

Finally, it must be noted that much of this attrition analysis focused on Colorado's larger districts, while the majority of Colorado's districts are relatively small. Many of these small districts face challenges in retaining teachers as well due to a wide variety of factors including isolation, housing costs and availability, and competition from urban and suburban districts.

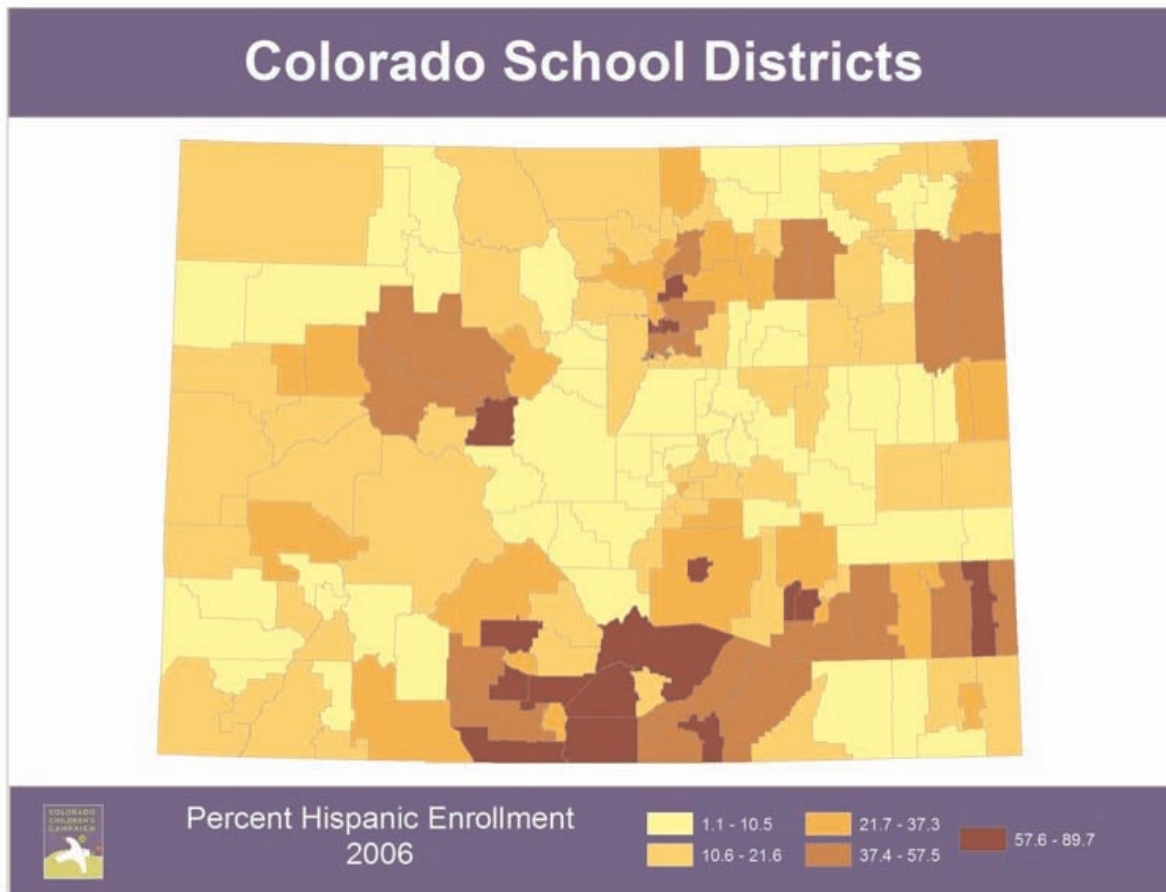
Further study that can accommodate the smaller numbers of teachers in smaller districts should be conducted.

TEACHER DIVERSITY

As was discussed in last year's *Shining the Light*, Colorado's student body is becoming more diverse. This is important for two reasons. As the student body becomes more diverse, teachers may need a wider set of skills to motivate and reach all students in the classroom. As was noted in the prior section this may be particularly true for teachers working with students and parents who are from diverse social, ethnic, racial and/or linguistic backgrounds. Second, recent research has suggested that students, on average, learn more from teachers of similar racial and ethnic background (See section on race and ethnicity in Teacher Quality Chapter, pages 17-20; Hanushek, Kain, O'Brien & Rifkin, 2005).

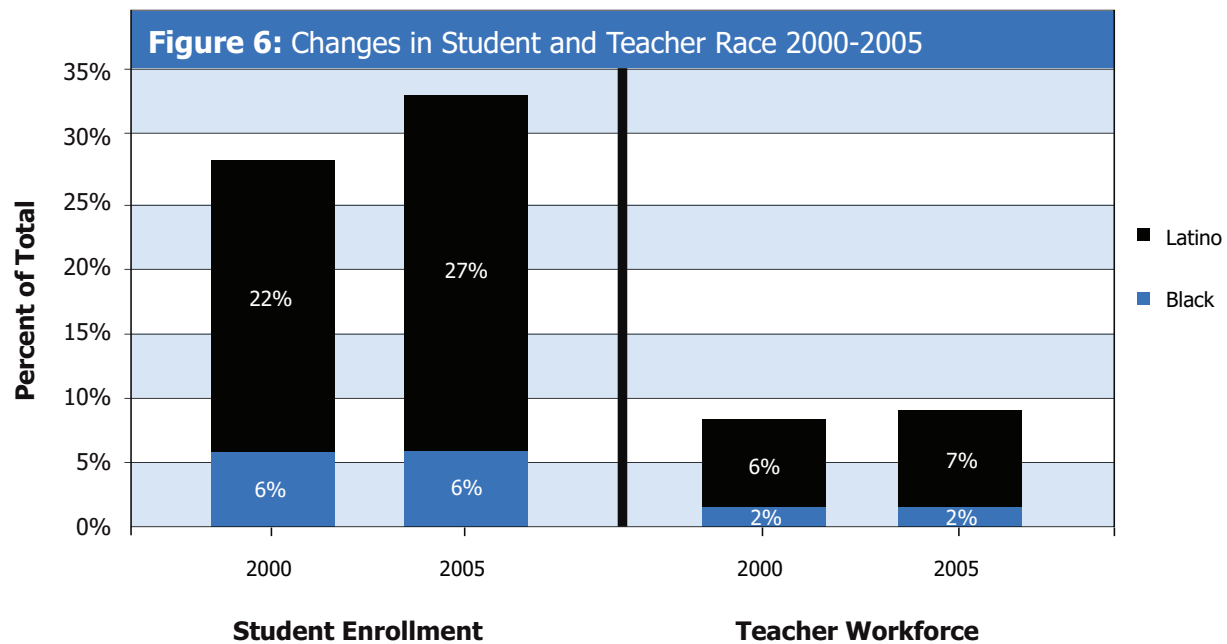
The map below provides one perspective of student ethnic diversity in Colorado.

Figure 5: Student Ethnicity in Colorado School Districts



Source: Colorado Department of Education as reported by Colorado Children's Campaign

Figure 6 below shows the changes in teacher and student diversity between 2000 and 2005. On the left side of the figure are the proportion of black and Latino students in 2000 and 2005. The proportion of black students remained steady at 6% of the state's student body. Over the same five year period, the proportion of Latino students increased by 5 percentage points from 22% to 27% of the student body. In other words, an average Colorado classroom of 20 students had one more Latino student in 2005 than it did in 2000. Over the same period the proportion of Latino teachers working in Colorado increased by one percentage point from 6% to 7%, while the proportion of black teachers remained steady at 2%. Taken together, the proportion of Latino teachers in Colorado is growing, but the proportion of Latino students is growing five times faster.



Source: CDE

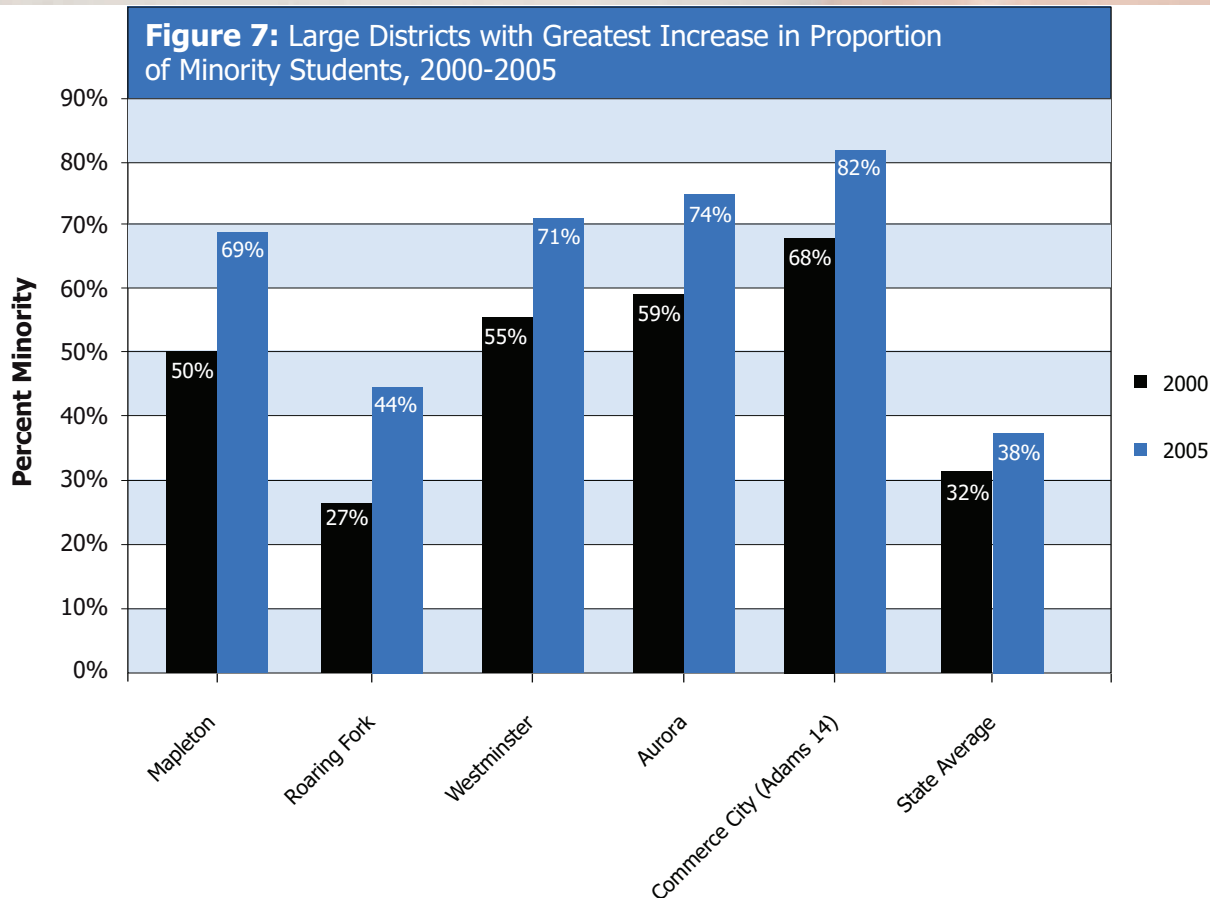
Figure 7 shows the large districts (those with over 200 teachers) with the largest changes in their proportion of minority (non-white) students. As with earlier analysis in this report, this focused on the largest districts (those with over 200 teachers) in order to capture significant changes. It should be noted that a significant majority (139) of Colorado districts do not fall into this large district category. Many of these smaller districts face additional challenges in recruiting and retaining teachers due to their rural nature.

These large districts increased between 14 and 19 percentage points in their proportion of minority students between 2000 and 2005. The largest change, 19 percentage points, occurred in the Mapleton school district. In other words, an average 20 student Mapleton class with 10 minority students in 2000 had 14 minority students in 2005.

Across the state the proportion of minority students increased by 6 percentage points from 32% to 38%. The average Colorado classroom with 20 students had about 6 minority students in 2000 and between 7 and 8 minority students in 2005. Latinos were the primary group that showed growth (5+ percentage points). The proportion of Asian and Native Americans remained under 1 percent of the total student population.

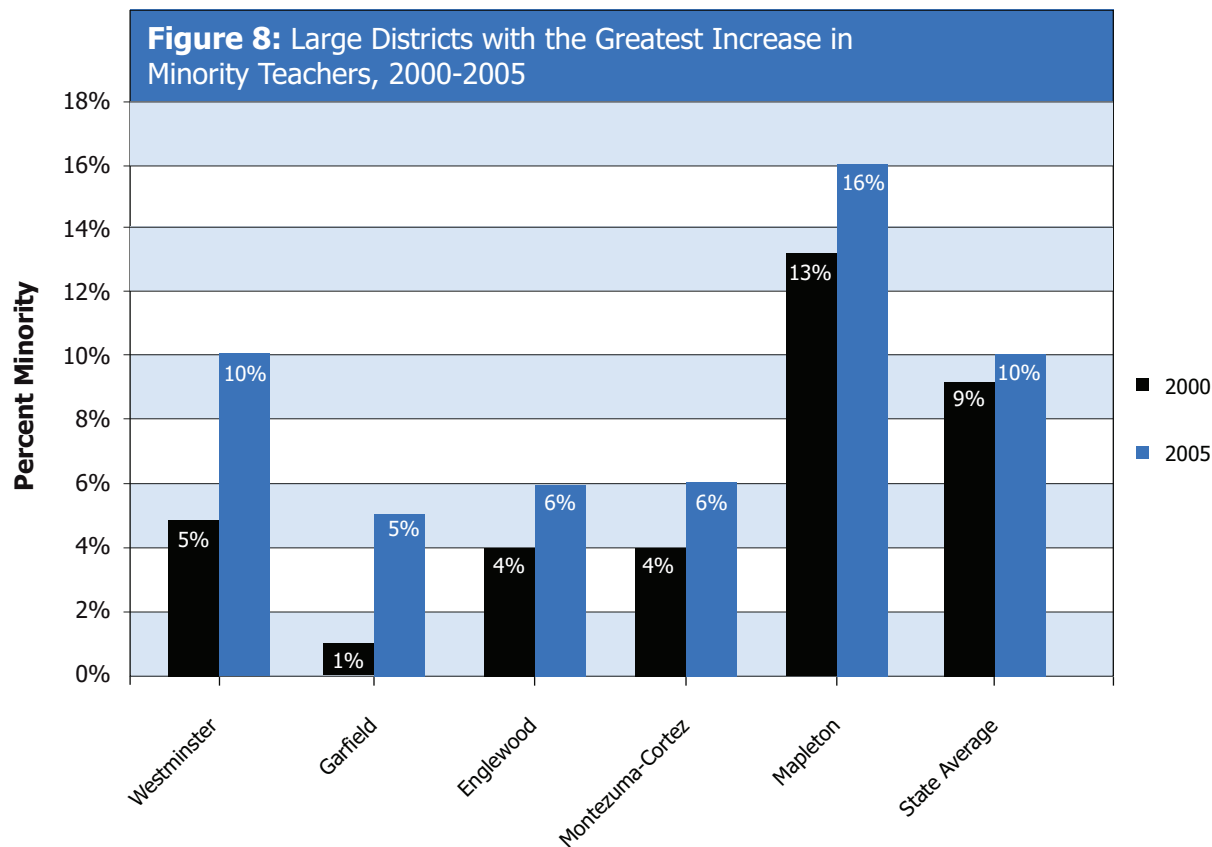
The number of children who are English language learners has increased greatly over the past five years from 86,129 in 2002 to 106,413 in 2007. For the average district of 4,000 this represents an increase of about 70 students. The large majority of these students are Spanish speakers; however the top five

languages spoken in Colorado schools include Vietnamese, Russian, Korean and Hmong (CDE Student Enrollment data, CDE English Language Acquisition Unit, 2007).



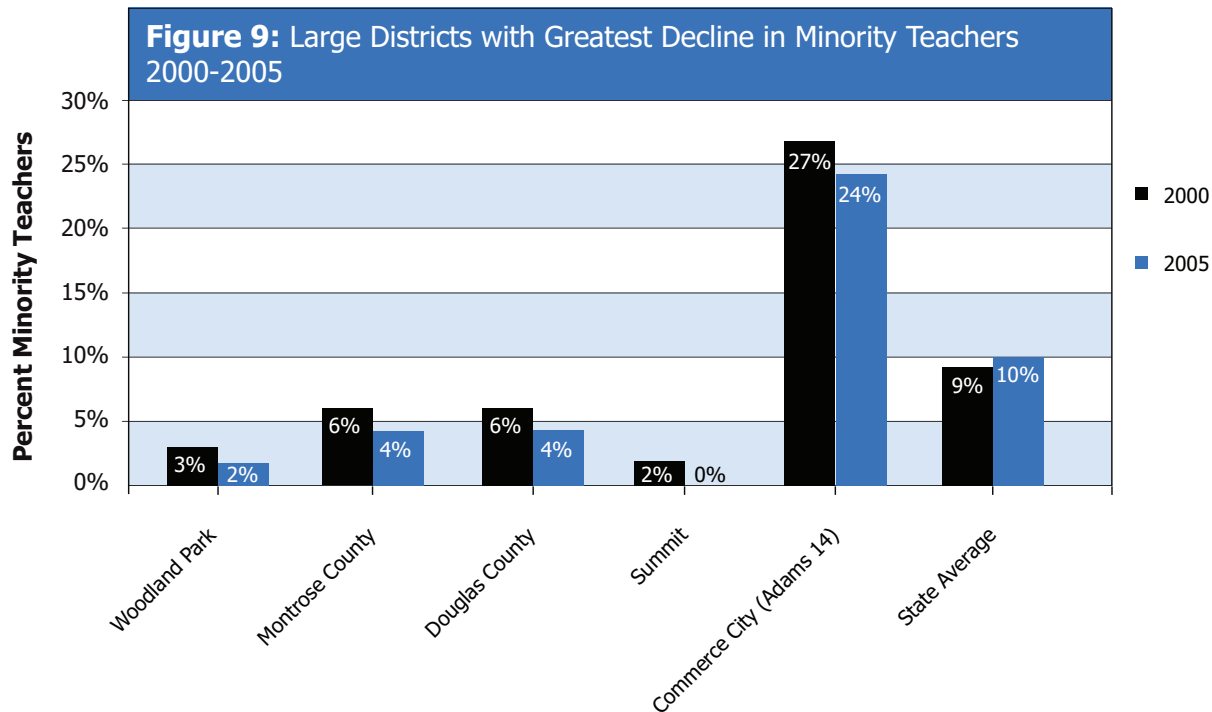
Source: CDE

The change in the proportion of minority teachers was much smaller than increases in the proportion of minority students. School districts had one percentage point more minority teachers in 2005 than in 2000. In a district of 200 teachers that translates to about 2 more minority teachers. Several of the districts with high growth in minority students also had high levels of growth in minority teachers. Figure 8 shows the five large (over 200 teachers) districts with the greatest increase in minority teachers. Several of the districts with large changes in minority students also had large changes in minority teachers. Mapleton had the largest increase in minority students and one of the largest increases in proportion of minority teachers in the state. Westminster also had large increases in both minority students and minority teachers.



At the same time, some districts lost minority teachers. Figure 9 shows the large districts with greatest decline in minority teachers. The districts with declining numbers of minority teachers include Commerce City (Adams 14) which had one of the largest increases in minority students.





However, while the proportion of minority enrollment and teachers went in the opposite direction in Commerce City (Adams 14) this does not reflect the overall pattern of minority teacher and student growth in Colorado. An average Colorado school with minority students in 2005 was more likely to have more minority teachers than in 2000 as indicated by the increase in the correlation between proportion of minority students and teachers shown in Table 7. However, as suggested by the earlier data, the difference between the proportion of minority students and teachers grew between 2000 and 2005 from 22 percentage points to 27 percentage points. Taken together, this suggests that although minority teachers are more likely to be found in schools with minority students in 2005 than in 2000, the growth in the proportion of minority students is outpacing the growth in minority teachers.

	2000	2005
Correlation of proportion of minority students and teachers school	.60	.62
Average difference in proportion of minority students and teachers	22 percentage points	27 percentage points

Source: CDE SAR, Enrollment and HR data

Taken together three key points emerge about the changes in minority enrollment and teachers:

- First, the proportion of minority teachers is growing, but much slower than the growth in the proportion of minority students.
- Second, the size of the enrollment change and change in the proportion of minority teachers varies greatly across districts.
- Third, in general, schools with minority students in 2005 were more likely to have minority teachers than in 2000.

Is the supply of teachers changing?

As discussed above, the growth in minority teachers is not keeping pace with the growth in minority students. Since about half of Colorado's new teachers are prepared in Colorado (Shining the Light, 2006), Colorado's teacher preparation system is a very important part of the response to a changing student population. There are two routes to teaching for those prepared in Colorado, preparation at institutions of higher education (IHE) and alternative programs run by districts in partnership with universities. Data on the race of teachers in alternative teacher preparation programs are not collected by the state; however that data are collected for IHE teacher preparation programs.

Table 8 shows that at least 13% of the 11,086 students enrolled in traditional teacher education programs were minorities in 2005 (Colorado Commission on Higher Education [CCHE], 2007). This includes both those pursuing initial licensure and those who have returned to higher education for additional study. In comparison, 17% of all students in Colorado four-year colleges and universities (not including community colleges) were minorities (Colorado Commission on Higher Education, n.d.). It may not be appropriate to compare the enrollment in teacher education programs since the data from CCHE includes both new and experienced teachers. Experienced teachers have incentives to return to higher education institutions to increase their salary. These returning teachers are more likely to be white, and thus may decrease the minority enrollment in teacher education programs when compared to the overall enrollment in higher education.

The proportion of minorities in teacher preparation is larger than the proportion of minority teachers (13% compared to 10%). However, it is not clear whether teacher preparation programs have the same proportion of minority students as the universities where they are situated because the data available do not allow a simple enrollment comparison.

Table 8: Teacher Education Enrollments for All Endorsements and Licensure Areas 2005-2006	
Race / Ethnicity	Percent of Total
American Indian or Alaskan Native	1%
Asian or Pacific Islander	2%
Black, non-Hispanic	3%
Hispanic	8%
White, non-Hispanic	79%
Unknown/Not Reported	8%
Total	101%*

* Total does not equal 100 due to rounding

Source: Colorado Department of Higher Education (CDHE) March 2007 Report

Another way to examine the issue of changes in minority teachers is by looking at new hires. Analysis of CDE Human Resources data shows the proportion of new teachers (i.e. no experience) who are minority teachers has increased from 9% in 2000 to 11% in 2005. And it appears the proportion of minority teachers prepared in Colorado remained steady at 56% across those years. In other words, districts appear to be improving in their ability to recruit minority teachers and data suggests that a little more than half of those minority teachers are prepared in Colorado (through both traditional and alternative programs).

Taken together it appears that increasing the number of minorities in teacher preparation is an important element in increasing the minority teacher workforce, as are efforts earlier in the pipeline that encourage minority high school students to consider teaching as a career.

Conclusions about Teacher Attrition and Diversity

The central issue for schools and districts for improving their students' learning is improving the quality of their teachers. This means districts must attract and retain the best teachers possible. In this section, the ability to retain teachers overall and minority teachers in specific was addressed. What is clear from the above data is that not all districts or schools face the same challenges or successes in attracting or retaining teachers.

Attrition

Since the challenges vary by district, the state's response to those challenges should also be different. Those districts and schools with the largest challenges should receive additional support, with a focus on low performing schools. Because of the correlation between attrition and low performing schools, it is clear some of this support should be in the form of mentoring and induction support for new teachers and in particular those in low performing schools in particular. Pay incentives, such as the market incentive in Denver's ProComp²⁴ plan also offer an innovative way to support teachers working in hard-to-staff schools.

However, there are also districts with higher than average attrition. The state can play a valuable role in supporting these districts. We recommend that a teacher retention task force be established at the Colorado Department of Education to examine and coordinate its role as a leader in addressing teacher recruitment and retention issues. The Colorado Department of Education should consider teacher retention a priority issue when determining formula and competitive grant criteria (e.g., NCLB Title IIA, special education State Improvement Grant) to focus on the schools and districts facing the greatest challenges in retaining quality teachers.

District policymakers should use attrition data to examine the teacher workforce to learn about current and potential future challenges. These challenges could include not only an aging workforce, but also a salary system that does not align with the district's goals or labor market.

If the overall district or schools within the district are experiencing high attrition rates, policymakers should:

- Examine its new teacher placements to ensure that new teachers are not being concentrated in low achieving schools,
- Examine the effectiveness of its new teacher mentoring and induction program,
- Work with teacher preparation institutions to ensure teachers are prepared to work with the increasingly wide range of students,
- Determine if additional induction and mentoring resources can be strengthened in high attrition schools.

²⁴www.denverprocomp.org