

<p>DISTRICT COURT, CITY AND COUNTY OF DENVER, COLORADO 1437 Bannock Street Denver, Colorado 80202</p>	<p>EFILED Document CO Denver County District Court 2nd JD Filing Date: Oct 28 2011 11:40PM MDT Filing ID: 40624653 Review Clerk: Leanne Galanti</p>
<p>PLAINTIFFS: Anthony Lobato, et al., and Plaintiff-Intervenors: Armandina Ortega, et al. v. DEFENDANTS: The State of Colorado, et al.</p>	<p>COURT USE ONLY</p>
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<p align="center">PLAINTIFF-INTERVENORS' PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW</p>	

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Plaintiff-Intervenors Armandina Ortega, *et al.*, request that the Court adopt the following Findings of Fact and Conclusions of Law based on the evidence presented at trial. Plaintiff-Intervenors' detailed Findings of Fact can be found on pages 2 - 91. Plaintiff-Intervenors' Conclusions of Law can be found on pages 92 – 98.

Findings of Fact

I. Procedural History and Parties

A. Procedural History

1. Plaintiffs, various school districts and parents, filed this lawsuit on June 23, 2005. The district court dismissed this on jurisdictional and standing grounds and Plaintiffs appealed. The Colorado Supreme Court eventually heard the case, and on October 19, 2009, reversed and remanded the case for a determination of whether Defendants had violated their duties under the Education and Local Control Clauses of the Colorado Constitution.
2. Plaintiff-Intervenors filed their intervention on March 3, 2010, on behalf of parents and their English language learner and/or low income children attending public schools in Greeley, Mapleton, Sheridan and Rocky Ford School Districts. Their allegations were similar to but more narrow than Plaintiffs' allegations. More specifically, Plaintiff-Intervenors alleged that funding for ELL and low income students was inadequate and irrational and that funding for instruction and facilities for low property wealth districts was inadequate and irrational in violation of the Education and Local Control Clauses of the Colorado Constitution.
3. Following extensive discovery and various pre-trial motions, the Court held a five-week evidentiary trial from August 1, 2011 through September 2, 2011. The Court admitted thousands of exhibits and heard the testimony from over 80 live witnesses and others through deposition excerpts.
4. The Court bases these findings of fact, in part, on the credibility of witnesses' testimony, including but not limited to the witness's demeanor, relevant background, education and experience related to the subject matter, and responsiveness to questions on cross-examination.
5. The Court finds both credible and convincing the testimony of the lay and expert witnesses presented by Plaintiff-Intervenor and Plaintiffs. These persons include the plaintiff-intervenor parents, school district superintendents and administrators for the districts in which the plaintiff-intervenor children attended, plaintiff school districts and administrators, individual plaintiffs, experts, and teachers who testified in this case.

B. Parties to this Action

i. Plaintiff-Intervenors

6. Plaintiff-Intervenors include Armandina Ortega, individually and as next friend for her minor children S. Ortega and B. Ortega; Gabriel Guzman, individually and as next friend for his minor children G. Guzman, Al. Guzman and Ar. Guzman; Roberto Pizano, individually and as next friend for his minor children Ar. Pizano and An. Pizano; Maria Piña, individually and as next friend for her minor children Ma. Piña and Mo. Piña; Martha Lopez, individually and as next friend for her minor children S. Lopez and L. Lopez; M. Payan, individually and as next friend for her minor children C. Payan, I. Payan, G. Payan and K. Payan; Celia Leyva, individually and as next friend for her minor children Je. Leyva and Ja. Leyva; and Abigail Diaz, individually and as next friend for her minor children K. Saavedra and A. Saavedra. Pl. Intvs.' First Am. Pet. In Intv.
7. Each of the plaintiff-intervenor children is a child identified on the free and reduced priced lunch program and is, or was previously, identified as an English Language Learner (ELL) student under Colorado law. Tr. Day 15, 3828:13-15, Sealed Exs. 20017-20018 (Ortega); Tr. Day 15, 3859:23-25, 3863:22-3864:4, 3865:18-3866:10, Sealed Exs. 20024-20026 (Pizano); Sealed Exs. 20020-20022 (Payan); Tr. Day 16, 4115:6-11, 4116:23-4117:3, Sealed Exs. 20027-20028 (Diaz); Tr. Day 17, 4231:8-10, 4237:1-6, 4241:3-8, Sealed Exs. 20015-20016, Ex. 908 (Leyva); Sealed Exs. 20011-20012 (Guzman); Sealed Exs. 20023-20024 (Piña); Sealed Exs. 20013-20014 (Lopez).
8. Pursuant to a stipulation entered between the parties, Plaintiff-Intervenors agreed to present at least one plaintiff-intervenor parent to testify from each of the districts in which plaintiff-intervenor children attend and Defendants agreed not to move to dismiss the claims of any non-testifying individual Plaintiff-Intervenor for failure to prosecute or on any other grounds related to the failure to present testimony in this case. Stip. Re: Individual Pl. and Pl. Intv. Testimony at 3 (signed Aug. 3, 2011).
9. Armandina Ortega's children attend public schools in the Rocky Ford R-2 School District. Tr. Day 15, 3829-2832. S. Ortega is a 10th grade student at Rocky Ford Junior/Senior High School and desires to attend college and become an immigration attorney. Tr. Day 15, 3831:5-6; 3835:1-4. B. Ortega is a 9th grade student at Rocky Ford Junior/Senior High School. Tr. Day 15, 3830:22-3831:4. Ms. Ortega desires that all of her children graduate from high school and be prepared to attend and complete college. Tr. Day 15, 3854:7-3855:6.
10. Roberto Pizano's children attend public schools in the Rocky Ford R-2 School District. Ar. is an 11th grade student at Rocky Ford Junior/Senior High School and desires to attend college and become a dentist Tr. Day 15, 3862:1-3, 3864:8-15, 3872:12-15. An. attends Jefferson Intermediate School. Mr. Pizano also has a young daughter who attends preschool at Child Development Services (CDS). Tr. Day 15, 3861:4-13. Mr. Pizano desires that all of his children graduate from high school and be prepared to attend and complete college. Tr. Day 15, 3872-3873.

11. Gabriel Guzman's children attend public schools in the Rocky Ford R-2 School District. Sealed Exs. 20011-20012. G. is a 8th grade student at Rocky Ford Junior/Senior High School. Al. is a 3rd grade student at Jefferson Intermediate School. Ar. Attends preschool at CDS. *Id.*
12. Maribel Payan's children attend public schools in the Sheridan 2 School District. Tr. Day 14, 3666:12-17. K. Payan is a 5th grade student at Fort Logan Elementary School. Tr. Day 14, 3670:25-3671:10. G. Payan is a 7th grade student at Sheridan Middle School. Tr. Day 14, 3674:4-15. I. Payan is fifteen years old and attended Sheridan High School, but now attends a charter high school. Tr. Day 14, 3677:3-4, 3681:2-4. C. Payan is an 11th grade student at Sheridan High School. Tr. Day 14, 3680:25-3681:7. Ms. Payan desires that all of her children graduate from high school and be prepared to attend and complete college. Tr. Day 14, 3689:9-13.
13. Martha Lopez's children attend public schools in the Sheridan 2 School District. S. is a 3rd grade student at Alice Terry Elementary School. Sealed Exs. 20013-20014. L. is a 10th grade student at Sheridan High School. *Id.*
14. Maria Piña's children attend public schools in the Sheridan 2 School District. Child Ma. Piña is a 10th grade student at Summit High School. Sealed Exs. 20023-20024. Child Mo. Piña is a 5th grade student at Ft. Logan Elementary School. *Id.*
15. Abigail Diaz's children attend public schools in Weld County School District 6 in Greeley, Colorado. Tr. Day 16, 4112:9-16. R. is an 11th grade student in Greeley Evans Alternative Program and hopes to be a doctor (GAP). Tr. Day 16, 4117:18-24, 4118:18-25. K. is a 9th grade student at Northridge High School. Tr. Day 16, 4123:8-4124:5. A. is a 1st grade student at Billy Martinez Elementary School and desires to be an attorney. Tr. Day 16, 4131:9-16, 4132:7-10. Ms. Diaz desires that all of her children graduate from high school and be prepared to attend and complete college and become professionals and productive citizens. Tr. Day 14, 4139:13-4142:1.
16. Celia Leyva's children attend public schools in Mapleton Public Schools. Ja. is a 3rd grade student at Welby Montessori School and hopes to be an FBI agent. Tr. Day. 17, 4232:5-12, 4237:13-15. Je. is a 6th grade student at Welby Montessori School and hopes to be a doctor. Tr. Day 17, 4233:11. Ms. Leyva desires that all of her children graduate from high school and be prepared to attend and complete college. Tr. Day 17, 4249:10-4250:13.
17. Short descriptions of the school districts attended by Plaintiff-Intervenor children follow.
18. **Sheridan 2 School District (Sheridan)** is located within the center of the Denver metropolitan area and sits in three jurisdictions: City of Englewood, unincorporated Arapahoe County and the City of Sheridan. 3547:17-3548:4. Sheridan has four schools: Early Childhood Center, Alice Terry (Grades K-2), Fort Logan (Grades 3-5), Sheridan MS (Grades 6-8), and Sheridan HS (Grades 9-12). 3553:17-24

19. Each of the neighborhoods in Sheridan is low income, including the Fort Logan community where there are dire housing situations and mostly apartment buildings in need of maintenance. 3551:15-3552:3.
20. Sheridan's demographics have changed over the past 15 years, from a predominantly Anglo community to a predominantly Hispanic community. Sheridan's per capita income is approximately \$16,000, which is considerably lower than other areas. 3550:8-21. Many of the Sheridan parents work in tough labor positions, paving companies, and in the restaurant, food and hotel industries. 3553:10-15.
21. The student population of Sheridan is 1,651, which had fallen previously, but since 2008 the enrollment has increased 6.9%. In the 2010-2011 school year, Sheridan 2 School District was 81.9% minority and 72.1% Hispanic. Ex. 5901, at Tbl. 4; Tr. Day 16, 4176:19-21. Latino students comprise about 78%, Anglos 18-20% and the remainder: Native American, Asian and African American, as well as a growing community from East Africa. Most of the East African immigrant students come from refugee camps. 3553:25-3555:14.
22. For the fall of the 2010-11 school year, Sheridan enrolled 178 special education students, 136 homeless and 623 ELLs. The homeless population is likely an underestimate because parents are too proud to report their status as homeless. Tr. Day 14, 3556:7-3557:19; Ex. 152. A more accurate estimate for the homeless population is about 15% of the student population. 3560:23-3561:4.
23. In the 2010-11 school year, 75.7% of students in the Sheridan qualified for free or reduced lunch. Ex. 5901 at Tbl. 5; Tr. Day 16, 4178:9-10. The percent on the reduced priced lunch program standing alone is just under 6%. Like the homeless population, the percentage of students on the FRLP is likely an underestimate because of the pride factor and the number is more likely in the range of 90%. 3563:8-18.
24. ELL students comprise approximately 45% (753) of Sheridan's student population. Of that number, approximately 20% are NEP and 67% are LEP. 3566:4-20.
25. Sheridan's mobility rate ranged from 25% to 35%. 3551:8-14.
26. Sheridan Superintendent Michael Clough has a Master's degree in school administration, a superintendent's license, and is in his fourth year as superintendent of Sheridan. In Colorado public schools, he has held positions as a teacher, counselor, coach, principal, superintendent and regional manager for the Colorado Department of Education ("CDE"). Tr. Day 14, 3535:5-3536:19; Ex. 20001.
27. **Weld County School District 6/Greeley-Evans School District 6 (Greeley)** is located in the plains in Weld County, Colorado, with a population of approximately 100,000. A U.S. Census Bureau survey of communities over 65,000 in Colorado found Greeley to have the second highest rate of childhood poverty. Tr. Day 16, 3990:11-25; 3991:23-25.

28. Greeley has a diverse economic and real estate community, ranging from the Promontory Office Park with the corporate headquarters for State Farm and JBS Beef and nice single-family home subdivisions in western Greeley to a meat-packing plant and older homes and trailer parks in eastern Greeley. *Id.* 3991:1-23.
29. Greeley's demographics have changed dramatically over the years, having become a 50% minority student school district in 2005-06 and now enrolling 67% minorities, with Hispanics comprising the majority of the racial minority students. *Id.*, 3992:15-24. 58.3% Greeley students are Hispanic. Ex. 5901 at Tbl. 4; Tr. Day 16, 4177:5-6.
30. Greeley is the 13th largest district in Colorado with a total enrollment of about 19,500, 18,800 of which are full-time equivalents (FTE). Approximately 10% of its students are identified as special education, and its low income students have increased to over 60%, including 1,453 students on the reduced price lunch program, or 7.6%. ELL students comprise 25% of the student population. Greeley also has experienced the enrollment of new immigrants from Somalia, Burma and other parts of East Africa. *Id.*, 3992:1-3995:24; 3997:9-19.
31. Greeley has a mobility rate of 30%, which brings challenges because the district has to determine where students are academically and what kind of services they need. Tr. Day 16, 4051:22-4052:21.
32. **Mapleton 1 School District (Mapleton)** is located just north of Denver in between Westminster and Commerce City and south of Thornton and Adams County School District 12. The district is 25 square miles and has 17 schools. The demographics of the community in which Mapleton sits has changed over the years from an Italian truck-farming community to a diverse light industrial, aging community composed of about 70% senior citizens. Tr. Day 17, 4340:20-4341:24.
33. Mapleton enrolls about 8,000 students per year, including an online contract school that serves students across the state, which makes the district the fastest-growing district in Colorado. Not including the online students, about 70% of Mapleton students are Hispanic, over 60% are ELL and 60.2% of students in Greeley qualified for free or reduced lunch in the 2010-11 school year. Ex. 5901 at Tbl. 5; Tr. Day 16, 4178:18-20.
34. In 2010, of the 7,634 students in PK-12, the district identified 173 as GT, 665 as special education, and 176 as homeless. *Id.*, 4344:13-4346:14.
35. Mapleton Superintendent Charlotte Ciancio holds a masters degree from the University of Colorado in Boulder and is pursuing her doctorate. Ms. Ciancio had her first teaching job as a teacher in Mapleton and also worked as a coordinator for special education services, a principal, an executive director of learning services and is now in her 11th year as superintendent of Mapleton. Tr. Day 17, 4331-4335.
36. **Rocky Ford R-2 School District (Rocky Ford)**. Rocky Ford is a small, rural town in Otero County, Colorado. Tr. Day 14, 3826:11-16. Generally, people in Rocky Ford work in the fields. *Id.*, 3858:20-22.

37. Rocky Ford School District is the second largest school district in Otero County, enrolling 862 students in grades PK-12 in the fall of 2010. In the 2010-2011 school year, Rocky Ford R-2 School District was 71.7% minority and 69% Hispanic. Ex. 5901, at Tbl. 4; Tr. Day 16, 4176:22-4177:4.
38. Approximately 23 students were identified as gifted and talented, 99 as special education, and 89 as ELL. Ex. 152. In the 2010-11 school year, 76% of students in Rocky Ford qualified for free or reduced lunch, including 11.8% on the reduced-priced lunch program. Ex. 5901 at Tbl. 5; Tr. Day 16, 4178:11-17.; Ex. 20146. This was 3% higher than the 75.5% in 2008. Ex. 20031.
39. Plaintiff school districts are:
- Jefferson County School District No. R-1; Colorado Springs, School District No. 11, in the County of El Paso; Bethune School District No. R-5; Alamosa School District, No. RE-11J; Centennial School District No. R-1; Center Consolidated School District No. 26 JT, of the Counties of Saguache and Rio Grande and Alamosa; Creede Consolidated School District No. 1 in the County of Mineral and State of Colorado; Del Norte Consolidated School District No. C-7; Moffat, School District No. 2, in the County of Saguache and State of Colorado; Monte Vista School District No. C-8; Mountain Valley School District No. RE 1; North Conejos School District No. RE1J; Sanford, School District No. 6, in the County of Conejos and State of Colorado; Sangre de Cristo School District, No. RE-22J; Sargent School District No. RE-33J; Sierra Grande School District No. R-30; South Conejos School District No. RE10; Aurora, Joint District No. 28 of the Counties of Adams and Arapahoe; Moffat County School District Re: No. 1; Montezuma-Cortez School District No. RE-1; and Pueblo, School District No. 60 in the County of Pueblo and State of Colorado. Pls.' Third Am. Pet.
40. Plaintiff parents are Anthony Lobato, as an individual and as a parent and natural guardian of Taylor Lobato and Alexa Lobato; Denise Lobato, as an individual and as a parent and natural guardian of Taylor Lobato and Alexa Lobato; Miguel Cendejas and Yuri Cendejas, individually and as parents and natural guardians of Natalia Cendejas and Selma Cendejas; Pantaleón Villagomez and Maria Villagomez, individually and as parents and natural guardians of Chris Villagomez, Monique Villagomez, and Angel Villagomez; Linda Warsh, as individuals and as parents and natural guardians of Adam Warsh, Karen Warsh and Ashley Warsh; Herbert Conboy and Victoria Conboy, as individuals and as parents and natural guardians of Tabitha Conboy , Timothy Conboy and Keila Barish; Terry Hart, as an individual and as parent and natural guardian of Katherine Hart; Larry Howe-Kerr and Kathy Howe-Kerr, as individuals and as parents and natural guardians of Lauren Howe-Kerr and Luke Howe-Kerr; Jennifer Pate, as an individual and as parent and natural guardian of Ethan Pate, Evelyn Pate and Adeline Pate; Robert L. Podio and Blanche J. Podio, as individuals and as parents and natural guardians of Robert Podio and Samantha Podio; Tim Hunt and Sabrina Hunt, as individuals; Darean Hunt and Jeffrey Hunt; Doug Vondy and Denise Vondy, as individuals and as parents and natural guardians of Hannah Vondy and Kyle Leaf; Brad Weisensee and Traci Weisensee, as individuals and as parents and natural guardians of Joseph Weisensee, Anna Weisensee, Amy Weisensee and Elijah Weisensee; Stephen Topping, as an individual and as parent and natural guardian of

Michael Topping; Debbie Gould, as an individual and as parent and natural guardian of Hannah Gould, Ben Gould and Daniel Gould; Lillian Leroux, as an individual and natural guardian of Lillian Leroux, Ashley Leroux, Alexandria Leroux and Amber Leroux; Lisa Calderon, as an individual and natural guardian of Savannah Smith; Jessica Spangler, as an individual and natural guardian of Rider Donovan Spangler. Pls.' Third Am. Pet.

ii. Defendants

41. Defendants are the State of Colorado (herein the "State"), Robert K. Hammond in his official capacity as the Commissioner of Education for the State of Colorado, and the Colorado State Board of Education (herein "State Board"), and John Hickenlooper, in his official capacity as Governor of the State of Colorado. Pl. Intvs.' First Am. Pet. In Intv.
42. Defendant State of Colorado (the "State") is a body politic. Undisputed Facts Stip. at 5, Stip. 4 (signed Aug. 3, 2011) ("Undisputed Facts Stip.," herein).
43. Defendant Robert K. Hammond is "the chief state school officer and executive officer of the [Colorado Department of Education]" and has the authority "[t]o perform all duties which may be required by law." C.R.S. § 22-2-110(1); Undisputed Facts Stip. at 5, Stip. 7. Defendant Hammond is responsible for carrying out the policies and regulations of the Colorado Department of Education (herein "CDE") and the State Board of Education. Tr. Day 24, 6526:9-20. Defendant Hammond also serves as the Secretary on the State Board of Education, and is responsible for advising the State Board of Education on certain policy matters. Tr. Day 24, 6535:12-25.
44. Defendant Colorado State Board of Education exercises the "general supervision of the public schools of the state" and appoints the Commissioner of Education. COLO. CONST. art. IX, sec. 1; Undisputed Facts Stip. at 5, Stip. 5. The State Board is responsible for providing all of Colorado's children equal access to quality, thorough, uniform, well-rounded educational opportunities in a safe and civil learning environment. Tr. Day 24, 6535:12-25. The duties and responsibilities of Defendant State Board of Education include providing educational leadership for the State; making rules, regulations, and policies that govern the CDE, including pre-kindergarten through 12th grade, adult education, and public libraries; accrediting school districts; and distributing state and federal funds. Tr. Day 24, 6581:20-6583:21; Ex. 169.
45. Defendant Governor John Hickenlooper is vested with the supreme executive power of the State and is responsible for ensuring that the laws of the State of Colorado are faithfully executed. Undisputed Facts Stip. at 5, Stip. 7.

II. Facts Related to the Court’s Adoption of Legislative Pronouncements and Enactments in Defining the Meaning of a “Thorough and Uniform System of Education.”

Brief History

46. The Colorado Constitution was drafted and adopted in 1876 following the Constitutional Convention for the State of Colorado. Among the provisions adopted was a charge to the General Assembly, known as the “Education Clause,” that it establish and maintain a thorough and uniform system of free public schools throughout the state. COLO. CONST. art. IX, § 2. Although a state board of education was provided general supervision of the schools, the drafters were clear that school district boards would be established and maintain control of their respective instruction, pursuant to the provision commonly referred to as the “Local Control Clause.” Compare *id.*, § 1 with *id.*, § 15.
47. Education was centrally important to the Framers, who devoted the entire Article IX of the Constitution to education. The thorough and uniform provision included a qualitative component, one in which the framers spoke of the importance of education in producing a citizenry with the skills to participate and be effective in Colorado’s emerging economy. Tr. Day 2, 539:13-541:12; Ex. 7204 at 3-4. As Daniel Hurd, the chair of the committee on education for the convention, stated: “A thorough and efficient school system whereby every child and youth of this vast commonwealth shall receive regular and free instruction, we propose to erect a superstructure upon a solid and lasting founding, system of education as high as our snowcapped mountains, as broad as our boundless prairies and as free to all as the air of heaven.” Tr. Day 2, 553:24-554:10.
48. Since the ratification of the Colorado Constitution, the General Assembly has enacted many statutes to carry out its duty to provide a thorough and uniform system of public education. As directed by the Colorado Supreme Court, in making these findings of fact and conclusions of law, this Court has relied on the legislature’s own pronouncements to develop the meaning of a thorough and uniform system of education while also giving substantial deference to the legislature’s fiscal and policy judgments.

Present Day

49. In its standards-based education and accountability system, the General Assembly has defined its constitutional mandate to provide a thorough and uniform system of public education much more expansively than simply the provision of a public education.
50. The State has made many legislative pronouncements and requirements for school districts, public schools, and students that describe a “thorough and uniform system” that is explicitly linked to student achievement on specific performance indicators.
51. The Colorado General Assembly has passed and implemented a comprehensive legislative scheme creating the public education system in Colorado, including but not limited to: the Education Reform Provisions of 1993, the Preschool through Postsecondary Education

Alignment Act of 2008 (more commonly known as Colorado’s Achievement Plan for Kids, or “CAP4K”), the Teacher Effectiveness Act (SB 191); and the Education Accountability Act of 2009 (SB 163).

52. Through its comprehensive, interlocked system of public education, the General Assembly has substantially heightened standards and expectations for schools and school districts, and the system plays an integral role in the State’s vision for its students, which specifically includes the provision of a thorough and uniform system of public schools. Tr. Day 20, 5266:17-5267:23.
53. With the passage of the Educational Accountability Act in 1993, the Colorado General Assembly initiated a “standards-based education” with “the ultimate goal. . . to ensure that Colorado’s schools have standards which will enable today’s students of all cultural backgrounds to compete in a world economy in the twenty-first century.” C.R.S. §22-7-401; Tr. Day 18, 4725:19-4726:19.
54. The Education Accountability Act directed the State Board to adopt “state model content standards” and “state assessments” that are aligned with the content standards and that “meet or exceed the state model content standards,” to align curriculum and program of instruction with those content standards, “and to ensure that each student will have the educational experiences needed to achieve the adopted content standards.” C.R.S. §22-7-407(1) and (2); Tr. Day 18, 4725:5-18.
55. In 2008, the General Assembly passed sweeping legislation requiring the complete alignment of the PreK-12 system and the higher education system into a P-20 system with the expectation that all Colorado students would be postsecondary and workforce ready. Ex. 68 at 4. Known as CAP4K, the Colorado Achievement Plan for Kids was designed to “align the public education system from preschool through postsecondary and workforce readiness,” and to create a “seamless system of standards, expectations, and assessments from preschool through postsecondary and workforce readiness.” C.R.S. §§22-7-1002(4)(a), (c); Ex. 66 at CDE 003392.
56. CAP4K requires public education, in part, to be “sufficiently relevant and rigorous to ensure that each student who receives a public education in Colorado is prepared to compete academically and economically within the state or anywhere in the nation or the world.” C.R.S. § 22-7-1002(4)(e) (2010).
57. CAP4K was a fundamental redesign of the State’s academic standards and assessment for students progressing from preschool into college or the work force. Tr. Day 24, 6551:20-25; Ex. 3146 at 49.

A. Curriculum Standards

58. As part of CAP4K, the General Assembly directed the State Board to adopt new content standards from preschool through secondary education to ensure that a student “will be

able to demonstrate postsecondary and workforce readiness prior to or upon attaining a high school diploma.” C.R.S. §§22-7-1005(3)(a).

59. Stakeholders from PreK-12 and postsecondary education came together to develop the new, more rigorous standards and to recommend a new assessment system to measure the standards. Tr. Day 24, 6399:20-6402:6; Ex. 68 at 4.
60. After a review of its standards, the State Board adopted the Model Content Standards, which are what the State expects a student to know and be able to do at each grade level. Pl. Intv. Dep. Designations, O’Brien 3/2/11 Dep. at 16:5-17:10; Ex. 66 at CDE 003392.
61. The Model Content Standards cover the following content areas: literacy, math, science, social sciences, and the arts and humanities. Ex. 67 at 6; Tr. Day 14, 3570:6-14. The new standards also include learning and life skills described as “21st century learning skills:” critical thinking and problem solving, find and use information/information technology, creativity and innovation, global and cultural awareness, civic responsibility, work ethic, personal responsibility, communication, and collaboration. Tr. Day 18:10-24; Ex. 67 at 6; Ex. 73 at INV 1649.
62. The Model Content Standards are all-encompassing and more rigorous than the previous standards and the State represents that they are fewer, clearer and deeper. Tr. Day 18, 4739:8-4742:5; Tr. Day 14, 3570:15-22; Trial Day 4, 923:11-924:8; Ex. 66 at CDE003397. The State Board has indicated that the intent of the new standards is to develop a Colorado citizen who can apply knowledge in a new situation, which is different than just knowing information as required before the reform. Tr. Day 18, 4773:25-4774:9.
63. In addition, in 2010, the Colorado State Board of Education adopted the Common Core State Standards recommended by the Council of Chief State School Officers and the National Governors’ Association for the subjects of English Language Arts and Mathematics. Adm. Stip., at 9, Stip. No. 5 (signed Aug. 3, 2011) (“Adm. Stip.” herein); Tr. Day 18, 4744:16-4746:4; Ex. 68 at 4. The Common Core State Standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that students need for success in college and careers. Adm. Stip. No. 15. These standards are equal to, or more rigorous than, the Colorado Model Content Standards. Adm. Stip. No. 16.
64. Public school districts in Colorado must adopt, at a minimum, the Colorado Academic Standards, which include the Common Core State Standards. Adm. Stip. No. 17; Pl. Intv. Dep. Designations, O’Brien 3/2/11 Dep. at 16:5-17:10.
65. The new content standards and common core standards were adopted by the State in August of 2010, with the understanding that school districts would adopt, revise, and align their own standards by December of 2011. Tr. Day 18, 4750:19-4751:18.
66. The State expects Colorado public school students to demonstrate mastery of the Model Content Standards upon graduation from high school. Tr. Day 24, 6553:12-6554:1.

B. Postsecondary and Workforce Readiness Definition

67. As another component of CAP4K, CDE, the Colorado Department of Higher Education (CDHE), and the State Board developed and adopted a definition of Postsecondary and Workforce Readiness (PWR), that defines the threshold knowledge, skills, and behaviors common to high school graduation, college entry, and workplace success. Ex. 68 at 4. PWR “requires a student to demonstrate . . . skills critical to preparing students for the twenty-first-century workforce and for active citizenship.” C.R.S. § 22-7-1008(1)(a)(v) (2010); Tr. Day 24, 6552:1-8; Ex. 173.
68. CAP4K mandates that all students shall graduate with the skills and knowledge necessary for “postsecondary and workforce readiness.” Tr. Day 17, 4434:20-23.
69. The State Board adopted the following definition of Postsecondary and Workforce Readiness: “[T]he knowledge, skills, and behaviors essential for high school graduates to be prepared to enter college and the workforce and to compete in the global economy. The description assumes students have developed consistent intellectual growth throughout their high school career as a result of academic work that is increasingly challenging, engaging, and coherent.” Ex. 173.
70. The knowledge, skills and behaviors identified by Colorado in its PWR definition express an ambitious, but appropriate and attainable set of expectations that are essential for students to acquire. Tr. Day 15, 3949:15-3950:1.
71. The PWR definition assumes that upon graduation, students will not need remediation, or to be re-taught what they should have learned throughout their K-12 schooling. Tr. Day 14, 3568:20-3570:5.
72. Although standards and expectations are necessary, as Dr. Linda Darling-Hammond explained “standards do not teach themselves.” Tr. Day 15, 3942:2-18; 3950:2-8. “Standards are just ideas on a piece of paper until they are executed in the classroom.” Tr. Day 24, 6460:17-19.
73. School systems must be organized so that schools can actually and purposefully help students master the defined skills and knowledge such that they will be good citizens and become productive members of the workforce. Tr. Day 15, 3942:2-18, 3950:2-8. Standards must be accompanied by a number of investments, including the re-tooling of high-quality curriculum materials and ensuring that all students have access to those, as well as other tools such as textbooks, other curriculum packages, manipulatives, computers, and science labs. Teachers must also be enabled to teach in new ways, and administrators, including principals, must be able to implement and oversee the reform measures and redesign schools, especially where the Colorado standards introduce 21st Century skills and technology-based learning. Tests must also be altered in order to ensure that students are tested on the new standards, including critical thinking and problem solving. Tr. Day 15, 3924:14-3927:20.

74. The knowledge and skill identified for arts and humanities also place additional demands on schools and students and are important in our global world, where skills such as cross-cultural understanding and communication are necessary. Tr. Day 15, 3946:14-2.
75. Students in Colorado now are not only expected to be able to be logical and analytical and synthesize their own information, but also to be able to test conjectures and evaluate risks, weigh information and evidence and, in turn, make sound judgments. Tr. Day 15, 3944:2-3945:14; Ex. 173. A common thread of Colorado's expectations for students includes the ability for students to evaluate the validity of conclusions, understand the principles, laws, and vocabulary of science, and how scientific knowledge is extended, refined and revised. Much of this scientific and technical knowledge was not previously required of students but they are extremely important for productive citizenship and productive employment. Tr. Day 15, 3945:15-3946:13.
76. Common civic engagement activities such as jury service and voting are dependent upon complex knowledge, behaviors and skills required of an active citizenry in Colorado, including those outlined in Colorado's PWR definition. Colorado jury instructions require jurors to read and understand dense, complex texts that involve a high level of literacy and analytical skills to weigh and balance the evidence. Tr. Day 15, 3954:12-3958:6; Ex. 20018.
77. A set of ballot initiatives containing constitutional amendments revealed incredibly complex language that voters were expected to understand and analyze. These skills are similar to the Common Core standards - understanding how to read complex texts with multiple clauses and difficult syntactical constructions, as well as quantitative reasoning and mathematical thinking to analyze the same. Tr. Day 15, 3958:7-3961:13. In order for Colorado students to acquire these skills and behaviors and become informed and participating citizens, schools need intentional curriculum design and materials, heavy investment in quality professional learning for teachers and administrators and other members of the education community, and assessment systems that are often more complex and expensive because not all of the skills can be measured through multiple choice, Scantron-type tests. Tr. Day 15, 3961:14-3962:13.
78. PWR can be measured by graduation rates, dropout rates and performance on the Colorado ACT. Tr. Day 16, 4061:19-23; Adm. Stip. Nos. 7, 8.
79. The PWR definition applies to all students, and school districts cannot waive out of its requirements or any other requirements of CAP4K. Tr. Day 24, 6415:17-20; 6559:14-15; Tr. Day. 14, 3568:7-19; Tr. Day 16, 4061:10-18.
80. Colorado's adoption of higher, more rigorous standards, without significant changes in the system and investments in students who are not performing well, will likely lead to proficiency rates declining even further. Tr. Day 15, 3973:16-3974:5.

C. Accountability

i. Testing and Assessments

81. Another component of CAP4K is a new assessment system. Tr. Day 24, 6554:1-20.
82. Prior to CAP4K, the Colorado Student Assessment Program (CSAP) provided assessments to measure student performance under Colorado Standards. Tr. Day 3, 713:19-714:11; Ex. 68 at 6.
83. Until 2011, CSAP was administered in reading, writing, and math in grades 3 through 10, and in science in grades 5, 8, and 10. Tr. Day 3, 716:1-10. All students were required to take the CSAP or some version of it. Tr. Day 3, 717:1-6. The General Assembly also requires that all eleventh grade students take the ACT, the purpose of which was to gauge those students' postsecondary readiness. Tr. Day 3, 720:9-11; Ex. 68 at 7.
84. There are 4 different CSAP performance levels: unsatisfactory, partially proficient, proficient, and advanced. Tr. Day 3, 715:11-16. A student's score of proficient or advanced indicate meeting or exceeding the State's standards for that subject and grade level. Tr. Day 3, 715:11-25. A score of partially proficient or unsatisfactory indicates a failure to meet the State's standards. *Id.*
85. The new assessment system under CAP4K goes beyond a single end-of-year assessment and incorporates formative and interim assessments. Tr. Day 18, 4759:7-24; Ex. 68 at 4. The cost of the new testing system was estimated at approximately \$80 million, which did not include costs to school districts. Tr. Day 24, 6554:1-20, 6555:19-6556:13; Ex. 3146 at 56.
86. Pursuant to CAP4K, the State Board was required to adopt a fundamentally new assessment system for the new content standards by December of 2010. Tr. Day 24, 6554:1-20.
87. The State Board was not able to meet the new assessment deadline, and instead adopted and implemented an interim transition test called the Transitional Colorado Assessment Program (TCAP), which will test an overlap of both old and new standards. Tr. Day 24, 6554:1-20; Tr. Day 18, 4817:11-4818:15.
88. Even though school districts are required to adopt, revise, and align their own standards by December of 2011, the new assessment for the new standards will not be available until 2014. Tr. Day 18, 4750:19-4751:18.
89. The performance of Colorado students on the TCAP and new assessment will decline because of the introduction of the new assessments Tr. Day 18, 4799:15-4800:4.

ii. Individual Career Academic Plan (ICAP)

90. In 2009 the General Assembly enacted SB 09-256, with a requirement that by September of 2011, all students would have access to a system within their school to create and manage an Individual Career Academic Plan (ICAP). 1 CCR 301-81, Rule 1.00.
91. The ICAP legislation also authorized the State Board to adopt rules to define the requirements and processes for districts to accomplish this task. Tr. Day 21, 5486:2-6.
92. By September 30, 2010, districts were required to develop an ICAP Implementation Plan that includes: policies and procedures that meet or exceed the requirements set by the State and a clear designation of the roles and responsibilities of the student, parents and district staff; evidence of a plan for ICAP implementation; the district's demonstration that professional development is in place; provisions to include a means to insert ICAP-related data into an electronic database for an individual student and, if possible, in an automated fashion; and verification that the ICAP aligns with the American School Counselor Association's adopted standards. 1 CCR 301-81, Rule 2.02.
93. Each student's ICAP must include a career planning, guidance and tracking component and a portfolio that reflects, at a minimum, documentation of the student's efforts in exploring careers, including: a written postsecondary and workforce goal for the student, yearly benchmarks for reaching that goal, interest surveys that the student completes, and anticipated postsecondary studies; the student's academic progress including the courses taken, any remediation or credit recovery and any concurrent enrollment credits earned; an intentional sequence of courses reflecting progress toward accomplishment of the student's postsecondary and workforce objectives; relevant assessment scores; a record of the student's college applications; the student's postsecondary studies as the student progresses through high school; the student's progress toward securing scholarships, work-study, student loans and grants; any other data reflecting student progress toward postsecondary and workforce readiness, including the student's understanding of the financial impact of postsecondary education. 1 CCR 301-81, Rule 2.01.
94. Each ICAP must be accessible to educators, students, parents and/or legal guardians, and Approved Postsecondary Service Providers; and each ICAP portfolio must be transferable in print or electronic form for internal and external district use so that when a student transfers from one school or district to another, his/her career and academic plans follow him/her. 1 CCR 301-81, Rule 2.01.

iii. The Education Accountability Act of 2009 and Accreditation

a. Purpose

95. The State Board has adopted and implemented various accreditation requirements. COLO. CONS., Art. IX, Sec. 1; C.R.S. §§ 22-2-106, 22-7-401-410, 22-7-510-505, 22-11-101-204, 22-11-301-304, 22-30.5-503, 22-32-109, 22-7-601-610, 22-44-101-206, 22-45-101-113. “Accreditation” is certification by the State Board that public school districts and charter schools meet State requirements. 1 CCR 301-1, Rule 1.01.
96. In order to assure accomplishment of the goals set forth by CAP4K, the General Assembly enacted the Education Accountability Act of 2009, which expressly ties the standards-based system, the CAP4K goals, and the accountability system to the qualitative guarantee of the Education Clause. 22 C.R.S. Art. 11.
97. The Education Accountability Act is intended to “maximize[e] every student’s progress toward postsecondary and workforce readiness and post graduation success.” C.R.S. §22-11-102(1)(d).
98. The Education Accountability Act holds every school district and public school accountable for performance on performance indicators and measures through a single accountability system that “objectively evaluates the performance of the thorough and uniform statewide system of public education for all groups of students.” C.R.S. § 22-11-102(1)(d).

b. Measures of Performance

99. The Education Accountability Act directs CDE to determine annually the “level of attainment” of each school district and public school on four performance indicators: student longitudinal academic growth (measured by the “Colorado Growth Model”), student achievement on state assessments, progress made in closing the achievement gap and growth gaps in assessment results by disaggregated student groups, and PWR. *Id.*, §§22-11-204(1)(b) and (4); Tr. Day 4, 1173:6-1174:1. The level of educational attainment on PWR is determined through performance indicators such as graduation, dropout rates, and performance on the ACT. *Id.*
100. Using a rubric derived by the State, each performance indicator has its own way of reflecting whether State expectations are met. Tr. Day 4, 1178:3-1179:16. For example, academic achievement examines how districts performed in advanced and proficient across all students, and then rank orders all the school districts into percentiles. *Id.* Each percentile receives a certain number of points. *Id.* Academic growth and growth gaps are weighted heavier than achievement and postsecondary and workforce readiness. *Id.*
101. The percent of points for all the indicators result in the “total” Score. Tr. Day 4, 1178:3-1179:16. A school district is “accredited” if its total is between 64% and 80%.

102. School districts and charter schools must undergo an extensive accreditation process and review by the State on an annual basis. 1 CCR 301-1, Rules 2.00, 2.01, 2.02; Tr. Day 3, 1240:22-1247:5. During the accreditation review, each district must report any changes it wishes to make to its existing standards, goals, or requirements; a Unified Improvement Plan, containing high goals and a plan to increase academic achievement; and evidence of parental and community involvement in the development of the Education Improvement Plan. 1 CCR 301-1, Rule 2.02; Tr. Day 17, 4383:22-4385:22.
103. The State Board accredits each school district annually pursuant to an “accreditation contract.” C.R.S. §§ 22-11-206(1) and (2).
104. Through the accreditation process, each school district is categorized as “accredited with distinction,” “accredited,” “accredited with improvement plan,” “accredited with priority improvement plan,” or “accredited with turnaround plan.” C.R.S. §22-11-207(1).
105. The primary determiner of accreditation status is district performance on the CSAP, although other assessments and indicators, such as ACT scores, dropout rates, and graduation rates, are also included. 1 CCR 301-1, Rule 3.02; Tr. Day 4, 1172:11-17.
106. Beginning in 2010, the performance of each school district and each public school is published by CDE as its “Performance Framework Report” that identifies the designated accreditation category and performance and rating on all of the performance indicators. While the district performance framework is given to school districts by CDE to explain the district’s accreditation, the Unified Improvement Plan is the district’s plan for improvement that the district is required to submit to CDE under the Education Accountability Act. Tr. Day 3, 1239:5-21; Tr. Day 17, 4382:13-23.
107. The process for a school district to develop a Unified Improvement Plan is an extensive, complex process that requires substantial time, resources, and manpower for school districts and schools. Tr. Day 5, 1240:22-1247:5; Tr. Day 4, 969:7-9670:14; Tr. Day 17, 4383:22-4385:22; Tr. Day 6, 1596:18-1597:21. The district must gather and organize all relevant data in the district, using multiple data points and trends, including the district improvement framework. *Id.* The district must analyze the data for trends and patterns, and strengths and weaknesses, ultimately performing a “root cause analysis” to identify priority needs. *Id.* A root cause analysis must identify root causes that the district actually has “control” of – for example, poverty, hunger, budget cuts, and mobility are not sufficient root causes by State requirements. *Id.* Based on its analysis, the district must then set annual targets and interim measures to address the prioritized needs. *Id.*
108. Public schools must go through the same processes as school districts to develop and submit their Unified Improvement Plans. Tr. Day 3, 1245:12-1246:13.
109. Depending on its accreditation status, each school district or school must develop, adopt, and implement either a performance plan, improvement plan, priority improvement plan, or turnaround plan, which is to be submitted and approved by the Commissioner of Education. C.R.S. §§ 22-11-303-06.

110. A district on a turnaround plan must identify “specific, research-based strategies” to address needs and issues, including reorganizing the oversight and management structure, hiring an entity to operate one or more district schools, converting one or more district schools to charter schools, or closing schools. C.R.S. § 22-11-3036(3)(d).
111. Failure to make defined, substantial progress under a priority improvement or turnaround plan can result in a loss of accreditation and reorganization, management takeover by private or public entity, conversion to a charter school, and other remedial action. C.R.S. §22-11-209; Tr. Day 3, 1181:10-1182:9.
112. School districts and public schools cannot waive out of State accreditation requirements. Tr. Day 24, 6559:12-13. If school districts opt not to implement the Model Content Standards, they will also lose accreditation. Tr. Day 18, 4775:2-5.

c. Growth Rates

113. Colorado measures the student growth by comparing the growth of a student’s performance on the CSAP to their academic peer group, or students that performed approximately at the same level in the prior year. Tr. Day 4, 1174:19-1175:25.
114. Growth gaps look at the same data but disaggregate the data by student groups and then compare growth rates. For both measures, Defendants use a median by lining up all of the individual growth scores and taking the middle number. Tr. Day 4, 1176:17-1177:13.
115. The State’s expectation in regards to the growth model is for students who are below proficient to become proficient by the tenth grade or within 3 years, and for advanced students to remain proficient and advanced within the same timeframe. Tr. Day 3, 723:21-724:12.
116. A student must have two years of CSAP scores to be designated a growth score. Tr. Day 4, 1175:1-9. Therefore, only students who have participated in CSAP for two consecutive years receive a growth score. *Id.* Third grade students who take the CSAP do not have growth scores. *Id.*
117. Although Colorado measures academic growth in different ways, a district’s rating or measured performance does not accurately reflect whether students are actually achieving the State content standards as measured by the CSAP. For example, Centennial School District had received an award for its progress in growth rates. However, Centennial School District achievement results on the CSAP were dismal at best during those years: 33% of free and reduced price lunch students reaching proficiency on the 2008 Grade 3 Math CSAP and 3% on the Grade 10 Math test; 0% reaching proficiency on the 2009 Grade 10 CSAP and the 2010 Grade 10 CSAP. Tr. Day 1, 213:15-219:16; Ex. 20136.

iv. Teacher Effectiveness (Senate Bill 191)

118. On May 12, 2010, the General Assembly passed Senate Bill 191 – the Great Teachers and Leaders Bill, also known as the Teacher Evaluation and Effectiveness Bill. SB 191 created a common, statewide definition of what it means to be an effective teacher and principal in the State. Tr. Day 20, 5205:4-5206:3.
119. The intended purpose of SB 191 is to improve instruction and outcomes for students by basing teacher and principal evaluation on the academic performance of their students. Tr. Day 20, 5207:9-22.
120. CDE has explicitly recognized that teacher effectiveness fits with and is informed by the State requirements for standards, assessments, and accountability. Tr. Day 20, 5265:6-19. Teacher effectiveness is important to assure the achievement of education goals and improve the quality of education in Colorado. Tr. Day 20, 5235:2-12.
121. The Governor’s Educator Effectiveness Council began rulemaking in April of 2011, and will define teacher effectiveness and develop parameters for an evaluation system. Tr. Day 20, 5203:1-21, 5206:4-13, 5211:1-5212:1; Tr. Day 24, 6563:16-22.
122. SB 191 requires 50% of a teacher’s evaluation to be based on student achievement using multiple measures. Tr. Day 20, 5203:1-21; 5206:4-13; Tr. Day 24, 6563:16-22.
123. SB 191 also requires principals to be evaluated annually with 50% of the evaluation based on student achievement and their ability to develop teachers in their buildings and increase their effectiveness. Tr. Day 20, 5203:1-21; 5206:4-13.
124. Under SB 191 teachers can earn non-probationary status after 3 years of sufficient student academic growth and non-probationary status is revocable following 2 consecutive years of insufficient growth. Tr. Day 20, 5208:3-19.
125. SB 191 has provisions related to strategic compensation. School districts must provide incentives for highly effective teachers to move to low-performing schools, and the council may make recommendations for school districts to use performance evaluations to make human resource decisions, such as compensation. Tr. Day 20, 5209:8-5210:4.
126. SB 191 must be implemented statewide by school year 2013 with the final implementation in school year 2014. Tr. Day 20, 5211:1-5212:1.
127. It is not yet clear whether school districts can waive out of the requirements of SB 191, unless they assume innovation status under the Innovation Schools Act. Tr. Day 20, 5219:15-5220:24.
128. It will cost the State approximately \$76 million for full implementation of SB 191. Tr. Day 24, 6562:24-6563:21. Currently, the State is approximately \$60 to 70 million short for implementation of SB 191. Tr. Day 21, 5688:23-5689:1.

129. SB 191 is funded through gifts, grants and donations, and the State has not appropriated any funds for its implementation. Tr. Day 20, 5236:21-5238:23; Ex. 3005. The State has never conducted a cost study of the cost to school districts to implement SB 191. Tr. Day 20, 5241:12-22; Tr. Day 24, 6562:24-6563:21. But the Governor’s Educator Effectiveness Council did acknowledge that there will be additional costs to the school districts for implementation in a time when they are already under severe financial pressure. Tr. Day 20, 5247:19-23; Ex. 3008 at 21.
130. The costs to school districts to implement SB 191 will be substantial. Tr. Day 17, 4394:13-4. School districts will need to train their teachers and principals around the protocols developed by the Council and by CDE. *Id.* The teacher and principal evaluations themselves also represent an expense. *Id.*
131. School districts are unable to comply with SB 191 unless the State provides sufficient support, including monitoring, developing professional development materials, report evaluation data, and creating assessment tools. Tr. Day 20, 5252:6-5254:4; Ex. 3008 at 153. To date, the General Assembly has not allocated any funds to those tasks. *Id.*
132. School district implementation of SB 191 is currently dependent on gifts, grants, and donations, which fluctuate dramatically. Tr. Day 24, 6562:24-6563:21. These outside funding sources are simply insufficient for school districts to implement the educator effectiveness law. Tr. Day 24, 6589:8-11.

III. Colorado School Finance System

133. The General Assembly enacted the Public School Finance Act of 1994 (“PSFA”) in furtherance of its “duty under section 2 of article IX of the state constitution to provide for a thorough and uniform system of public schools throughout the state; that a thorough and uniform system requires that all school districts and institute charter schools operate under the same finance formula; and that equity considerations dictate that all districts and institute charter schools be subject to the expenditure and maximum levy provisions of this article.” C.R.S. 22-54-102.
134. The PSFA, however, bears no rational relation to implementing a thorough and uniform system of education.
135. The PSFA is the primary source of public school funding for school districts. In budget year 2010-11, the PSFA provided over \$5.4 billion of funding to Colorado school districts, of which state taxes accounted for \$3.4 billion (63%), local property taxes \$1.8 billion and local vehicle registration taxes \$151 million (collectively, 37%). Ex. 33 at 2.
136. The PSFA is a formula used to determine state and local funding amounts for the state’s 178 school districts and the Charter School Institute. Total Program Funding is a term used to describe the total amount of money each school district receives under the PSFA. Ex. 33 at 2.

137. Total Program Funding is calculated by multiplying a school district's per pupil count by a base per-pupil amount plus additional monies meant to recognize district variances in (a) cost of living, (b) personnel costs, and (c) size, as well as additional funding for at-risk students. Ex. 33 at 3.
138. Generally, a district's per pupil count is based on the number of students in membership as of the school day nearest October 1. For school districts with fluctuating enrollments, funding is based on an average of up to four prior years' October pupil counts and the current year's pupil count. Ex. 33 at 2.
139. Students in grades 1 through 12 are counted as either full-time or part-time depending on the number of scheduled hours of coursework. Kindergarten students are counted as .58 and a limited number of at-risk preschool students are funded as part-time. Ex. 33 at 2.
140. Beginning in FY 2010-11, a new factor referred to as "state budget stabilization factor" was added to the PSFA and reduced the amount of funding districts would have received prior to the application of the factor. Ex. 33 at 3.
141. For the school year 2010-11, the base amount of funding for each pupil is \$5,529.71. Specific factors for cost of living, personnel costs, and size are added to this base amount for total per pupil funding. Ex. 33 at 3. Per pupil amounts vary from less than \$7,000 to nearly \$15,000. Tr. Day 21, 5502:1-4.
142. The cost of living factor is meant to reflect the differences in the costs of housing, goods and services among each of the 178 school districts in the state. The calculation for cost of living changed in FY 2004-05, from being based on its cost of living increase above inflation to being based on its costs of living increase above the household income increase. Ex. 33 at 3. The effect of this change was to reduce the funds from the cost-of-living factor. Tr. Day 21, 5576:11-22.
143. The personnel costs factor is meant to reflect variations in school district enrollment and related costs for employee salaries and benefits. Ex. 33 at 3.
144. The size factor is determined using an enrollment-based calculation but only adjusts for districts enrolling less than 4,023 students. Tr. Day 21, 5497:6-10. This factor is meant to recognize purchasing power differences among districts and to reflect the expression of funding on a per-pupil basis but only adds a few million dollars each year. This factor was reduced by .0045 in FY 2003-04 as a money-savings measure that has not been restored to this day. Ex. 33 at 3-4; Tr. Day 21, 5576:19-5577:1.
145. At-risk funding is intended account for additional costs for students at-risk of not graduating or having greater difficulties in succeeding in education. Tr. Day 21, 5498:8-17. The proxy for at-risk funding is the percentage of students on the free lunch program ("FLP") under the National School Lunch Act, as well as the number of non-FLP students identified as ELL and whose CSAP scores are not included in calculating a school's

performance grade for accountability purposes because the student’s dominant language is not English or who are taking a test in another language other than English or the Spanish CSAP. Tr. Day 21, 5498:21- 5499:7; Ex. 33 at 4. School districts receive 12% of the Total Program Funding for each student identified on the free lunch program. For each percentage point that a district’s FLP population exceeds the state average, the district receives thirty percent multiplied by that percentage point, up to a maximum of 30%. Tr. Day 21, 5500:1-17. Thus, as the average at-risk student population increases across the state, school districts would actually receive a lower at-risk factor, unless their own FLP population rate kept even with or outpaced the state rate.

146. **Stabilization Factor.** Because the base funding was set through the constitution and could not be reduced without a constitutional amendment, a stabilization factor, or negative factor, was created to reduce Total Program Funding for all school districts by reducing each of the factors. Tr. Day 21, 5502:5-5503:1; 5554:9-10. There is no valid educational reason for the budget stabilization factor. Tr. Day 21, 5560:1-3.
147. **Categorical Funding.** The PSFA also includes categorical funding for various categories including: the English Language Learner (“ELL”) students under the English Language Proficiency Act (ELPA), Special Education, Gifted and Talented, Transportation, and Vocational Education. *See, e.g.*, Ex. 33. Categorical funding is further explained in the relevant sections below.

IV. Findings of Findings of Fact Related to the Inadequate and Arbitrary Funding of Low Income and ELL Students.

A. The Changing Demographics of Colorado Schools Must be Adequately Addressed by Defendants

148. Dr. Steven H. Murdock, former director of the United States Census Bureau under George W. Bush and former State Demographer of Texas under Rick Perry, is a renowned expert in demography, socioeconomics, including applied sociology, socioeconomic impact analysis, rural sociology, and economic development. Tr. Day 16, 4146:7-15, 4148:11-22, 4153:6-4154:5, 4157:20-4158:1; Ex. 5900 at 1-3. Dr. Murdock is currently the Allyn and Gladys Cline Professor of Sociology at Rice University and the Director of the Hobby Center for Study of Texas at Rice University. Tr. Day 16, 4144:11-16.
149. Dr. Murdock provided expert testimony that was highly credible and valid regarding demographic changes and trends in Colorado, and the implications of inadequate education in light of those changes and trends.
150. Colorado’s population is growing. By 2040, the total population of Colorado is expected to reach about 8,682,369 individuals, and the under age 18 population is expected to reach about 2,108,384 individuals. Ex. 5901 at Tbl. 15 (Scenario 2); Ex. 5901 at Tbl. 14 (Scenario 2).
151. School enrollment in Colorado has also grown rapidly. CDE reports for the year 2010-11, Colorado public schools enrolled 843,316 total students, compared to 724,508 total

students enrolled in the year 2000 and 574,213 total students enrolled in 1990, a percentage increase of 46.9. Ex. 5901, at Tbl. 1 & p. 3; Tr. Day 16, 4171:4-16; Tr. Day 16, 4172:1-20; Tr. Day 16, 4173:8-9, 4203:2-25.

152. Colorado school enrollment has experienced increasing numbers of Hispanic children and impoverished children. Ex. 5901 at 7. Larger proportions of minority children are likely to attend Colorado public schools in the future than in the past. For the year 2010-11, the racial demographics of Colorado public school students are 56.8% Anglo non-Hispanic, 31.6% Hispanic, 4.8% African American, 0.9% Native American, 2.9% Asian American/Pacific Islander. This is a dramatic change from the racial demographics in the year 1991, when public schools enrolled 74.9% Anglo non-Hispanic, 16.6% Hispanic, 5.2% African American, 1.0% Native American, 2.3% Asian American/Pacific Islander. Ex. 5901 at Tbl. 2; Tr. Day 16, 4173:10-4174:16.
153. The number of non-Hispanic white children in Colorado decreased by 18,740 from 2000 to 2010, and the number of Hispanic children increased by 115,503. Ex. 5901 at p. 4 & Tbl. 3; Tr. Day 16, 4174:17-13. In the context of the growth of the number of Hispanic children, in 1990, they comprised 1 in 6 children in the public schools while today they comprise 1 in 3 children in the public schools. Tr. Day 16, 4173:25-4174:3. These trends suggest that there will be accentuation in the diversification of Colorado's young people in time. Tr. Day 16, 4175:14-20.
154. At the same time, the number of schoolchildren from impoverished households is increasing. Tr. Day 16, 4179:11-17, 4180:6-14; Ex. 5901 at Tbl. 8. For the year 2010-11, 336,433 students, or 39.9% of students, were identified as eligible for the Free and Reduced Priced Lunch Program under the National School Lunch Act and programs to improve English proficiency for preschool and K-12 school children. Ex. 5901 at 6-7.
155. A disproportionate share of families in poverty in Colorado are from minority households, with 32.2% of African American families with children and 30% of Hispanic families with children living in poverty compared to 8.1% of non-Hispanic white families with children. Ex. 5901 at 5 & Tbl. 6. Minority status in Colorado is associated with a greater likelihood of qualifying for enrollment in such school-based federal programs as the Free and Reduced Lunch Program. Ex. 5901 at 5.
156. There is also disproportionate low income, minority student enrollment in Plaintiff-Intervenors' school districts. In the 2010-2011 school year, Mapleton 1 School District was 68.4% minority and 61.5% Hispanic. Ex. 5901 at Tbl. 4; Tr. Day 16, 4176:11-18. In the 2010-11 school year, 68.1% of students in Mapleton qualified for free or reduced lunch. Ex. 5901 at Tbl. 5; Tr. Day 16, 4178:6-8.
157. In the 2010-2011 school year, Sheridan 2 School District was 81.9% minority and 72.1% Hispanic. Ex. 5901, at Tbl. 4; Tr. Day 16, 4176:19-21. In the 2010-11 school year, 75.7% of students in the Sheridan qualified for free or reduced lunch. Ex. 5901 at Tbl. 5; Tr. Day 16, 4178:9-10.

158. In the 2010-2011 school year, Rocky Ford R-2 School District was 71.7% minority and 69% Hispanic. Ex. 5901, at Tbl. 4; Tr. Day 16, 4176:22-4177:4. In the 2010-11 school year, 76% of students in Rocky Ford qualified for free or reduced lunch. Ex. 5901 at Tbl. 5; Tr. Day 16, 4178:11-17.
159. In the 2010-2011 school year, Greeley School District was 62.75% minority and 58.3% Hispanic. Ex. 5901 at Tbl. 4; Tr. Day 16, 4177:5-6. In the 2010-11 school year, 60.2% of students in Greeley qualified for free or reduced lunch. Ex. 5901 at Tbl. 5; Tr. Day 16, 4178:18-20.
160. Finally, there are a substantial number of children in Colorado school districts who come from households that do not speak English at home and who are not English proficient. Tr. Day 16, 4181:10-14.
161. From 2005 through 2009, 1.1% of non-Hispanic white children over five years old spoke another language at home and spoke English less than well. For Hispanic children, this figure is 29%, and for “other” children, including Asian American children, this figure is 21.6%. Ex. 5901 at 6 & Tbl. 9.
162. In short, there is a growing number of children in Colorado school districts who live in poverty, need free and reduced lunch, and speak a language other than English at home. Tr. Day 16, 4181:15-24. Unless steps are taken to ensure that all people in Colorado have the skills and education they need to be competitive, Colorado could potentially be poorer and less competitive in the future than it is today. Tr. Day 16, 4158:21-4159:5, 4171:4-16; Ex. 5901, at p. 4 & Tbls. 2, 3.

i. Effects of Educational Attainment on Future Generations and Greater Colorado

163. For non-Hispanic whites, the percent of households living below 100% of the poverty line decreases as more education is attained. Almost 24% of non-Hispanic whites with less than a high school diploma have household incomes below the poverty line, while only 5.3% of non-Hispanic whites with a bachelor’s degree have household incomes below the poverty line. Ex. 5901 at Tbl. 17.
164. For Hispanics, the percent of households living below 100% of the poverty line decreases as more education is attained. Thirty-nine percent of Hispanics with less than a high school diploma have household incomes below the poverty line, while only 8.9% of Hispanics with a bachelor’s degree have household incomes below the poverty line. Ex. 5901 at Tbl. 17; Tr. Day 16, 4193.
165. For non-Hispanic whites, the average household income for persons with less than a high school diploma averages is \$36,188, with a median value of \$25,287. Those values increase as educational attainment increases. For non-Hispanic whites with a bachelor’s degree, average household income is \$108,169, with a median value of \$86,255. Non-Hispanic whites with graduate degrees earn even more. Ex. 5901, at Tbl. 16.

166. For Hispanics, the average household income for persons with less than a high school diploma is \$33,966, with a median value of \$24,187. Those values increase as educational attainment increases. For Hispanics with a bachelor's degree, average household income is \$81,755, with a median value of \$71,963. In terms of median values, the difference is about \$48,000 per year. Ex. 5901 at Tbl. 16; Tr. Day 16, 4190:1-22.
167. Non-Hispanic whites are projected to comprise 31.2% of Colorado's under-18 population by 2040. This is about half the figure from 2010. Ex. 5901 at Tbl. 14 (Scenario 2); Tr. Day 16, 4187:1-12. Non-Hispanic whites are projected to comprise 53.9% of Colorado's total population by 2040. Ex. 5901 at Tbl. 15 (Scenario 2).
168. Hispanics are projected to comprise 53.7% of Colorado's under-18 population by 2040. This is about double the figure from 2010. Ex. 5901 at Tbl. 14 (Scenario 2); Tr. Day 16, 4187:1-12. Hispanics are projected to comprise 33.7% of Colorado's total population by 2040. Ex. 5901 at Tbl. 15 (Scenario 2).
169. In the absence of change in factors, such as increases in educational attainment that reduce levels of poverty, increased enrollment of Hispanic, African American and other children who are minorities will likely lead to increasingly impoverished student populations with high levels of need for specialized programs. Ex. 5901 at 6.
170. Increased education is not only good for the individuals who obtain it but also for Colorado as a whole. Ex. 5901 at 14. Education is a necessary component for a strong state economy, a productive society, and a high quality of life for the people of Colorado. Tr. Day 18, 4530:13-24.
171. Education is a major predictor of occupation and income, and in turn, occupation and income are major determinants of socioeconomic conditions in the United States, including Colorado. Tr. 4169:1-7; Ex. 5901, at p. 1. Across racial and ethnic groups, additional education pays in increased income, reduced poverty, and increased housing values. Ex. 5901, at p. 14; Tr. Day 16, 4190:23-4191:1, 4195:14-21.
172. Education and related occupational and income differentials are key determinants of state and national competitiveness. Ex. 5901 at 1.
173. The skills imparted by the education of the workforce are an important source of economic growth. Ex. 5901, at p. 1. Increased income leads to increased resources for purchases in the private sector in Colorado, as well as increased revenues available for the public sector. Tr. Day 16, 4191:8-18.
174. Conversely, reduced levels of education have profound local, statewide, and national effects, including lower household incomes, increased poverty, lower levels of public investment in infrastructure, decreased levels of community wealth and private investment, and various other factors related to household and community resources. Tr. Day 16, 4170:1-18, 4169:8-16; Ex. 5901 at 1.
175. The increase over time in the differential returns to education and skill is perhaps the single largest cause of the long-term rise in economic inequality in the United States.

Those with low levels of education experience ever widening gaps between their income and that of those with higher levels of education. Ex. 5901 at 1.

176. Educational programs, such as the Free and Reduced School Lunch Program, are broad investments in education and training which help reduce inequality while expanding economic opportunity for participants. Ex. 5901 at 1.
177. Factors that reduce levels of education attainment, such as inadequate levels of nutrition, poverty, lower levels of parental educational attainment, and language limitations, impact success in the world environment. Ex. 5901, at p. 2. Similarly, inadequate preparation for school entry, resulting from inadequate or nonexistent preschool and early childhood education programs, and limited educational services resulting from inadequate levels of local and state school funding, reduce the probability of student success in competitive workforce environments at local and state levels. Tr. 4169:17-25; Ex. 5901 at 2.
178. As demonstrated, Colorado schools and the general population of Colorado are changing rapidly and becoming more diverse with a population that requires substantial assistance to ensure its competitiveness. Tr. Day 16, 4201:17-21; Ex. 5901 at 20. Specifically, the rapidly growing minority, particularly Hispanic, populations will need assistance to become better educated. Tr. Day 16, 4201:18-4202:1; Ex. 5901 at 20
179. The future of Colorado is increasingly tied to its minority populations. Even if the costs of improving the educational success of minority and low income students substantial, the costs of failing to do so are even more extensive, resulting in a poorer, less healthy, and more dangerous Colorado. Tr. Day 16, 4202:7-12; Ex. 5901 at 20.

ii. Earnings and Employment for High School Dropouts

180. In a 2010 single age cohort, 17% of White students dropped out, compared to 43% of Hispanics. Ex. 5603 at Tbl. 1. Twenty-five percent of White students in the same cohort graduated, compared to 17% of Hispanics. *Id.*
181. The fastest growing occupations in Colorado are in the areas of health care, retail, and computer systems and design. Tr. Day 13, 3336:11-23; Ex. 5603 at 6. High school dropouts do not have the skills to perform these jobs. Tr. Day 13, 3336:24-3337:17. In fact, Colorado ranks fifth nationally in terms of need for highly skilled workers. *Id.*
182. The unemployment rate for high school dropouts in Colorado is approximately 50% higher than that of high school graduates. Tr. Day 13, 3338:24-3339:2.
183. Those high school dropouts who are employed earn substantially less than high school graduates in Colorado. High school dropouts earn \$14,600 annually on average, compared to \$27,179 for high school graduate and \$62,370 for college graduates. Ex. 5603 at 7 and Tbl. 1. Over a lifetime, high school dropouts earn approximately \$459,000 on average, compared to \$696,000 for high school graduates. Tr. Day 13, 3343:1-24.

iii. Higher Health Costs

184. People with higher educational attainment have better health status, and they live longer. Tr. Day 13, 3346:6-21.
185. Those with lower educational attainment are more dependent on public health care services, and therefore impose higher public healthcare expenditures. Tr. Day 13, 3348:11-3349:1. High school dropouts cost approximately \$29,000 more in public health care expenditures than high school graduates. Tr. Day 13, 3349:2-22. College graduates represent \$43,000 in health expenditure savings for the State. *Id.*

iv. Higher Cost for Crime

186. Higher education levels cause lower criminal activity. Ex. 5603 at 14; Tr. Day 13, 3351:3353:15.
187. The State would obtain substantial savings with a more highly educated, and therefore less criminal induced, populace. In lifetime present values, the State spends \$52,640 for each general offender and \$324,960 for each chronic offender. Tr. Day 13, 3355:2-3356:10.

v. Higher Cost for Welfare

188. Higher levels of education are associated with lower reliance on welfare. Tr. Day 13, 3356:15-24; Ex. 5603 at 16.
189. In Colorado, the present value of public assistance at age 18 for a typical high school dropout is three times higher than that for the average high school graduate. Tr. Day 13, 3357:10-18.
190. In Colorado, 24% of high school dropouts use food stamps, compared to 7% of high school graduates, and 1% of college graduates. Tr. Day 3359:12-18.
191. Each additional high school graduate would save the State approximately \$8,500 in public assistance, and each additional college graduate would save the State \$12,700. Tr. Day 13, 3360:14-25; Ex. 5603 at Tbl. 7.

vi. Values of Housing

192. Across racial and ethnic groups, as a person's education increases, so does the average value of that person's housing unit. Tr. Day 16, 4193:24-4194:2. For the State, this can mean increased revenue through increased property taxes. Tr. Day 16, 4194:17-25, 4195:7-13.
193. For non-Hispanic whites, housing value increases as educational attainment increases. For non-Hispanic whites with less than a high school diploma, the average housing value is \$185,532, with a median value of \$167,000. For those with a bachelor's degree, the

average housing value jumps to \$364,054, with a median value of \$280,000. Ex. 5901, at Tbl. 18.

194. For Hispanics, housing value increases as educational attainment increases. For Hispanics with less than a high school diploma, the average housing value is \$134,588, with a median value of \$125,000. For those with a bachelor's degree, the average housing value jumps to \$249,941, while the median value is \$220,000. That is, housing values nearly double. Ex. 5901 at Tbl. 18; Tr. Day 16, 4195:1-6.

vii. Impacts on Fiscal and Social Burdens

195. In light of the impacts of an inadequate education on health, crime, and public assistance, as described above, each high school dropout imposes a net fiscal burden of \$57,700 to the State. Ex. 5603 at 19.
196. High school graduates contribute approximately \$15,473 more in state taxes than dropouts over a lifetime. Ex. 5603 at Tbl. 4. If a high school student in Colorado public schools graduates instead of dropping out, the net effect is a gain to Colorado of \$53,500. Tr. Day 13, 3364:13-24; Ex. 5603 at 19.
197. From a Colorado resident's perspective, at least \$122,400 is lost every time a Colorado student fails to graduate from high school. Ex. 5603 at 20. Each year there are approximately 11,500 high school dropouts in Colorado. Tr. Day 13, 3367:12-3368:5; Ex. 5603 at 20. Thus, the total fiscal burden of inadequate education among public school students is \$1.61 billion, or 8% of Colorado's total operating budget. *Id.*
198. Substantial differences in the socioeconomic conditions of Colorado will occur unless increased educational efforts to improve the overall educational attainment levels of disadvantaged students in Colorado are implemented. Ex. 5901 at 18.
199. Given that the fastest growing segments of the population of Colorado are minority populations and that such populations are likely to be poorer and have higher levels of need for educational programs for the disadvantaged such as the Free and Reduced Lunch, English as a Second Language and similar programs, it is evident that steps to overcome such disadvantages must be taken. Ex. 5901, at p. 18.
200. In a projection scenario for 2040 where educational attainment levels by race and household sizes by race are assumed to be at 2009 levels, aggregate household income statewide is projected to be \$193 billion, while in a scenario where the disadvantages of minority populations in educational attainment and household size have been assumed to be substantially mitigated by 2040, aggregate household income statewide is projected to be \$282 billion. Ex. 5901 at 19, Tbl. 19 & Appxs. B-E. In 2009 dollars, this is a difference of \$89 billion coming into the households in Colorado. *Id.*
201. In a projection scenario for 2040 where educational attainment levels by race and household sizes by race are assumed to be at 2009 levels, aggregate housing value statewide is projected to be \$689 billion, while in a scenario where the disadvantages of minority populations in educational attainment and household size have been assumed to

be substantially mitigated by 2040, aggregate housing value statewide is projected to be \$994 billion. Ex. 5901 at 19, Tbl. 19 & Appxs. B-E. In 2009 dollars, this is a difference of \$305 billion dollars in housing value in Colorado. *Id.*

202. In a projection scenario for 2040 where educational attainment levels by race and household sizes by race are assumed to be at 2009 levels, the percent of households in poverty statewide is projected to be 20.3 (an increase of 3.1% from 2009), while in a scenario where the disadvantages of minority populations in educational attainment and household size have been assumed to be substantially mitigated by 2040, the percent of households in poverty statewide is projected to be 17.7 (an increase of 0.5% from 2009). Ex. 5901 at 19, Tbl. 19 & Appxs. B-E; Tr. Day 16, 4200:10-16.
203. In the scenario showing the most mitigations, aggregate household income shows an increase of \$180 billion dollars from 2009 to 2040 compared to \$92 billion for the scenario with unmitigated disparities, an increase of nearly \$609 billion in housing values compared to \$303 billion for with unmitigated disparities and a poverty rate that is 2.6 percent lower than that with unmitigated disparities. Ex. 5901 at 19.
204. The 2040 projection data on average values for housing, household income, and poverty show substantial negative effects tied to failing to improve Colorado's public education system. These effects that would have implications for private and public sector issues in Colorado. Ex. 5901 at 20.

B. Findings related to Defendants' failure to provide low income and ELL students access to high quality preschool and full-day kindergarten programs, which are necessary for those students to achieve state standards and their fullest potential.

i. The benefits of high quality preschool and kindergarten programs.

205. The General Assembly concedes that students enter school with varying skills and experiences and that Colorado "does not have the ability to describe achievement gaps until students are in third grade, which, in most circumstances, is too late to adequately address the varying skills levels and experiences with which the students entered school" and that preschools must "provide very high-quality services that are most likely to help students develop the necessary skills to excel as they enter elementary school." C.R.S. § 22-7-1002(2).
206. Dr. William Steven Barnett, the Director of the National Institute for Early Education Research (NIEER), is a renowned expert economist and researcher in the area of early childhood education. Tr. Day 13, 3278:21-3298:25; Ex. 5601.
207. Dr. Barnett testified credibly that high quality early childhood education is necessary for any substantial change in developmental and educational outcomes for low income and English Language Learner (ELL) students because those students enter school so far behind. Tr. Day 12, 3160:1-10, 3167:8-3168:9.

208. High quality preschool and kindergarten programs make a significant contribution toward closing educational and achievement gaps in Colorado. Tr. Day 12, 3071:1-12. Studies have shown that the effects of quality preschool education are large enough to close about 70% of the achievement gap. Tr. Day 12, 3076:1-21. A study of New Jersey's Abbott preschool program, for example, indicates that at least a quarter of the achievement gap closed in one year, and 40% of the gap closed in two years of preschool through second grade. Tr. Day 12, 3086:14-3087:23; Ex. 5504 at 5.
209. High quality preschool education also increases achievement test scores over time, decreases grade retention, increases high school graduation, and decreases behavior problems, delinquency, and crime. Tr. Day 12, 3072:11-3073:8; Adm. Stip., No. 5; Ex. 10457.
210. If preschool is to have a substantial impact on the achievement gap, it is important to produce large initial effects with an intensive, high quality program because of the frequency with which effects decline over time. Ex. 5504 at 3.
211. High quality preschool education programs have substantially larger improvements on child development, both long-term and short-term, than other types of programs. Ex. 5504 at 4.
212. Ordinary childcare has the smallest short-term and long-term effect on a child's learning and development. Ex. 5504 at 3-4. Headstart programs show larger gains than ordinary childcare, but still only have minimal impacts on a child's cognitive development and academic achievement. Tr. Day 12, 3083:23-3085:13; Ex. 5504 at 4. Neither ordinary childcare nor Headstart programs provide the large, substantive gains in cognitive and social development that quality preschool education, and they are, therefore, appropriate substitutes for state preschool programs. Ex. 5504 at 6, 15.
213. High quality preschool programs have the greatest impact on low income and ELL students, especially in the areas of language, literacy, and mathematics, and can help better prepare those students to learn the State content standards and achieve their full potential. Tr. Day 12, 3088:8-3089:13, 3151:3-9; Adm. Stip., No. 5.
214. Currently, low income and ELL students enter school far behind other children, and achievement gaps at third and fourth grade are as large as a standard deviation. Tr. Day 12, 3102:10-3103:1; Pl. Intv. Dep. Designations, Aschermann Dep. at 27:17-28:5.
215. Children who enter far behind tend to fall farther and farther behind because the average child has difficulty making the equivalent of one year's progress, which in turn often leads to frustration and behavioral problems for the child that further inhibit performance over time. Tr. Day 12, 3153:1-9, 3155:3-23. Programs with short-term effects are insufficient for low income and ELL students. Intensive, quality programs with long-term gains are necessary to avoid the cycle of failure for an at-risk child. Tr. Day 12, 3155:3-3157:3.
216. Long-term gains from the most intensive programs are as much as half the achievement gap for children living in poverty. Tr. Day 12, 3151:18-3152.

217. Among the most important areas of development for three- and four-year olds is the acquisition of oral language and literacy skills. Ex. 5504 at 12. Therefore, early childhood programs are especially beneficial for students whose home language is not English. Tr. Day 12, 3151:10-13; Ex. 5504 at 12. Intervention is especially important for ELL students when they are young and their brains and language development are forming. Tr. Day 12, 3161:5-22.
218. Oral language proficiency in English and kindergarten entry has particularly strong impact on later achievement for language minority children. Ex. 5504 at 12.
- ii. School districts are unable to provide access for all of their low income and ELL students to high quality preschool and kindergarten programs, and their services remain inadequate.**
219. Although quality preschool and kindergarten programs are necessary to meet the educational needs of low income and ELL students and help them meet State standards and expectations, there is substantial unmet need throughout the State.
220. The early childhood programs with the largest and longest lasting effects are not only more educationally intensive, but also more expensive. Ex. 5504 at 8. The most effective preschool programs are part of public education and have more highly educated, better paid teachers than regular childcare or Headstart, and also tend to have smaller class sizes and better teacher-student ratios. *Id.*
221. Starting a program at an earlier age tends to produce larger long-term gains. Ex. 5504 at 8. Full-day, two-year preschool education produces larger effects for students, especially for low income students. Ex. 5504 at 11.
222. Effective programs also include monitoring, evaluation, and support by specialists. Ex. 5504 at 8. A preschool program must be adequately supported at the local and state level, including a financial accountability system, supervisory structure based on standards, an assessment process to measure standards, and a continuous improvement process. Tr. Day 12, 3094:20-3098:1, 3099:2-11. These components ensure that set goals for teaching and learning are met. Ex. 5504 at 10. Support from the State must go beyond just issuing regulations and monitoring – the State must be able to obtain objective information on childrens’ learning and development and respond with technical assistance. *Id.*
223. Tools in preschool programs such as the strategic use of a student’s primary language in the classroom, providing explanations and opportunities for practice, and instruction that builds on home language are particularly important with success for ELL students. Ex. 5504 at 12; Tr. Day 12, 3161:23-3164:17.
224. Preschool teachers serving children with a home language other than English must have an extensive knowledge of language development for optimal teaching of ELL students. Tr. Day 12, 3161:23-3164:17; Ex. 5504 at 12.

225. The Colorado Preschool Program (“CPP”) was created in recognition of the need to adequately prepare children with specific at-risk factors to learn. Ex. 10169 at 3.
226. The CPP statute provides that “early school failure may ultimately contribute to such children dropping out of school at an early age, failing to achieve their full potential, becoming dependant upon public assistance, or becoming involved in criminal activities.” C.R.S. § 22-28-102; Ex. 10169 at 3.
227. To be eligible for CPP, 4-year olds must meet at least one at-risk factor, and 3-year olds must meet at least three. Tr. Day 12, 3106:17-3107:18. The at-risk factors include qualifying for free or reduced lunch, limited English proficiency, homelessness, abuse, a teen parent, an unmarried parent, a parent who has not completed high school, high mobility, or poor social schools. Tr. Day 12, 3106:17-3107:18.
228. If the child is 3-years old, he or she must demonstrate at least 3 of the at-risk factors to qualify. *Id.*; Ex. 5505 at 38. There is no valid educational reason for creating different standards for 3-year olds. Tr. Day 24, 6700:1-4.
229. Preschool programs that participate in CPP report outcomes on assessment systems identified in Results Matter, the State’s system for collecting and reporting child outcomes from birth to age 5 in early childhood programs. Ex. 5505 at 38.
230. CPP requires instruction for only 2 ½ hours a day, 4 days a week. Tr. Day 12, 3109:16-22. A full-day program would be substantially more effective in improving children’s learning and development. Tr. Day 12, 3111:1-8.
231. From 1995 to 2008, 15% of the slots funded by CPP could be used to serve children in the second half of the kindergarten day. Ex. 10169 at 3. CPP did not return to its original mission of only serving preschool age children until 2008. *Id.*
232. Today, CPP is capped to funding the equivalent of 10,080 FTE or 20,160 children each year, and each district has an allocation of CPP slots. C.R.S. 22-28-104(2)(a)(III); Undisputed Facts Stip., Stip. 13.
233. In 2008-09, CPP served approximately 20,160 students, and that number has remained stagnant ever since. Undisputed Facts Stip., Stip. 13; Tr. Day 24, 6661:15-6662:12. However, since 2008, the estimated number of 4-year olds eligible for free and reduced lunch has increased by approximately 9%. Tr. Day 24, 6662:13-16.
234. There is no valid educational reason for capping CPP slots at 20,160, especially in light of the substantial increased need. Tr. Day 24, 6696:24-6697:25. In 2008-09, the CDE estimated a shortfall of at least 8,641 CPP slots for 3-year olds. Tr. Day 24, 6663:13-15. A conservative estimate for 2010 showed at least 13,104 not being served. Tr. Day 24, 6697:2-6699:11. The State has never attempted to estimate the unmet need for 3-year olds. Tr. Day 24, 6666:5-7.

235. Today, CPP serves only 20% of eligible 4-year olds in the State and does not provide funding for all low income and ELL students. Tr. Day 12, 3108:7-3109:15.
236. CPP defines “unmet need” for the program as the number of children served in preschool and subtracting that from the number that qualify for free or reduced lunch. Tr. Day 12, 3112:3-13. Thus, the State’s definition of “unmet need” is inconsistent with the State’s definition for eligibility, which is defined by a longer list of at-risk factors besides qualification for free or reduced lunch. Tr. Day 12, 3112:14-3113:12. As a result, the State’s report on “unmet need” is underinclusive because students who are eligible for the program are left out of the calculation for the same. *Id.* The calculation also does not include 3-year olds. Tr. Day 12, 3114:12-18.
237. Quality, full-day kindergarten programs are necessary for low income children if the goal is to make any headway on closing achievement gaps and raising levels of achievement. Tr. Day 12, 3160:1-10, 3138:17-3139:3140:23; Tr. Day 24, 6681:21-6682:4. Full-day kindergarten produces a more substantial, long-term impact than half-day. *Id.*
238. The General Assembly has declared that every child in Colorado should have the opportunity to attend full-day kindergarten, as the benefits of full-day kindergarten continue throughout the child’s education and set the tone for future success. Tr. Day 24, 6676:13-23.
239. Regardless, there is substantial unmet need throughout school districts in the State, including the majority of the Plaintiff districts and Plaintiff-Intervenors’ districts. Ex. 5504 at 15; Tr. Day 12, 3177:14-18, 3114:1-11; Ex. 10455. Even including participation in Headstart, which is not an effective means of substantially improving school success, CPP does not serve even half the children who qualify for the program. Tr. Day 12, 3115:7-3116:19.
240. The unmet need in Adams Arapahoe 28J is 586 children. Ex. 5504 at 15; Tr. Day 12, 3177:14-18, 3114:1-11; Ex. 10455. The unmet need in Denver is 880 children. *Id.* The unmet need in Colorado Springs 11 is 800 children. *Id.*
241. Greeley School District has 481 slots through CPP, and is unable to serve all of its preschool age, eligible students with that number. Tr. Day 16, 4003:16-4004:23.
242. Sheridan School Districts has waiting lists of eligible students due to lack of facilities. Tr. Day 14, 3619:11-17.
243. Mapleton 1 School District has been forced to reduce preschool services for its 3-year olds in order to serve more 4-year olds, but it still is unable to serve all the eligible, at-risk students in the district due to a lack of funding for qualified teachers. Tr. Day 17, 4436:3-4440:6. Although Mapleton’s need for preschool has increased over the years, its allocation of CPP slots has remained the same. *Id.*

244. Given that over half of its student population is low income, Rocky Ford R-2 School District wants to, but is unable, to provide services for 3-year olds. Tr. Day 12, 3188:5-23.

iii. Inadequate funding and quality of CPP and Kindergarten programs

245. CPP is not highly effective because of its inadequate funding, low standards for teacher and assistant teacher qualifications and inadequate infrastructure for effective monitoring, evaluation, and a continuous improvement process. Even if the program has some positive benefits, they are modest at best. Tr. Day 12, 3135:5-3136:9.

246. CPP receives funding through the Colorado school finance formula. Funds are distributed to public schools. Ex. 5505 at 38.

247. Colorado is 28th out of 40 states in spending per preschooler. Tr. Day 12, 3130:13-20. Colorado's combined state and local spending has been about \$3,500 per preschooler served. Ex. 5504 at 16. The State has never conducted a study to determine the actual cost to provide a preschool student with an adequate education. Tr. Day 24, 6684:16-24. Instead, the amounts of funding is based solely on per-pupil revenue for K-12. *Id.*

248. Preschool funding is insufficient for the direct provision of the program. Tr. Day 12, 3128:7-3129:18; Ex. 5504 at 16. For example, according to a 2003-04 survey, 30% of CPP teachers reported a lack of transportation with their families, constituting a barrier to attendance for students. *Id.* Almost 50% of classrooms exceeded the State's maximum class size of 15. *Id.*

249. Lack of funding has created a serious shortage of early childhood resources in the school districts where Plaintiff-Intervenors live. There are substantial achievement gaps and dropout rates in those districts, and at the same time, a lack of transportation, an inability to pay qualified teachers, and a lack of facilities to support quality preschool programs that would remediate the achievement issues. Tr. Day 12, 3169:8-3170:13.

250. Colorado has some of the lowest standards for teacher and assistant teacher qualifications among state preschool programs. Ex. 5504 at 16. CPP teachers are not required to have any postsecondary education, or other substantive qualification. Tr. Day 12, 3117:10-23. Assistant teachers only need a high school diploma. Ex. 5504 at 16.

251. According to a 2003-04 survey, a quarter of preschool teachers in the State only have high school diplomas. Ex. 5504 at 16.

252. Postsecondary education is an important qualification of an effective preschool teacher. Tr. Day 12, 3117:10-23, 3118:10-3120:6. For example, a teacher must have a rich vocabulary to have rich language interactions with a child. *Id.*

253. The only programs that produce substantial impacts in quality were those that were taught by teachers with 4-year degrees. Tr. Day 12, 3120:7-16. Teachers with 4-year degrees are more successful with ELL students. *Id.*

254. Approximately half of other states require a 4-year degree, and a number of other states require at least some postsecondary education. Tr. Day 12, 3118:1-9.
255. The State's monitoring system is also insufficient. Tr. Day 12, 3132:2-3134:16. Colorado does not collect uniform data that would provide a good statewide measure of school readiness at kindergarten entry. Ex. 5504 at 14. "Results Matter" does not provide an adequate basis for a valid evaluation of CPP or statewide performance for accountability purposes. *Id.*
256. The most widely used tests in Colorado at kindergarten entry are simple literacy assessments that do not measure the broad domain of skills that contribute to achievement gaps at later grade levels. Ex. 5504 at 14.
257. The State visits programs as little as once every two years, and not all visits include classroom observations. Ex. 5504 at 16.
258. As a result of the State's insufficient monitoring system, the State is currently unaware whether CPP programs are actually meeting quality standards. Tr. Day 24, 6689:9-13.
259. Although District Advisory Councils ("DAC") purportedly supervise the quality of CPP programs in each district, DACs do not have the training and expertise to adequately support local programs. Ex. 5504 at 16.
260. DACs are made up of local representatives that design, implement, manage and monitor local CPP programs. Ex. 10169 at 3, 7. The council is only required to meet 6 times a year. Ex. 10169 at 6. There is no requirement that DAC members have education, experience, or training in early childhood education. Tr. Day 24, 6688:12-17; Ex. 10169 at 6.
261. There are no substantive training or regulations regarding the special needs of ELL students in the State's regulations for CPP. Ex. 5504 at 16; Tr. Day 12, 3161:23-3164:17, 3166:13-3167:7.
262. CPP does not provide any professional development for preschool teachers who serve ELL students, despite the additional supports and tools ELL students need in the classroom. Tr. Day 12, 3166:6-12.
263. None of the Plaintiff-Intervenors' districts have sufficient guidance or support for ELL students. Ex. 20140 at 2.
264. Dr. Barnett testified that both enrollment and quality in the early childhood programs in Plaintiff-Intervenors' districts are necessary to achieve any significant improvement in educational outcomes. Tr. Day 12, 3186:12-3187:6; Ex. 20140.

265. However, quality in these schools district programs is lacking due to inadequate funding. None of the programs are necessarily strong enough to make any substantive impacts on low income or ELL students. Ex. 20140 at 1-2; Tr. Day 12, 3191:20-3192:24.
266. Many teachers in the districts are not licensed and lack even associates degrees. Ex. 20140 at 2. Teacher compensation is unusually low, preventing the programs from attracting qualified teachers. *Id.* Rocky Ford R-2 School District is unable to provide transportation for its programs. *Id.*
267. Sheridan 2 School District lacks sufficient training and technology for its preschool teachers. Tr. Day 14, 3620:9-25.
268. The preschool class size in Plaintiff-Intervenors' districts is too large to be educationally effective for the students they serve. Ex. 20140 at 2.
269. Defendants do not provide full-day funding to Colorado school districts for all eligible Kindergarten students Tr. Day 24, 6676:24-6677:4. Kindergarten is only funded at .58 FTE in the school finance formula. Tr. Day 24, 6653:6-10.
270. Only 41% of kindergarten-age children are served by a full-day program in Colorado. Tr. Day 12, 3141:10-23. In 2007, of the 25,241 children attending full-day kindergarten, only 2,454 were funded by the State. Tr. Day 24, 6678:5-9.
271. As a result, full-day kindergarten in Colorado is unevenly provided and varies dramatically from district to district, from more than half the children in some districts to less than 10% of children in other districts. Tr. Day 12, 3142:8-17; Ex. 5504 at 17.
272. Half-day kindergarten programs are not sufficient for future success. Half-day kindergarten creates barriers to participation for low income families, whose parents may have transportation or employment issues that prevent them from transporting their students home in the middle of the day. Tr. Day 12, 3143:11-3144:20, 3158:11-3159:22.
273. There are also deficiencies in requirements and monitoring for kindergarten in Colorado. For example, there is no limit on class size, despite the fact that small class size matters significantly for the effectiveness of kindergarten and has a particularly substantial effect for disadvantaged students. Tr. Day 12, 3145:3-18; Ex. 5504 at 17-18; Confidential Tr. Day 16, 4133:10-4134:1.
274. The State does not monitor the quality of kindergarten programs. Tr. Day 24, 6680:12-17.
275. Among Plaintiff districts and Plaintiff-Intervenors' districts, some are not able to offer full-day kindergarten, due in larger part to lack of facilities and additional staff. Ex. 5504 at 18. For example, only 40% of the eligible low income population in Mapleton 1 School District is served by the Colorado Kindergarten Program. Tr. Day 17, 4439:12-4440:6. In Greeley, only a third of the at-risk kindergarten students are served by the State. Tr. Day 16, 4004:14-23.

C. Defendants have faulted in their constitutional obligation to provide a thorough and uniform system of education for ELL students

i. ELPA Funding is Irrational and Insufficient in Amount, Duration, Coverage and Payment.

276. By state definition, English Language Learner (“ELL”) students are students whose academic achievement and English language proficiency are impaired because of their ability to comprehend English or adequately speak English. C.R.S. § 22-24-103(4) (“ELPA”). ELL students are historically a disadvantaged group both in Colorado and nationally. Tr. Day 22, 6058:12-6059:22.
277. ELL students now account for nearly one out of every eight students in Colorado’s public schools. Tr. Day 22, 6032:15-18. The ELL student population has grown by about 260% across the state compared to a 16% growth rate for the general education population over the last 12 years. Tr. Day 22, 6032:23-6033:1. In some communities, the growth rate has reached 822% over the last 10-12 years. Tr. Day 22, 5987:17-21.
278. Approximately 156 out of the total 178 public school districts presently serve ELL students, including districts located in rural and metro areas, urban and suburban and outlying towns and cities. Tr. Day 22, 6032:19-22, 6034:21-25.
279. ELL students are comprised of the following approximate racial demographics: 83% Hispanic; 7.6% Asian; 6% White; 2.6% Black and .5% American Indian. Tr. Day 22, 6034:25-6035:4. They speak up to 208 different native languages. Ex. 33 at 11.
280. A thorough and uniform education system includes a comprehensive ELL program. Tr. Day 22, 6061:10-17.
281. The demands on ELL students to become academically proficient in the English language are different and more complex than simply learning a foreign or second language. The application of the Postsecondary and Work Force Readiness definition and the new academic standards to all students, including ELL students, heightens the demands even further. Tr. Day 14, 3725:1-3713:13; Tr. Day 22, 6047:7-10.
282. The basic, essential elements of a quality ELL educational program include: 1) identification of ELL students; 2) providing a program to teach ELL students academic English; 3) qualified ELL teachers; 4) appropriate books and materials; 5) monitoring the program to ensure students are learning English; 6) assessments to determine whether ELL students know enough English to be successful in the mainstream classroom setting; 7) professional development; and 8) additional support, such as extended day and summer school programs. Tr. Day 14, 3732-33; Ex. 5401 at 1-2.
283. A quality ELL program is comprehensive and should allow ELL students access to the curriculum, promote high expectations for all ELL students, increase interactions between

ELL students with their teachers and their peers, and be instructionally sound and supported with appropriate resources and materials. Tr. Day 22, 6061:15-17. The effectiveness of an ELL program depends on many local conditions including the number of different languages spoken, adequate resources, staff qualifications and certifications. *Id.* 6062:18-6063:15.

284. Pursuant to the English Language Proficiency Act (“ELPA”), school districts are required to identify students who may be limited in English proficiency, assess such students’ English proficiency using the State’s instrument or technique, certify to the department each year those students with limited English proficiency and administer ELL programs for those identified students. C.R.S. § 22-24-105.
285. Under ELPA, Defendants recognize the need for additional services for ELL students to transition into the English language and the accompanying increased costs for such services, and allocate funds intended to help defray the cost of the additional programs and services required for ELL students in grades K-12. C.R.S. § 22-24-102; Tr. Day 21, 5482:17-19. ELPA funding, however, is not provided for the duration that students require language services but instead is arbitrarily and irrationally limited to two years. C.R.S. § 22-24-104(3).
286. Plaintiff-Intervenors’ ELL expert Dr. Kathy Escamilla is a professor of education in Social, Multicultural and Bilingual Foundations at the University of Colorado at Boulder. For forty years, Dr. Escamilla has served ELL students as a teacher, a director of ELL programs for K-12 schools, a researcher and as a tenured professor. She has authored numerous peer-reviewed articles and books centering on the appropriate education of ELL students. Ex. 20116; Tr. Day 14, 3691:17-3705:3.
287. The current supplemental funding for ELL programs under ELPA is not rationally related to the actual cost of supplemental programs or providing a thorough and uniform system for ELL students and serves only a small fraction of the students requiring ELL services under state law. Tr. Day 14, 3740:2-3744:23. According to a 2009 state report, ELPA funds accounted for only 16.9% of the total expenditures for ELL programs. Tr. Day 21, 5549:21-5550:10; Ex. 10367. In 2010-11, the State allocated \$12.4 million to ELPA, which was more than in previous years but still covered only an estimated 20% to 25% of the total education expenditures incurred by districts to address *the English language proficiency needs* of their students. Ex. 33 at 12. School districts received funding for only 30,354 of the 117,369 ELL students identified in the State because of the two-year limitation. Tr. Day 22, 6085:15-19.
288. The current supplemental funding for ELL programs and services is insufficient in both duration and amount to afford ELL students the educational opportunities they need to succeed in school, achieve the state standards and achieve their fullest potential. Tr. Day 7, 1875:1-5, 1906:5-16; Tr. Day 10, 2687:13-21; Tr. Day 14, 3740:2-3744:23.
289. The irrational two-year durational limit runs contrary to the research, which consistently finds that ELL students require at least between 4 and 7 years to become academically

proficient in the English language. Tr. Day 7, 1878:18-1879:16; Tr. Day 14, 3716:7-3717:15; Ex. 154 at 13-14; Tr. Day 22, 6067-6068:12.

290. Every credible witness, including Dr. Escamilla, testified that there was no rational reason to limit the funding to two years. Tr. Day 7, 1875:1-5; Tr. Day 14, 3719:11-15; Tr. Day 14, 3593:11-13; Tr. Day 16, 4066:6-13. Dr. Barbara Medina, Defendants' ELL expert and CDE employee, testified that Dr. Escamilla was "a highly esteemed colleague," that "[p]rofessionally she is well-regarded in the field" and that "her credentials are unparalleled." Tr. Day 22, 6023:3-10. Dr. Escamilla testified that the need for additional educational programs and services for ELL students to become academically proficient in the English language and maintain proficiency in the content areas does not end after two years and there was no credible evidence that the costs for ELL supplemental programs and services decreased after the first two years. Indeed, research in the field shows that students in the intermediate stage require more resources because content demands increase as students go up in grade levels. Tr. Day 14, 3719:20-3722:14.
291. Dr. Medina's inconsistent testimony on the rationale for limiting ELPA funds to two years to "triage" the needs of the neediest students was not credible, was not supported by any research and in any event, does not provide a rational reason as related to current standards and expectations of ELL students. Tr. Day 14, 3719:8-3722:2. Dr. Medina herself admitted that there was no rational reason for limiting ELPA funding to two years. Tr. Day 22, 6086:24-6087:10.
292. Dr. Medina also contradicted her own testimony on other occasions. Although she initially testified that ELPA funds could possibly have been meant for NEP students, the neediest of ELL students identified in categories A and B under ELPA, she later admitted that the definition of a category B student—a student who comprehends and speaks English, but whose primary comprehension or speech is in a language other than English—includes LEP students. Tr. Day 23, 6126:2-23. She also agreed that needy ELL students could be beyond two years in an ELL program and that LEP students share many of the same needs as NEP students such as additional support, additional time for translation services, additional time for intake or instructional time, and additional services. Tr. Day 22, 6083:25-6085:2.
293. Defendants also conceded that even when combining ELPA funds with PPOR, it would not be sufficient to provide quality educational opportunities for all students. Tr. Day 22, 6080:9-19. Defendants' witness and Harrison Superintendent Mike Miles testified that his estimated cost of educating an ELL student was \$8,500, compared to the \$6,500 per pupil funding his district received from the State. Tr. Day 22, 5841:6-5842:18.
294. Defendants' argument that when ELPA and PPOR are combined with federal Title III dollars the amount may be sufficient is both factually and legally unsupported. First, the state cannot rely on federal funding to fulfill its state obligation of providing a thorough and uniform system of education. Second, the State stipulated to the fact that it cannot supplant state funds with federal funds. Third, even taking into account the level of federal funds allocated for ELL programs under Title III, the amount of funding pales in

comparison to the amount currently expended on ELL programs. Tr. Day 14, 3742:9-3744:14; Ex. 5401 at 6; Tr. Day 16, 4094:19-4095:7; Adm. Stip. No. 9.

295. The irrational two-year limitation results in a number of ELL students not receiving the programs and services they need to become academically proficient in the English language. For example, in Sheridan 753 students (45% of the total student population) were identified as ELL, including approximately 20% as NEP and 67% as LEP. ELL students in Sheridan are served for about five to six years but only receive funding for two years. The District received ELPA funding for only 179 of its 753 ELL students, and the ELPA funding it did receive was grossly insufficient. Tr. Day 14, 3591:1-3592:18. As Sheridan Superintendent Michael Clough testified, the ELPA funds his district receives does not even cover the cost for its ELPA director, who, among other things, provides training to teachers, monitors instruction, works with teachers in implementing the standards and oversees CELA testing. Tr. Day 14, 3593:14-3595:8.
296. In Greeley, the district received funding for only 1,526 of its 4,917 ELL students. The ELPA funds received do not cover the total supplemental costs that the district pays to help serve these students. Tr. Day 16, 39998:20-3999:10; Ex. 46 at 4. Over a period of nine years, the district found a total of only 168 students (or 3.2%) that were monitored or existed from ELL programs after no more than 2 years of services. Presently, 70.8% of the students in the program are in their third year or greater. Tr. Day 16, 4064:3-4065:20; Ex. 20149. With a tight general fund, the district does not have the resources to provide the services or curriculum that LEP students need, and the teachers do not have access to the professional development they need to learn to shelter instruction for the ELL students. The result is that only the NEP students are served with a true ELL program and LEP students get very minimal support and end up languishing in the program for even longer, where many fail classes and drop out. For those that do not, they require remedial classes if and when they get to college. *Id.* 4066:14-4068:9.
297. In Mapleton, 2,668 students (35% of the total student population) were identified as ELL but the district received funding for only 662 students. ELL students in Mapleton receive about \$90 per student and only receive funding for two years. Tr. Day 17, 4415:221-4416:21; Ex. 46. As Mapleton Superintendent Charlotte Ciancio testified, the district does not receive sufficient ELPA funding to provide additional teachers, services, or curriculum. Tr. Day 17, 4417:7-4418:18. Mapleton does not have the resources to fund ELL beyond the ELPA funds it receives, and as a result the district lacks an adequate number of well-prepared and knowledgeable teachers to properly serve ELL students, and does not have the resources to provide necessary professional development for ELL teachers that the district already employs. *Id.*, 4421:6-17.
298. There are two general main types of language programs districts can consider in educating ELL students, programs that make some use of a child's native language and programs that are English medium programs. Among the native language programs, there are transitional bilingual programs, dual language programs (including one-way and two-way), early exit transitional bilingual programs and late exit transitional bilingual programs. The English medium programs include models using sheltered English, English immersion and

English as a Second Language pull-out. Tr. Day 14, 3722:15-3723:9; Ex. 154 at 38-40. Research has shown that sufficiently funded native language programs are proven most effective. Tr. Day 14, 3723:13-3728:14; Ex. 154 at 39 (describing a “supporting factor” of late exit programs as: “Research shows this is among the most effective models for academic achievement.”).

299. Although school districts may select from a variety of ELL programs, a school district’s ELL students would benefit most from a selection of language programs in which students would be able to retain a second language. This allows them to develop a skill that falls in line with Colorado’s 21st Century knowledge and skills in the Arts and Humanities, such as communicating and interacting effectively with communicators of different languages. Tr. Day 15, 3947:3-25; Ex. 173.
300. Former Colorado State Senator John Andrews personified the type of ignorance some policy makers carry irrespective of the duty to provide a thorough and uniform system of education to ELL students. He testified that bilingual education poses a danger that “ghettoizes the boy or girl who did not come to school knowing English” and that he wanted students to be taught exclusively in English and be able to transition to English within 2 years. Tr. Day 24, 6386:12-6387:10. These positions run contrary to even Defendant CDE’s critique of all-English programs in which they point out that such programs take longer for ELL students to become academically proficient in English, require much more modification on the part of teachers leading to subtractive bilingualism, which undermines their ability to develop academic bilingualism. *Id.*, 6387:1-6388:20.
301. No matter what type of ELL program a school district chooses, resources play a role in determining the extent of the program, such as paying for professional development, materials, reduced class size, parental involvement programs, assessments, accelerated programs, computer-assisted learning, extended day programs, and summer programs so students do not lose their English. Tr. Day 14:3728:15-3729:8, 3748:16-3750:1; *see also* Tr. Day 7, 1879:17-1882:11. Sheridan superintendent Michael Clough testified that his district does not have enough resources to provide enough summer school slots to its students and that the losses in learning during the summer take about three months to make up into the next school year. Tr. Day 14, 3601:11-3602:15.
302. The lack of sufficient and irrational funding for ELL students has resulted in school districts choosing and implementing ELL programs based on what they can afford as opposed to the educational needs of the students. Dr. Escamilla’s examination of Sheridan, Mapleton, Greeley and Rocky Ford showed school districts that meant well but were forced to make dreadful decisions as a result of their limited funds. These decisions included the total exclusion of services for LEP students, diminished and limited programs, and poorly implemented and unmonitored programs. Tr. Day 14, 3750:1-3770:16; Exs. 5406-5408.
303. The inadequate and arbitrary funding allocated for ELL programs not only negatively impacts the educational opportunities available to ELL students but also other students when districts are placed in a position to choose which students it should more

appropriately educate. Tr. Day 14, 3771:7-20. Dr. Medina admitted that when schools and programs compete for scarce resources, students' opportunity to learn is compromised and they do not receive the highest quality education. Tr. Day 22, 6071:4-6072:6.

304. The irrational funding for ELL students is further evidenced by the comparison to funding for Gifted and Talented (GT) students. First, for no valid educational reason, the State provides greater funds per eligible student to GT students than ELL students. Tr. Day 21, 5569:25-5571:5, 5572:10-19. Second, unlike ELPA funding and for no rational reason, GT funding is provided for each GT-identified student for the duration that the student is identified as GT and is not limited two years. Tr. Day 21, 5575:25-5576:7; Tr. Day 16, 4000:25-4001:15. Third, GT funding is not limited to the neediest or smartest GT students. Tr. Day 21, 5575:25-5576:7. Fourth, 60% of GT funding is provided at the beginning of the year, as opposed to ELPA funding which is not provided until mid-year in January (90%). Ex. 2302. Providing ELPA funding halfway through the year is very problematic for school districts and the ELL children they serve. Tr. Day 21, 5707:24-5708:13; Tr. Day 14, 3592:19-3593:10; Tr. Day 16, 3999:19-4000:6.
305. The low level of funding for ELL students also impacts testing accommodations. In administering the CSAP to ELL students, school districts are allowed by CDE to offer certain appropriate accommodations to ELL students but many of those cost money. Tr. Day 14, 3729:15-3732:1; Ex. 155.
306. The low level of funding also may impact a school district's choice to not initiate a new program because the start-up costs are significant. Tr. Day 14, 3736:8-21; Tr. Day 22, 6072:7-6073:16.
307. Special certification for teachers of ELL students is not required under state law but the state does require special certification for teachers of GT students. Tr. Day 22, 5993:8-11.
308. CDE also under-staffs its Language, Culture and Equity division, which supports ELL programs, and many districts do not ask for support from CDE because they know the ELL division cannot deliver. Tr. Day 22, 6040:1-13, 6041:20.
309. In addition, Defendants' adoption of the WIDA standards for ELL students to learn the content areas in 12 subjects and teachers and administrators will now require teachers and administrators to undergo professional development to learn the WIDA standards and apply them in the classroom. Tr. Day 22, 6047:19-6050:12. The additional standards and expectations in the content areas and for students and teachers will also implicate substantial demands for professional development for teachers and administrators. Tr. Day 14, 3714:16-3715:12.

ii. Effects of Irrational and Inadequate ELL funding on Student Achievement

310. The resulting effect of an irrational and inadequate funding system for ELL students has led to poor ELL student achievement that does not exemplify actual student potential and ability to meet State standards and expectations.
311. Numerous witnesses for all parties testified that the thoroughness and uniformity of the system could be determined by reviewing educational outputs, such as CSAP test scores, ACT scores, and graduation rates. Tr. Day 24, 6369:10-6370:22; Tr. Day 22, 6069:6-15. Defendants themselves measure many of these same outputs, to a limited degree, in order to determine the quality of educational programs; and when some school districts or schools are struggling, they are provided additional revenue to improve performance. Tr. Day 24, 6584:18-6585:8; Tr. Day 3, 715:11-25; 1 CCR 301-1, Rule 3.02; Tr. Day 4, 1172:11-17; Tr. Day 14, 3578:15-3579:3580:20; *e.g.*, Ex. 20101.
312. All parties stipulated that ELL students in Colorado could perform scholastically as well as non-ELL students. Adm. Stip. No. 2. As Greeley administrators explained, “every student can reach proficiency. It’s not about ability, it’s about systems that we have to build in order to see that kids can learn. And those systems have to be built on resources, on people, on materials, on professional development, on ongoing support, having good-quality programs that are going to be successful.” Tr. Day 16, 4073:18-4074:2.
313. The Colorado English Language Assessment (“CELA”) is the state standardized test to measure a student’s proficiency in the English language. The CELA Place is the state-required tests that identifies whether a student is limited in English proficiency. The CELAPro is an annual test required to be administered by school districts and tests the English proficiency of students but does not measure a student’s knowledge of Colorado’s content standards. An overall score of 5 on the CELA Pro is recommended by CDE before considering exiting students, along with a review of the ELL student’s body of evidence, which requires resources from school districts. Tr. Day 14, 3734:11-3736:2; Ex. 154 at 29; Adm. Stip. Nos. 3-4.
314. The 2010 CELAPro results indicate that most ELL students across the State are not meeting the advanced proficiency level, and therefore, require additional English language proficiency services. Ex. 80. Across the State of Colorado, only 7.6% of ELL students scored advanced. *Id.*
315. The following figures represent advanced proficiency rates on the CELAPro for the districts attended by plaintiff-intervenor children: Greeley, 6.2%; Mapleton, 7.9%; Sheridan, 9.9%; Rocky Ford, 11.9%. Tr. Day 16, 4109:7-4110:2; Ex. 80. Plaintiff school districts had similar, dismal CELA data: Jefferson County, 9.5%, Alamosa, 8.8% and Boulder Valley, 6.3%. Ex. 80. Harrison Superintendent Mike Miles spoke of his district’s ELL student achievement, but less than one out of ten ELL students (9.7%) reached advanced proficiency. Ex. 80.

316. Each of the plaintiff-intervenor children is or has struggled to meet the English proficiency standards in the CELApro test. Each of the plaintiff-intervenor parents desires that all of their children achieve the State proficiency standards, graduate from high school and be prepared to attend and complete college without remediation. Tr. Day 15, 3828:13-15, Sealed Exs. 20017-20018 (Ortega); Tr. Day 15, 3859:23-25, 3863:22-3864:4, 3865:18-3866:10, Sealed Exs. 20024-20026 (Pizano); Sealed Exs. 20020-20022 (Payan); Tr. Day 16, 4115:6-11, 4116:23-4117:3, Sealed Exs. 20027-20028 (Diaz); Tr. Day 17, 4231:8-10, 4237:1-6, 4241:3-8, Sealed Exs. 20015-20016, Ex. 908 (Leyva); Sealed Exs. 20011-20012 (Guzman); Sealed Exs. 20023-20024 (Piña); Sealed Exs. 20013-20014 (Lopez).
317. Achievement gaps in Colorado persist among these student groups as a result of an irrational and inadequate system and Defendants readily admit that Colorado has among the widest achievement gaps in the country and is close to the bottom. Tr. Day 21, 5694:8-24.
318. Dr. Barbara Medina described ELL student performance in the State of Colorado as “abysmal, disappointing, frustrating, a challenge.” Tr. Day 22, 6050:13-19.
319. The achievement gap between ELL and non-ELL students scoring proficient on the CSAP was significant across the state, although overall non-ELL student performance was not too impressive across subjects tested and grade levels. Adm. Stip. Nos. 1-3. In 2010 for example, the gaps in scoring between LEP and non-ELL students ranged from a low of 23 percentage points in Grade 3 Math (53% v. 76%) to a high of 61 percentage points in Grade 9 Reading (12% v. 73%). *Id.*, Stip. No. 3. In grades 3-6, LEP students reached the minimal proficiency standard above 35% in only two of the thirteen CSAP tests, Grade 3 Math and Grade 4 Math (47%). *Id.* For grades 7-10, the results were even more dismal with the highest percentage of ELL students meeting minimal proficiency in Grade 7 Math (11%) and Grade 8 Math (11%). The results for NEP students were even worse, ranging from a high of 17% and 18% in 3rd Grade Reading and Math, respectively to 2% and 1% in nine different tests in Grades 7-10. These achievement gaps have persisted throughout the years. *Id.*, Adm. Stip. Nos. 1-3.
320. Similar low achievement scores occurred for ELL students for every school district that testified credibly in this case. For example, in Greeley, the proficiency rates on the 2010 CSAP Math for LEP students ranged from 55% in Grade 3 to 0% in Grade 10. Tr. Day 16, 4072:5-16; Ex. 20128. On the 2010 CSAP Reading, LEP student proficiency rates ranged from 51% in grade 3 to 2% in Grade 10; the 2010 CSAP Science result were worse: 3% in Grade 5 and 0% in Grades 8 and 10.
321. In Sheridan, the highest percentage of ELL students achieving proficiency on the 2010 Reading CSAP was 51% and the percentage of ELL students reaching proficiency on the 2010 CSAP Science was 4% in both Grades 5 and 8. Tr. Day 14, 3605:1-3606:21.
322. In Mapleton, no more than 5% of either NEPs or LEPs ever reached proficiency on the 2010 CSAP Science at any grade level, and by 10th Grade only 54% of ELL students reached proficiency on the 2010 CSAP Reading exam. Tr. Day 17, 4425-12-4426:12-14;

Exs. 20129, 20130. No NEP students beyond Grade 7 reached proficiency on the 2010 CSAP Writing. Tr. Day 17, 4427:11-14; Ex. 20131.

323. In Rocky Ford, there was no specific, reportable data on the CSAP scores for ELL students in the CDE report, Exhibit 20083, because of an insufficient number of ELL students taking each exam. The only reportable ELL data on the 2010 One-Year Framework for Rocky Ford showed the district's middle school ELL students approaching but failing to make adequate growth. The overall student achievement in Rocky Ford was very poor with the district only garnering 42% of the possible 100 points, and the district was deemed "Accredited with Improvement Plan." Ex. 20,102.
324. In the plaintiff districts, similar gaps and low ELL achievement could also be found. Tr. Day 7, 1898-1906:4; Exs. 20129-20131, 20138-20139. For example, in Aurora, the 2010 CSAP Math gaps between ELL and non-ELL students was between 17 percentage points in grade 10 (0%- LEP v.17%) to 46 percentage point gap in grade 9. Tr. Day 7, 1901:1-1902:3 In Boulder Valley, the gaps between LEP and non- ELL students on the 2010 Grade 3 Math CSAP was 30% (57% v. 87%) and exceeded 50 percentage points in some grade levels; and on the 2010 Grade 5 Science CSAP, the gap was 62 percentage points (12% v. 74%) and 69 percentage points in Grade 8. Tr. Day 10, 2683:14-2685:21.
325. On the ACT, ELL students' average composite score was 12.6 in 2010 compared to 20.0 for non-ELL students. Data Stip. No. 9. Similar gaps existed in the prior two years. Data Stip. Nos. 7 & 8.
326. Graduation rates for ELL students are also abysmal, with less than fifty percent graduating in 2010 (49.2%) compared to 72.4% of non-ELL students. Similar gaps existed in the prior two years. Data Stip. Nos. 15. Similar gaps existed in the prior two years. Data Stip. Nos. 13 & 14.
327. Sheridan's ACT composite score was 15.8. Tr. Day 14, 3624:17-3625:3; Ex. 20101. Sheridan's graduation rate for ELL students was 56% in 2008, 67% in 2009 and 31% in 2010. The overall graduation rate in 2008 was 62%. Tr. Day 14, 3615:11-3615:25. With the new, more stringent graduation standards being considered by the state, Sheridan's graduation rate will likely plummet even further. Tr. Day 14, 3616:22-3617:14.
328. Greeley's ACT composite score was 18.3, but this is not representative of the average score for ELL students who score much lower. Tr. Day 16, 4063:4-14. Greeley's ELL graduation rate was 44% in 2009, 58% in 2009 and 48% in 2010.
329. Despite these gaps, the evidence overwhelmingly demonstrated that ELL student performance could dramatically improve and the gaps could close if the school districts were provided with sufficient resources to provide effective and appropriate ELL programs and services. Tr. Day 14, 3600:21-3601:10, 3811:19-3813:9; Tr. Day 7, 1877:15-1879:16; Ex. 154 (ELL Guidebook). Superintendents and administrators testified that they knew how student achievement could increase if they had additional funding to implement the

necessary programs and services to meet those students' educational needs. Tr. Day 14, 3597:2-3598:18; Tr. Day 16, 4073:18-4074:4; Tr. Day 7, 1877:15-1879:16.

330. However, the irrational and insufficient funding provided for ELL and low income students prevents school districts from offering the necessary programs and services to improve those students' achievement and forces districts to selectively choose which ELL students to serve and the types of programs they can afford, as opposed to the type of program the ELL students need to achieve the state standards. School districts often must decide whether to shift funding from other students groups to ELL students or vice versa, thus being involuntarily compelled to "rob Peter to pay Paul." Tr. Day 21, 6071:4-6072:6; Tr. Day 16, 4095:12-19. Such decisions should never have to be made and further evidence the lack of a thorough and uniform system.
331. Greeley administrators spoke of having to shift away a significant amount of general funds from other students to higher need students, such as ELL and low income children. These decisions have included reductions to educational services such as magnet programs and robotics classes, as well GT programs and career and technology. The district also was forced to make cuts to middle school sports, which caused the district to lose students and, in turn, revenue. The district lost 780 white students between 2006 and 2011. The district also spoke of wealthier, neighboring districts having significantly more resources per student and being able to offer more options and a greater variety of programs. Tr. Day 16, 4002:2-4003:15, 4096:20-4098:12.

D. Defendants have faulted in their constitutional obligation to provide a thorough and uniform system of education for low income students

i. At-risk Funding is Irrational and Insufficient in Amount and Coverage

332. Defendants do not include monolingual students on the reduced price lunch program into the at-risk factor. Adm. Stip. Nos. 11-12. Across the state, 55,941 students in 2010 were identified on the reduced price lunch program and would not be eligible for additional at-risk funding. This accounts for 6.9% of all reported students and about 17% of students on the free and reduced priced lunch program. Ex. 20,146.
333. In Mapleton, the district would not receive funding for the 13% on the reduced price lunch program, or 941 students. *Id.* In Rocky Ford, 11.8% of its students are on the reduced-priced lunch program. *Id.* For Greeley, there are 1,453 students on the reduced price lunch program, or 7.6%. *Id.* In Sheridan, the percent on the reduced priced lunch program is just under 6%, which is likely underestimated. *Id.*; Tr. Day 14, 3563:8-18.
334. Even though there is testimony that qualification for free lunch was the proxy for at-risk funding selected by the General Assembly in 1994, the educational landscape of Colorado today is much different than it was almost two decades ago. Tr. Day 3, 654:23-655:19. The impoverished student population in Colorado has grown exponentially, and such growth is projected to continue into the foreseeable future. Ex. 5901 at p. 4 & Tbls. 3, 4,

- 5, 8; Tr. Day 16, 4178:18-20; Tr. Day 16, 4174:17-4175:20, 4176:22-4177:4, 4178:9-10, 4179:11-17, 4180:6-14.
335. There is overwhelming, credible expert and lay testimony that students who qualify for reduced lunch are just as at-risk as those who qualify for free lunch, and no rational or valid educational reason was proffered during trial to distinguish between the two groups. *See, e.g.*, Tr. Day 13, 3309:9-22; Tr. Day 16, 3995:15-3997:24; Tr. Day 17, 4429:7-4431:24. In fact, Defendants' own legislative pronouncements identify students who qualify for free and reduced lunch as equally at-risk, in complete contradiction to the PSFA factor, and their provision of Pre-K to both student populations because of the lack of school readiness also demonstrates that there is no rational reason to exclude such students from the at-risk proxy. Tr. Day 12, 3106:17-3107:18.
336. In the meantime, the State has enacted and implemented increasingly rigorous standards and expectations based on student performance that have only magnified the financial burden on school districts to meet the needs of their at-risk students. Tr. Day 24, 6551:20-25; Tr. Day 24, 6399:20-6402:6; Ex. 68 at 4; Ex. 3146 at 49; Tr. Day 18, 4739:8-4742:5; Tr. Day 14, 3570:15-22; Trial Day 4, 923:11-924:8; Ex. 66 at CDE003397. Since 1994 and since the implementation of the standards-based accountability system, the at-risk factor has not been seriously revisited.
337. The costly challenges to districts to meet the needs of students on the reduced priced lunch program are also uncontested in this case. Tr. Day 13, 3309:23-3310:21; Pl. Intv. Dep. Designations, Ascherman Dep. at 67:7-19; Tr. Day 13, 3303:24-3308:11; Ex. 5603 at 23.
338. As stated by Defendants' expert, Dr. Erik Hanushek, a child's poverty standing alone affects that student's achievement in school. Tr. Day 19, 5117:2-25. Students from low income families encounter more difficulties in school and are generally not prepared to be learners when they first enter school. *Id.*; see also Tr. Day 4, 1008:17-1009:7.
339. Dr. Henry M. Levin, the William Heard Kilpatrick Professor of Economics and Education and Co-Director of the Center for Benefit-Cost Studies in Education, is a renowned expert economist in the economic consequences of the failure to adequately educate students and the social and economic impacts of uneducated students. Tr. Day 13, 3278:21-3298:25; Ex. 5601.
340. According to Dr. Levin, low income students in Colorado are often not able to take advantage of the significant benefits of education because they lack the financial, family, and social capital needed to access educational opportunity. Tr. Day 13, 3303:24-3308:11; Ex. 5603 at 23.
341. Low income students face myriad familial, social, and community obstacles to educational attainment. Low income students tend to come from one-parent families, leading to lower parental resources that undermine educational development, such as fewer or weaker parent-child interactions related to language and literacy, less of a "school-like" home, and increased conflict in the home. Tr. Day 13, 3303:24-3307:11; Pl. Intv. Dep. Designations, Ascherman Dep. at 59:3-20; Ex. 5603 at 23. For example, Plaintiff-Intervenor Abigail

Diaz lives with her four children in a three bedroom trailer, and often cannot afford the supplies her children need to complete their school projects and assignments at home. Tr. Day 16, 4112:12-4113:4, 4116:6-22. Plaintiff-Intervenor Maribel Payan is sometimes not able to provide her children with materials to complete their homework and school projects due to the family's limited income, and her daughter has to work every day after school in order to assist with family expenses. Tr. Day 14, 3669:1-10, 3670:9-18, 3686:10-14. The family does not have a computer at home, so the children must complete their school assignments at the library, where they have time limits that inhibit their work. Tr. Day 14, 3687:14-24. In Sheridan School District, where approximately 15% of students are homeless, there tends to be more behavioral problems because of stress and lack of parental support at home. Tr. Day 14, 3357:8-3561:4.

342. Low income students receive poorer nutrition and are less likely to have access to health insurance, which leads to poor health status that affects their ability to learn in school. Tr. Day 13, 3303:24-3307:11; Ex. 5603 at 23-24.
343. Low income families also have less access to "out-of-school" educational opportunities, such as preschool programs, summer school, tutoring, after school programs, and educational amenities like museum trips. Tr. Day 13, 3303:24-3307:11; Ex. 5603 at 24. For example, Plaintiff-Intervenor Armandina Ortega's son is struggling at school and needs tutoring and/or summer school, but Ms. Ortega can't afford outside tutoring, and there are no after-school programs available for him. Tr. Day 15, 3831:22-3833:22. Ms. Ortega also cannot afford summer school or family vacations to enrich her children's education. Tr. Day 15, 3840:24-3841:13. Plaintiff-Intervenor Roberto Pizano's teenage son must work in the fields over the summer to assist with the family income. Tr. Day 15, 3859:2-15. Plaintiff-Intervenor Celia Leyva's son struggles with math and reading, but she cannot afford tutoring for him and it's not offered at his school. Tr. Day 17, 4233:12-25.
344. Due to employment and lower educational attainment, low income parents are less likely to be involved with their children's school and schoolwork. Tr. Day 13, 3303:24-3307:11; Ex. 5603 at 24. For example, Plaintiff-Intervenor Roberto Pizano is unable to assist his son with his eleventh-grade school work because he himself only has a sixth-grade education. Tr. Day 15, 3857:18-24, 3864:18-3865:10. Plaintiff-Intervenor Maribel Payan is unable to help her children because of her low level of education, and her husband is unable to assist their children with their schoolwork due to their work schedules. Tr. Day 14, 3669:11-21.
345. Low income students attend schools that have higher crime rates and fewer learning resources, such as quality teachers, suitable facilities, libraries, and counseling. Tr. Day 13, 3303:24-3307:11; Ex. 5603 at 24.
346. Higher mobility rates are also prevalent among low income students, interrupting their schooling and inhibiting their educational attainment. Tr. Day 13, 3303:24-3307:11; Ex. 5603 at 24. For example, in Greeley School District, where the mobility rate is approximately 30%, it is difficult for district administrators to identify where mobile students are in their academic achievement and what their needs are, and increased

- professional development is needed to address the challenges presented by mobility. Tr. Day 16, 4051:22-4052:21.
347. Because of the social and familial obstacles they face, low income students generally start school less prepared, and over time fall farther and farther behind without intervention. Tr. Day 13, 3303:24-3307:11; Pl. Interv. Dep. Designations, Ascherman Dep. at 56:18-57:13; Tr. Day 4, 1008:17-1009:7; Ex. 5603 at 24.
 348. Both students who qualify for free lunch *and* students who qualify for reduced lunch under the National School Lunch Act face the same challenges as described here. Tr. Day 13, 3309:9-22.
 349. Challenges faced by low income students create challenges for the institutions where they are learning. Tr. Day 13, 3309:23-3310:21; Pl. Interv. Dep. Designations, Ascherman Dep. at 67:7-19. However, poverty can be overcome with the appropriate educational programs. Tr. Day 19, 5117:2-25.
 350. In order to respond to the singular needs of low income children, schools must provide targeted interventions and strategies. Dr. Hanushek favors targeting funding towards low income students, and acknowledged that there are clearly programs that work. Tr. Day 19, 5117:24-5119:5. Dr. Levin identified five programs proven to increase high school graduation rates for low income students. Tr. Day 13, 3310:22-3312:1. They included increasing teacher pay; reducing class size, especially for K-3; publicly funded preschool; access to Headstart programs; and small learning communities in high school. Tr. Day 13, 3310:22-3312:1; Ex. 5603 at 25-28. Defendants stipulated that despite the obstacles, low income students in Colorado can perform scholastically in school on equal terms with non-low income students. Adm. Stip. No. 5.
 351. Increasing teacher pay raises the quality of the teaching applicant pool and reduces the teacher quit rate. Tr. Day 13, 3318:1-24; Ex. 5603 at 26. A 10% increase in teacher pay across the K-12 years could increase the number of high school graduates by 5%. Ex. 5603 at 26.
 352. Reducing class size, especially in the elementary grades, has long-term substantial effects for low income students. Tr. Day 13, 3319:3-3321:6; Ex. 5603 at 27. For minority and low income children in smaller classes in elementary school, the high school graduation rate improves by 18%. Ex. 5603 at 27.
 353. Creating small learning communities in high school with access to mentoring and rigorous curriculum is also proven effective for low income students. Ex. 5603 at 28. Such environments create needed personalization and monitoring that low income students may not otherwise receive at home. Tr. Day 13, 3321:10-3323:13.
 354. Dr. Levin also identified a number of secondary school interventions that showed potential to increase high school graduation rates for low income students. Tr. Day 13, 3323:14-3327:3; Ex. 5603 at 28-31. The interventions include programs such as middle school interventions and career academies, which are meant to foster adequate learning time, interpersonal relationships, community relationships, mentoring and counseling. *Id.*

355. The interventions identified by Dr. Levin are only some of the education reforms that could improve access to education for low income students. Ex. 5603 at 25. The superintendents of the school districts where Plaintiffs and Plaintiff-Intervenors reside testified that the same or similar strategies are effective with their low income student populations and are necessary to meet the needs of low income students.
356. For example, Superintendent Ciancio testified regarding the benefits of the small schools model implemented in the Mapleton School District, which yielded lower remediation rates and higher testing scores due in large part to higher personalization for students. Tr. Day 17, 4366:5-4369:3. The district needs after school programs and healthcare to meet the needs of its low income students. Tr. Day 17, 4435:6-16.
357. For the 1,453 students at Greeley identified on the reduced-price lunch program (or 7.3% of the total population), Greeley does not receive any at-risk funding despite the similar challenges those children face when compared to the free lunch program. Greeley administrators testified that there was no rational reason for excluding those students from the at-risk proxy, because they face the same challenges as those who qualify for free lunch. Tr. Day 16, 3995:15-3997:24.
358. In Mapleton, approximately 69% of students are identified on the free and reduced-price lunch program, and 13% of the total student population qualifies for reduced lunch. Tr. Day 17, 4429:7-4431:24; Ex. 20146. Mapleton does not receive any at-risk funding despite the similar challenges those children face when compared to the free lunch program. The Mapleton Superintendent testified that there was no rational reason for excluding those students from the at-risk proxy, because they face the same challenges as those who qualify for free lunch. Tr. Day 17, 4429:7-4431:24.
359. In Colorado Springs School District 11, Superintendent Michael Poor emphasized the need for targeted interventions such as additional tutoring and an extended instructional day for low income students to ensure that they have adequate time to learn. Tr. Day 4, 1011:9-1012:19.
360. In Center School District, Superintendent George Welsh testified about low income students' need for extended learning time and additional tutoring. Tr. Day 1, 131:11-132:16.
361. School districts must be able to meet the educational needs of every student who walks in the door. Tr. Day 16, 4096:11-16. With adequate resources, low income children can achieve mastery of state standards and postsecondary and workforce readiness. Tr. Day 14, 3618:13-18; Tr. Day 17, 4434:20-4435:5; Adm. Stip., at 9, Stip. No. 5. However, the costs to provide effective interventions and other resources for low income students are substantial.
362. Dr. Levin calculated that paying a teacher more through the K-12 years would cost \$9,170 per student. Ex. 5603 at 26. A K-3 class size reduction can cost \$14,330 per student. Ex. 5603 at 27. The cost of small learning communities in high school is approximately \$6,130 per student. Ex. 5603 at 28.

363. Plaintiff-Intervenors' school districts do not have sufficient resources to meet the needs of their low income students and provide them with the quality of education necessary to meet State standards. Tr. Day 14, 3616:9-12, 3662:5-11; Tr. Day 17, 4435:17-4436:2; Pl. Interv. Dep. Designations, Ascherman Dep. at 59:16-60:4.
364. In fact, many school districts have been forced to cut back on programs serving low income students due to recent budget cuts, and can't even maintain their resources for those students. For example, Mapleton 1 School District has had to make programming cuts that are negatively impacting the district's small schools model. Tr. Day 17, 4372:15-4375:8. The district has also had to cut back on after school programs, nutritional services and transportation services necessary for low income students. Tr. Day 17, 4435:17-4436:2.
365. In Rocky Ford, the school district had to eliminate 3.5 teaching positions and increase class sizes due to budget cuts. Pl. Interv. Dep. Designations, Ascherman Dep. at 205:25-206:13, 216:11-20.
366. In Colorado Spring School District 11, the district had to eliminate the position of Chief Academic officer, summer school, counselors, and extended instructional time for low income students due to budget cuts. Tr. Day 4, 991:16-994:10, 1012:20-1013:4. These reductions did and will continue to impact student achievement. *Id.*

ii. Effects of Inadequate Funding on Low Income Student Achievement

367. In determining whether the State is carrying out its constitutional obligation, it is appropriate to review and analyze performance outputs that form the basis of the State's education system, namely State assessments, graduation rates, and college remediation rates.
368. Numerous witnesses for all parties testified that the adequacy of the system could be determined by reviewing outputs, such as CSAP test scores, CELApro scores, ACT scores, and graduation rates. Tr. Day 24, 6595:6-25; Tr. Day 18, 4528:19-4529:2, 4541:12-4542:18. Defendants themselves measure many of these same outputs in order to determine the quality of educational programs and when some school districts or schools are struggling, the State provides them additional revenue to improve performance. Tr. Day 24, 6584:18-6585:8; Tr. Day 3, 715:11-25; 1 CCR 301-1, Rule 3.02; Tr. Day 4, 1172:11-17; Tr. Day 14, 3578:15-3579:3580:20.
369. All parties stipulated that low income students could perform scholastically as well as non-low income students. Tr. Day 14, 3618:13-18; Tr. Day 17, 4434:20-4435:5; Adm. Stip., Stip. Nos. 3, 5. Nevertheless, in Colorado, achievement gaps persist among these student groups and Defendants readily admit that Colorado has among the widest achievement gaps in the country and is close to the bottom. Tr. Day 21, 5694:8-24.

a. CSAP

370. CSAP scores have remained relatively flat in the State during their 15-year history. Tr. Day 3, 4793:2-11.
371. The CSAP tests only a very limited number of academic standards adopted by the SBE. Tr. Day 21, 5712:15-18.
372. The achievement gap between low income and non-low income students scoring proficient on the CSAP was significant across grade levels and persistent over time, even though non-low income student performance was not particularly impressive across subjects tested and grade levels. Adm. Stip., Nos. 1-6.
373. In 2009 for example, the gaps in scoring between low income and non-low income students ranged from a low of 11% in Grade 10 Math (11% v. 38%) to a high of 56% in Grade 3 Reading (56% v. 84%). Adm. Stip., Stip. No. 5.
374. In grades 3-7, low income students reached the minimal proficiency standard above 50% on only four of the fifteen CSAP tests, Grade 3 English Reading (56%), Grade 3 Math (53%), Grade 4 Math (54%), Grade 6 English Reading (52%). Adm. Stip., Stip. No. 5.
375. For grades 8-10, the results were even more dismal with the highest percentage of low income students meeting minimal proficiency in Grade 10 English Reading (49% v. 78%) and Grade 9 English Reading (46% v. 77%). Adm. Stip., Stip. No. 5.
376. Similar achievement gaps occurred throughout the years between low income and non-low income students for every school district where Plaintiff-Intervenors reside that testified credibly in this case. Adm. Stip., at 8, Stip. No. 25 (filed July 29, 2011); Tr. Day 17, 4434:11-23.
377. Each of the plaintiff-intervenor children is or has struggled to meet the state proficiency standards in virtually every grade level Colorado Student Assessment Program (CSAP) test. For example, Plaintiff Intervenor Maribel Payan's daughter, C., who attends school in Sheridan, has not been able to meet the minimum proficiency standards set by Defendants, despite the fact that she is highly ranked in her class and has been identified as Gifted and Talented. Tr. Day 14, 3680:23-3683:5.
378. In Sheridan on the 2010 CSAP Science test, for example, only 16% of third grade students who qualified for free lunch scored proficient, versus 62% of non low income students. Tr. Day 14, 3613:21-3614:24; Ex. 20126.
379. On the 2010 Math CSAP, only 51% of students who qualified for free lunch scored proficient in comparison to 82% of non-low income students statewide. Tr. Day 14, 3612:8-22; Ex. 20124. Low income students did not reach proficiency over 50% at any grade level in 2010. Tr. Day 14, 3612:23-3613:20; Ex. 20125.

380. In Greeley, 82% of non-low income students scored proficient on the third grade 2010 CSAP math test compared to 54% of low income students. Tr. Day 16, 4079:7-4080:10; Ex. 20124. In tenth grade, only 23% of non-low income students scored proficient on the same assessment, versus 7% of low income students. *Id.*
381. In Mapleton, 68% of non-low income students reached proficiency on the 2010 CSAP Math test in third grade in comparison to 47% of low income students. Tr. Day 17, 4432:4-22 ; Ex. 20124. In tenth grade, only 9% of low income students scored proficient. *Id.*
382. In the plaintiff districts, similar gaps could also be found over time. For example, in Center School District, on the 2008 Math CSAP, 33% of low income third grade students versus 84% of non-low income students statewide reached proficiency. Tr. Day 1, 213:5-215:3; Ex. 20134. In Colorado Springs School District 11, on the 2010 CSAP Math test, not more than 40% of low income students reached proficiency after fourth grade. Tr. Day 4, 1021:18-102311; Ex. 20124.

b. ACT

383. On the ACT in 2010, low income students' average composite score was 16.1 in 2010 compared to 20.6 for non-low income students. Adm. Stip., Stip. No. 12.
384. These achievement gaps have persisted throughout the years. Adm. Stip., Stip. Nos. 10-12.
385. Overall low achievement on the ACT occurred for every school district that testified credibly in this case.
386. In Sheridan School District, the district composite was 14.6. Ex. 20112.
387. In Rocky Ford School District, the district composite was 17.4. Ex. 20112.
388. In Greeley School District, there are substantial gaps on ACT performance between low income and non-low income students. Tr. Day 16, 4-7. The district composite was 17.6. Ex. 20112.
389. In Mapleton 1 School District, low income students score below the district average on the ACT. Tr. Day 17, 4388:9-25. The district composite was 16.6. Ex. 20112.

c. Graduation Rates

390. Graduation rates for low income students were also abysmal, with 58.9% in 2010 compared to 72.4% of non-low income students. Adm. Stip., Stip. No. 18.

391. Similar gaps existed in the prior two years. Data Stip. Nos. 15. Similar gaps existed in the prior two years. Adm. Stip., Stip. Nos. 16-18.
392. Similar achievement gaps occurred between low income and non-low income students for every school district that testified credibly in this case. In Sheridan School District, the district average graduation rate for low income students was 36.4% compared to the state average of 72.4%. Ex. 20063.
393. In Greeley, the district average graduation rate was 67.8% in 2010, compared to 57.2% for low income students. Ex. 20066.
394. In Mapleton, the district average graduation rate for low income students was 44.4%, compared to the statewide average of 72.4%. Ex. 20063.
395. In Rocky Ford, the district average graduation rate was 71.4% in 2010, compared to 63.4% for low income students. Ex. 20063; Ex. 20066.
396. In the plaintiff districts, similar gaps could also be found. For example, in Colorado Springs District 11 School District, the graduation rates for low income students decreased from 60% to 56% from 2008 to 2010, and the gap widened between low income and non-low income students during the same time period. Tr. Day 4, 1025:5-1026:1; Ex. 20138. In Pueblo School District, the average district graduation rate was 61% in 2010, and the graduation rate for low income students was 54%. Tr. Day 9, 2467:2-25; Ex. 20137.
397. Despite these gaps, the evidence overwhelmingly demonstrated that low income student performance could dramatically improve and the gaps could close if the school districts were provided with sufficient resources to provide effective and appropriate low income programs and services. Adm. Stip., Stip. No. 5 (filed July 29, 2011); Tr. Day 4, 1026:2-1027:7; Tr. Day 9, 2469:17-2470:2; Tr. Day 14, 3618:9-18; Tr. Day 17, 4434:20-4435:16.
398. The irrational and insufficient funding provided for ELL and low income students prevents school districts from offering the necessary programs and services to improve their achievement and forces districts to selectively choose which low income and ELL students to serve and the types of programs they can afford, as opposed to the type of program low income and ELL students need to achieve the state standards. Tr. Day 4, 1010:1-1013:4. Tr. Day 7, 1892:21-1896:6.
399. School districts are also often forced to decide whether to shift funding from other student groups to ELL students or vice versa, thus “Robbing Peter to pay Paul.” Tr. Day 16, 4095:14-4097:5, 4005:21-4006:24; Pl. Intv. Dep. Desig., Ascherman Depo. at 300:7-301:2; Tr. Day 17, 4435:17-4436:2. For example, Greeley eliminated teachers for gifted and talented students and its career and technical educational programming, to the detriment of the students served by those programs. Tr. Day 16, 4095:14-4097:5. Greeley and Rocky Ford diverted funds away from teacher salary and benefits, putting them at a competitive disadvantage for higher quality teachers, leading to a 5% increase in teacher turnover. Tr. Day 16, 4005:21-4006:24; Ascherman Depo. at 300:7-301:2. Mapleton has

diverted funds away from counseling necessary to serve its substantial homeless and mobile student populations in order to focus on instruction for core content standards. Tr. Day 17, 4348:1-4353:16.

400. Such decisions should never have to be made and further evidence the lack of a thorough and uniform system of education in the State.

E. Accreditation Reports Further Demonstrate the Inadequacy of the System.

401. Lack of funding has prevented Plaintiff-Intervenors' districts from meeting state standards and expectations and threatened their accreditation.
402. In 2010, Sheridan School District's accreditation status was "Accredited with a Turnaround Plan." Ex. 20101. Sheridan did not meet state standards in academic achievement, academic growth, or postsecondary workforce readiness. Tr. Day 14, 3577:16-3579:15; Ex. 20101. For academic achievement the district only scored 3.8 out of 15 points. *Id.*
403. As a result of its accreditation level, Sheridan had to develop, implement, and submit a turnaround plan. Tr. Day 14, 3578:15-3583:16. The process to develop the turnaround plan were substantial in terms of manpower and personnel, but the State provided no additional resources for the district to create its plan. *Id.*
404. In 2010, Greeley School District was accredited with an improvement plan. Tr. Day 16, 4062:1-8; Ex. 20103.
405. In 2010, Mapleton 1 School District was accredited with an improvement plan. Tr. Day 17, 4376:12-4382:10; Ex. 20144. The district did not meet the State's expectations for academic achievement, academic growth, academic growth gaps, or postsecondary workforce readiness. *Id.* The district only received a third of the points necessary for postsecondary workforce readiness. *Id.*
406. In 2010, Rocky Ford was accredited with an improvement plan. Ex. 20102. The district did not meet the State's expectations for academic achievement, academic growth, academic growth gaps, or postsecondary workforce readiness. *Id.* In academic growth and academic achievement, Rocky Ford only received a third of the requisite points for each respective category. *Id.*
407. Rocky Ford was placed on improvement status in part because it was not able to create the infrastructure necessary to support expectations for high levels of achievement due to inadequate resources to meet the district's significant low income student population. Pl. Intv. Dep. Desig., Aschermann Dep., 136:4-24. The district did not have the funds for professional development for its teachers. Pl. Intv. Dep. Desig., Aschermann Dep., 140:17-24.

F. College Remediation rates show that Colorado students, especially low income and ELL students, are not college ready.

408. Colorado School districts are unable to prepare students adequately for college, especially low income and ELL students. There are substantial remediation gaps for low income students and non low income students across the State.
409. An underlying assumption of PWR is that all graduates of Colorado public schools will not need remediation during their postsecondary education. Ex. 68 at 12. However, currently, the state level remediation for two-year college students is approximately 50%, and approximately 20% for students attending 4-year institutions. Tr. Day 3, 745:10-23; Ex. 68 at 10.
410. ELL and low income students have been identified by the State as subgroups that have the highest remediation needs in the State. Ex. 68 at 25. For example, in 2009, 28% of low income students, in comparison to 9.5% of non-low income students, required reading remediation. Ex. 68 at Tbl. 15. 36.3 percent of ELL students versus 10.5% of non-ELL students required reading remediation. *Id.* These substantial gaps were persistent in remediation needs for mathematics as well. Ex. 68 at Tbl. 16; Ex. 74.
411. The State's own studies indicate that if students are not scoring proficient on state assessments by sixth grade, they will very likely need remediation if and when they enter college. Pl. Intv. Dep. Desig., O'Brien Depo, 271:13-20; Ex. 73 at 3.
412. On the other hand, students who score proficient or higher on the CSAP in the tenth grade, and scored at least a 19, 18, and 17 on their ACT mathematics, writing, and reading subscores, respectively, will very likely not require remediation. Tr. Day 24, 6422:15-6423:25; Ex. 68 at 4-5, 9. Substantial, focused, targeted interventions are especially important for tenth grade students who have not yet reached proficiency, as such action is necessary to get those students college ready before they graduate. Pl. Intv. Dep. Desig., O'Brien Depo, 229:2-232:18.
413. Students who require remediation are less likely to complete college. Tr. Day 24, 6451:13-18.
414. The cost to Colorado postsecondary institutions and to students who must take remedial courses and pay for them is approximately \$26 million annually. Pl. Intv. Dep. Desig., O'Brien Depo, 165:1-11; Ex. 68 at 10.
415. Reducing remediation and its related costs are admitted goals of Colorado's preK-12 system and Colorado's postsecondary institutions. Ex. 68 at 10.
416. The State has indicated that in order to address the need for remediation, targeted interventions to eliminate remediation should be in place throughout the secondary system. Pl. Intv. Dep. Desig., O'Brien Depo, 172:7-11; Tr. Day 18, 4808:14-18; Ex. 68 at 27. According to a March 2011 study co-authored by the CDE, "[w]hen students move from

grade to grade without intervention to improve their basic skills, this lack of skills appears evident in postsecondary and workforce situations.” *Id.*

417. Plaintiff-Intervenors’ school districts have substantial remediation rates, and as acknowledged by the Lieutenant Governor of the State of Colorado, would be able to ameliorate their remediation rates with increased targeted funding, assuming it was targeted. Tr. Day 18, 4525:15-20.
418. In 2009, the remediation rates for the high schools in Weld County School District 6, or Greeley School District, ranged from 32.5% to 52.6%. Tr. Day 24, 6452:17-6454:19; Ex. 181 at 18.
419. In 2009, the reported remediation rates for the high schools in Mapleton 1 School District was 50%. Tr. Day 24, 6452:17-6454:19; Ex. 181 at 21.
420. In 2009, the remediation rates for high schools in Rocky Ford R-2 School District was 35.5%. Tr. Day 24, 6452:17-6454:19; Ex. 181 at 31.
421. In 2007, the number of Sheridan High School students who required remediation in at least one subject was 83.3%. In 2008, 60% of students required remediation. Tr. Day 14, 3575:13-3576:13; Ex. 73 at 45.
422. The State has also identified CSAP and ACT performance as good indicators of college readiness. Ex 68.
423. Students who score proficient above on the CSAP tend to be college-ready, and conversely, those who score below proficient are generally not college-ready. Tr. Day 18, 4815:7-11.
424. In 2005, nearly 400,000 students in Colorado public schools scored below proficient on CSAP assessments. Tr. Day 24, 6545:3-14.
425. Between 2005 and 2009, from seventh to tenth grades, over half of low income CSAP takers failed to score proficient in reading, and therefore were not likely college ready. Pl. Intv. Dep. Designations, O’Brien Depo, 214:7-215:23; Ex. 73. Similarly, during the same time period, 89% of low income CSAP takers failed to reach proficiency in math and were not college ready. *Id.*
426. In 2009, 94% of tenth graders in Mapleton failed to reach CSAP proficiency in CSAP math and therefore were not likely college ready. Pl. Intv. Dep. Designations, O’Brien Depo, 226:6-18.
427. In 2009, 79% of tenth graders in Rocky Ford failed to reach CSAP proficiency in CSAP math and therefore were not likely college ready. Pl. Intv. Dep. Designations, O’Brien Depo, 227:2-11.

428. Using ACT performance as an indicator, 63 percent of Colorado students are not college ready in English. Tr. Day 18, 4787:11-4790:7. Sixty percent are not college ready in math. *Id.*

V. Additional Findings of Fact Supporting Plaintiff-Intervenors' Adequacy and Local Control Claims

A. Defendants' Own Admissions and the APA Cost Study Provide Further Evidence that the Public School Finance System is Inadequate and Irrational

429. Defendants' own witnesses conceded that more money can matter and that additional revenue can help improve learning performance. Tr. Day 24, 6384:21-24 (Andrews). Defendants' expert Dr. Eric Hanushek testified that the research shows that money can matter as to education if used well and that there is mounting evidence that money, if spent appropriately, can have a significant effect. Tr. Day 19, 5031:6-5032:19.

430. There was no credible evidence that any of the school districts in this lawsuit were inappropriately spending their funds, or that they would do so in the future. A review by Defendants of various audited financials and budgetary information for school districts across the state and involved in this litigation failed to find any financial mismanagement by those districts. Tr. Day 21, 5563:19-5564:4; *see also* 5708:14-5709:1. Defendants conceded that there were no deficiencies found in the audits of Greeley, Mapleton, Rocky Ford or Sheridan and that those districts are efficiently and effectively spending their dollars. Tr. Day 21, 5583:6-19.

431. Defendants have not conducted a study to determine the costs of funding all public education programs set forth in statute and regulation, despite Dr. Hanushek's opinion that school finance cannot be divorced from school policy and if the objective is to raise the performance of students, the finances must support that goal. In addition, he agreed that resources are absolutely important in public education. Adm. Stip. No. 31; Tr. Day 19, 5115:19-5116:2.

432. In 2009, CDE did conduct a limited analysis of costs and reported that it would take \$2.8 billion more in funds to provide an average education, which included bringing teachers' salaries up to average, extended year, full-day kindergarten and half-day pre-K for all students. Just bringing up the expenditures and salaries to a national average, and filling the gap in categorical funding alone would cost \$1.086 billion. Tr. Day 21, 5557:6-5559:1; 5589:10-17.

433. SBE Member Elaine Gantz-Berman also admitted that students in Colorado are not receiving a thorough and uniform education and that there is not sufficient funding in Colorado's public schools. Tr. Day 21, 5677:15-5678:17; 5692:23-5693:1.

434. Harrison Superintendent Miles defined a thorough and uniform system of public education, in part, as one where school districts receives the resources that they need to provide an effective education for all children, including resources for ELL, special education and low

income students and admitted that Colorado does not have a thorough system. Tr. Day 22, 5858:6-5859:6.

435. The firm of Augenblick, Palaich and Associates (“APA”) performed a cost analysis in this case to determine the cost for the standards and requirements put in place for school districts, schools and educators in Colorado. This did not include costs for transportation, food service, capital or adult and community education. Tr. Day 6, 1481:15-1483:18.
436. APA is a reputable firm that has been commissioned by the Colorado Department of Education to prepare cost studies. Tr. Day 21, 5479:22-5480:10; Tr. Day 6, 1475:4-23; Ex. 67. CDE’s former Associate Commissioner found APA’s study of declining enrollment to be a credible and defensible analysis for the financial concerns of school districts. Tr. Day 21, 5562:25-5563:5.
437. The study performed in this case used the professional judgment approach with the evidence-based approach integrated into it and the successful school districts approach. Tr. Day 6, 1483:19-25. The successful schools approach, however, only represented what the thirteen selected districts spent to get the current level of performance, not the amount they would need to spend to fully meet Colorado’s standards and requirements. Ex. 8303 at 29. The Court finds these studies to be credible.
438. These studies demonstrated that Defendants are under-funding Colorado schools. In particular, moderate to very large size districts were found to need a weight adjustment of .47 more than the base cost of \$7,738 for ELL student (though the base cost was subject to a size factor for districts descending in size) and a weight adjustment of .564 for small to very-small districts. The at-risk factor was found to be .35 across all districts. Ex. 8303 at 30. Though not necessary, these findings substantiate the opinions and testimony of school district officials in this case testifying about the inadequacy of funding for special need students.
439. Defendants’ criticism of APA’s convening of experts in education to determine the educational programs necessary to implement the numerous mandates and help students achieve the state standards without taking the costs into account is unavailing. Former Defendant and Governor Bill Ritter directed the P-20 Council, which was formed pursuant to his executive order, to make recommendations to change the educational system without any regard to the costs or the capacity of school districts to implement necessary programs or services needed to carry out the policies. Tr. Day 24, 6399:20-6400:3, 6466:21-6469:25. These efforts eventually led, in part, to the CAP4K legislation. Tr. Day 24, 6407:24-6408:1.

B. Inadequate facilities financing for property-poor districts.

440. All Colorado public school children, wherever they live, are entitled to learn in adequate physical facilities and classrooms. A thorough and uniform system of schools requires not only classroom instruction, but also the classrooms and facilities where instruction takes place. Accordingly, it is the State’s constitutional duty to provide all school districts with

adequate access to the operations and facilities funding necessary for the appropriate instruction of children.

441. The property poor school districts where Plaintiff Intervenors reside lack adequate funds for, and do not have uniform access to funds for school facilities, and therefore do not have all the facilities essential to providing students a learning environment in which to attain suitable and adequate education.

ii. Unmet capital facilities needs in Colorado have been substantial and longstanding.

442. Colorado has long had a history of substantial unmet school facilities needs. In 1996, a State legislative committee concluded that school districts in Colorado faced roughly \$2.5 billion in capital construction needs over the following 5 years. Tr. Day 17, 4307:16-4308:18; Ex. 30102 at 3. In 2003, a State Auditor Report concluded an estimated \$4.7 billion in unmet statewide capital needs. Tr. Day 17, 4309:8-12; Ex. 1100.
443. Despite the established unmet need in the State, the State did not systematically gather any specific information about its K-12 facilities until 2009. Ex. 1102. The State did not even know exactly how many buildings there were, much less what type of condition they were in. Ex. 1102.
444. Starting in 2004, the Donnell-Kay Foundation, a non-profit foundation that funds and performs K-12 education policy work, began conducting a comprehensive assessment of capital needs in the State of Colorado to determine the condition of public schools (the “Donnell-Kay Assessment”). Tr. Day 17, 4268:12-4270:7; Ex. 1102.
445. According to the Donnell-Kay Project, despite the well-documented unmet capital needs in the State overtime, capital funding remained reliant on district funding. This led to an enormous backlog of serious school capital needs across the State, resulting in serious health and safety problems in school buildings across Colorado. Ex. 1105 at 1.
446. As the Director of Special Projects for the Donnell-Kay Project and in connection to the Donnell-Kay Assessment, Mary Wickersham toured public school facilities in approximately fifty Colorado school districts. Tr. Day 17, 4256:15-4258:4.
447. The hundreds of school buildings Ms. Wickersham observed between 2004 and 2006 were in various states of disrepair and were replete with deficiencies including bulging and cracked foundations, compromised structural integrity, plumbing problems such as untreated waste water, roof leaks, and asbestos and mold issues, insufficient electrical capacity, heating problems, mice infestations, rattlesnake infestations, and bat infestations. Tr. Day 17, 4256:15-4258:4, 4259:11-4260:17, 4261:9-21.
448. Mrs. Wickersham observed school facilities that conducted day-to-day activities in deteriorated buildings that required substantial mold remediation, and had rain, ice, and mud wash inside the buildings during certain weather conditions. Tr. Day 17, 4256:15-

4258. Some schools had interior gutters to redirect water from roof leaks to the exterior of the buildings. Tr. Day 17, 4260:21-28.
449. In some schools with heat and boiler deficiencies, students had to wear their hats and coats indoors, and there was one instance where students spent an entire school year without permanent heat. Tr. Day 17, 4261:9-21, 4262:1-9.
450. Electricity capacity was also a common problem Ms. Wickersham observed in Colorado public schools. Many schools are not wired for the electric load that current technology demands, creating problems that interfere with classroom instruction. Tr. Day 17, 4261:9-15, 4259:11-4260:17. For example, there were situations in which a teacher in one classroom would turn on an overhead projector and crash the electrical system for the entire school building. Tr. Day 17, 4261:9-21. In another instance, Mrs. Wickersham visited a school district that ran a capital campaign for a year in order to purchase new computers for a computer lab, only to install them and realize they didn't have sufficient electricity to run them. *Id.*
451. The Donnell-Kay Assessment determined an estimated statewide need between \$5.7 billion and \$10 billion. Tr. Day 17, 4270:21-4271:4; Ex. 1102. These estimates were low because the data used to compile the report was completely self-reported. Tr. Day 17, 4289:11-19.
452. The Donnell-Kay Assessment also concluded that over one-third of Colorado high schools had inadequate science facilities. Ex. 1102.

ii. The State itself has documented substantial capital needs in the State and in the property-poor districts where Plaintiff Intervenors attend school.

453. In addition to outside assessments, the State's own assessment has put it on notice of the significant deficiencies and inadequacies in property-poor school districts like those where Plaintiff-Intervenors attend school.
454. In May of 2008, the State passed legislation developing a competitive matching grant program for school districts' capital needs called BEST, or Building Excellent Schools Today. HB08-1335 (effective July 1, 2008); Tr. Day 17, 4274:13-18.
455. The BEST Act declarations find and declare that:

Colorado school districts, boards of cooperative services, and charter schools have differing financial abilities to meet students' fundamental educational needs, including the need for new public schools and renovations or for controlled maintenance at existing public schools so that unsafe, deteriorating, or overcrowded facilities do not impair students' ability to learn.

HB08-1335 (effective July 1, 2008); Ex. 1106 at 10.

456. To manage the financial assistance program, the BEST Act created the Capital Construction Assistance Board (“CCAB” or the “BEST Board”) and the Division of Public School Capital Construction Assistance (the “Division”). Ex. 1106 at 10.
457. The CCAB and the Division have conducted a comprehensive statewide assessment of capital facility needs (the “Statewide Assessment”). Tr. Day 17, 4285:17-20; Ex. 1106. The report was released in March of 2010. Tr. Day 17, 4287:24-4288:1.
458. The Statewide Assessment examined every public school building in every school district in the State. Tr. Day 17, 4290:5-17. It included approximately 8,419 public school facilities, including main buildings, leased buildings, temporary classroom facilities, mini-buildings, school-sites, athletic fields, athletic facilities, and other support buildings. Ex. 1106 at 9.
459. The Statewide Assessment process was highly detailed, thorough, and accurate. Tr. Day 17, 4287:8-15. The assessment process began in February of 2009 and was completed in December of 2009. Ex. 1109 at 9.
460. The Statewide Assessment concluded that the total unmet facility needs for all Tier 1 buildings, or school buildings, throughout the State as of March 2010 amounted to \$17,856,056,401. Tr. Day 17, 4288:2-19; Tr. Day 21, 5626:14-22; Ex. 1106 at 5. The Statewide Assessment findings take into account condition needs, deferred maintenance needs, suitability needs, energy needs, and future deficiencies such as condition capital renewal needs. Tr. Day. 17, 4288:8-19; Ex. 1106 at 9. The Statewide Assessment does not include transportation costs for districts. *Id.*
461. “Condition needs” represented the physical fitness, or readiness, of a facility, system, or system element for its intended use. Tr. Day 21, 5646:19-22; Tr. Day 14, 3630:2-6; Ex. 82 at 17.
462. “Suitability needs” represent the amount of money needed to bring a facility to a condition that allows it to support the program it is housing. Tr. Day 21, 5647:3-7. According to the Statewide Assessment, suitability needs reflect the order-of-magnitude estimates for needs associated with the suitability of a school’s spaces for its academic program. Tr. Day 14, 3630:7-12; Ex. 82 at 17.
463. The Assessment also created a number of benchmark indices to provide metrics for comparing facilities. Ex. 1106 at 11. Two of those indices are the Facility Condition Index (“FCI”) and the Colorado Facility Index (“CFI”). Tr. Day 21, 5650:14-5652:8; Ex. 1106 at 11.
464. The FCI is a ratio that represents the cost to correct deficiencies in a facility and compares it to the cost of replacing it. Tr. Day 21, 5625:23-5626:14. Generally, if the FCI is higher, the cost to correct the deficiencies in a school district is higher. Tr. Day 21, 5650:14-5652:8; Ex. 1106 at 11.

465. The CFI adds the facility condition cost to repair the facility, the suitability cost to make it suitable to deliver educational programs housed in the facility, and the cost to upgrade the energy deficiencies, then compares that number to the cost of replacing the building. Tr. Day 21, 5650:14-5652:8.
466. William Hughes, the Director of the Division, has indicated that the FCIs and CFIs in the Plaintiff Intervenor's school districts will increase in the next three to four years without intervention, and not enough money is being spent on capital deficiencies to keep those indices stable. Tr. Day 21, 5652:14-25.
467. Mr. Hughes admitted that none of the Plaintiff-Intervenor's school districts are able to meet their capital facilities needs without state assistance. Tr. Day 21, 5649:9-22.

iii. The Property Poor Intervenor Districts are unable to meet their capital facilities needs and their facilities remain inadequate.

468. Lacking sufficient funding, property-poor school districts such as those districts where Plaintiff-Intervenor's attend school are unable to provide adequate facilities for all children in their school districts. As demonstrated below, sub-standard conditions include: overcrowded schools and classrooms; out-of-date materials, buildings, equipment, and fixtures; inadequate libraries, science labs, cafeterias, gymnasiums, and other school facilities.
469. Many of the substandard conditions that exist in the school districts where Plaintiff-Intervenor's attend school are reflected in photographs cited below, which were convincing evidence of the outstanding facility needs.
470. The deteriorating conditions of school buildings in the State are not the result of bad faith or intentional neglect by Colorado school districts. Tr. Day 21, 5628:6-12.
471. None of the applicants for BEST grants have been dishonest or fraudulent about the capital needs in their districts. Tr. Day 21, 5653:7-18.
472. Both Mr. Hughes and Ms. Wickersham, Director of the Division and Chair of the BEST Board, respectively, agreed that all BEST applications to date have been worthy of being funded. Tr. Day 17, 4291-4292:16; Tr. Day 21, 5653:7-10.

a. Sheridan ISD's facilities needs

473. According to the Statewide Assessment, Sheridan's condition needs as of March 2010 were \$24,868,553. Tr. Day 21, 5648:23-5649:3; Ex. 82 at Appx. 6. Sheridan's suitability needs as of March 2010 were \$18,081,800. *Id.* Sheridan's energy needs were \$47,654. Tr. Day 14, 3631:5-6; Ex. 82 at Appx. 6.
474. Sheridan's school buildings are old and outdated. Sheridan built its newest facility, the high school, in 1972 or 1973. Tr. Day 14, 3628:13-3629:13. Fort Logan Elementary

School was built in 1923. *Id.* The other two schools in the district were built in the mid-1950s. *Id.*

475. Because the facilities in the district are old, they show substantial wear, and have significant leaking issues and other serious health and safety concerns. *Id.*; Tr. Day 14, 3651:10-25. For example, Sheridan Middle School has dangerous steep grades in its hallways. Tr. Day 14, 3647:22-3648:13; Ex. 20054. There is water damage in the ceilings and many ceiling tiles require replacement. Tr. Day 14, 3652:10-3653:2. The school is also overcrowded and additional instructional space is needed. Tr. Day 14, 3653:6-10. As a result of overcrowded classrooms, teachers are not able to provide sufficient attention, as observed and experienced by Plaintiff Intervenor Maribel Payan and her children. Tr. Day 14, 3686:15-3687:13.
476. Fort Logan Elementary School has water damage and small, overcrowded classrooms. Tr. Day 14, 3635:13-22. Because the school is overcrowded, the loading zone for the school, which is in the middle of the street, creates traffic backups and a safety risk to students. Tr. Day 14, 3650:22-3651:6; Ex. 20141.
477. Sheridan High School lacks sufficient lighting in the hallways, and the fire alarm system is outdated and needs repair. Tr. Day 14, 3635:6-17. The high school is sinking because of a main water line break under the structure. Tr. Day 14, 3638:23-3639:5. There are trip hazards on the staircases at the high school. Tr. Day 14, 3649:1-14; Ex. 20141.
478. Sheridan High School has substantial drainage and foundation defects. Tr. Day 14, 3651:10-25. Water lines in Sheridan High School froze and busted recently, causing damage to restroom facilities. Tr. Day 14, 3639:7-25. As a result, there are no restroom facilities at athletic games. *Id.*
479. Sheridan High School also has an imbalanced HVAC system that does not work properly. Tr. Day 14, 3647:11-21.
480. Sheridan has a waiting list for its preschool program, but does not have the additional classroom capacity necessary to address the need for preschool in the district. Tr. Day 14, 3620:8-25. Sheridan's administrative offices are also located in the middle of the preschool, impeding their accessibility. Tr. Day 14, 3650:1-10.
481. Sheridan also has substantial technology needs within its Headstart and preschool offerings that need to be addressed. Tr. Day 14, 3620:8-25.
482. Sheridan applied for a BEST grant to create two additional preschool classrooms, but did not receive the grant; instead Sheridan was designated as an alternate. *Id.*
483. The BEST local match contribution for Sheridan is 24%. Tr. Day 21, 5638:3-19; Ex. 86. Although Sheridan has applied for and received BEST cash grants, those monies were not sufficient to meet all of the facility needs in the district. Tr. Day 14, 3632:24-3633:1.

484. Without state assistance, Sheridan does not have sufficient capacity to meet its remaining facility needs. Tr. Day 14, 3633:5-13. In order to counter recent budget cuts, the district has had to reduce its maintenance and capital improvement budgets by over \$100,000. *Id.*; Tr. Day 14, 3654:3-18.

b. Mapleton ISD's facilities needs

485. According to the Statewide Assessment, Mapleton's condition needs as of March 2010 were \$118,430,854. Tr. Day 21, 5647:8-14; Ex. 82 at Appx. 6. Mapleton's suitability needs as of March 2010 were \$108,908,700. Tr. Day 17, 4442:16-23; Ex. 82 at Appx. 6.

486. Since 2010, Mapleton applied for and was awarded a BEST grant, and was able to pass a bond election to produce its required match contribution of 34%. Tr. Day 21, 5638:3-19; Tr. Day 17, 4442:24-4443:8; Ex. 86. However, the BEST grant will only meet the facility needs of 5 of the 17 school buildings in Mapleton. Tr. Day 17, 4442:24-4443:8, 4446:6-4447:11.

487. Numerous safety issues will remain throughout school buildings in Mapleton as a result of lack of funding, such as asbestos ceiling and floor tiles which cost approximately \$5,000 per classroom to mitigate. Tr. Day 17, 4446:6-4447:1125, 4449:22-4450:9; Ex. 20055 at INV5732, INV5552.

488. None of the schools in Mapleton are equipped with ceiling fire sprinkler systems, causing safety hazards for students attending those schools. Tr. Day 17, 4450:6-9.

489. One elementary school building has a malfunctioning clay sewer pipe which breaks repeatedly. Tr. Day 17, 4446:6-4447:11. The odor and the sewage hazard forces the district to close sections of the school when the pipe ruptures. *Id.*

490. There are substantial leakage and drainage issues throughout Mapleton. One school funnels rainwater drainage inside the building. Tr. Day 17, 4448:20-4449:21; Ex. 20055 at INV 5539. The Mapleton High School building has gaps in entryways that allow snowdrifts inside the building during the winter. Tr. Day 17, 4450:10-4451:14. Various school buildings also have leaking roofs. Tr. Day 17, 4451:15-23; Ex. 20055 at INV 5661.

491. Mr. Hughes, has visited the Mapleton 1 School District on various occasions, and on one visit, toured every single school facility in the district. Tr. Day 21, 5641:1-25. During that time, Mr. Hughes observed a broad range of capital needs in some if not all of the district's school buildings, including but not limited to code issues, poor lighting, poor air quality, poor exiting, and safety issues. *Id.*

492. Mr. Hughes also visited Mapleton in 2009 after one of the district's failed bond elections to obtain their BEST matching contribution. Tr. Day 21, 5642:1-22. He believed the election failed as a result of a powerful and organized "no" campaign funded by a local car dealership, and based on local concerns about the scope of the project. *Id.*

c. Greeley ISD's facilities needs

493. According to the Statewide Assessment, Greeley's condition needs as of March 2010 were \$108,069,540. Tr. Day 21, 5647:20-24; Tr. Day 16, 4008:15-4010:3; Ex. 82 at Appx. 6. Greeley's suitability needs as of March 2010 were \$101,920,700. *Id.* Greeley had energy needs in the amount of approximately half a million dollars. Tr. Day 21, 5648:16-20; Tr. Day 16, 4008:15-4010:3.
494. Greeley has been unable to address any of its substantial condition, suitability, or energy needs since the Statewide Assessment was conducted. Tr. Day 16, 4008:15-4010:3.
495. It has been over 10 years since Greeley has been able to pass a bond issue, and it has only been able to replace a single school boiler during that time. Tr. Day 16, 4007:18-4008:14.
496. Much of Greeley's mechanical equipment is showing signs of failure, and some chilling units are only operating at 40% capacity. Tr. Day 16, 4007:18-4008:14. Some of the mechanical equipment in school buildings is covered in asbestos, increasing the cost of repair or replacement. *Id.*
497. John Evans Middle School and West High School, both large buildings of over one hundred thousand square feet, have failing roofs that are full of leaks that have caused water damage. Tr. Day 16, 4007:18-4008:14, 4013:12-18, 4016:16-23; Ex. 20142. There are also roof leaks in Jefferson High School and Greeley West High School, which have caused water damage in the school. Tr. Day 16, 4021:7-25, 4023:6-4025:17.
498. In West High School, asbestos acoustical material covers much of the facility ceilings and cannot be repainted without expensive remediation. Tr. Day 16, 4010:14-4011:7; Ex. 20056 at INV 5486. The ceilings in some of the classrooms, including a special education classroom, are too low, putting students within arm's reach of the asbestos covering the ceiling. Tr. Day 16, 4023:6-4025:17.
499. Some of the venting units in West High School do not function properly to deliver fresh air in the building, but they cannot be replaced because it is embedded in the asbestos. Tr. Day 16, 4010:14-4012:3; Ex. 20056 at INV 5490, INV 6432.
500. There is also asbestos beneath the roof deck of John Evans Middle School, prohibiting roof repairs without expensive remediation. Tr. Day 16, 4014:4-4015:25; Ex. 20056 at INV 6406, INV 6407, INV 6404. The reroofing and asbestos remediation would cost \$8-10 million. *Id.* The school also has low, suspended lighting, which causes the building to be dark. *Id.*
501. The main hallway in John Evans Middle School has expansion joints down the middle that are cracked. Tr. Day 16, 4017:25-4018:14; Ex. 2014. The tile cracking causes the floor to be uneven, creating a trip hazard for students. *Id.*

502. The electronic control systems in the school district are over 12 years old, and the control components are outdated. Tr. Day 16, 4012:4-20; Ex. 20056 at INV 5526. The system manufacturer went out of business in the late 1990s, so it is impossible to obtain replacement parts. *Id.*
503. There are approximately 5,000 lighting fixtures installed in school buildings in the district which are no longer manufactured and need to be replaced with modern, higher energy fluorescent lighting. Tr. Day 16, 4019:1-23.
504. Due to budget cuts, Greeley had to consolidate 2 elementary schools and 2 middle schools approximately 2 years ago. Tr. Day 16, 4020:2-4021:6.
505. Greeley is in the process of developing an application for a BEST grant. Tr. Day 16, 4025:18-4026:4. The BEST local match contribution for Greeley is 26%. Tr. Day 21, 5638:3-19; Ex. 86.
506. Greeley sought a mill levy override in 2009, but the proposal was defeated. Tr. Day 16, 4027:5-23. The district sought 16 mills, or \$16 million in the override, but even if voter approval had been obtained, that amount would not have been sufficient to meet the district's capital needs. *Id.*
507. The facility needs that the mill levy override would have covered were central to meeting State standards and mandates. Tr. Day 16, 4047:3-18; Ex. 4414.
508. Even if Greeley receives a BEST grant in what is already a highly competitive and rigorous application process, it will still have at least a couple hundred million dollars in capital facility needs. Tr. Day 16, 4026:5-23.

d. Rocky Ford ISD's facilities needs

509. Rocky Ford R-2 School District has substantial facility needs. According to the Assessment, Rocky Ford's condition needs as of March 2010 were \$108,069,540. Tr. Day 21, 5647:20-24; Ex. 82 at Appx. 6. Rocky Ford's suitability needs as of March 2010 were \$101,920,700. *Id.*
510. There are deteriorated classrooms that are unsafe for the students. Tr. Day 15, 3846:21-3847:7. At the Washington Primary School, the portable where the English Language Learner students attend class is old and deteriorated. *Id.*; Ex. 20056.
511. The cafeteria at Washington Primary School lacks sufficient capacity, and also serves as the school's auditorium, causing overcrowding. Tr. Day 15, 3849:1-3850:5; Ex. 20056 at INV 6031. The flooring in the cafeteria is in need of repair. *Id.*
512. Not all of the lockers at Jefferson Intermediate School are functioning. Tr. Day 15, 3850:14-3851:14; Ex. 20056 at INV 6023. The flooring in the hallway needs repair and poses a safety risk to students. *Id.*

513. The BEST local match contribution for Rocky Ford is 22%. Tr. Day 21, 5638:3-19; Ex. 86.
514. Mr. Hughes observed public schools that were unsafe for students in Rocky Ford. Tr. Day 21, 5645:5-17.

iv. Property poor districts cannot meet their facilities needs because the State fails to provide adequate facilities funding.

515. Before the passage of BEST, the financial capacity of school districts to meet their capital needs was based entirely on property value. Tr. Day 17, 4266:7-20. School districts addressed their capital needs through voter approval of the sale of general obligation bonds, with a concurrent property tax increase to pay for the debt. Tr. Day 17, 4264:22-4265:14; Ex. 1105 at 4.
516. Between 1982 and 2005, local districts passed bonding measures 246 times and rejected them 129 times, for a 22-year passage rate of 66%. Tr. Day 17, 4264:22-4265:14; Ex. 1105 at n.2.
517. The State limits bonding capacity of school districts to 20% of their assessed value, or 25% for “high growth” districts. Tr. Day 17, 4264:22-4265:14; Ex. 1105 at 4.
518. Basing the capacity to meet capital needs on assessed property value drives tremendous inequity and disparity across the State because of the wide variation in property value. Tr. Day 17, 4266:7-20. For example, in 2006, the wealthiest district on a per-pupil assessed value was over \$1 million for Aspen School District. The poorest was the Sanford School District at less than \$20,000 per pupil. Tr. Day 17, 4267:4-14.
519. In 2005, nearly 21 school districts educating approximately 200,000 students were at or near their bonding capacity such that they were unable to raise any additional capital revenue. Ex. 1105 at 4.
520. Before BEST, Colorado was one of only a handful of states that had no invested any substantial monies in capital funding, and funded its school district capital needs exclusively through local district property taxes. Tr. Day 17, 4267:23-4268:11; Ex. 1105 at 1.
521. BEST was meant to address immediate health and safety needs of the state by making limited financial assistance available by grant process to school districts, charter schools, Boards of Cooperative Education Services (BOCES), and the Colorado School for the Deaf and Blind. Tr. Day 17, 4274:19-4275:3, 4290:20-25.
522. The BEST program uses 50% of revenue from the school land trust for funding on an ongoing basis. Tr. Day 17, 4276:1-23. The program also receives a certain amount of lottery revenue over a threshold. Tr. Day 17, 4277:2-10.

523. The BEST program funds capital needs in two ways: lease purchase agreements which applicants can use to leverage the annual revenue from the school land trust into additional funding, and cash grants. Tr. Day 17, 4276:1-23.
524. Cash grants are typically for small projects under \$1 million. The lease purchase projects are for major, typically multi-million dollar building projects. Tr. Day 17, 4278:25-29.
525. There is one cycle of BEST awards per year. The CCAB has direct policy control over the BEST program under statute. Tr. Day 17, 4284:1-7. The BEST Board reviews financial assistance applications and prepares and submits to the State Board of Education a prioritized list of projects to receive financial assistance and the amount of assistance that should be provided for each project. Tr. Day 17, 4278:7-17; Tr. Day 21, 5597:25-5598:8; Ex. 1106 at 6.
526. The BEST Board takes the Statewide Assessment into consideration when making grant recommendations to the State Board. Tr. Day 17, 4287:16-23; Ex. 1106 at 6.
527. There are several significant limitations on BEST funding. First, the BEST legislation caps the annual amount of lease payments the state is able to make, or its lease purchase capacity (“COP capacity”), at \$40 million. Tr. Day 17, 4276:1-23.
528. Ms. Wickersham, now the CCAB Chair, estimates that there is only one more funding cycle left for COP funded projects. Tr. Day 17, 4281:22-24. Once the cap is reached, the amount of money available through the BEST program will be substantially less. The State will either have to fund only one major building project a year while cutting back on the funds available for smaller repairs, or it will have to discontinue large building projects altogether. Tr. Day 17, 4283:2-16.
529. Lottery revenue, one of the BEST funding sources, is also extremely variable, and has been as low as under \$100,000 for one year. Tr. Day 17, 4276:1-23.
530. Not all BEST applicants receive the assistance they seek, despite the fact that all applicants have legitimate requests that need to be addressed. Tr. Day 17, 4291-4292:16. All of the BEST applications in the four BEST cycles to date have shown substantial need. Tr. Day 21, 5655:11-14; Tr. Day 17, 4278:18-20.
531. For example, Sheridan School District showed substantial need in its application, but was designated as an alternate and will not receive BEST funding unless one of the BEST recipients is unable to obtain its matching contribution. Tr. Day 14, 3641:20-3642:15, 3642:21-3643:20.
532. In the FY2010-2011 cycle, applicants requested approximately \$700 million in assistance, but only approximately \$241.5 million was awarded. Tr. Day 17, 4294:19-4295:20; Ex. 1107.

533. In the FY2011-2012 cycle, applicants requested approximately \$533.6 million, which included \$372 million in state assistance. Tr. Day 17, 5654:8-5655:10. Less than half of the assistance requested was granted through BEST. *Id.*
534. Another limitation of BEST is the mandated local match contribution from recipient districts. Tr. Day 21, 5604:11-16. The local match for school districts is based in part on the assessed valuation for a school district divided by the number of pupils, as well as a school district's bond past bond efforts. Tr. Day 21, 5636:9-20.
535. The Division only allows for a 1% deduction in the required local match for each bond election defeat during the last ten years. Tr. Day 21, 5637:14-21. So Mapleton 1 School District, for example, which suffered three bond election defeats three years in a row, only received a 3% reduction in its local match requirement for BEST funds. *Id.*
536. BEST applicants do not receive the money they are awarded if they are not able to obtain voter approval. Tr. Day 17, 4294:1-14. In the FY2010-2011 BEST cycle alone, at least 3 needy school districts did not receive awarded monies for failure to receive voter approval for their matching amounts. Tr. Day 17, 4294:1-14.
537. A bond election can fail for any number of arbitrary reasons beyond the applicant's control, such as economic conditions and voters' disagreement over a project's scope. Tr. Day 21, 5642:23-5643:19.
538. Recently, more bond elections have been failing, namely because voters are reluctant to raise their taxes in a poor economy. *Id.* When districts need to maximize their bonded debt to make their match, there could be a substantial negative tax impact on voters between 15 to 20 mills. *Id.*
539. This type of tax impact is more common in lower property value districts. Tr. Day 21, 5644:1-25. For example, in Sheridan 2 School District, a high poverty community, the community simply cannot afford another tax increase. Tr. Day 14, 3643:12-20.
540. Organizing and running local elections to meet matching contributions creates substantial costs and resources for school districts that divert administrative and instructional resources for students. In Mapleton 1 School District, for example, the Mapleton Superintendent dedicated approximately 80% of her time from July to November to each of the four elections that the District ran. Tr. Day 17, 4445:19-4446:5.
541. Although applicants may seek a waiver for the matching contribution, the waiver is not guaranteed, even in light of substantial economic hardship. Mapleton 1 School District, for example, applied for two waivers after their bond election attempts had already failed three times – one for a roof replacement and the other for a facility rebuild. Tr. Day 17, 4445:2-18. Mapleton only received a waiver for the roof replacement. *Id.*

542. The BEST program does not allow applicants to receive at least a percentage of awarded monies if they are unable to come up with their matching amount. Tr. Day 21, 5636:21-5637:13.
543. Mr. Hughes did not dispute that the State still has an obligation to students who attend public schools in school districts that are unable to pass the bonds to meet their matching grant obligations. Tr. Day 21, 5634:13-5635:8.
544. Limitations arise when an applicant encounters hidden defects in the course of construction or renovation that the applicant could not have anticipated when developing its application. Tr. Day 21, 5638:20-5639:14. There is a 5% grant reserve built into the BEST award for new construction, and a 10% reserve for renovation or remodel for this type of situation. *Id.*
545. However, if the cost of the hidden or unforeseen condition exceeds the grant reserve, and the district does not have sufficient funds in their general fund, they must leave the construction unfinished until they can apply for supplemental funding the following year. Tr. Day 21, 5638:20-5639:14. This is especially problematic because when a condition need is not met, it's possible that the facility will further deteriorate and become more expensive to repair or renovate. Tr. Day 21, 5650:2-9.
546. In one instance where this occurred, Mountain Valley School District had to delay their project for one year when they discovered that a roof could not support existing loads. Tr. Day 21, 5639:15-5640:16. During that year, the district had to cancel classes every time it snowed more than 4 inches. *Id.*
547. Finally, the BEST application process is complex and time intensive, making it especially burdensome for school districts with lower capacity. Tr. Day 17, 4296:22-4298:16, 4443:9-25. The application process alone involves detailed plans for a new building, a master plan for basic building components, the acquisition of real estate, and consolidation of campuses. *Id.* It also involves discussions with the local township with respect to zoning, sewage, and utilities, getting school district approval for the resources to complete the application process, and coordinating with the Division to ensure that program guidelines are accurately reflected in preliminary plans. *Id.* The process requires substantial resources and man hours on the part of school district administrators. Tr. Day 17, 4296:22-4298:16.
548. The CCAB requires school districts to pay for master planning out of their own general funds, and the average cost of master planning is approximately \$25,000. Tr. Day 21, 5634:10-12.
549. For school districts that are unable to pass bonds for their local match requirement on the first attempt, the application process is especially strenuous. Mapleton 1 School District applied for a BEST grant three times since the inception of the program. Tr. Day 17, 4296:22-4298:16. The district received the grant on their second application in 2009, but was not able to pass the bond election for its matching grant. *Id.*; Tr. Day 21, 5642:1-22.

- The district attempted an electronic donation campaign, which also failed, forcing the district to resubmit their application the following year. Tr. Day 17, 4444:5-11.
550. Each time Mapleton returned to the community by bond election to seek its local match, it had to decrease the amount requested to incentivize community support at the polls. Tr. Day 17, 4444:12-4445:1.
551. The BEST program is woefully insufficient to meet the capital needs of public schools as identified by the State. There is an approximate \$16 billion disparity between the identified capital needs in the state and state funds that are available through BEST. Tr. Day 17, 4300:12-4301:4; Tr. Day 21, 5634:13-5635:8, 5661:4-8. The Chair of the BEST Board does not believe that BEST is adequate to solve the State's capital needs. Tr. Day 17, 4301:15-17.
552. Generally it costs \$20-40 million to build a new K-12 building. Tr. Day 21, 5665:9-13. More than half of the school districts in the State cannot afford to build a single new school without state assistance. Tr. Day 17, 4303:9-4304:7; Tr. Day 21, 5660:15-23.
553. Outside of the BEST program, the State does not provide districts with any assistance for capital construction funding. Tr. Day. 17, 4305:6-17.
554. Defendants have attempted to identify other state funding sources, but those sources are similarly insufficient for school districts to meet their capital needs. For example, the Charter School Capital Construction Grant program is limited only to charter school applicants. Tr. Day 21, 5656:7-15. Historical Society Grants are limited to projects involving historic buildings. Tr. Day 21, 5659:22-25.
555. Still other alternate sources identified by Defendants are not currently funded. For example, Energy Impact Grants are not currently funded by the State and are unavailable. Tr. Day 21, 5656:16-25. The State has a program that provides facilities for full-day kindergarten, but the program is not currently funded by the State and is unavailable. Tr. Day 21, 5657:1-7.
556. Defendants have pointed to Quality Zone Academy Bonds, or "QZABs," as potential sources of funding for capital needs. However, QZABs aren't actual funds. Tr. Day 21, 5657:8-5658:11. Instead, QZABs authorize school districts to obtain interest-free financing. *Id.* QZABs require a 10% private investment that is often difficult for districts to locate. *Id.* Not all BEST applications are good candidates for QZABs, and the Division hasn't awarded a QZAB in recent years. *Id.*
557. Defendants have also identified Great Outdoors Colorado, or "GOCO funds," but school districts cannot apply for GOCO funds directly. Tr. Day 21, 5659:10-5660:25. Instead, they must apply through their local town or county or recreational district. *Id.* GOCO funds are also created through the Colorado Lottery revenues, which fluctuate drastically. *Id.*

558. In conclusion, the State does not provide school capital funding adequate to address the backlog of serious needs or stable aid to school districts in the future. Tr. Day 17, 4328:16-22. Even with the implementation of BEST, the current capital finance system is not needs-based. It is completely property-based. Tr. Day 17, 4301:18-4302:3. In large part, school districts still must ask their voters for bonding measures for school capital in the amount they believe voters are likely to approve, not in the amount they actually need. As a result, capital needs totaling billions of dollars continue to go unmet every year. Tr. Day 17, 4300:12-4301:4.

v. Inadequate school facilities negatively impact student achievement, teacher effectiveness and ability to meet Colorado standards.

559. Facilities have a direct impact on and are important to student achievement. Tr. Day 17, 4264:18-23; Tr. Day 21, 5632:10-12, 5655:15-24.

560. If students or teachers are uncomfortable or concerned about their safety in their environment that they're learning or working in, it impacts their ability to learn or teach. Tr. Day 21, 5655:15-21. Unsafe conditions and conditions such as leaking roofs have a negative impact on student achievement. Tr. Day 21, 5655:15-5656:6.

561. In the opinion of Mary Wickersham, the former Director of Initiatives for the State Treasurer and developer of the BEST legislation and the BEST Board Chair, school facilities are essential to the academic and social success of children. Tr. Day 17, 4254:13-18; Ex. 1102.

562. Colorado families have a reasonable expectation that their children are attending public schools that are safe, secure, and healthy, but that is not the case in Colorado. Tr. Day 21, 5633:20-25.

563. The State agrees that school facilities are part of the State's overall education system. Tr. Day 21, 5661:17-19.

564. Sufficient technology is important for students to be able to demonstrate the Model Content Standards. Tr. Day 24, 6586:16-20.

C. Defendants' Own Admissions and the Cost Study

565. Defendants' own witnesses conceded that more money can matter and that additional revenue can help improve learning performance. Tr. Day 24, 6384:21-24 (Andrews). Defendants' expert Dr. Eric Hanushek testified that research shows that money can matter as to education if used well and that there is mounting evidence that money, if spent appropriately, can have a significant effect. Tr. Day 19, 5031:6-5032:19.

566. There was no credible evidence that any of the school districts in this lawsuit were inappropriately spending their funds. A review by Defendants of various audited financials and budgetary information for school districts across the state and involved in

this litigation failed to find any financial mismanagement by those districts. Tr. Day 21, 5563:19-5564:4; *see also* 5708:145709:1. Defendants conceded that there were no deficiencies found in the audits of Greeley, Mapleton, Rocky Ford or Sheridan and that those districts are efficiently and effectively spending their dollars. Tr. Day 21, 5583:6-19.

567. Defendants have not conducted a study to determine the costs of funding all public education programs set forth in statute and regulation. Adm. Stip. No. 31. This, despite Dr. Hanushek's opinion that school finance cannot be divorced from school policy and that if the objective is to raise the performance of students, the finances must support that goal. In addition, he agreed that resources are absolutely important in public education. Tr. Day 19, 5115:19-5116:2.
568. In 2009, CDE did conduct a limited analysis of costs and reported that it would take \$2.8 billion more in funds to provide an average education, which included bringing teachers' salaries up to average, extended year, full-day kindergarten and half-day pre-K for all students. Just for bringing up the expenditures and salaries to a national average, and filling the gap in categorical funding alone would cost \$1.086 billion. Tr. Day 21, 5557:6-5559:1; 5589:10-17.
569. SBE Member Elaine Gantz-Berman also admitted that students in Colorado are not receiving a thorough and uniform education and that there is not sufficient funding in Colorado's public schools. Tr. Day 21, 5677:15-5678:17; 5692:23-5693:1.
570. Harrison Superintendent Miles defined a thorough and uniform system of public education, in part, as one where school districts receives the resources that they need to provide an effective education for all children, including resources for ELL, special education and low income students and admitted that Colorado does not have a thorough system. Tr. Day 22, 5858:6-5859:6.
571. The firm of Augenblick, Palaich and Associates ("APA") performed a cost analysis in this case to determine the cost for the standards and requirements put in place for school districts, schools and educators in Colorado. This did not include costs for transportation, food service, capital or adult and community education. Tr. Day 6, 1481:15-1483:18.
572. APA is a reputable firm that has been commissioned by the Colorado Department of Education to prepare cost studies. Tr. Day 21, 5479:22-5480:10; Tr. Day 6, 1475:4-23; Ex. 67. CDE's former Associate Commissioner found APA's study of declining enrollment to be a credible and defensible analysis for the financial concerns of school districts. Tr. Day 21, 5562:25-5563:5.
573. The study performed in this case used the professional judgment approach with the evidence-based approach integrated into it and the successful school districts approach. 1483:19-25. The successful schools approach, however, only represented what the thirteen selected districts spent to get the current level of performance, not the amount they would need to spend to fully meet Colorado's standards and requirements. Ex. 8303 at 29. The Court finds these studies to be credible.

574. These studies demonstrated that Defendants are under-funding Colorado schools. In particular, moderate to very large size districts were found to need a weight adjustment of .47 more than the base cost of \$7,738 for ELL student (though the base cost was subject to a size factor for districts descending in size) and a weight adjustment of .564 for small to very small districts. The at-risk factor was found to be .35 across all districts. Ex. 8303 at 30. Though not necessary, these findings substantiate the opinions and testimony of school district officials in this case testifying about the inadequacy of funding for special need students.
575. Defendants' criticism of APA's convening of experts in education to determine the educational programs necessary to implement the numerous mandates and help students achieve the state standards without taking the costs into account is unavailing. Former Defendant and Governor Bill Ritter directed the P-20 Council, which was formed pursuant to his executive order, to make recommendations to change the educational system without any regard to the costs or the capacity of school districts to implement necessary programs or services needed to carry out the policies. Tr. Day 24, 6399:20-6400:3; 6466:21-6469:25. These efforts eventually led, in part, to the CAP4K legislation. Tr. Day 24, 6407:24-6408:1.

D. Funding for Other Categorical Programs is Inadequate

576. The Court also considered facts related to the inadequate and irrational funding for other categorical-funded programs. The Court finds that the funding for Special Education students is inadequate and irrational under the Education Clause. The Court further finds that the inadequate funding for other categories, coupled with the findings both above and below, contributes to the inadequate and irrational funding for low wealth school districts (such as Greeley, Mapleton, Sheridan and Rocky Ford School Districts) in violation of the Education Clause and strips school districts from exercising control over their instruction in violation of the Local Control Clause.

i. Special Education

577. Special Education funding is provided through the State Exceptional Children's Act, which is meant to provide services to disabled children who are unable to receive reasonable benefit from general education programs, including but not limited to those with long-term physical impairment or illness, significant limited intellectual capacity, significant identifiable emotional disorder or speech or language impairment. Ex. 33 at 13.
578. In budget year 2010-11, there were approximately 83,000 students identified as special education, or 10% of the total student population. Ex. 33 at 13. State funding was expected to cover approximately 15.4% of special education costs, federal funding 28.3% and local sources 56.3%. Ex. 33 at 14.
579. Special education funding is also inadequate and inequitable. Local expenditures for special education account for 69.3% of total expenditures compared to 32.3% nationally.

Tr. Day 21, 5543:1-5544:18; Ex. 28. Inadequate funding has led to moneys not being available to train, retrain and attract quality staff. Tr. Day 21, 5546:2-9. As late as 2009, the moneys allocated for special education through state categorical funding was only 10.3% of the total actual costs. Tr. Day 21, 5550:15-21; Ex. 10367. Defendants' expert Dr. Eric Hanushek unequivocally agreed that additional funds are needed for special education students in Colorado. Tr. Day 19, 5082:23-5083:6.

580. Greeley administrators explained the degree of services required for special education students range from speech language services to students who are hard-of-hearing and deaf, to students who have feeding tubes and need to be diapered and cared for completely. These students would need to be provided with the educational services needed to achieve their full potential and the state standards under state law and policy, irrespective of federal laws governing special education. Tr. Day 16, 4052:22-4054:4.

ii. Gifted and Talented

581. Over 56,000 public school students in Colorado are identified as gifted and talented ("GT"), or 6% of the total student population. GT students include those "whose abilities, talents, and potential for accomplishments are so outstanding that they require special provisions to meet their educational needs." GT programming includes differentiated instruction, affective guidance and counseling and a variety of multi-tiered curriculum and instructional options to meet the diverse areas of giftedness. Program accountability includes a process of self-evaluation, state monitoring and accreditation requirements. In budget year 2010-11, state funding for GT will be \$9,059,625, accounting for under 25% of the total expenditures for GT programs. Ex. 33 at 12-13.

iii. Transportation

582. Approximately 45% of the total Colorado public school student enrollment uses district-provided transportation. School districts employ a fleet of over 6,300 buses and small vehicles, which travel approximately 62.6 million miles each year. The Public School Transportation Fund provides reimbursements to school districts to help defray student transportation expenses. However, state funding generally is not available to cover capital costs such as school bus purchases. Total transportation expenses in 2009-10 (for which reimbursement would take place in budget year 2010-11) was approximately \$203 million. Of this amount, only approximately \$85 million would be available for reimbursement, and only 55%, or \$49 million, was expected to be reimbursed. Thus, less than 25% of total transportation expenses would be reimbursed. Ex. 33 at 14-15.

iv. Vocational Education

583. Vocational education, or career and technical educational (CTE) programs, are designed to provide students with occupational skills and related knowledge to meet identified needs of businesses and industries. Approximately 90% of Colorado school districts provide CTE programs to their students. The State Board for Community Colleges and Occupational Education administers state funding for these programs, as well as program approvals and monitoring, research and professional development. For budget year 2009-10, CTE program expenses were nearly \$99 million, of which less than 25%, or \$23.4 million was available for reimbursement and the remainder was expected to be covered by local sources. Ex. 33 at 15.

E. Mill Levy Overrides are not a viable option for low wealth school districts.

584. The General Assembly created a potential local fundraising mechanism by allowing local school districts to seek additional revenue through local voter elections by asking for mill levy overrides, but mill levy overrides are more costly to those districts with lower assessed values than they are for those districts with higher assessed values. Tr. Day 21, 5515:11-14; Tr. Day 21, 5565:22-5566:2. For example, it would take Greeley four times the number of mills as compared to wealthier Boulder Valley to generate the same amount of revenue. *Id.*, 5566:13-5567:2

585. Many districts have difficulty obtaining overrides and getting voter approval. The mechanism creates wide disparities in access to revenue. Tr. Day 21, 5521:7-16, 5551:15-19; 5677:24-5678:2. As former CDE Assistant Commissioner Vody Hermann testified, those in high-wealth districts can much more easily get a bond issue or overrides passed and the burden on their taxpayers is less. Tr. Day 21, 5529:14-5530:6. Nevertheless, there is no state share applied to the mill levy overrides to make them more adequate for low wealth school districts. Tr. Day 21, 5579:5-11; *see also* 5691:3-13. Mapleton, Sheridan, Rocky Ford and Greeley are examples of such low wealth districts. Tr. Day 21, 5579:12-15.

586. Approximately 100 out of 178 school districts have gone to their voters for general override elections and only about 70 have obtained voter-approved overrides. Tr. Day 21, 5520:8-13, 5523:8-12. Only one (Boulder) of the plaintiff districts or districts in which individual plaintiff or plaintiff-intervenor children attend and only three or four districts across the state have sought and/or received a transportation mill levy override. *Id.* 5524:9-17. Only a couple of districts across the State have received special building and technology or full-day kindergarten overrides. *Id.* 5525:7-5526:14. Harrison School District twice sought mill levy overrides in 2007 and 2008, but those failed and the district decided not to pursue a mill levy override election since that time. Tr. Day 22, 5860:13-22.

587. Greeley sought a mill levy override for \$16 million in 2009, which would not have covered all of their outstanding needs but would have included coverage to meet the state standards and mandates. The items included academic support programs for students and teachers

(including additional teachers for intervention and support for struggling teachers), career and technology, as well as safety, security and transportation. The mill levy override would have cost the Greeley community 16 mills but it could not afford it so the election failed. Tr. Day 16, 4026:24-4028:18, 4047:3-17, 4093:13-4094:8; Ex. 4414.

588. For those districts that are able to afford mill levy overrides, they are being used by school districts to fulfill state mandates and not for local decisions. Mill levy overrides were intended as opportunities for school districts to go to their voters for supplemental funding. Tr. Day 25, 6866:8-22. They were never intended to be part of Total Program Funding to address and fulfill state mandates. *Id.* However, in light of budget cuts through the PSFA, school districts have been forced to seek mill levy overrides just to provide core functions in order to address State standards and expectations. Tr. Day 25, 6888:1-6869:6.

F. Other Inputs Related to Student Achievement

589. The Court also received and considered evidence regarding the effects of inputs on student learning and how these inputs relate to the public school finance system.

i. Teacher and Teaching Quality

590. Dr. Linda Darling-Hammond is the Charles E. Ducommun Professor of Education at Stanford University and serves as the Co-Director of the Stanford Center for Opportunity Policy in Education and the School Redesign Network. She has over 35 years of experience in the field of teaching and research and has served as an expert in previous school finance cases among others. She was certified as an expert in this case over no objection on teacher quality, teaching quality, teacher effectiveness, school improvement and reform, educational equity, and analysis of student performance, including statistical analysis and factors that impact learning and achievement. Tr. Day 15, 3875-3883; Tr. Day 21:5714-5722.
591. Dr. Darling-Hammond testified that “teaching quality” is a function of both what the teacher brings through teacher quality as well as what the situation brings, such as: high-quality curriculum materials, books, resources and computers; the amount of time teachers spend with students; reasonable class sizes; high quality leadership; and having a fit between what the teacher knows and what they’re asked to teach. Tr. Day 15, 3889:25-3891:18.
592. Teaching experience, strong content pedagogical preparation, certification in the content area, and verbal ability are among the important “teacher quality” factors influencing teachers’ ability to influence student learning. Tr. Day 15, 3889:12-23.
593. The Assistant Commissioner for Assessment, Research, and Evaluation in the CDE acknowledges that teachers need additional time and resources for training to learn how to teach the new Model Content Standards. Tr. Day 18, 4778:17-21. If teachers don’t receive the time and resources they need, students will not be able to meet the standards. Tr. Day 18, 4779:3-19. Professional development training provides teachers with skills to

teach rapidly changing technology, meet the challenging needs of low income and highly mobile students; and meet the requirements of SB 191. Pl. Intv. Dep. Desig., Aschermann Dep., 140:17-24; Tr. Day 5, 1308:19-1309:3; Tr. Day 16, 4051:22-4052:21;

594. It can take up to three years for a new teacher to acquire the skills to be a highly qualified teacher. Tr. Day 23, 4-8.
595. Increasing teachers' salaries would allow school districts to attract better teachers and administrators. Tr. Day 21, 5694:1-4.
596. Compared to other high-achieving countries such as Finland, Singapore and Korea, teachers there are well-paid and strongly supported compared to teachers in the U.S. Tr. Day 15, 3888:11-3889:7.
597. High quality professional development for teachers is an important factor for both retaining teachers and for changing teaching practices and improving student achievement. To be effective, professional development must be monitored and supported with appropriate resources to build an infrastructure and sustain the program. Tr. Day 15, 3905-3911.
598. Factors affecting teacher retention include salaries, especially for teachers in high-need fields such as math, science, and special education; working conditions, including quality of administrative supports, curricular resources and supports, class size; inadequate pre-service preparation; and inadequate induction and mentoring. Tr. Day 15, 3932:3-3933:2.
599. Sheridan's limited resources make it difficult for the district to recruit and retain quality administrators and teachers. The present superintendent initially did not apply for the Sheridan superintendent position because of the low salary offer, when compared to the salary he was making at CDE as a regional manager. 3544:21-3545:6. Sheridan has lost special education teachers and psychologists who leave to districts that can offer a few thousand more. 3562:22-3563:3.
600. Greeley has a similar problem with teacher recruitment and retention. Greeley's high poverty rate, accompanied with the harder work required by teachers to help those students, makes it difficult for Greeley to recruit. It loses teachers to wealthier surrounding districts that are able to pay more and has had to freeze salaries for three years. This year, Greeley replaced about 170 teachers. Tr. Day 16, 4005:21-4006:18. As former Greeley chief academic officer Dr. Dana Selzer testified, Greeley is known around the state for being a tough school district with students that take more resources to educate, and when you factor in the higher class sizes with insufficient resources for textbooks and professional development along with increasing accountability systems, teachers get burned out and start looking at other school districts where it might be easier to teach. *Id.*, 4057:10-4058:11.
601. Mapleton struggles to compete with surrounding school districts to recruit and retain teachers. Because the school district has received less money annually over the last three

years, Mapleton has frozen teacher salaries several times and reduced starting salaries for new teachers. Tr. Day 17, 4410:23-4411:23. When Mapleton can hire new teachers, it struggles to retain them. Teachers that want to teach more demanding curriculums, often within a comprehensive high school that offers AP coursework, move to school districts in the Denver metro area. This year, the district had to replace 60 teachers. Mapleton Superintendent Charlotte Ciancio testified that teachers also leave Mapleton because it is difficult to work with Mapleton's student population. The district's 38% mobility rate creates challenges for teachers because of the high number of students moving in and out of classrooms each year. Superintendent Ciancio testified that the significant number of ELL students in the district, especially at the elementary school level, increases the already high burden on teachers because they have to know how to address those students' needs. Tr. Day 17, 4412:22-4414:3.

ii. Class Size

602. Smaller class sizes can yield higher student achievement, reduced grade retention and reduced placements in special education but costs additional money, which often disadvantages poorer school districts. Schools would not likely benefit from trading off smaller class sizes for less qualified, less expensive teachers. Tr. Day 15, 3965:4-3971:5.
603. Smaller class sizes have been shown to be particularly effective when the reductions are considerable, for example comparing classes of 22-26 students to classes of 13-17 students, and when the students are disadvantaged. The strongest evidence supporting reductions in class size is in grades K-3. *Id.*
604. Every credible witness in this case testified that class size makes a difference for students, including but not limited to increased student achievement, increased student-teacher time that positively affects student learning, and decreased disciplinary actions. *See e.g.*, Tr. Day 13, 3310:22-3312:1; Ex. 5603 at 25-28; Tr. Day 13, 3319:3-3321:6; Ex. 5603 at 27 (effects for kids in elem. School); Ex. 5504 at 8 (pre-K); Tr. Day 12, 3145:3-18; Ex. 5504 at 17-18 (kinder); Tr. Day 14, 3595:25-3597:17.
605. Plaintiff-Intervenor parents also testified about the effects of class size based on their personal observations of their students' classrooms. Plaintiff-Intervenor Diaz testified about her daughters A.R. and K., as well as her son A., not doing well in school because they were not receiving the help they needed due to the excessive number of students in class. Confidential Excerpt, Tr. Day 16, 4120:19-4121:4; 4136:20-4137:18. Plaintiff-Intervenors Payan and Leyva similarly testified that their children have been in larger class sizes where their children's teachers were unable to provide them the attention they needed. Confidential Excerpt, Tr. Day 14, 3686:15-3687:13.

iii. Co-curricular/Extracurricular Activities and Course Offerings

606. Extracurricular and co-curricular activities help students acquire the knowledge, skills and behaviors identified in Colorado's Post-Secondary Workforce and Readiness definition. Tr. Day 14, 3571:16-24.

607. Many co-curricular and extracurricular activities are relatively expensive to run. Sheridan was forced to cut its high school band program. And while wealthier districts are able to charge and collect fees, Sheridan rarely collects its \$50 co-curricular fee because it does not want to deny the experiences to its indigent students. Its co-curricular and extracurricular programs pale into comparison to a neighboring, wealthier school district. Tr. Day 14, 3572:4-3574:3. Greeley was asking for a \$35 fee, as well as other costs for other things and transportation, so Plaintiff-Intervenor Diaz's child was unable to compete. Confidential Excerpt, Tr. Day 16, 4135:3-16. Ms. Ortega had to pay a fee in Rocky Ford for her daughter to play a sport, as well as other related costs, even though they barely have enough income to pay the bills and necessities of their home. Tr. Day 15, 3839:12-3841:7. Mr. Pizano has had to pay a fee as well for his son to play sports. *Id.*, 3867:15-3868:6.
608. Plaintiff-Intervenor parents testified about their children wanting to go to college but not being well-prepared for college. Tr. Day 15, 3854:7-20; 3872:9-3873:2; Tr. Day 17, 4249:10-21. Sheridan's course offerings are vastly different compared to a neighboring, wealthier school district, including advanced coursework. The limited course offerings at Sheridan make their students far less competitive when competing for academic scholarships with students in other school districts. Tr. Day 14, 3574:11-3575:6.

iv. Insufficient Libraries, Books, and Materials

609. Property poor districts like those where Plaintiff-Intervenors attend school do not have resources to provide the libraries, textbooks, and other materials to provide an adequate education to their students and achieve the state standards and expectations.
610. Certified librarians are critical to student learning and an integral part of helping students achieve State standards and technological literacy. Tr. Day 16, 4091:1-11. Teachers also depend on certified librarians to identify resources that are aligned with classroom instruction. *Id.*
611. In Sheridan 2 School District, recent budget cuts have had a dramatic, negative impact on libraries. Tr. Day 14, 3636:18-3638:2. Only 5% of the books in Sheridan Middle School are viable. *Id.* In 2009, not a single book was checked out of the library. *Id.*
612. Libraries in Sheridan were once staffed with certified teachers, but now they are only staffed with paraprofessionals for 6 hours a day. Tr. Day 14, 3636:18-3638:2. Because of the school libraries' reduced capacity, Plaintiff-Intervenor Maribel Payan takes her children to the public library to complete their school assignments. Tr. Day 14, 3687:14-24. However, there is a 15 minute time limit there which often interrupts the childrens' work. *Id.*
613. Sheridan also had to cut back on textbooks as a result of recent budget cuts. As a result, the district uses some textbooks that are as old as ten years. Tr. Day 14, 3655:22-3656:21. The district does not have textbooks that address the common core standards the State requires the district to implement. Tr. Day 14, 3655:22-3656:21.

614. Greeley recently replaced the math curriculum for its elementary, middle, and high schools, but not every student has their own textbook. Tr. Day 16, 4089:4-25. In 2010, Greeley had to put a moratorium on all textbook purchases due to budget cuts. Tr. Day 16, 4090:1-11.
615. Greeley is unable to direct any funds to its library. Tr. Day 16, 4021:24-4022:9. The library, including books, is completely supported by community donations and volunteers. *Id.* The district has also had to drastically reduce the number of certified librarians, from nine to two, due to budget cuts. Tr. Day 16, 4031:7-14, 4090:12-23.
616. Not all school buildings in Mapleton 1 School District have libraries. Tr. Day 17, 4451:24-25. Mapleton students do not have their own textbooks and must share. Tr. Day 17, 4452:1-8.
617. The textbooks in Rocky Ford R-2 School District are old and outdated. Tr. Day 15, 3844:18-24.

v. Inadequate Technology

618. Technology is an important component for a 21st Century education. Tr. Day 21, 5633:12-14; Tr. Day 5, 1294:1-1297:9.
619. The State, in its Model Content Standards, has mandated that school districts prepare students to find and use information technology. Ex. 73 at 3. According to the State, this includes “conduct[ing] research using acceptable research methods,” “apply[ing] different research paradigms, including the collection and analysis of both quantitative and qualitative data and research,” and “select[ing], integrat[ing], and apply[ing] appropriate technology to expand information and knowledge.” *Id.* Technology is embedded within the standards through all of the subject areas and through almost all of the grade levels. Tr. Day 5, 1295:2-5, 1298:9-1305:1; Ex. 10079 at 15.
620. The State itself has acknowledged that school facilities assist school districts, charter schools, BOCES and the Colorado School for the Deaf and Blind meet or exceed state model content standards by promoting “learning environments” conducive to performance excellence with technology that supports communities, families, and students. Tr. Day 21, 5631:13-5632:9.
621. CDE has stated that “social media devices (such as smart phones, iPads or netbook computers) and online conferencing. . . are communication tools of the 21st century and therefore should be used to develop postsecondary and workforce-ready students. Ex. 10079 at 15.
622. Plaintiff-Intervenors’ school districts and other districts throughout the State lack the necessary technology for their students to meet the State Model Content Standards in the area of technology and in other subject areas. Tr. Day 5, 1294:1-1297:9. School districts

simply cannot implement the Model Content Standards without adequate technology for both teachers and students, which includes, at a minimum, sufficient reliable broadband internet connectivity and one-on-one computer access for students. Tr. Day 5, 1304:16-1305:1, 1306:12-24, 1309:4-18. Adequate professional development is also a necessary technology related resources because of the fast pace changes in modern technology. Tr. Day 5, 1308:19-1309:3.

623. In Sheridan 2 School District, the district administration passed a one-time mill levy to raise \$1.3 million to put in a technology fund. Tr. Day 14, 3643:21-3645:2. Because technology in the district was funded by a large influx of money at one time, all of the district's computers are now dying at the same time. *Id.* Seventy two percent of the computers in the school district are five years or older, and do not have the capacity to run educational software. *Id.* Many of the computers take an inordinate amount of time to boot up. *Id.* The District does not have the funds to infuse its technology needs. *Id.*
624. The computers in Greeley 6 School District range from one to ten years in age. Tr. Day 16, 4019:5-4031:6. Not every Greeley student has a computer – the computer student ratio is approximately 1 to 4. *Id.*
625. There is also inadequate bandwidth to support computer connectivity in various buildings throughout Greeley. Tr. Day 16, 4019:5-4031:6. In the buildings that have inadequate bandwidth, students in one classroom can't all operate the computers at the same time. *Id.* It takes longer to download instructional materials, and instructional tools such as streaming video cannot be utilized. *Id.*
626. There used to be technology specialists available to help with technology problems in Greeley, but the district had to cut their positions due to budget cuts. Tr. Day 16, 4031:14-19. This has led to less instructional support for teachers in the classroom. Tr. Day 16, 4033:16-25.
627. Currently, the Mapleton 1 School District is not able to prepare its students to meet the State's standards for technology. Tr. Day 17, 4400:4401:18. The infrastructure required to meet the State's standards for technology usage is unavailable in the District due to lack of resources. *Id.* Students lack interactive opportunities, such as SMART Board, iPads, and other similar technology available to students in other districts. *Id.*
628. The computer to student ratio in Mapleton K-8 is approximately 8 to 1. Tr. Day 17, 4402:13-21.
629. Many computers in Mapleton are at the end of their life cycles. Tr. Day 17, 4401:19-4403:7. Many district computers are refurbished and/or nonfunctioning, which has led to a decrease in the number of computers available in computer labs across the district. *Id.*
630. There are insufficient computers in Mapleton for students to have computer access outside of class time. Tr. Day 15, 3844:25-3845:20.

631. There aren't enough computers in Rocky Ford for students to access them outside of school hours to complete work assignments. Tr. Day 15, 3844:10-3845:20. Low income students who don't have computers at home must use the computers at the public library, where there are time limits and long waits for usage. *Id.*

G. Defendants' argument that there is no link between resources and student achievement fails.

632. Defendants' lone witness to analyze the relationship between student achievement and expenditures was Dr. Eric Hanushek. Dr. Hanushek has testified in many school finance lawsuits on behalf of state defendants. His testimony and conclusions have been questioned in a number of those cases, including cases brought in Alabama, Missouri and New York, among others. Tr. Day 19, 5107:-5111.

633. Remarkably, Dr. Hanushek formed his opinions and conclusions regarding the relationship of expenditures and student achievement in Colorado *before* even analyzing Colorado-specific data as part of his "agenda." Tr. Day 19, 5057:8-18; 5058:5-5059:6; 5160:2-21. He admitted that he never talked to CDE officials, Commissioner Hammond or Ms. Vody Hermann, about their cost estimates because it was not part of his agenda. *Id.* at 5046:2-5047:4

634. Dr. Hanushek's analysis in this case, however, did not measure achievement, but instead looked at median growth percentiles. Median growth percentiles compare a school district's growth in one year to a similarly situated school district's growth but the growth percentiles do not tell you how students are achieving overall and, thus, you would not expect to see a strong relationship with expenditures. Tr. Day 21, 5723:23-5726:20, 5786:12-5787:5. When student achievement data was used, a substantial, robust relationship was found between achievement and expenditures. Tr. Day 21, 5726:20-5727:5, 5728-5736; Exs. 10488, 10491; *see also* Tr. Day 15, 3928-3930 (citing other studies finding a link between school spending and student achievement).

635. In fact, Defendants conceded that reading and math performances as measured by the CSAP are positively related to instructional expenditures per pupil. Tr. Day 21, 5565:1-8.

636. Dr. Hanushek's analysis in this case suffered from other flaws. Dr. Hanushek did not look at the specific content standards in the State of Colorado, nor was he familiar with these standards. He also did not determine whether students were achieving the knowledge and skills embedded in the postsecondary and workforce readiness definition, or any other knowledge and skills. Tr. Day 19, 5123:9-25.

637. Dr. Hanushek's comparison of Wyoming and Colorado achievement and assumptions related to expenditures were also inconclusive. He did not take into account various factors that may have caused increased expenditures in Wyoming, such as sparseness and teacher salaries. He also was not familiar with the performance of ELL and low income students in Wyoming on the various tests he reported on, including advanced placement examinations and SAT and ACT test scores. Tr. Day 19, 5124:1-5127:25. On cross

examination, he admitted that Wyoming low income students were outperforming Colorado low income students on virtually every NAEP test presented and that Wyoming had among the lowest achievement gaps across the nation. Tr. Day 14, 5133:1-5140:20.

638. Dr. Hanushek's analyses concerning NAEP test scores were not only irrelevant because the NAEP does not test whether students are achieving the curriculum standards set in place by the General Assembly (Tr. Day 19, 5129:5-12), but they also were inaccurate, incomplete and misleading. Tr. Day 21, 5737-5746; Exs. 10489, 10490. Furthermore, a review of the actual 2009 scaled scores in Colorado demonstrated that the vast majority of non-disaggregated students ("all") were performing *below* proficient on the NAEP and the results were far worse for low income and LEP students, where the proficiency rates ranged between a low of 16% (8th grade reading) to a high of 24% (4th grade math) for low income students and low of 3% (8th grade reading) to a high of 9% (4th grade math) for ELL students. Ex. 10,370.
639. Dr. Hanushek's analyses concerning "Impact on Student Lifetime Incomes by Class Size and Teacher Effectiveness" and "Alternative Estimates of How Removing Ineffective Teachers Affects Student Achievement" were equally unavailing and unsupported by reliable scientific methodology. Ex. 7735. For example, value-added estimates of teacher effectiveness are highly variable and highly unstable and, thus, cannot be reliably used to predict increases in earnings of a separate amount, nor can they be used to determine which teachers should be terminated, which in turn, could be used to predict increases in student achievement. Tr. Day 21, 5746:19-5751:9; Tr. Day 15, 3918:14-3922:6. As Dr. Darling-Hammond testified, countries with high achievement such as Finland invest a lot in teachers with preparation and professional development and "[y]ou cannot fire your way to Finland." Tr. Day 21, 5750:9-5751:11.
640. **Pockets of Success.** The few, isolated examples of successful educational programs in Colorado public schools are underwhelming and do not exemplify a thorough and uniform system of free public schools, certainly not for ELL and low income students. There simply is not sufficient funding to duplicate the success. Tr. Day 7, 1894:7-19.
641. In Greeley, for example, one of the schools with a fairly diverse student population showing interesting achievement gains but that has resulted, in part, to the principal's successful efforts in solicit additional resources from the local community. Tr. Day 16, 4092:1-4093:12.
642. Harrison Superintendent Miles testified that his school district had made tremendous gains but the end results were, in actuality, anything but encouraging. Harrison School District failed to meet three out of the four indicators in the 2010 district performance framework and its total score was 53.3%; the three year framework score was only 57.9%. In addition, the disaggregated student groups, including ELL and low income students, by and large failed to make adequate growth in many of the subjects tested, the graduation rate was only 64.7%, and the actual proficiency rates on the high school CSAP tests ranged from 58% in Reading to 19% in Math. When compared to other school districts in

Colorado, Harrison fell below the 30th percentile in each of the four subjects. Tr. Day 22, 5844-5850.

643. Defendants' witness Dr. Kristin Waters described her success at Bruce Randolph as a "pocket of success" and although there were apparent improvements made both before and during innovation status, the school still languished behind unimpressive state and Denver Public School averages in student achievement, with scores of students failing to meet minimum proficiency standards between the years 2007-08 to 2009-10, and the school's ACT composite score reaching a mere 14.4. Tr. Day 19, 4917:25-4920:7.

H. Additional Local Control Issues

644. Local control gives local school districts the authority to develop curriculum, hire and fire their employees and determine how their budgets are spent. Tr. Day 21, 5676:9-17.
645. The State has placed various requirements and mandates on school districts through statutes including but not limited to: CAP4K, the Education Accountability Act, and SB 191. Tr. Day 21, 5683:7-5685:14. Generally, a school district cannot waive out of accountability or accreditation. Although Kit Carson was allowed to get out of SB 191's requirement, that was only because its proposed plan under innovation—not a specific waiver—and Kit Carson is intended to be an isolated situation. 5686:15-5687:23.
646. The Colorado State Board of Education has promulgated numerous rules in over 80 subjects that Colorado school districts must follow. Tr. Day 14, 5483:6-5485:19; 1 CCR 301-1 – 301-86, PI's Ex. 20150. These rules include but are not limited to: Rules for the Administration of the Accreditation of School Districts, Administration of the Concurrent Enrollment Program, Food and Nutrition Services, Administration of the Educator Licensing Act of 1991, Administration of the School District Budget Law, Colorado Minimum Standards Governing School Transportation Vehicles, the Administration of the ACT Assessment on a National Test Date and Rules Concerning Dropout Prevention and Student Re-Engagement. PI's Ex. 20150.
647. The State holds school districts accountable for all students meeting the standards set forth by CAP4K, regardless of students' personal characteristics such as socioeconomic status or English proficiency. Tr. Day 17, 4434:20-23; Adm. Stip., Stip. No. 6.
648. There were no increases in the school finance formula to address the costs of implementing CAP4K or the new model content standards. Tr. Day 21, 5578:25-5579:4. In fact, in the development of the CAP4K legislation, which included extensive committee work, the cost of implementation for districts was never even discussed. Tr. Day 4, 922:15-18.
649. As the Commissioner of the CDE testified, implementation of CAP4K will require resources for and have a substantial impact on school districts, and the General Assembly has not allocated sufficient funds for implementation. Tr. Day 24, 6546:4-6547:6, 6586:6-9, 6587:9-25. School districts have given substantial feedback to CDE indicating that they need extensive financial resources to implement CAP4K, specifically in order to higher

more teachers, reduce class sizes, expand facilities, provide more professional development and instructional materials, to expand technology, and to foster parental involvement. Tr. Day 18, 4783:6-4784:20.

650. School district implementation of CAP4K is complex. Trial Day 4, 945:4-946:9. To implement the requirements of CAP4K, school districts will have to make significant investments in training teachers, administrators, and parents about how to use and make sense of the new system. Trial Day 24, 6555:19-6556:13; Ex. 3146 at 56; Trial Day 4, 945:4-946:9, 949:14-950:20; Tr. Day 24, 6687:5-6688:11.
651. The increasing mandates of CAP4K, SB191, and others have forced school districts to divert resources away from instructional time and towards monitoring of state requirements. Tr. Day 14, 3654-3655.
652. The new assessment system is also causing many districts to revise current curriculum or purchase new curriculum, and in some cases buy new materials aligned with the standards, in order to prepare students adequately. Tr. Day 3, 730:11-13; Tr. Day 5, 1255:3-1257:7. The cost and resources required to obtain curriculum aligned with the new standards is substantial because district curriculum is aligned with the old standards, along with corresponding pacing guidelines for teachers to translate the standards into actual instruction. Tr. Day 5, 1259:15-1260:11. An overhaul of the curriculum is now needed to reflect the changes at each grade level and ensure the correct standards are being taught. *Id.*
653. In Jefferson County School District, the district had 33 full-time employees writing new curriculum for a year and a half. Tr. Day 5, 1263:7-20. Cherry Creek School District, for example, the district had to spend approximately \$1.2 million on new curriculum aligned with the new standards. Tr. Day 3, 731:14-18.
654. Center School District had to cut all of its supply lines, textbook lines, and technology lines in half as a result of budget cuts, in addition to cutting at least 8 certified teachers and half of its paraprofessionals within the last 10 years. Tr. Day 1, 184:4-185:7.
655. In addition to new curriculum, school districts must also provide materials and training to teachers to ensure that the new standards are being instructed properly. Tr. Day 5, 1260:2-11. Teachers must understand the new expectations, revise their lesson plans and units of study, and revise their classroom assessments to align to the new requirements. Tr. Day 5, 1260:14-20. Jefferson County School District's costs for new curriculum and training are approximately \$2 million.
656. School districts do not receive any additional monies from the State to plan and create their unified improvement plans. Tr. Day 17, 4383:22-4385:22.
657. Defendants agree that there is a need to increase funding to meet the state mandates or the need to reduce mandates and that all districts are being affected though smaller districts are more severely affected. Tr. Day 21, 5583:20-21; 5584:11-14. In addition, the decrease in

funding was described as “painful” and was forcing districts to make serious decisions about what to reduce or not being able to grow. Tr. Day 21, 5584:4-10.

658. Defendants admit that there is not enough funding put into the PSFA and that the reductions in the last few years have been “terrible.” Tr. Day 21, 5531:8-15; 5532:11-25. Defendants also conceded that just about every costs that districts bear are uncontrollable by districts and are rising, except the funding able to support those costs. Tr. Day 21, 5555:14-25.
659. Former CDE Associate Commissioner Vody Hermann said she retired because she felt things were going in a different direction than what she wanted to be a part of. Tr. Day 21, 5583:25-5584:3.
660. Local control issues are especially problematic for lower wealth districts such as Greeley, Mapleton, Sheridan and Rocky Ford. Lower property wealth districts face significant challenges with the reduced level of funding to which they have access. Tr. Day 18, 4535:10-4536:1. They also face significant challenges in offsetting cuts in state funding. *Id.* They also have a greater difficulty raising local revenue than higher property wealth districts. *Id.*
661. As it was put by a Greeley School District administrator, the CAP4K “finish line” is the same for every school district, but the “starting lines” are not. Tr. Day 16, 4055:21-4056:25. The lower property wealth school districts where Plaintiff-Intervenors attend school face more of a challenge than some other school districts to implement CAP4K. Tr. Day 16, 4055:21-4056:25; Tr. Day 24, 6590:7-20.
662. Many school districts have a wide variation in computer equipment available and broadband access is very spotty in parts of the State. Tr. Day 24, 6555:19-6556:13; Ex. 3146 at 56. In order to be compliant with the requirements of CAP4K, school districts will have to make significant investments in their information technology capacity and infrastructure. *Id.*
663. Currently, Sheridan 2 School District does not have sufficient resources, such a technology and funds for training, to implement the mandates of CAP4K and SB 191. Tr. Day 16, 4004:24-4005:20. There are not sufficient quality teachers and instructional programs to meet the needs of low income and ELL students in the district to adequately prepare them for college. Tr. Day 14, 3689:1-13.
664. Greeley School District requires additional resources to provide the intensity of instruction, high quality teaching, teacher training, designing alignment and assessment systems, and other specialized resources to get their student population to meet State expectations. Tr. Day 24, 6590:7-20, 4084:22-4087:4.
665. Mapleton does currently have sufficient resources to get all of its students to postsecondary and workforce readiness. Tr. Day 17, 4396:24-4400:7. Many of the students who enter secondary school in Mapleton do not speak English, and the district is not able to provide

for their needs in a way that will get them to PWR by graduation. *Id.* The district has limited language offerings and is not able to provide school outings that prevent it from meeting the State's standards for global and cultural awareness. *Id.* Mapleton can also not afford the supplemental tutoring or summer school in some of its schools to support struggling students, and as a result those students fall farther and farther behind State expectations. Tr. Day 17, 4233:12-4234:4235:4.

666. Rocky Ford closed a school two years ago due to its inadequate condition and lack of qualified teachers. Tr. Day 15, 3841:25-3842:19. Even with the school consolidation, the school district does not have sufficient teachers, and must combine classrooms when a teacher is absent, creating classes of up to 36 students. Tr. Day 15, 3837:13-3838:8. There aren't sufficient resources for fieldtrips to enrich students' educational experiences. Tr. Day 15, 3838:9-16.
667. Amendment 23 also played little to no role in providing sufficient funds to school districts to carry out the standards and mandates imposed by Defendants or allow the districts to exercise meaningful local control over their instruction. The goals of Amendment 23 were just to reach funding levels to take the base back to 1988 funding levels. Tr. Day 21, 5538:4-7. A 2005 interim school finance committee concluded that base per-pupil spending has never been set based on the academic performance expectations and that it should be increased to reflect the academic accountability requirements of public schools, conclusions and recommendations supported by CDE's Associate Commissioner in School Finance. Tr. Day 21, 5538:8-5540:19; Ex. 26.
668. Defendants intend to rely on gifts, grants and donations, including private and federal grants, to fund their reform efforts. The evidence demonstrated that such resources are inadequate, unstable and unreliable. Tr. Day 21, 5561:6-17. Tr. Day 14, 3602:11-3603:14.
669. Sheridan received a federal grant for one of its struggling schools, Fort Logan, and with those funds has been able to expand and improve learning opportunities for its students, but the district does not expect to sustain those programs beyond the life of the grant. Tr. Day 14, 3623:16-3624:16.
670. Defendants themselves sought out federal funding and applied for Race to the Top funds to help pay for the costs of implementing SB 191 (costs exceeding \$70 or \$80 million), but their application was denied twice. Tr. Day 21, 5675:7-18, 5688:3-6.
671. Defendants have also used federal grants to supplant state funding. Under the American Recovery and Reinvestment Act of 2009 ("ARRA"), Colorado received an infusion of federal funds but school districts did not receive additional money; instead, the state merely reduced its share of Total Program Funding. Tr. Day 21, 5579:16-5581:14; Ex. 48.
672. Tragically, former Colorado State Senator John Andrews testified that in his opinion, today's public education pales in comparison to when America's educational system was the world's best in the early 1950s—in spite of the fact that America's educational system was largely segregated by race at that time. This opinion was shared by former

Commissioner of Education William Moloney. Tr. Day 24, 6390:2-6391:25; Ex. 5004 at 2-3.

I. Budget Cuts and Other Actions Taken as a Result of Decreased Funding

673. The increasing mandates of CAP4K, SB191, and others have forced school districts to divert resources away from instructional time and towards monitoring of state requirements. Tr. Day 14, 3654-3655.
674. Unfunded mandates such as CAP4K and SB 191 have forced school districts, such as Greeley and Rocky Ford, to divert funds away from teacher salary and benefits, putting them at a competitive disadvantage for higher quality teachers, leading to a 5% increase in teacher turnover. Tr. Day 16, 4005:21-4006:24; Pl. Intv. Dep. Desig., Aschermann Dep. at 300:7-301:2. Harrison Superintendent Miles admitted that as a result of the budget cuts and loss of resources during the last school year, he felt like the district was “robbing Peter to pay Paul.” Tr. Day 22, 5861:10-14.
675. Sheridan has an excessive number of homeless, special education and mentally ill students and many of them require psychological services. Tr. Day 14, 3557:8-3565:24. The district had on staff four psychologists previously but those positions were eliminated when the federal funds under the American Recovery and Reinvestment Act (“ARRA”) ran out. Sheridan now has “.6” of a psychologist funded and does not have the funds in general revenue to recruit and retain other psychologists needed to assist the students. Tr. Day 3585:18-3587:3511.
676. Sheridan also cut about five positions by buying out some of the salaries of its veteran teachers, which will hurt instructionally, and also cut back \$100,000 in the budget for maintenance. In addition, every office budget in the district was cut by 5%. Tr. Day 14, 3653:11-3654:18.
677. Mapleton School District had to target resources away from its counseling programs to implementing the content standards established by the State. Tr. Day 17, 4350:11-4353:24. Counseling impacts student performance because it is necessary in the district to address the mental health issues of its students, and there is no longer a sufficient number of therapists to address the needs in the district. *Id.*; Tr. Day 17, 4354:13-20.
678. Greeley budget cuts have forced the district to direct resources away from certain student groups to focus on others. Tr. Day 16, 4095:14-4097:5. For example, the district had to eliminate teachers for gifted and talented students and its career and technical educational programming to the detriment of those programs and the students they served. *Id.* The district also was forced to make other cuts such as certified librarians, technology specialists, increased class size, school supply budgets, and custodial staff. *Id.*, 4031:7-4033:25; 4090:12-4091:10. For two years in a row, the District put a moratorium on all textbook purchases. 4090:2-11.

679. In Rocky Ford, the school district had to eliminate 3.5 teaching positions and increase class sizes due to budget cuts. Pl. Intv. Dep. Designations, Ascherman Dep. at 205:25-206:13, 216:11-20.
680. Administrators in many of the districts testified that they were not necessarily opposed to the higher standards and increasing accountability, but they require the resources to implement appropriate and effective programs as well as to exercise meaningful discretion over their instruction. As Dr. Selzer pointed out regarding the standards and accountability, “Don’t hear me say that this is bad stuff for kids. It’s not. It’s good for Colorado. It’s good for our community if we can get it done. But you can’t do it by just wishing it so.” Tr. Day 16, 4087:1-4.
681. Harrison Superintendent Miles testified that even with his efficient spending practices, the quality of instruction in his district is likely to be affected in a negative way. Tr. Day 22, 5843:2-20. In addition, he had to cut 95 necessary staff members, including 70 licensed staff as a result of the most recent budget cuts by the General Assembly. *Id.*, 5838:19-5839:21.

Conclusions of Law

1. If necessary, all findings of fact may be construed as conclusions of law and all conclusions of law may be construed as findings of fact.
2. To the extent that any of the findings reflect the inequities of the Colorado school finance system, the Court is not concluding that such inequities violate the Colorado Constitution. Such findings do, however, support the Court's conclusions regarding the inadequacy of the system and the diminished local control for the lower wealth districts (such as Greeley, Mapleton, Sheridan and Rocky Ford) that are negatively impacted by such inequities.

I. The Meaning of Thorough and Uniform

3. Article IX, section 2 of the Colorado Constitution (the Education Clause) provides:

The General Assembly shall, as soon as practicable, provide for the establishment and maintenance of a thorough and uniform system of free public schools throughout the state, wherein all residents of the state, between the ages of six and twenty-one years, may be educated gratuitously.

4. The Colorado Supreme Court held that the thorough and uniform provision of the Education Clause includes a qualitative educational mandate that the State must meet. Specifically, the Education Clause is “satisfied if thorough and uniform educational opportunities are available through state action in each school district” and “each school district must be given the control necessary to implement this mandate at the local level.” *Lobato v. Colorado*, 218 P.3d 358, at 371 (citing *Lujan v. Colorado State Board of Education*, 649 P.2d 1005, 1025 (Colo. 1982)).
5. The Education Clause compels the implementation of a school finance system designed and funded to fulfill this substantive standard. This court's responsibility is “to determine whether the state's public school financing system is rationally related to the constitutional mandate that the General Assembly provide a ‘thorough and uniform’ system of public education.” *Id.* at 363.
6. As directed by the Supreme Court, the definition of a thorough and uniform system, and subsequently the assessment of whether the General Assembly has adequately implemented the “thorough and uniform” mandate, is informed by “the General Assembly's own laws and pronouncements [including those with proficiency targets and content standards], as well as other courts' interpretations of similar state education clauses. . . .” *Id.* at 372, n.17.
7. To assess Plaintiffs' and Plaintiff-Intervenors' constitutional claims, this Court must undertake an analysis of the meaning of the phrases “thorough and uniform educational opportunities” and the “control necessary to implement this mandate at the local level.”

A. “Thorough and Uniform System”

8. This Court rejects the notion that “thorough and uniform educational opportunities” are provided through just any established, organized system of “free public education.” Instead, such opportunities must meet basic minimum quality standards which have already been defined by the State. By its own pronouncement, the State has an “obligation to ensure that every student has a chance to attend a school that will provide an opportunity for a quality education. . . comparable to students in other public schools of the state.” C.R.S. § 22-30.5-301(1).
9. In order to fulfill its constitutional obligation, the General Assembly has adopted and the Defendants have implemented a system of “standards-based education” that defines the content of a “thorough and uniform” system of public education and creates measures to test the accomplishment of that system. The criterion of student success is student academic performance.
10. The Colorado General Assembly has defined certain minimum quality standards through its comprehensive standards-based system that sets student academic performance standards, provides objective student achievement results with respect to those standards, compares student performance levels against achievement goals; and holds the school districts and the schools accountable for the accomplishment of those performance goals.
11. This legislative scheme includes: the Education Reform Provisions of 1993, the Preschool through Postsecondary Education Alignment Act of 2008 (more commonly known as Colorado’s Achievement Plan for Kids, or “CAP4K”), the Teacher Effectiveness Act (SB 191); and the Education Accountability Act of 2009 (SB 163).
12. Throughout each of these enactments, the General Assembly has expressly linked the “thorough and uniform” mandate of the Education Clause with student performance and achievement.
13. For example, CAP4K ties its goals and purposes to a qualitative standard of student achievement of academic standards that culminate in postsecondary and workforce readiness. The standards are meant “to ensure that each student who receives a public education in Colorado is prepared to compete academically and economically within the state or anywhere in the nation or the world.” § 22-7-1002(4)(e).
14. The General Assembly has specifically linked its enacted standards with the State’s constitutional duties and with a fundamental individual right:

Every resident of the state six years of age or older but under twenty-two years of age has a fundamental right to a free public education that assures that such resident shall have the opportunity to achieve the content standards adopted pursuant to this part 4 at a performance level which is sufficient to allow such

resident to become an effective citizen of Colorado and the United States, a productive member of the labor force, and a successful lifelong learner.

C.R.S. § 22-7-403(2).

15. Accomplishment of the standards constituting a quality education are explicitly linked to students' performance through the State's assessment and accountability systems. In order to measure accomplishment of its goals, CAP4K mandates a new assessment system designed to measure students' "academic progress toward attaining the standards and toward attaining postsecondary and workforce readiness." C.R.S. § 22-7-1006(1)(a).
16. In the legislative declaration to the Education Accountability Act of 2009, the General Assembly finds that "an effective system of statewide education accountability" is one that "objectively evaluates the performance of the thorough and uniform statewide system of public education for all groups of students at the state, school district . . . and individual public school levels . . ." C.R.S. § 22-11-102(1)(d)5 (emphasis added).
17. Before the Education Accountability Act of 2009, a state-administered system of school district accountability was introduced in 2000 with the adoption of what was then Part 7 of the "Educational Accountability Act." At that time, the General Assembly still linked quality education with student performance, declaring that the accountability program "should be designed to measure objectively the quality and efficiency of the educational programs offered by the public schools." § 22-7-102(2) (repealed in 2009 with the enactment of the Education Accountability Act).
18. Thus, the pronouncements of the General Assembly define today's thorough and uniform system of public education, and link student achievement to the substantive guarantees of the Education Clause.
19. Other courts' interpretations of similar state education clauses support an interpretation of the mandate for "thorough and uniform" that is linked to student outputs. For example, in *Claremont School District v. Governor*, 795 A.2d 744, 751-52 (N.H. 2002), the New Hampshire Supreme Court found that:

[T]he State must provide a definition of a constitutionally adequate education, the definition must have standards, and the standards must be subject to meaningful application so that it is possible to determine whether, in delegating its obligations to provide a constitutionally adequate education, the State has fulfilled its duty. . .
20. The New Hampshire Supreme Court cited numerous other jurisdictions that include standards and accountability in determining a constitutionally adequate education: *McDuffy v. Sec'y of Exec. Office of Educ.*, 615 N.E.2d 516 (Mass. 1993); *DeRolph v. State*, 728 N.E. 993, 1019 (Ohio 2000); *Abbott v. Burke*, 693 A.2d 417, 428 (N.J. 1997); *Tenn. Small Sch. Sys. v. McWhereter*, 894 S.W.2d 734 (Tenn. 1995); *Bd. Of Educ. v. Bushee*, 889 S.W.2d 809, 816 (Ky. 1994).

21. Similarly, the Kansas Supreme Court has held that a rational school finance formula must be funded to assure student “outputs,” finding that “[s]uch outputs are necessary elements of a constitutionally adequate education and must be funded by the ultimate financing formula adopted by the legislature.” *Montoy v. State*, 112 P.3d 923, 939 (Kan. 2005) (quoting *Montoy v. State*, 120 P.3d 306, 309 (Kan. 2003) (quotation omitted) (constitutionally suitable education is one in which “schools meet the accreditation requirements and [students are] achieving an ‘improvement in performance that reflects high academic standards and is measurable.’”).
22. The Wyoming Supreme Court cited to school district, school, and student performance standards and assessments in evaluating the “thorough and efficient” public education required by the Wyoming Constitution. *Campbell Cnty. Sch. Dist. v. State*, 907 P.2d 1238, 1262 (Wyo. 1995).
23. The Washington Supreme Court stated that a “general and uniform system. . . is, at the present time, one in which every child in the state has free access to certain minimum and reasonably standardized educational and instructional opportunities to at least the 12th grade. . . and with access by each student of whatever grade to acquire those skills and training that are reasonably understood to be basic to a sound education.” *Northshore Sch. Dist. v. Kinnear*, 530 P.2d 178, 202 (1975) (emphasis added) cited by *Lujan*, 649 P.2d at 1028 (Erickson, J., specially concurring).

B. “Control Necessary to Implement This Mandate at the Local Level”

24. The General Assembly has chosen to fulfill the mandate of the Education Clause through a system anchored in academic content standards and assessments that measure student achievement outcomes. Although standards and expectations are necessary and even commendable, “standards do not teach themselves” and they are just “words on paper” until they are implemented. School systems must be organized and funded so that schools can actually and purposefully help all students master the defined skills and knowledge such that they will be good citizens and become members of the workforce who can do the jobs that are in the current economy.
25. A district cannot provide a constitutionally adequate education without a sufficient support network, which may include, but is not limited to, (a) educationally appropriate facilities that are suitable and safe for student learning; (b) sufficient resources to support and meet the actual educational needs of all students, including special need students such as ELL and low income, who require, among other programs and services, unrestricted access to quality early childhood education and full-day kindergarten to ensure that students do not start school behind; (c) sufficient numbers of qualified teachers who have access to appropriate training and professional development; (d) appropriate class sizes; (e) extracurricular and vocational programs to keep students engaged in school and competitive for college; and (f) counselors to assist with mental health needs, academic guidance, and planning for college or postsecondary options.

II. The public school finance scheme is not funded and allocated in a manner rationally related to the constitutional mandate.

26. The public school finance system is not rationally related to the General Assembly's mandate to provide a thorough and uniform system of free public schools.
27. The State's method of funding must have some rational link to the provision of thorough and uniform system, which the State has set forth in its comprehensive system of standards, expectations, and accountability. There is no evidence of such a link in the trial record.
28. Merely because the PSFA is complex, distributes funds through a formula, and was enacted by a majority of legislators with legislative "debate" does not alone make the law rationally related to the constitutional mandate. If the threshold for rationality was that low, then no State statute could ever be considered irrational.
29. The state standards and expectations were developed and implemented without consideration of cost, and the PSFA expenditures were set solely on appropriation levels as opposed to any type of educational quality goal.
30. There is no rational reason to limit funding for ELL programs to two years and to withhold ELPA funding until halfway through the school year.
31. There is no rational reason to exclude students on the reduced price lunch program from the proxy for at-risk funding because those students face the same educational challenges as students on the free lunch program under the current standards-based, accountability school system.
32. The funding for ELL and low income students is also inadequate and does not afford the school districts with the funds necessary to help those students meet the State academic standards and achieve their fullest potential.
33. ELL students and low income students require access to high quality Pre-K programs and full-day Kindergarten programs in order to meet the State academic standards and achieve their fullest potential but Defendants have not fully provided them with such a system of public education. The cap on Pre-K admissions, the inadequate funding for Pre-K programs through the CPP, and the cap on Kindergarten funding are irrational and unrelated to a thorough and uniform system of education for ELL and low income students.
34. The cost to provide an educational program capable of meeting these objectives is a necessary factor in determining whether a public school finance scheme is rationally related to the mandate of the Education Clause.
35. This Court does not contend that expenditures in each district must be equal. However, the current funding levels must at least allow all students and all school districts the

opportunity to meet the standards and objectives established in education reform legislation. The PSFA base funding amount and statutory increases are based on “historical compromise,” as opposed to a rational determination of actual need in the districts to fulfill the “thorough and uniform” mandate. By its own admission, the State has never even determined, much less allocated, the cost of providing an education that meets the standards and goals mandated by its education reform efforts.

36. Defendants cannot satisfy their obligations under the Education and Local Control Clauses by relying on, or forcing school districts to rely on, gifts, grants and donations or on unstable and fluctuating federal grants and funding.
37. Although the Court acknowledges its limited role in finding the constitutional violations and deference to the General Assembly in remedying the constitutional violations, and has full faith that the General Assembly will carry out its duty, re-allocating funds from the general PPOR or from other categorical programs or other school districts will not resolve the deficiencies in the system as every part of the school finance appears to be at its capacity.
38. Although increased funding alone will not lead to increased achievement, the Court concludes that increased funding is necessary for school districts to provide the educational opportunities needed for all Colorado public school students to achieve the standards and expectations adopted by the State so they may become effective citizens of Colorado and the United States, productive members of the labor force, and successful lifelong learner. The Court further concludes that the other educational reform efforts set in motion by Defendants will help ensure students access a thorough and uniform system of public education but the school finance system must reflect the cost of those reforms.

III. Local Control

39. The Local Control Clause states “the general assembly shall, by law, provide for organization of school districts of convenient size, in each of which shall be established a board of education. . . Said directors shall have control of instruction in the public schools of their respective districts.” COLO. CONS. Article IX, section 15.
40. The duty to afford local school boards of education control of instruction in the public schools of their respective districts has not been fulfilled. The General Assembly, the Colorado State Board of Education and the Colorado Department of Education have enacted numerous mandates as outlined above, usurping meaningful local control of instruction at the local school board level.

IV. Relief

41. The Court declares the Colorado school finance system for funding the education of at-risk, low income and ELL students unconstitutionally inadequate and in violation of article IX, § 2 of the Colorado Constitution.

42. The Court declares the Colorado school finance system for funding school facilities for low property wealth school districts such as Greeley, Mapleton, Sheridan and Rocky Ford unconstitutionally inadequate and in violation of article IX, § 2 of the Colorado Constitution.
43. Due to the inadequate funding of at-risk and ELL students in the Colorado school finance system, among other under-funded student groups, and Defendants' failure to fund adequately capital construction in low-wealth school districts, coupled with the numerous mandates imposed by Defendants, Defendants have stripped local school boards of their ability to exercise meaningful local control over their instruction in violation of article IX, section 15 of the Colorado Constitution.
44. The Court hereby enjoins Defendants from implementing a school finance system that offends the Education Clause or Local Control Clause of the Colorado Constitution.
45. The Court stays the injunction to provide the General Assembly an opportunity to satisfy the principles of adequacy established under Colorado law and remedies the constitutional violations identified in the declaratory relief requested above. This stay will coincide with the end of the General Assembly's 2012 regular legislative session or June 1, 2012, whichever date comes first.
46. The injunction will not be lifted unless and until Defendants adopt and implement a school finance system that neither offends the Education Clause or Local Control Clause of the Colorado Constitution.

Conclusion

Plaintiff-Intervenors have full faith in the General Assembly to carry out its constitutional duties by remedying the violations noted above so that every Colorado child has a reasonable opportunity of achieving his or her fullest potential.

DATED: October 28, 2011

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned certifies that on the 28th day of October, 2011, a true and correct copy of the foregoing Plaintiff-Intervenors' Proposed Finding of Fact and Conclusions of Law was filed and served by LexisNexis File & Serve, addressed to the following:

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