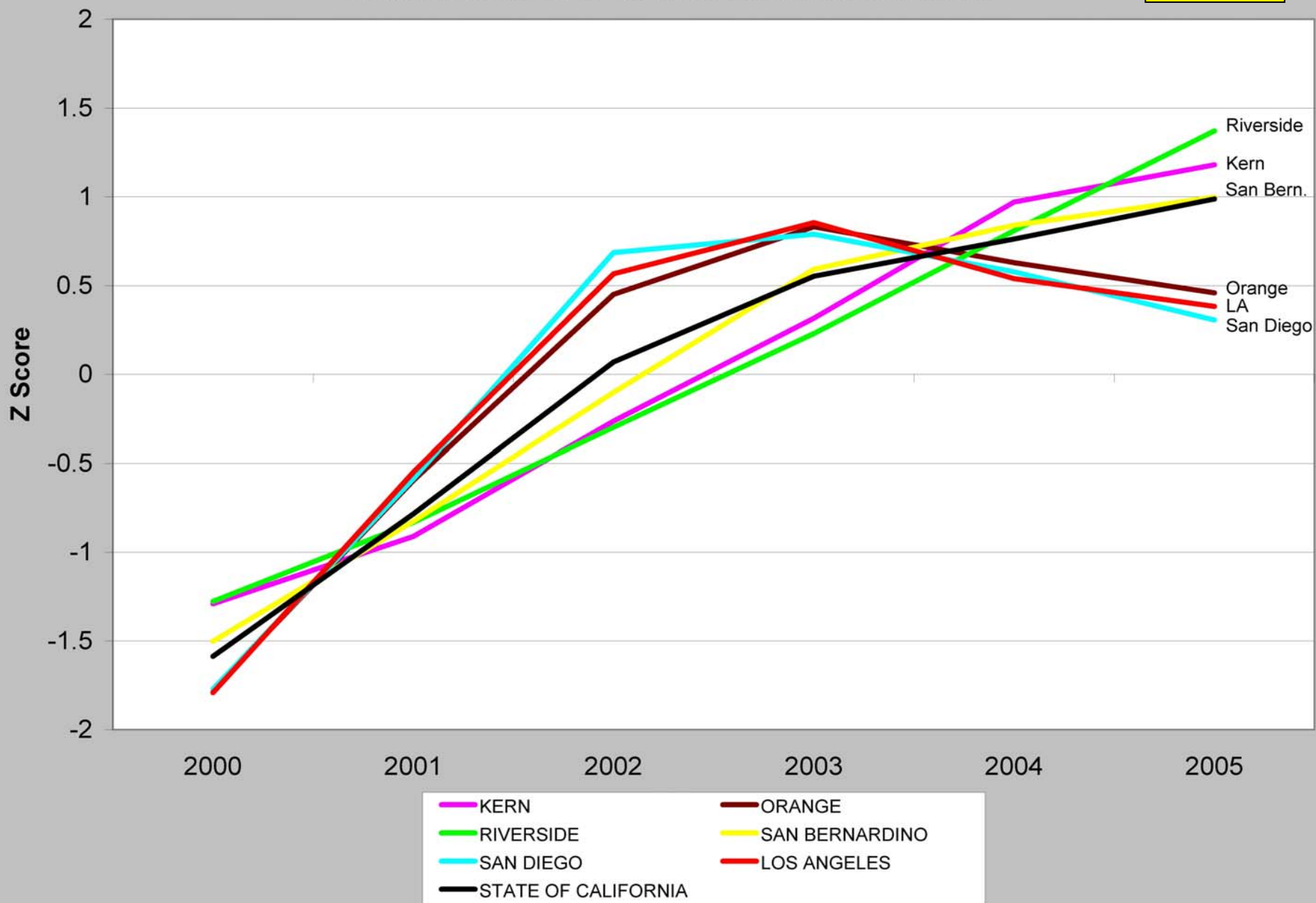


Figure 12 compares county-wide total K-12 enrollments among Southern California counties for the years 2000-2005. Actual enrollment totals have been standardized (all totals can now be compared to each other) to help compare enrollments between large and small counties having great differences in the total number of K-12 enrolled student populations.

The trend in the county-wide K-12 enrollments show continued growth among the inland counties that have experienced the greatest general population growth, and slowing enrollment trends among coastal counties, including Los Angeles County. This represents another indicator of the relocation of LAUSD's K-12 population to surrounding counties.

Selected Southern California Counties: Standardized Grades K-12 Enrollment Trends

Figure 12



To further support this view, we used Statistics of Income (SOI) tax return data from the Internal Revenue Service to explore county-to-county migration patterns.

Using the SOI data, **Figure 13** shows that, of the top destinations of families moving out of LA County, all but two were within California, and in particular, within Southern California.

Again, the eastern and northern counties continue to attract a larger proportion of out-migrants, having grown in popularity, and are tending to be the same counties that have experienced growth in their K-12 enrollments.

Notice that the coastal counties of Orange, San Diego and Ventura have become less of an attraction for out-migrants.

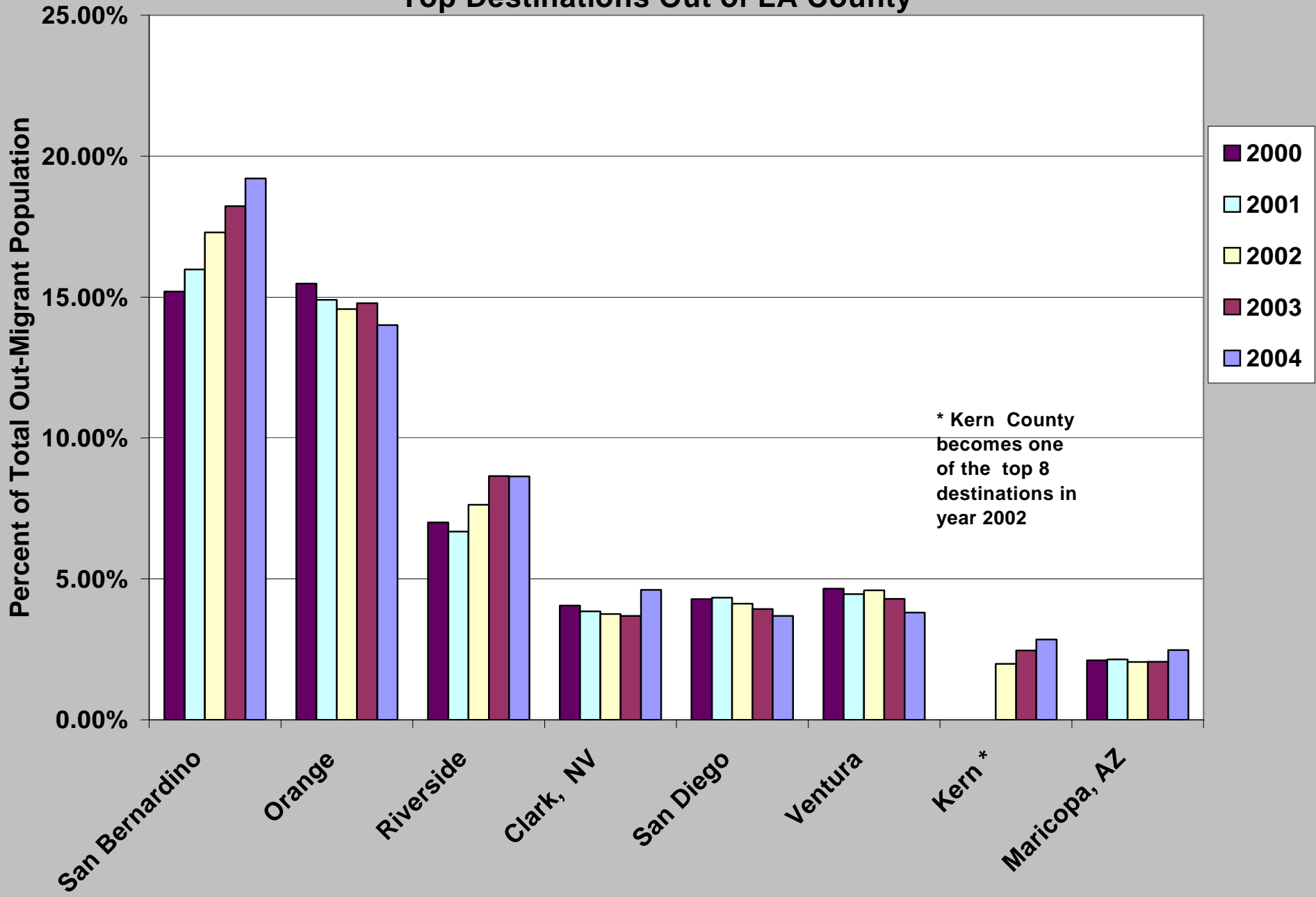
The top out-of-state counties are Clark County, NV and Maricopa County, AZ.

Because LAUSD's leaver data set did not include 'next location' data for the students who moved within California, we are using this SOI data as a broad proxy for their relocation patterns.

However, the leaver data set did give us 'next location' data for some of the students who left the State, as shown in **Figure 14**.

Population Filing Tax Returns 2000-2004: Top Destinations Out of LA County

Figure 13



In **Figure 14**, leaver data illustrates the top domestic, non-California destinations for students in the “left California” category. These are the students who moved out of California but remained within the USA.

Note that Nevada and Arizona are top destinations for both the LAUSD ‘leaver’ and IRS’ SOI populations.

Top 10 U.S.A. Non-California Destinations For Non-Grad Non-Returners, Grades 6-12

Figure 14

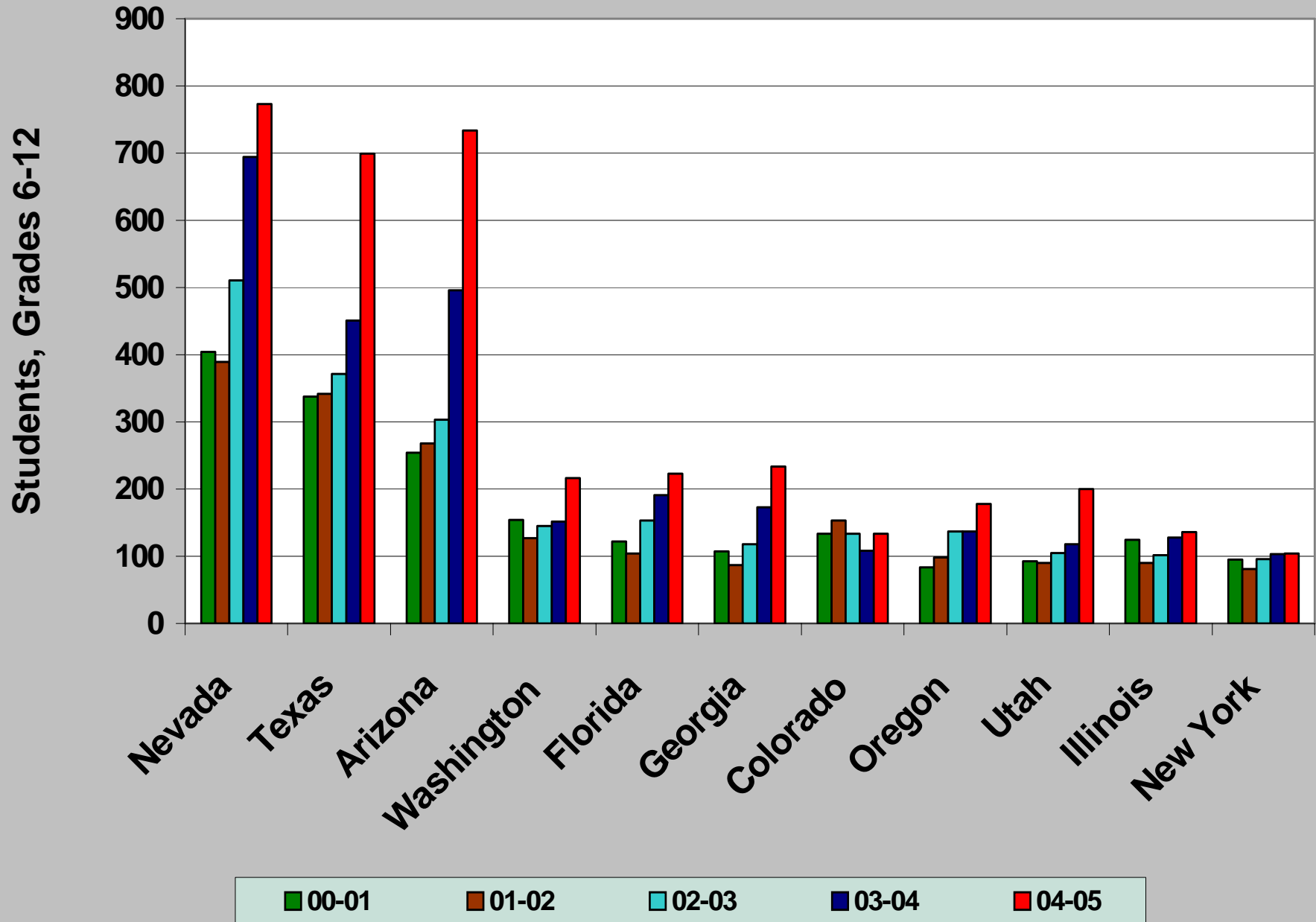


Figure 15 provides additional detail about LAUSD leavers moving to the top non-California destinations. Leavers have been grouped by race and ethnicity.

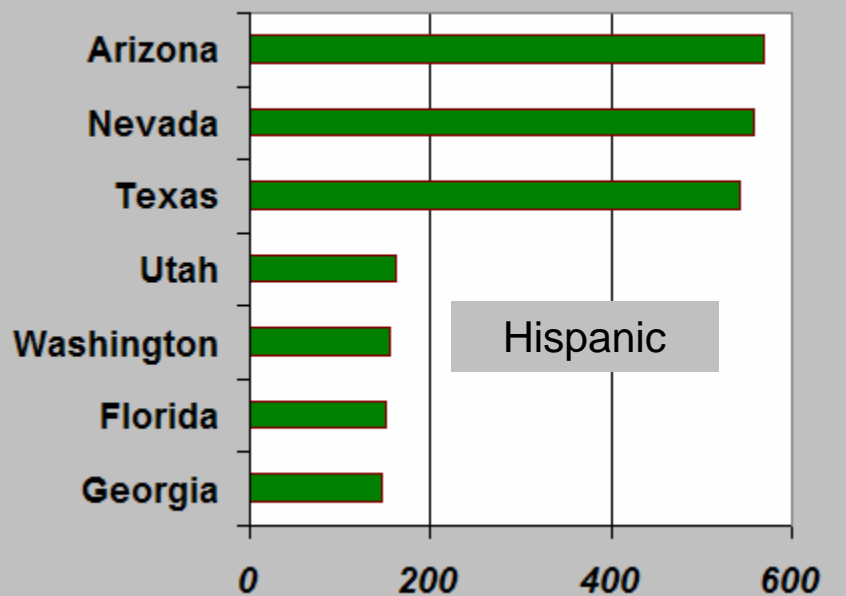
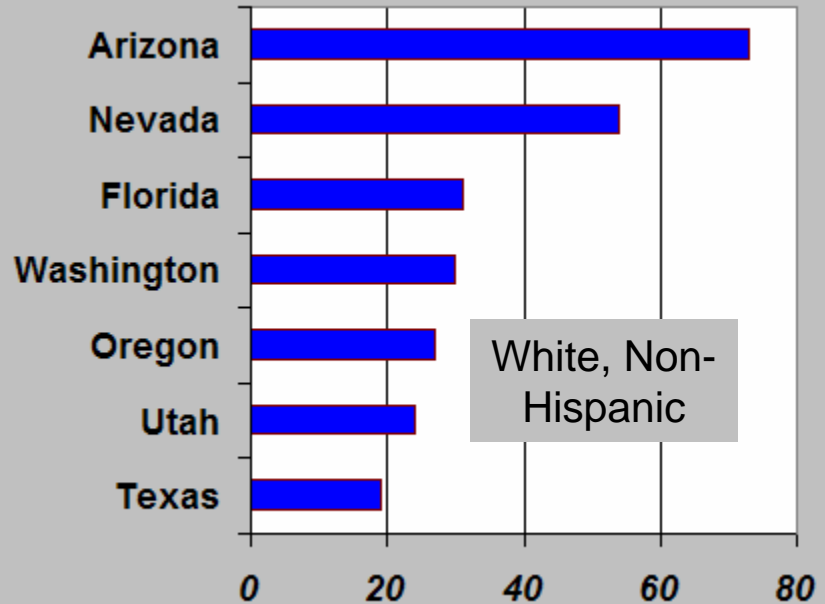
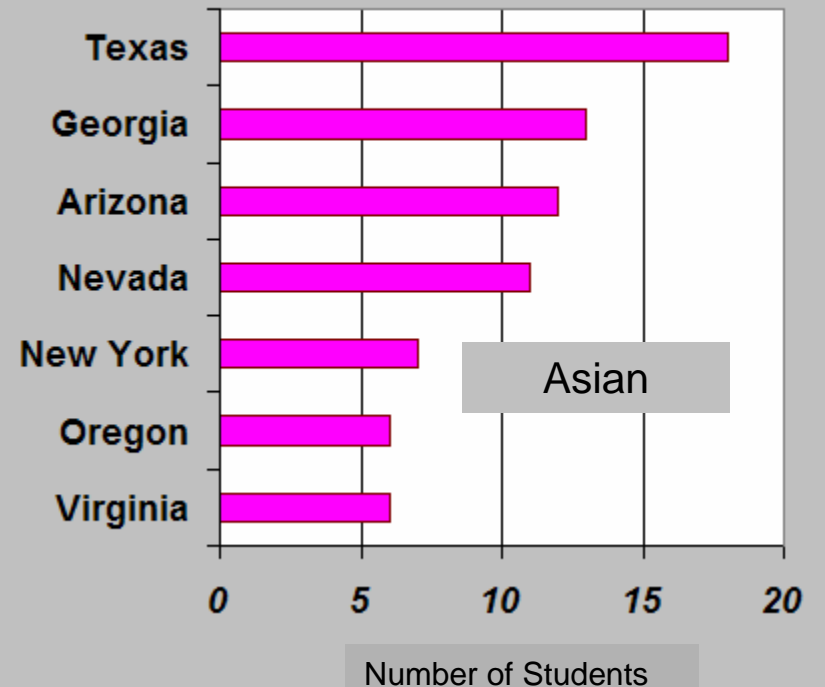
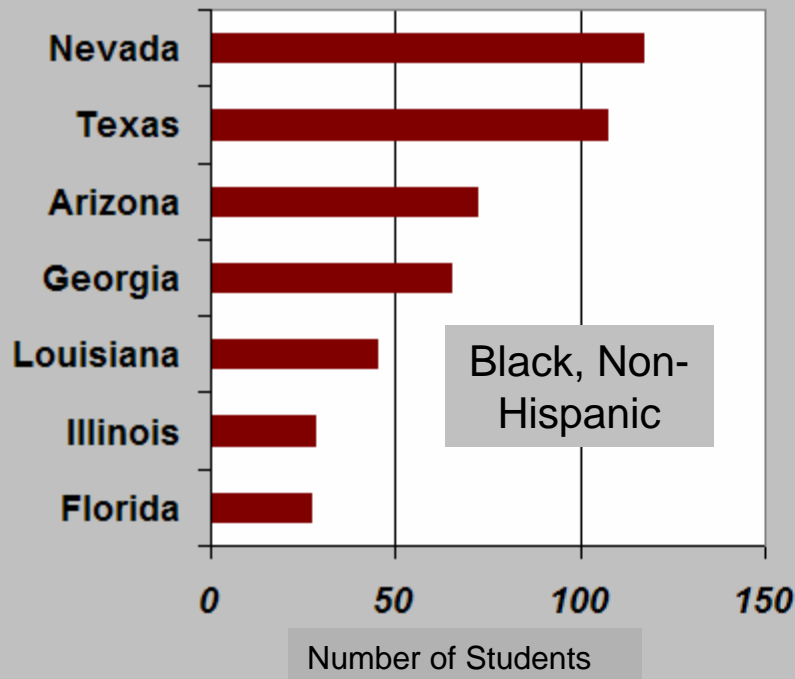
Notice that while there is an ethnic dimension to where leavers choose to migrate, the (Western) states of Arizona and Nevada are within the top five destinations among all leavers.

This suggests that LAUSD students (and their families) are following the same general migration patterns as the general population; they are moving east, away from the coast of Southern California.

Top U.S.A. Non-CA Destinations, SY04, By Race/Ethnicity

Figure 15

Non-Grad
Non-
Returnees
Gr 6-12



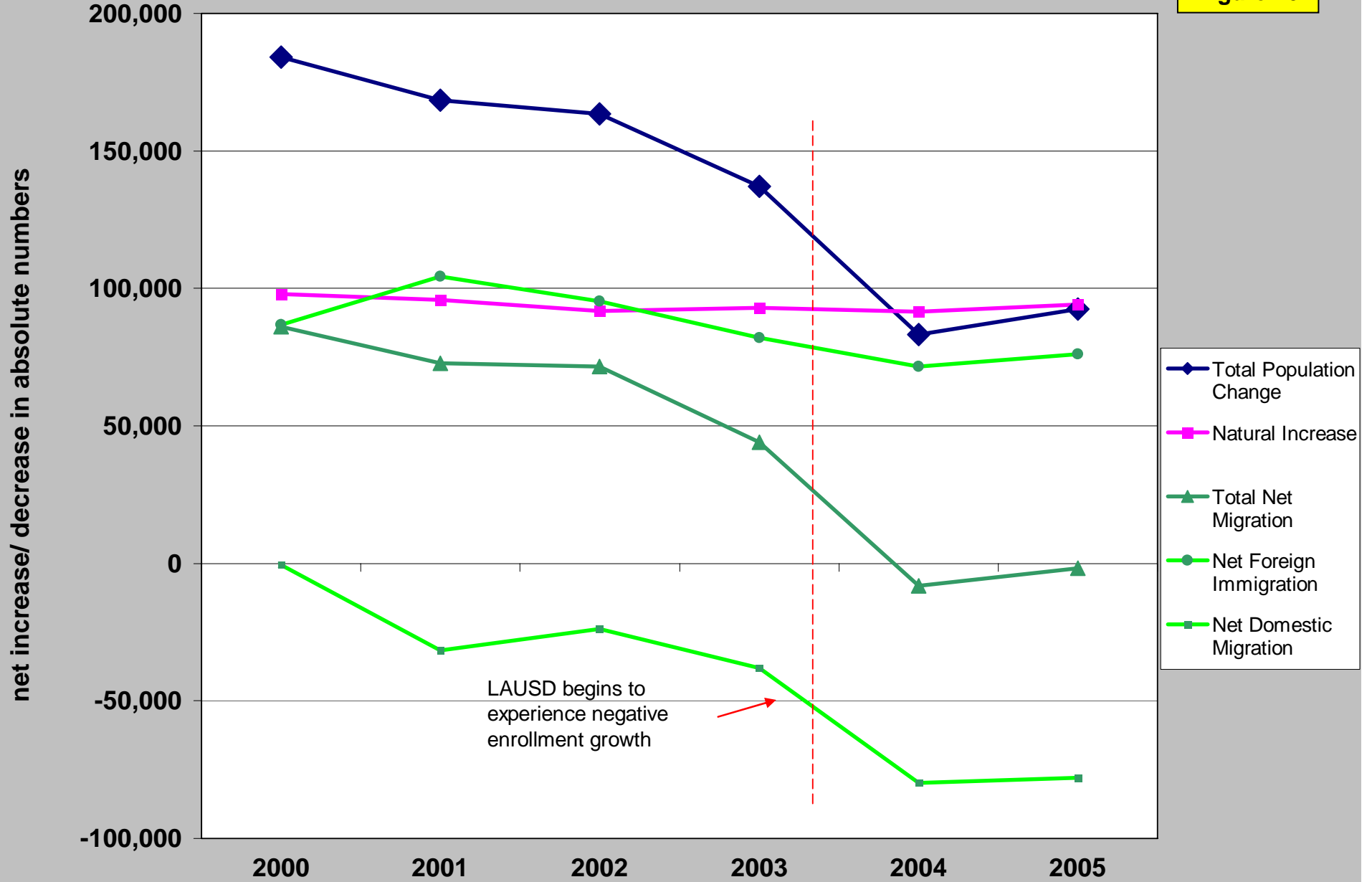
To complete the picture of Southern California migration, we show the components of population change for LA County, with other counties receiving, and LA County losing, shares of the population (**Figure 16**).

LAUSD lost enrollment during the period of steepest decline in domestic in-migration into LA County. LAUSD's greatest enrollment decline occurred during a period when LA County transitioned from net-positive to net-negative total migration. Consistent with patterns in other Southern California Counties, domestic migration patterns have been strongly influencing the general population trend in LA County since at least 2000. Note that net foreign migration was declining during the same period.

This is also one possible explanation for the continuing decline of new students into LAUSD, instead of a flattening trend, as indicated by births alone. The negative net domestic migration and declining net immigration means that fewer people are coming into LA County than are going out, a factor that would depress the effect of static births.

LA County: Components of Population Change (2000-2005)

Figure 16



IRS SOI data also includes the number of exemptions per tax filer, which can be used as a proxy for family size and number of children.

In **Figure 17** we see that comparing LA County in-migrants to out-migrants reveals that the average number of exemptions (the proxy for number of children) of out-migrants has grown from 1.93 in 2001 to 2 in 2004, while the average number of exemptions for in-migrants has held constant at about 1.66.

Extrapolating from these data, the difference between the incoming and outgoing family sizes suggests that increasingly more children may be leaving the County, and in particular LAUSD, than are coming in.

Population Filing Tax Returns 2000-2004: Avg. Number of Exemptions- In-Migrants vs. Out-Migrants LA County

Figure 17

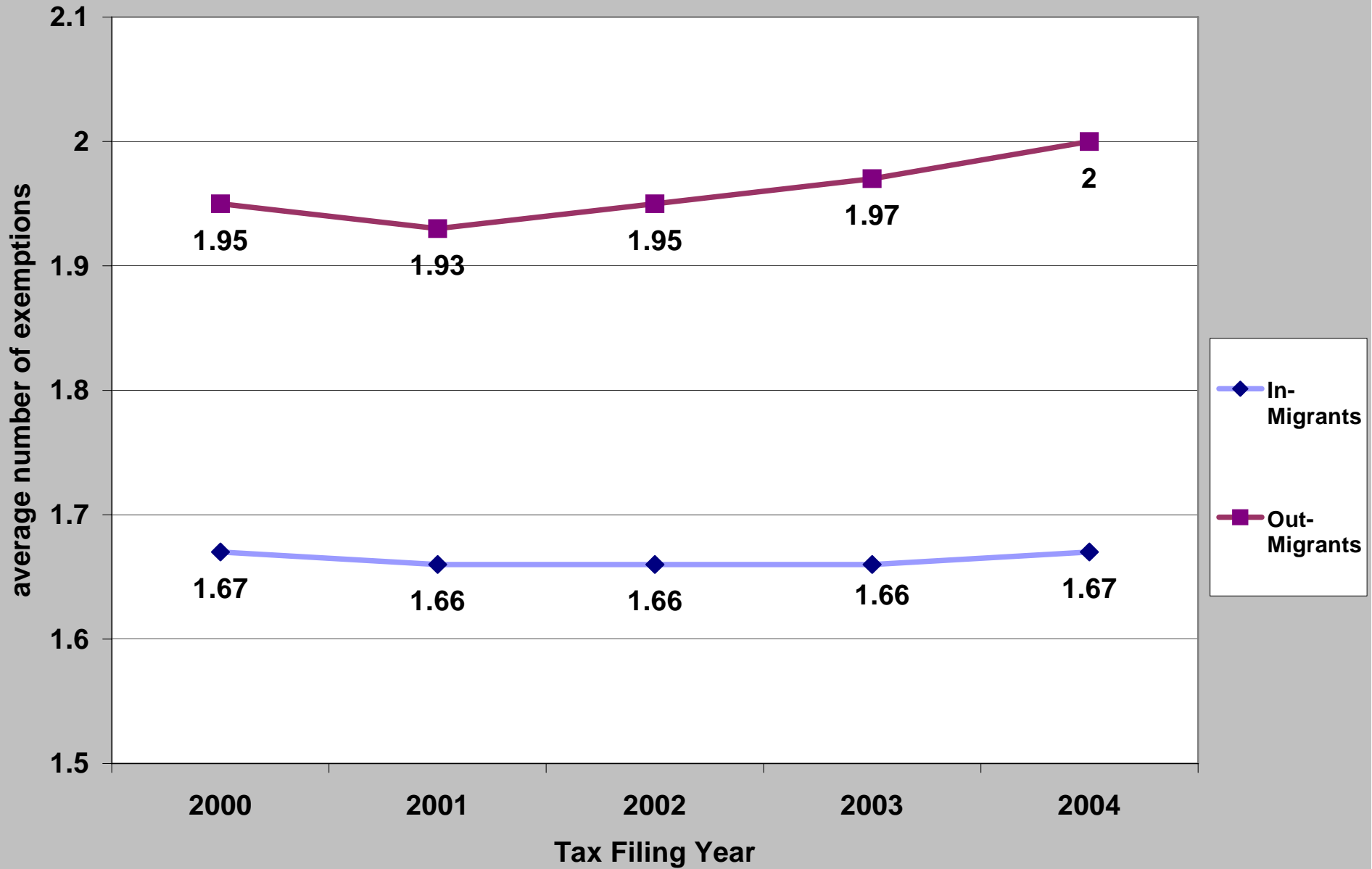
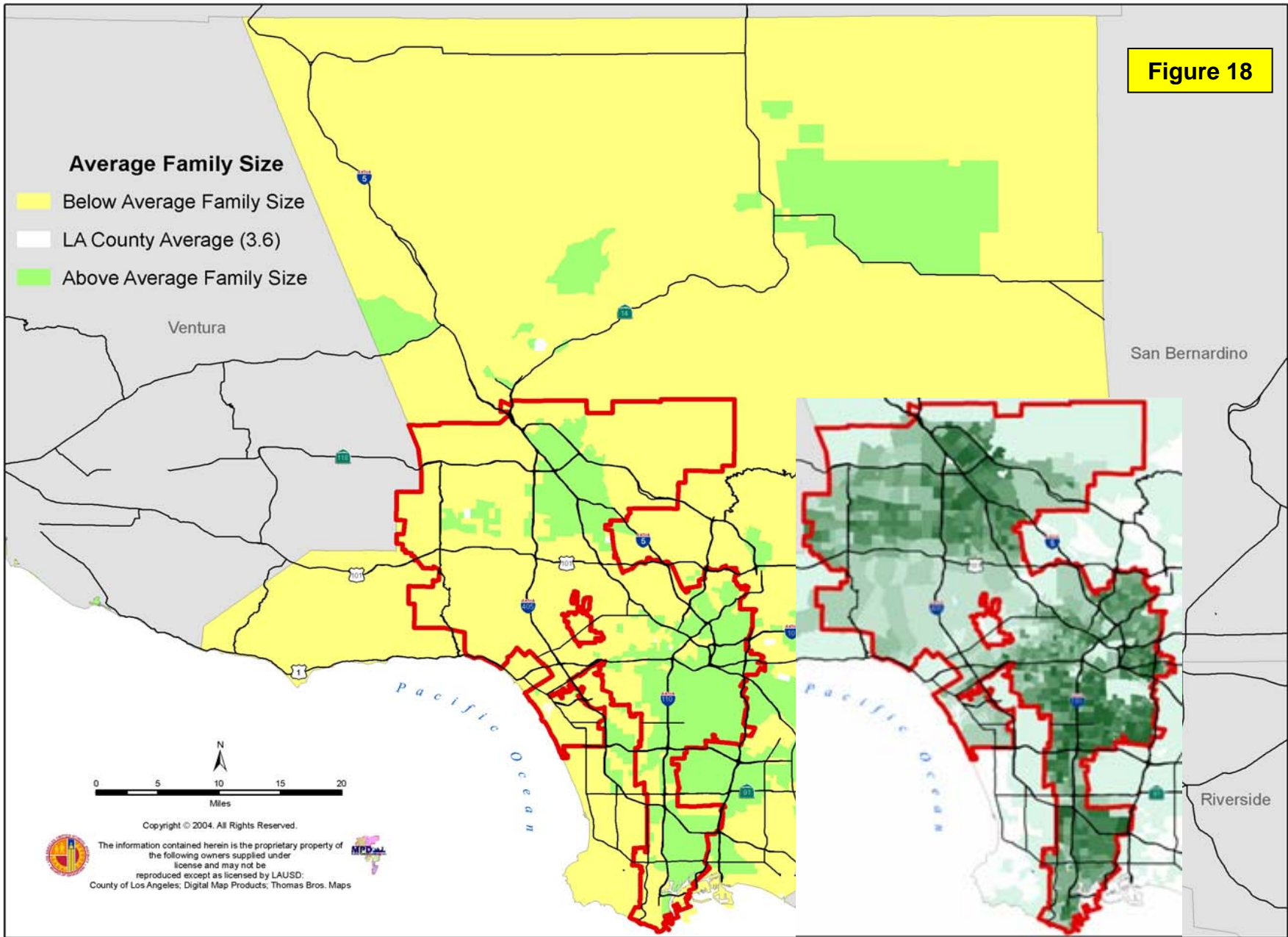


Figure 18 maps where in LA County larger families tend to reside by Census tract. Note that LAUSD serves a substantial segment of these larger-than-average families.

Compare again to LAUSD's population distribution map, on the right. If, as the SOI data suggest, larger families are indeed moving out, it's highly probable that they are moving eastward from within LAUSD's boundaries.

Figure 18



Conclusion

- The overall reason for LAUSD's enrollment decline in the face of growth in the LA area population, primarily between SY2003 and SY2005, is due to growth of the non-school-aged age cohorts in Los Angeles (LA) County, independent of the school-aged cohort.
- LA County births, the most important predictor of K-12 enrollment, have been declining since 1990. Based on births, LAUSD's demographic planners expected an enrollment decline after SY2003, but not as fast or as steep as what was observed.
- The number of new incoming students continued to decline even after they were expected to stabilize in SY2004. Again, births explain most of the new-student dynamics, but not the continuing decline between SY2004 and SY2005.
- The number of students leaving the LAUSD increased during the same time period, increasing the delta (the difference) between those who were leaving and those new to the district.
- Analysis of student LAUSD 'leavers' and IRS SOI tax return data suggests that an increasing number of LAUSD families are moving eastward out of the LAUSD area into inland California counties such as Riverside and San Bernardino and north to Kern County, and others even further eastward into the states of Nevada, Arizona and Texas. The IRS data also suggest that the families moving out of the areas served by the LAUSD are tending to be larger than the families moving in.
- Given the circumstantial evidence, our conclusion is that the net-negative domestic migration and slowing immigration occurring within LA County, in concert with changing family characteristics (i.e. fewer children) of in-migrants is the prime candidate for the additional decline being observed in LAUSD's enrollment beyond that which can be attributed to a decline in births.

Sources

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About the Master Planning and Demographics Unit

Rena Perez, Director

The Los Angeles Unified School District is the nation's second largest public school system, serving approximately 700,000 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 visit us on the web at www.lausd.net or www.laschools.org/employee/mpd/.

About the Authors

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Ms. Edwards leads and oversees demographic research and data analysis for LAUSD's Master Planning and Demographics Unit. Her team is currently developing expanded and innovative methods in school enrollment forecasting, demographic analysis and data modeling methods. Over the last thirteen years as a schools demographic planner, her focus has included operational strategic planning, supply-and-demand forecasting for schools capital master planning, and student assignment choice modeling. She holds a Master's degree in City Planning from the Massachusetts Institute of Technology.

Mary Ehrenthal Prichard, Demographic Research and Planning Analyst

Ms. Prichard's work for LAUSD's Master Planning and Demographics Unit focuses on demographic research and analysis, and includes the collection and analysis of internal LAUSD and general population data used in support of short and long range planning. She is a trained geographer with an M.A. in Geography. Ms. Prichard has served for a number of years in adjunct faculty positions for community colleges in the Los Angeles region as well as at California State University at Los Angeles. She has been on the governing board of the Los Angeles Geographical Society for over a decade and served as President from 2002 to 2004.

