

**Projected Budget Savings From
Increased Use of
Alternative Teacher Certification in Tennessee**

By AccountabilityWorks

Education Consumers Foundation

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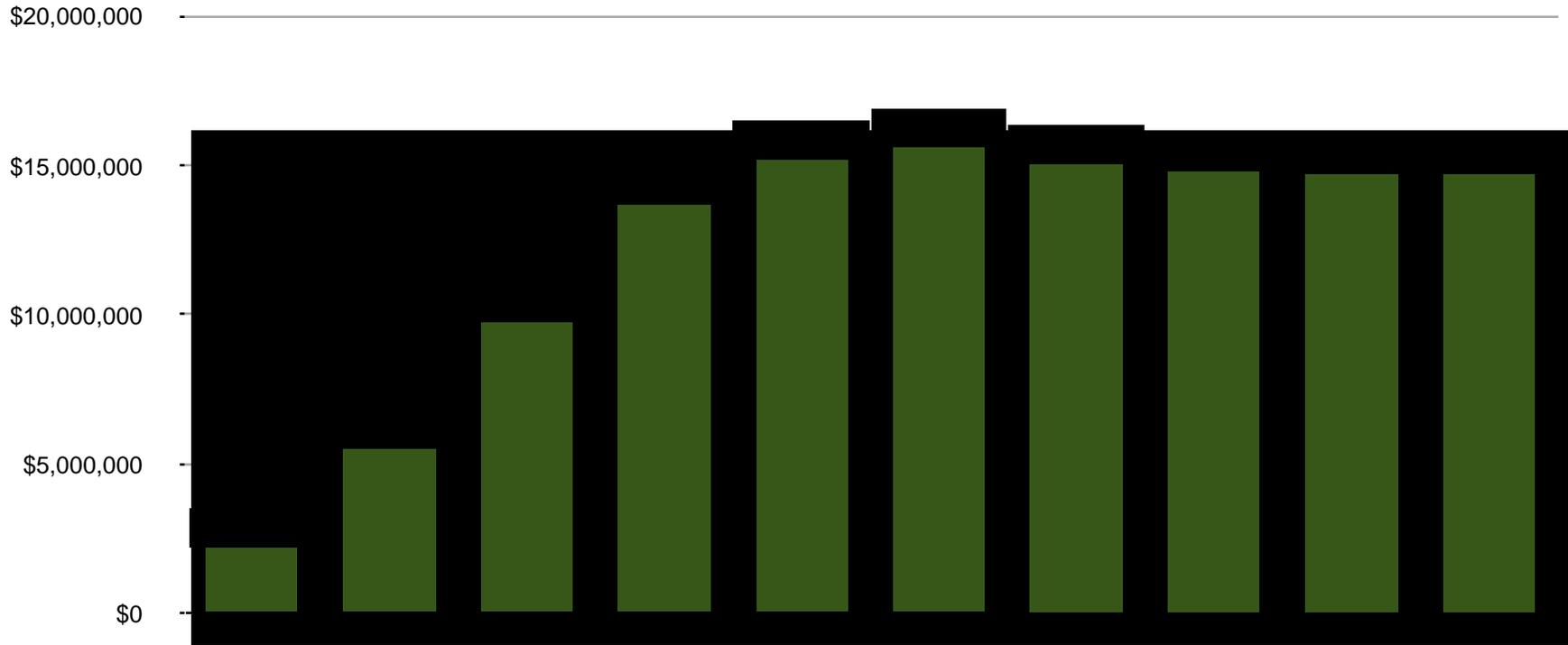
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Executive Summary

- In times of fiscal austerity, state officials typically prefer budget savings that can be implemented without negatively impacting important services.
- This analysis finds that significant state budget savings can be accomplished without negative consequences for schools or students through a gradual, multi-year restructuring of the pathway for new teachers. Such restructuring would reduce the proportion of new teachers entering from the more costly traditional teacher education programs at public universities and replacing these with more entrants through alternative certification programs.
- Despite some additional expense assumed for alternative certification programs, overall net state budget savings are projected to be approximately \$2.2 Million in Year 1, increasing to approximately \$14.8 Million by Year 9. Over 10 years, net budget savings are projected to total approximately \$121.7 Million. Net savings reflect savings minus the costs.
- Savings are accomplished through a phased reduction in state subsidies to public universities, narrowly focused on reducing the number of students completing traditional teacher preparation programs.
- The plan assumes additional funds for school districts each year, starting in Year 1, to support new district-based transitional licensure programs, including for initial licensing as well as ongoing mentoring.
- There is significant evidence of a substantial, untapped supply of potential new teachers that would participate if the state shifts to increased reliance on alternative certification routes.
- The restructuring is not expected to impact district costs for replacement of departing new teachers; attrition rates for traditionally certified teachers and alternatively certified teachers are about the same.
- Teacher quality will also not be impacted negatively, as there is strong evidence that teachers from traditional programs and teachers from alternative programs are equally effective in raising student achievement. (The exception is if alternatively certified teachers are required to take education courses after they begin teaching, in which case they are less effective.)
- A greater shift toward alternative certification may also assist school districts in filling teacher vacancies in shortage areas; however, other reforms are also likely to be necessary for areas in high demand in other parts of the workforce, such as math and science.

Figure 1. Total Annual Savings (Net)



Introduction

In times of fiscal austerity, it is often necessary for policymakers to identify savings in current public expenditures. All areas of the budget may be considered when searching for budget savings. However, savings that protect essential services are surely to be preferred over approaches that negatively impact those services. In education, ensuring an adequate supply of future public elementary and secondary teachers is an important state-subsidized service that benefits school districts and students.

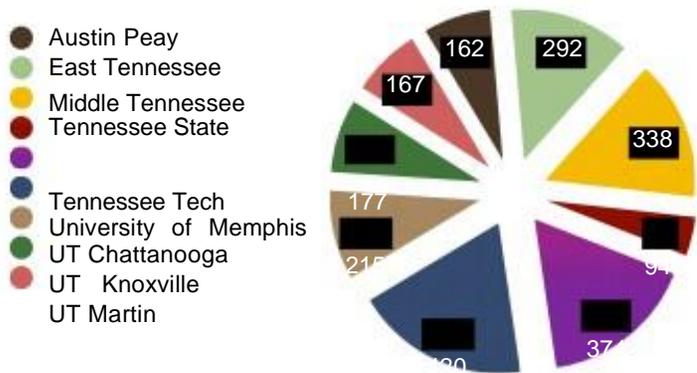
This analysis illustrates the net savings that could be obtained through a shift in state subsidies for teacher training from traditional teacher education programs toward an approach that is more balanced in its treatment of these programs and alternative certification programs. The restructuring described in this document, though it results in substantial net savings to the public, is designed to increase the volume and protect the quality of the supply of new teachers. In fact, if implemented carefully and gradually as described herein, this would benefit school districts and students outcomes by providing new teachers with training targeted specifically to their students and their local programs of instruction.

Traditional Teacher Preparation

The state of Tennessee supports traditional teacher preparation programs in large part through subsidies provided on behalf of students enrolled in traditional teacher education programs at the University of Tennessee system and institutions overseen by the Tennessee Board of Regents. The amount of the subsidy varies by campus, ranging from \$4,063 to \$6,874 per student in the 2009/2010 academic year.¹ These subsidies are applicable to all enrolled students, with a portion of the total used to support students in teacher education programs.

Traditional teacher education programs typically require students to complete either a 4-year undergraduate program resulting in a Bachelor's degree or a 4-year Bachelor's degree plus a 1-year post-baccalaureate teacher education program. The total public cost of the state subsidy for each successful participant in a traditional teacher education program equals the annual subsidy multiplied by the total number of years—i.e., either four or five—participating in a university program. For the purpose of this analysis, savings calculations assume all completers participated in 4-year undergraduate programs. Therefore, the savings estimate is conservative in the sense that it understates eventual savings for completers that participate in a 5th year post-baccalaureate program (e.g., by 25%, if the cost were the same for all 5 years).²

Figure 2. Completers By Institution



A total of 2,239 in 2008 completed a traditional teacher preparation program at a Tennessee public institution of higher education. As shown in Figure 2, the number of completers at each institution ranged between 94 at Tennessee State University and 486 at the University of Memphis.³ While the precise number of completers varies for individual institutions

somewhat from year to year, Figure 3 illustrates that the total number of completers is relatively stable from year to year, providing a reasonable basis for forward projections.

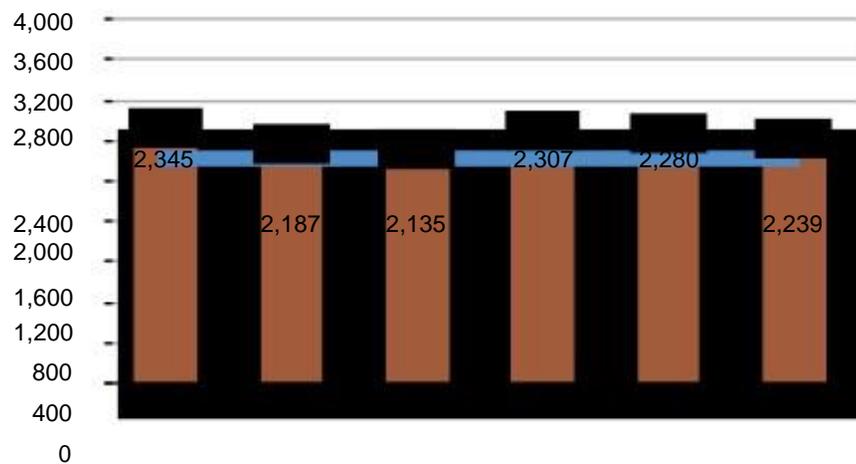
Alternative Certification Routes

As do many other states⁴, Tennessee permits a number of alternate routes into the teaching profession, including Teach Tennessee, the American Board for Certification of Teacher Excellence (ABCTE), Teach for America, The New Teachers Project, and others. Alternative certification programs vary considerably, but they essentially permit an individual with a Bachelor’s degree to obtain a state teaching license through a route other than a traditional, university-based teacher education program. Alternative certification is especially popular with mid-career switchers and other older candidates who are not able or interested in participating in a full-time teacher education academic program.⁵ Plus, national surveys indicate that more minority and male teachers enter the profession through alternate routes than from more traditional teacher education programs helping too expand representation of historically underrepresented groups in education.⁶

Calculation of Net Savings

The table in Figure 4 provides the calculations for a phased reduction in the state per student subsidy to each Tennessee public institution sufficient to reduce the number of students participating in traditional teacher education programs

Figure 3. Total Completers By Year



reaching 40% over 6 years. The full annual savings from these reductions are manifested in Year 6.⁷ The phase-in is assumed in order to avoid terminating the subsidy for current students already enrolled in such programs, in effect “grandfathering” them to avoid disrupting their educational plans mid-stream. For a detailed break-out of savings, additional expenditures, and net savings see Appendix A.

Figure 4. Calculation of Annual and Total Savings (Net) by IHE

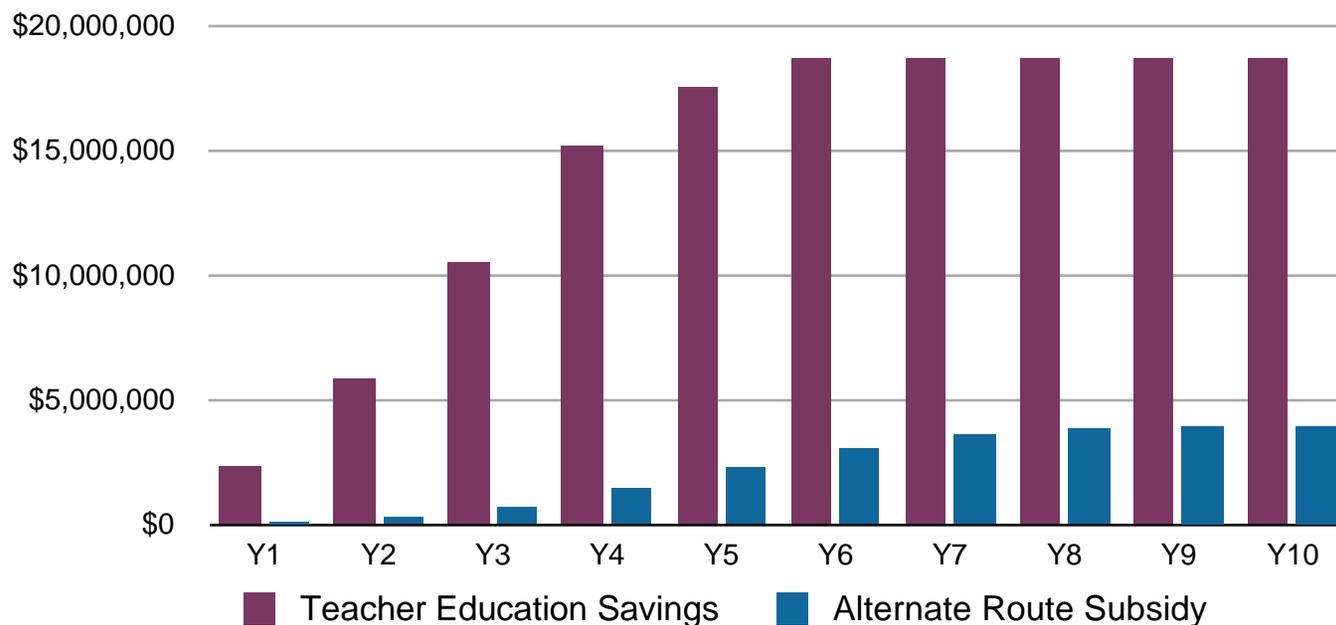
	Y1 Savings	Y2 Savings	Y3 Savings	Y4 Savings	Y5 Savings	Y6 Savings	Y7 Savings	Y8 Savings	Y9 Savings	Y10 Savings	Total 10-Year Savings
Austin Peay	\$123,744	\$305,411	\$540,950	\$748,748	\$820,854	\$830,785	\$790,690	\$774,490	\$766,390	\$766,390	\$6,468,449
East Tennessee	\$262,581	\$649,335	\$1,152,962	\$1,606,584	\$1,776,090	\$1,813,758	\$1,741,488	\$1,712,288	\$1,697,688	\$1,697,688	\$14,110,462
Middle Tennessee	\$263,116	\$649,552	\$1,150,856	\$1,594,278	\$1,749,657	\$1,772,844	\$1,689,189	\$1,655,389	\$1,638,489	\$1,638,489	\$13,801,858
Tennessee State	\$94,475	\$233,896	\$415,912	\$581,832	\$646,344	\$663,443	\$640,178	\$630,778	\$626,078	\$626,078	\$5,159,011
Tennessee Tech	\$374,318	\$926,679	\$1,647,732	\$2,304,738	\$2,559,843	\$2,627,088	\$2,534,523	\$2,497,123	\$2,478,423	\$2,478,423	\$20,428,890
University of Memphis	\$547,869	\$1,359,435	\$2,424,198	\$3,417,036	\$3,831,030	\$3,970,302	\$3,866,352	\$3,824,352	\$3,803,352	\$3,803,352	\$30,847,278
UT Chattanooga	\$189,770	\$469,184	\$832,867	\$1,159,732	\$1,280,970	\$1,306,921	\$1,253,708	\$1,232,208	\$1,221,458	\$1,221,458	\$10,168,275
UT Knoxville	\$234,711	\$582,463	\$1,038,831	\$1,464,887	\$1,643,180	\$1,703,784	\$1,659,977	\$1,642,277	\$1,633,427	\$1,633,427	\$13,236,963
UT Martin	\$140,455	\$347,068	\$615,662	\$855,658	\$942,882	\$959,565	\$918,233	\$901,533	\$893,183	\$893,183	\$7,467,422
Total	\$2,231,038	\$5,523,020	\$9,819,971	\$13,733,492	\$15,250,850	\$15,648,489	\$15,094,337	\$14,870,437	\$14,758,487	\$14,758,487	\$121,688,608

The bottom row includes the total net savings for each year, for example, \$2.2Million in Year 1 and \$15.2 Million in Year 5 to eventually, \$14.7 million by year ten. The far right column provides total cumulative net savings, or \$121.7 Million over ten years. All net savings figures include the total savings minus the costs for the alternative certification subsidies.

The phase-in is assumed in order to avoid terminating the subsidy for current students already enrolled in such programs, in effect “grandfathering” them to avoid disrupting their educational plans mid-stream. In order to avoid negative unintended consequences, state policymakers should ensure that institutions of higher education apply the cuts by reducing the total number of students receiving subsidies using the phase-in approach described above; this should be done by reducing the total number of student slots in teacher education programs as well as the total number of undergraduate slots prior to the decision to enter such programs (e.g., freshman and sophomore years), rather than simply by reducing the subsidy for all students at an institution by an equivalent amount.

The total savings from this approach increase after Year 1, until they reach the maximum amount in Year 6, then remain steady in later years. However, to ensure an increased supply of new teachers to replace those that have historically been provided through traditional preparation programs, the model includes the cost of subsidizing alternative certification programs. The cost of the alternative certification subsidies included in this analysis are far lower than the savings obtained through the reduction in traditional teacher preparation programs. Figure 5 compares the savings and costs resulting from the restructuring.

Figure 5. Restructuring Savings v. Costs



The gradual phase-in of alternatively certified teachers while restructuring traditional education programs achieves an immediate increase in the overall number of teachers prepared in TN. This done for three reasons.

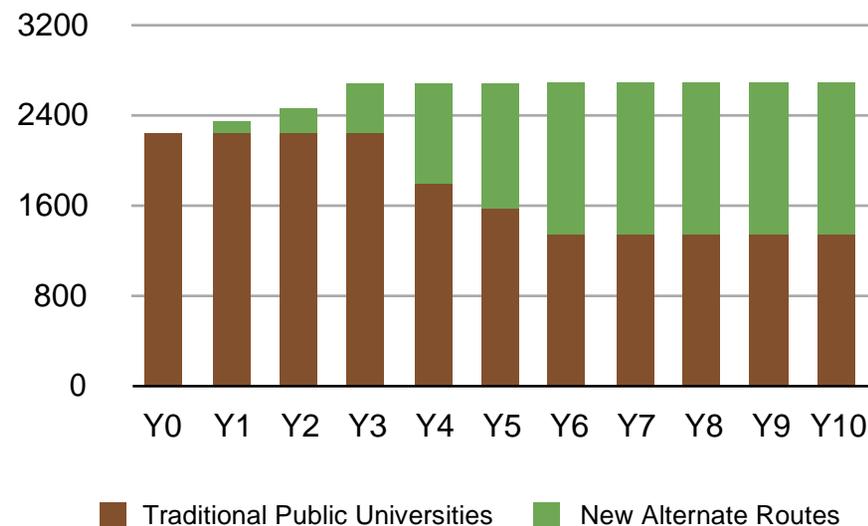
First, it provides all Tennessee districts with an opportunity to gradually improve their capacity in managing new district-based transitional licensure programs, including required 3-year mentoring for new teachers. This will help to minimize the shift at the end of Year 6, when traditional preparation programs will produce 40% fewer new teachers.

Second, Tennessee currently faces teacher shortages in key areas, such as upper grades math, science and foreign languages.⁸ Using a small part of the savings from this shift, school districts will start receiving help in Year 1 in addressing these shortages in order to better serve students. It should be noted that alternative certification routes may constitute only part of the answer in addressing these shortages. Differential compensation reforms may also need to be explored to attract individuals to teaching that possess skills in high demand in the broader workforce, such as in math and science. For additional information on differential compensation reforms, see the Policy Brief *Differential Pay for Math and Science Teachers*.⁹

Third, subsidies that encourage implementation of alternative certification programs starting in Year 1 will allow state officials to monitor the progress of such efforts and allow any necessary policy corrections at an early stage in the process. Such a prudent approach will help ensure a smooth transition after Year 6. Figure 6 provides a view of the gradual shift from complete reliance on teachers prepared through traditional education programs to a more balanced approach. Notice that not only are more teachers entering the profession from alternate routes, but the overall total of teachers being prepared has increased as well.

The model assumes a cost for each alternatively certified teacher of \$975 for completion of content and professional teaching knowledge components, \$975 for required mentoring during the first year of teaching, \$500 for required mentoring in the

Figure 6. Total New Teacher Cohort Growth



second year of teaching and \$500 for required mentoring in the third year of teaching. These figures are based on the amount necessary for the American Board alternative certification and mentoring program, a nationwide program that fits the criteria of this analysis—quality and high efficiency—and with which one of the co-authors of this analysis was formerly associated. However, the funds could be used to cover any quality alternative program selected by a school district and approved through the normal state procedure. It should be noted that the cost of different alternative certification and mentoring programs varies considerably, with more expensive programs often including additional services beyond those provided by the American Board; for example, The New Teachers Project appears to charge more for each alternatively certified teacher, typically providing candidate recruitment services to individual school districts, with school districts paying more for this additional benefit. The cost model in this analysis, however, assumes that the state responsibility will only include the “core” costs required for an efficient alternative certification program and required mentoring, with either individuals or school districts paying for any additional services. It is further assumed that if the American Board can provide quality alternative certification services for these costs, similar services could be obtained from other quality providers at a comparable price.

The cost of alternative certification subsidies rises gradually from Year 1 and until Year 6, remaining steady in subsequent years. Below are the subsidy assumptions for each year:

- The subsidies in Year 1 for alternative certification programs will create, at the start of Year 2, approximately 5% of the new teachers that have historically been produced each year in Tennessee by traditional teacher education programs.
- The Year 2 alternate route subsidies will create, at the start of Year 3, approximately 10% of the new teachers that have historically been produced each year by traditional teacher education programs, as well as cover district mentoring costs for the alternately certified teachers created in Year 1.
- The Year 3 subsidies will create, at the start of Year 4, approximately 20% of the new teachers that have historically been produced each year by traditional teacher education programs, as well as cover district mentoring costs for the alternately certified teachers created in Years 1 and 2.
- The Year 4 subsidies will create, at the start of Year 5, approximately 40% of the new teachers that have historically been produced each year by traditional teacher education programs, as well as cover district mentoring costs for the alternatively certified teachers created in Years 1, 2 and 3.

- The Year 5 subsidies will create at the start of Year 6, approximately 50% of the new teachers that have historically been produced each year by traditional teacher education programs, as well as cover district mentoring costs for the alternatively certified teachers created in Years 2, 3 and 4.
- The Year 6 subsidies will create at the start of Year 7, approximately 60% of the new teachers that have historically been produced each year by traditional teacher education programs, as well as cover district mentoring costs for the alternatively certified teachers created in Years 3, 4 and 5.
- The Year 7 subsidies will create at the start of Year 8, approximately 60% of the new teachers that have historically been produced each year by traditional teacher education programs, as well as cover the district mentoring costs for the alternatively certified teachers created in Years 4, 5 and 6.
- The Year 8 through Year 10 subsidies will create at the start of each following year, 60% of the new teachers that have historically been produced each year by traditional teacher education programs, as well as cover district mentoring costs for the alternatively certified teachers created in the prior three years.

The following table (Figure 7) provides an example of what it would cost the state of TN to support two different types of programs to prepare the same number of teachers. Notice the difference in cost for each pathway to produce 1,343 teachers.

Figure 7. Comparison of Out Years Cohort Expenditure for New Teachers

	Cohort Size	Total Cohort Cost (4-Year)
New Alternate Route	1,343	\$3,961,850
Traditional Public Universities	1,343	\$28,074,072

Teacher Shortage

The US Department of Education estimates that nationally schools will need to hire at least 2.5 million new teachers in the next five years to ten years. One estimate suggests that annually this translates into between 210,000 and 275,000 new teachers every year.¹⁰ The demand for teachers nationally is influenced by the same things that impact it in TN: enrollment trends, class size reduction initiatives, increase in subject area requirements, such as mandating more years of math at the high school level, retirements, teacher leaving the profession early, and specific requirements for teacher-student ratios at different grade levels. In addition, these variables must be viewed in the context of each geographic region in TN. According to the Southern Region Education Board (SREB), thirty-five percent of all TN educators work in five districts and thirty-six percent work in smaller rural districts with 500 or fewer teachers in the district.¹¹ While the general demand for new teachers can be traced to certain regions, the need for high quality subject area content teachers can also be linked by region. SREB reports that across the state TN needs secondary math, science, and foreign language teachers, as well as special educators at all levels. Plus in urban areas there is an even a need for elementary and social studies teachers. Importantly, a study about the supply and demand for teachers in TN conducted by Lynn Cornett indicates that new teachers tend to look for employment and are hired near where they received their preparation training.¹² Cornett concluded that this

Figure 8. Projected Annual New Teachers

	YO	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
New Alternate Route	0	112	224	448	896	1,120	1,343	1,343	1,343	1,343	1,343
Traditional Public Universities	2,239	2,239	2,239	2,239	1,791	1,567	1,343	1,343	1,343	1,343	1,343
Total Number	2,239	2,351	2,463	2,687	2,687	2,687	2,686	2,686	2,686	2,686	2,686
Total Percent	100%	105%	110%	120%	120%	120%	120%	120%	120%	120%	120%

“homing pigeon” trend (which also occurs in other states) leaves districts that are not situated close to teacher preparation programs or near low performing programs struggling to find high quality teachers. The new transitional licensure option in TN available so that districts can offer alternative certification programs in partnership with either non-profit groups or IHEs, will go a long way to remedy this problem. These alternative routes to certification can strategically focus on filling immediate needs of the district. Therefore more efficiently matching supply with demand.

Adequacy of Alternate Route Supply

Michael Podgursky, a nationally recognized education labor economist, indicates that there is a substantial untapped talent pool that would be interested in becoming teachers if they could do so through alternate routes to certification.¹³ He points out the experience of states such as California, Texas, New Jersey and Florida that are operating large-scale alternate route programs that successfully tap this latent supply. For example, 25% of new educators in Florida now enter through alternate routes.¹⁴ In 2008, The New Teacher’s Project (TNTP) in DC had 1,079 individual apply for 110 training spots available while, in New York, 2100 applicants sought 329 positions; in Louisiana, TNTP has helped to recruit nearly 1,200 new teachers (most of whom would not have entered teaching) to urban and rural areas.¹⁵ The American Board for Certification of Teacher Excellence reports that in 2007 over 34,000 individuals nationally inquired about certification, over 3,500 were pursuing certification and 32% of ABCTE certified teachers ended up teaching in rural areas. As a national program, ABCTE is able to attract individuals from a variety of settings with expertise in many different subject areas.¹⁶

The alternative certification subsidy included in the cost model would be used to pay an expense that, historically, alternate route teacher candidates and school districts have often been responsible for paying themselves. It is included as a state cost here in order to encourage applicants and support district participation, thus helping to ensure that there is no disruption in the supply of new teacher candidates during this transition. The state might decide to only reimburse the costs for successful candidates who actually obtain teaching positions in Tennessee public schools.

Alternative certification routes also provide school districts an opportunity to recruit individuals with particular skills that address shortages in certain subjects, such as math and science.¹⁷ While increased use of alternative certification could be helpful in addressing shortages, compensation policies may also be need to be rethought in order to be successful. State officials can explore differential compensation reforms that avoid inefficient and expensive across-the-board salary increases.¹⁸

Attrition

When considering greater reliance on alternative certification routes, policymakers may wonder whether this could result in higher attrition rates for new teachers, which would impact school districts. Some alternative certification programs, for example, only require teacher candidates to commit to teaching in the schools for two years.¹⁹ Overall, however, the data on traditional and alternative certification programs indicates little difference between the two in retention rates. In Tennessee, the proportion of teachers from traditional teacher education that taught the first 3 consecutive years has averaged approximately 57% in recent years.²⁰ Similarly, the proportion of teachers from the Teach Tennessee alternative certification program that taught the first 3 consecutive years has averaged approximately 62%.²¹ ABCTE reports that 85% of teachers completing its national alternative certification program are still teaching after 3 consecutive years.²²

Teacher Quality

Through its sophisticated value-added assessment program and in other ways, Tennessee has demonstrated its commitment to monitoring and ensuring teacher quality. Anyone concerned that increased reliance on alternative certification may compromise teacher quality can rest assured that the best evidence to date indicates that teachers certified through alternate routes are no less successful in educating students than teachers certified through traditional programs.

For example, recently a national, scientifically rigorous study by the U.S. Department of Education's Institute for Education Sciences (IES) compared the effect on K-12 student achievement of teachers who were prepared by traditional college of education programs and those who entered teaching using alternative certification programs. There were three findings relevant to this cost analysis:

1. There are no differences in student learning. Students learn as well from teachers who have been prepared using either approach.
2. Regardless of how many course credits a teacher preparation candidate completes, there is no difference in the impact on student achievement.
3. The only difference occurs when individuals participating in an alternate route are required to take courses while teaching full-time; in such cases, student learning is LOWER than for similar individuals who are not taking courses while teaching.²³

There is one step that Tennessee should consider in planning a shift to greater reliance on alternative certification that could *increase* the overall quality of new teachers. Instead of simply reducing all traditional teacher education programs equally by 50%, teacher quality could be substantially increased by reductions in the least effective programs. Since 2008, Tennessee has reported on the

effectiveness of each traditional certification program using value-added assessment analysis. The most recent such analysis was reported in the 2009 Report Card on the Effectiveness of Teacher Training Programs.²⁴ With a few adjustments to the methodology employed to generate these analyses, it would not be difficult for the authors to provide state policymakers or administrators with a rank ordering of programs based on effectiveness, at least in those subjects tested by the state assessment program. Such an analysis could be performed in different ways, but the key principle is that the elimination of student slots in traditional education programs could take such effectiveness data into account. In fact, if state officials do not take these data into account and happen to eliminate more of the effective programs, the overall quality of new teachers may decline.

Refinements and Midcourse Corrections

While the legislature is the appropriate body to consider policy decisions involved in such an effort, state administrators with responsibility in this area should be consulted before the design of the initiative is finalized. Administrators with relevant experience may be able to contribute refinements to the details of the restructuring, while at the same time preserving the annual net savings targets contained in the cost model. Further, periodic progress reports should be provided to the legislature over the course of implementation, allowing policymakers to determine if any midcourse corrections or adjustments are required.

Appendix A

Savings and Costs: Assumptions and Calculations

	Education Completers (07/08)	09/10 Per Student Subsidy	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	10-Year Total
Austin Peay	162	\$4,063	\$131,641	\$329,103	\$592,385	\$855,668	\$987,309	\$1,053,130	\$1,053,130	\$1,053,130	\$1,053,130	\$1,053,130	\$8,161,754
East Tennessee	292	\$4,740	\$276,816	\$692,040	\$1,245,672	\$1,799,304	\$2,076,120	\$2,214,528	\$2,214,528	\$2,214,528	\$2,214,528	\$2,214,528	\$17,162,592
Middle Tennessee	338	\$4,136	\$279,594	\$698,984	\$1,258,171	\$1,817,358	\$2,096,952	\$2,236,749	\$2,236,749	\$2,236,749	\$2,236,749	\$2,236,749	\$17,334,803
Tennessee State	94	\$5,269	\$99,057	\$247,643	\$445,757	\$643,872	\$742,929	\$792,458	\$792,458	\$792,458	\$792,458	\$792,458	\$6,141,546
Tennessee Tech	374	\$5,248	\$392,550	\$981,376	\$1,766,477	\$2,551,578	\$2,944,128	\$3,140,403	\$3,140,403	\$3,140,403	\$3,140,403	\$3,140,403	\$24,338,125
University of Memphis	420	\$6,766	\$568,344	\$1,420,860	\$2,557,548	\$3,694,236	\$4,262,580	\$4,546,752	\$4,546,752	\$4,546,752	\$4,546,752	\$4,546,752	\$35,237,328
UT Chattanooga	215	\$4,657	\$200,251	\$500,628	\$901,130	\$1,301,632	\$1,501,883	\$1,602,008	\$1,602,008	\$1,602,008	\$1,602,008	\$1,602,008	\$12,415,562
UT Knoxville	177	\$6,874	\$243,340	\$608,349	\$1,095,028	\$1,581,707	\$1,825,047	\$1,946,717	\$1,946,717	\$1,946,717	\$1,946,717	\$1,946,717	\$15,087,055
UT Martin	167	\$4,449	\$148,597	\$371,492	\$668,685	\$965,878	\$1,114,475	\$1,188,773	\$1,188,773	\$1,188,773	\$1,188,773	\$1,188,773	\$9,212,989
Total Teacher Ed. Savings			\$2,340,190	\$5,850,474	\$10,530,85	\$15,211,23	\$17,551,42	\$18,721,51	\$18,721,51	\$18,721,51	\$18,721,51	\$18,721,517	\$145,091,75
Alternate Route Subsidy			\$109,151	\$327,454	\$710,883	\$1,477,740	\$2,300,573	\$3,073,028	\$3,627,180	\$3,851,080	\$3,963,030	\$3,963,030	\$23,403,148
Net Savings			\$2,231,038	\$5,523,020	\$9,819,971	\$13,733,49	\$15,250,85	\$15,648,48	\$15,094,33	\$14,870,43	\$14,758,48	\$14,758,487	\$121,688,60

Assumptions for numbers for Traditional Certification program

Year 1: 20% reduction in traditional program slots for Freshmen

Year 2: 30% reduction in traditional program slots for Freshmen and 20% for sophomores

Year 3: 40% reduction in traditional program slots for Freshmen and 30% for sophomores; 20% Juniors
Year 4: 40% reduction in traditional program slots for Freshmen and 40% for sophomores; 30% Juniors; 20% Seniors
Year 5: 40% reduction in traditional program slots for Freshmen and 40% for sophomores; 40% Juniors; 30% Seniors
Year 6: 40% reduction in traditional program slots for Freshmen and 40% for sophomores; 40% Juniors; 40% Seniors
Year 7: 40% reduction in traditional program slots for Freshmen and 40% for sophomores; 40% Juniors; 40% Seniors
Year 8: 50% reduction in traditional program slots for Freshmen and 50% for sophomores; 50% Juniors; 50% Seniors

Assumptions for numbers for Alternative Certification programs

Year 1: Increase 5%
Year 2: Increase 10%; 5%
Year 3: Increase 20%; 10%; 5%
Year 4: Increase 40%; 20%; 10; 5%
Year 5: Increase 50%; 40%; 20%; 10%
Year 6: Increase 60%; 50%; 40%; 20%
Year 7: Increase 60%; 60%; 50%; 40%
Year 8: Increase 60%; 60%; 60%; 50%
Year 9: Increase 60%; 60%; 60%; 60%

Endnotes

¹ Information from Tennessee Higher Education Council (THEC), Fiscal Division. *Fiscal Report on Student Subsidy for 2009-2010*. Retrieved November 30, 2009 from : <https://www.tn.gov/thec.html>

² While we estimate that most completers at such institutions also obtained their Baccalaureate degree at the same institution, in a minority of cases—where those who participated in a 5th-year program obtained their Baccalaureate degree at a non-public institution—the plan will result in a small decrease in the number of students not intending to become teachers that receive the subsidy. The financial savings are unaffected.

³ Rugaard, Vance. E-mail communication to Richard Cross providing TN Title II Report information attached as an Excel spreadsheet on December 2, 2009.

⁴ For information about alternative certification programs in other states see the National Center for Alternative Certification or National Center on Education Information at: <https://moreland.edu/teacher-certification-guide>

⁵ Dr. C. Emily Feistritzer, president of the National Center for Education Information, publisher of *Teacher Education Reports* and the author of *Profile of Alternate Route Teachers* provides information about the characteristics of alternate route teachers. Retrieved on November 30, 2009 from: <https://www.edweek.org/teaching-learning/opinion-the-impact-of-alternate-routes-to-teaching/2009/11>

⁶ Ibid

⁷ Some traditional teacher education programs in Tennessee are based on 4-year Baccalaureate plus a 5th year post-baccalaureate year (rather than a 4-year undergraduate program). Reductions to subsidies for such institutions would create additional savings in Year 5, resulting in upside to the projection of savings. It is beyond the scope of this analysis to estimate these additional savings, which would depend on the nature of the teacher education program at each institution.

⁸ Teacher shortages in specific subjects and regions are mentioned Governor Phil Bredesen's initiative, *Teach Tennessee* (see <http://www.state.tn.us/education/teachtn/index.shtml>) and Lynn Cornett's report on Teacher Supply and Demand in Tennessee from the Southern Regional Education Board (see: <https://eric.ed.gov/?id=ED461641>)

⁹ Rebarber, T. and Madigan, K. (2009). *Differential Pay for Math and Science Teachers*. Boston, MA: Pioneer Institute. Retrieved on November 30, 2009 from: https://pioneerinstitute.org/wp-content/uploads/dlm_uploads/rebarber_madigan_diff_pay.pdf

¹⁰ See Patrick Murphy's and Michael De Armond's study, *From the Headlines to the Frontlines: The teacher shortage and its implications for recruitment policy*. Washington University, Seattle, Washington: Center on Reinventing Public Education. Retrieved on December 2, 2009 from: <https://www.crpe.org/publications/headlines-frontlines-teacher-shortage-and-its-implications-recruitment-policy>

¹¹ See Lynn Cornett's report on Teacher Supply and Demand in Tennessee from the Southern Regional Education Board (see: https://pioneerinstitute.org/wp-content/uploads/dlm_uploads/rebarber_madigan_diff_pay.pdf)

¹² Ibid

¹³ Podgursky, M. (2005). Testimony to the Missouri House Education Committee: February 23, 2005.

¹⁴ Milton, S., Curva, F. Kolbe, T., Milton, A., & Milton, B.(2009). *Teachers from Florida Teacher Preparation Programs: A report on program completers*. Retrieved on November 30, 2009 from: <https://altcertflorida.org/>

¹⁵ The New Teachers Project. *Impact studies*. Retrieved November 30, 2009 from: <https://tntp.org/>

¹⁶ American Board for Certification of Teacher Excellence. (2007). *A Higher Standard*. Retrieved on November 30, 2009 from: http://www.abcte.org/files/HigherStandard_Spring07.pdf

¹⁷ For information about alternative certification being used to address shortage subjects, such as math and science see: National Center on Education Information, Alternate Routes at: <https://moreland.edu/teacher-certification-guide>

¹⁸ Additional information on such reforms—such as allowing higher ongoing compensation in shortage areas, perhaps linking the additional compensation to performance—may be found in Rebarber, T. and Madigan, K. (2009). *Differential Pay for Math and Science Teachers*. Boston, MA: Pioneer Institute. Retrieved on November 30, 2009 from: https://pioneerinstitute.org/wp-content/uploads/dlm_uploads/rebarber_madigan_diff_pay.pdf

¹⁹ Susan Moore Johnson, director of Next Generation of Teachers project, reported in May 2008 that although Teach for America participants are required to teach for two years, 60.5% stayed in teaching longer than two years. Retrieved on November 30, 2009 from: <http://www.gse.harvard.edu>

²⁰ Unweighted average of data for completers in 2003 (52.4%) and 2004 (61.9%). TN Department of Education: *2009 Report Card on the Effectiveness of Teacher Training Programs*, retrieved on November 30, 2009 from: <https://files.eric.ed.gov/fulltext/ED514372.pdf>

²¹ Unweighted average of data for those alternatively certified through Teach Tennessee in June 2005 (58.8%), November 2005 (62.5%), June 2006 (61.3%), November 2006 (54.2%) and June 2007 (75.0%). TN Department of Education. *2009 Report Card on the Effectiveness of Teacher Training Programs*, retrieved on November 30, 2009 from: <https://files.eric.ed.gov/fulltext/ED514372.pdf>

²² Information from <https://www.americanboard.org/faqs/>

²³ Constantine, J., Player D., Silva, T., Hallgren, K., Grider, M., and Deke, J. (2009). *An Evaluation of Teachers Trained Through Different Routes to Certification, Final Report* (NCEE 2009-4043). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Summary of findings can be found in the executive summary on pages xvii - xix; retrieved on November 30, 2009 from: <https://ies.ed.gov/ncee/pubs/20094043/pdf/20094044.pdf>

²⁴ TN Department of Education. *2009 Report Card on the Effectiveness of Teacher Training Programs*, retrieved on November 30, 2009 from: <https://files.eric.ed.gov/fulltext/ED514372.pdf>