Default Cut Scores for MAP Growth Mathematics and Reading Assessments

August 2025

NWEA Psychometrics and Analytics

Document History

Date	Description
2021-11-17	Initial draft created by Sarah-Truclinh Tran
2022-01-20	Approved by Ann Hu and Patrick Meyer
2022-06-10	Written report published
2025-08	Updated default cuts using spring cuts for 41 state tests published in 2025

Acknowledgements: This report was made possible with the contributions of Ann Hu, Yan Zhou, Derek May, Justin Schreiber, and Chris Wells. We appreciate our colleagues at NWEA and all our partners who provided data for the study.

Table of Contents

List of Tables

Executive Summary

This document presents default cut scores that can be used by partners to classify students into *Below Standards*, *Proficient*, or *Advanced* performance levels on the MAP® Growth™ assessments for mathematics and reading in grades 3–8. The default cut scores presented in Table E.1 were derived from the median Rasch Unit (RIT) cut scores from 36 published NWEA® linking studies across 41 states and their associated percentiles from the 2025 norms (NWEA, 2025). They are known as the "default" cut scores because they are automatically applied to score reports when a partner does not have a linking study connecting its summative assessment to MAP Growth.

Table E.1. MAP Growth Default Cut Scores

Grade	*Proficient*		*Advanced*	
	Median RIT	Percentile	Median RIT	Percentile
Mathematics				
3	205	64	218	87
4	218	67	232	89
5	227	72	240	90
6	230	70	244	90
7	234	70	248	89
8	241	73	256	91
Reading				
3	201	65	214	87
4	207	61	219	83
5	213	61	225	83
6	217	62	230	86
7	221	64	234	87
8	224	64	238	88

For many years, NWEA has used the 40th and 70th percentiles as the default cut scores for *Proficient* and *Advanced*, respectively, for partners without a linking study. The study presented in this document was conducted to update these values using a more deliberate method and to utilize expanded and more recent data. The updated default cut scores shown in Table E.1 reveal that the traditional 40th and 70th percentile cut values are too low for today's performance level standards.

The process of identifying new default cut scores began with an evaluation of data from linking studies completed by August 2021. A group of NWEA experts reviewed potential approaches and reached a consensus that cut scores should be subject- and grade-specific in order to reflect states' current definitions of *Proficient* and *Advanced* performance as well as what is seen in real-world proficiency rates. For example, this approach has lead to the meaningful revelation that grade 3 performance levels tend to be lower than what is seen in higher grades. In this updated report, default cuts represent the median of spring cuts from 36 linking studies for 41 states published in 2025.

It is important to note that the default cut scores were not derived from the standard NWEA linking study procedure and should not be applied the same way as the results from a linking

study. The default cut scores can be used by partners without their own linking study as an indication of student performance on MAP Growth relative to the performance standards set by MAP Growth users across states. They should not be used to predict student performance on any summative assessment. Cut scores from partner-specific linking studies are always preferred over the default cut scores.

1. Introduction

This document presents the default cut scores that can be used by partners to classify students into *Below Standards*, *Proficient*, or *Advanced* performance levels on the MAP® Growth™ assessments for mathematics and reading in grades 3–8. The default cut scores were derived from the median Rasch Unit (RIT) cut scores from 36 published NWEA® linking studies across 41 states and their associated percentiles from the 2025 norms (NWEA, 2025). They are known as the "default" cut scores because they are automatically applied to score reports when a partner does not have a linking study connecting its summative assessment to MAP Growth. These default cut scores are provided only for mathematics and reading in grades 3–8 based on the available data from the 36 published linking studies used in this study.

MAP Growth linking study results allow educators to use students' RIT scores from fall, winter, and spring to predict students' likely performance levels on summative tests that are often administered at the end of an academic school year. Students who appear at risk of missing the proficiency mark may then be given appropriate support that aligns with their unique learning trajectories.[1] As such, linking studies are a critical part of the NWEA mission to enhance classroom learning. However, some partners do not have a linking study specific to their summative assessment. These include international schools and U.S. states that do not meet the minimum sample size requirements for recruitment. For these partners, the historical practice has been to use the following percentile thresholds for classifying student performance on MAP Growth assessments:

- *Below Standards*: 1st–39th percentile
- *Proficient*: 40th–69th percentile
- *Advanced*: 70th–99th percentile

These thresholds were inferred from *The Proficiency Illusion* report by Cronin et al. (2007). However, those thresholds have now been determined to possess critical limitations. First, the purpose of the Cronin et al. (2007) study was not to intentionally determine the default cut scores but to investigate states' expectations for proficiency in mathematics and reading before and after the implementation of No Child Left Behind (NCLB, 2002). Second, the study included data from only 26 states. Finally, the study was based on data from the NCLB era, when states' expectations for proficiency differed significantly from those today. Therefore, a new study was conducted in 2021 using a more intentional method as well as expanded and more current data to derive the default cut scores for MAP Growth performance. And now, the most current study has updated the default cuts based on 36 linking studies published by August 2025 and using the latest 2025 norms.

[1] For a comprehensive description of the MAP Growth linking studies, please refer to Hu (2021).

2. Methodology

The default cut scores were derived from the median RIT cut scores from NWEA linking studies that were in active use as of August 2025 for mathematics and reading in grades 3–8 based on the 2025 norms. A linking study being “in active use” means that its results were being applied to state-specific NWEA reports at the time of analysis. Table 2.1 presents the states included and the number of test events by subject and grade included in their linking study. These eligible linking studies were conducted based on test events from Spring 2017 to Spring 2024. All sample sizes for each subject and grade were above the minimum 1,000 test event requirement.

To derive the default cut scores, the cut scores for the *Proficient* and *Advanced* performance levels by subject and grade were compiled for each of the 41 studies. Although states often have different naming conventions for their performance levels, only those levels associated with meeting or exceeding proficiency status on the state summative test were used. The median RIT scores were calculated across states for each subject and grade and were then converted to percentiles based on the 2025 norms.

Given that estimated RIT scores inherently contain measurement errors, the confidence interval for the median RIT scores was constructed based on a value of 2 standard errors of measurement (SEMs). SEM is an estimate of the amount of measurement error in an observed test score (i.e., a measure of score precision). It represents the amount of variability that can be expected in a test score due to the inherent imprecision of the test (e.g., if a student were tested again, they would likely obtain a slightly different score within this margin of error). An SEM value of 3.5 for mathematics and reading was applied, which approximates the average SEM across grades for each subject. For example, if the RIT score for a mathematics test is 200, the lower and upper bounds of its confidence interval within 2 SEM are 193 ($200 – 2 \times 3.5 = 193$) and 207 ($200 + 2 \times 3.5 = 207$). These bounds show the range of cut scores that is within the margin of error expected for the median value. The bounds and median RIT scores were also converted to percentiles based on the 2025 norms.

Table 2.1. Study Sample

State	Testing Term	# Test Events by Grade in Each Linking Study											
		Mathematics						Reading					
		3	4	5	6	7	8	3	4	5	6	7	8
AK	Spring 2023	8,400	8,307	8,385	8,157	7,966	7,909	8,361	8,275	8,363	8,131	7,977	7,931
AR	Spring 2018	4,081	3,887	4,092	3,828	3,439	2,199	4,078	3,985	4,078	3,482	3,475	2,268
AZ	Spring 2019	2,725	2,690	2,773	2,892	2,513	1,998	2,726	2,687	2,772	2,736	2,389	2,099
CA	Spring 2019	7,024	6,955	6,718	5,203	5,592	4,647	7,350	7,026	6,588	5,774	5,629	5,002
CO	Spring 2018	4,523	4,641	4,767	4,738	4,293	3,484	3,514	4,676	4,423	4,436	4,144	3,152
FL	Spring 2023	5,681	5,341	5,095	5,667	4,209	2,665	5,685	5,337	5,321	6,231	5,691	5,416
GA	Spring 2019	12,877	14,652	13,837	14,776	11,828	9,964	12,930	14,537	13,826	14,545	11,764	10,106
IA	Spring 2019	1,270	1,313	2,361	2,606	2,689	2,850	1,273	1,449	2,494	2,620	2,698	2,853
IL	Spring 2019	34,226	34,722	35,764	36,373	34,208	33,242	34,780	35,430	36,207	36,569	34,537	33,549
IN	Spring 2019	40,103	40,457	41,410	40,638	40,047	38,438	40,699	41,109	41,928	41,224	40,209	38,868
KS	Spring 2019	3,332	3,325	3,328	3,558	3,503	3,169	3,325	3,358	3,449	3,522	3,474	3,211
KY	Spring 2022	25,732	23,696	25,892	25,686	26,733	26,602	25,850	23,785	26,023	25,622	26,627	26,486
MA	Spring 2017	2,649	2,858	2,835	2,436	1,381	1,172	2,389	2,650	2,516	2,045	1,414	1,218
MI	Spring 2019	7,528	7,702	7,633	8,057	6,903	5,483	7,503	7,636	7,653	8,031	6,860	5,733
MN	Spring 2019	4,981	5,036	5,396	5,621	4,072	3,355	5,033	5,106	5,188	6,097	4,479	3,389
MO	Spring 2018	2,742	2,765	2,645	2,783	2,556	1,832	2,697	2,663	2,467	2,547	2,280	1,770
MS	Spring 2018	1,430	1,351	1,431	1,307	1,248	1,262	1,403	1,314	1,407	1,265	1,244	1,242
NC	Spring 2021	15,269	15,857	15,825	14,958	14,255	9,011	10,979	13,132	13,193	12,146	12,108	11,581
ND	Spring 2019	1,038	1,060	1,103	1,084	1,056	990	1,029	1,058	1,121	1,081	1,043	1,001
NE	Spring 2019	15,062	15,077	15,215	14,288	14,122	13,829	15,096	15,228	15,122	14,167	14,771	14,223
NJ	Spring 2022	3,863	4,031	3,915	3,988	4,619	4,495	3,812	3,988	3,851	3,886	4,620	4,884
NM	Spring 2022	1,503	1,579	1,627	1,762	1,847	1,934	1,500	1,575	1,630	1,748	1,838	1,872
NV	Spring 2019	2,529	2,756	3,091	3,145	3,011	2,544	3,003	2,746	3,092	3,061	2,967	2,622
NY	Spring 2024	18,719	18,940	18,507	19,120	19,165	8,784	16,781	17,326	17,136	19,066	19,257	17,747
OH	Spring 2022	12,291	12,278	11,440	11,602	10,375	7,775	12,055	12,378	11,947	11,814	10,968	11,062
OK	Spring 2017, 2018	4,056	3,793	3,544	3,310	2,664	3,065	4,064	3,795	3,577	3,290	2,667	3,009
OR	Spring 2019	3,381	3,465	3,348	3,272	2,877	2,623	1,964	2,003	1,817	1,322	1,253	1,057

State	Testing Term	# Test Events by Grade in Each Linking Study											
		Mathematics						Reading					
		3	4	5	6	7	8	3	4	5	6	7	8
PA	Spring 2019	2,690	3,033	2,924	2,719	2,723	2,671	2,982	3,262	3,300	2,913	2,712	2,618
SBAC [a]	Spring 2019	18,496	18,616	19,276	17,857	17,371	14,981	17,349	17,013	17,538	16,029	15,414	13,865
SC	Spring 2022	12,784	12,733	12,810	12,955	13,341	13,191	14,157	12,310	12,360	12,439	12,806	12,881
SD	Spring 2019	2,951	2,927	2,862	2,823	2,731	2,379	2,913	2,923	2,868	2,801	2,721	2,506
TN	Spring 2017	10,400	9,913	7,876	6,298	6,213	5,560	14,072	13,922	11,372	9,450	9,373	9,438
TX	Spring 2023	7,584	7,431	7,505	7,354	7,308	5,434	8,037	6,871	6,735	6,870	7,100	5,971
VA	Spring 2021/2019	4,078	3,542	3,599	4,167	3,406	1,492	3,021	2,700	2,833	2,633	2,654	2,610
WA	Spring 2019	2,259	2,204	2,727	2,422	2,307	1,955	1,759	1,547	2,231	2,076	1,999	1,840
WI	Spring 2019	6,006	6,413	6,555	6,820	6,676	5,997	5,992	6,316	6,492	6,772	6,695	6,090

[a] SBAC states include CA, CT, DE, HI, ID, MT, NV, OR, SD, VT, and WA. The study results have been applied to the student reports in CT, DE, HI, ID, MT, and VT.

3. Results

3.1. Default Cut Scores

Table 3.1 presents the median RIT scores and the associated percentiles based on the 2025 norms that can be used to classify students into *Proficient* and *Advanced* performance levels on MAP Growth. It also presents the percentiles of the median RIT scores based on ± 2 SEM (i.e., SEM = 3.5). These default cut scores are based on 36 linking study results for 41 states published by August 2025.

Overall, the percentiles associated with the median *Proficient* and *Advanced* RIT cut scores are substantially above the 40th and 70th percentiles, respectively, in every subject and grade. The SEM bounds further illustrate that the 40th and 70th percentiles are below even the lower bound of the margins of error.

Table 3.1. MAP Growth Default Cut Scores and Associated Margin of Error

Grade	*Proficient*		*Advanced*		Percentiles Corresponding to Median RIT ± 2 SEM	
	Median RIT	Percentile	Median RIT	Percentile	*Proficient*	*Advanced*
Mathematics						
3	205	64	218	87	(47,78)	(76,94)
4	218	67	232	89	(52,80)	(80,95)
5	227	72	240	90	(59,84)	(82,95)
6	230	70	244	90	(56,82)	(82,95)
7	234	70	248	89	(56,81)	(81,95)
8	241	73	256	91	(60,83)	(84,95)
Reading						
3	201	65	214	87	(50,78)	(77,93)
4	207	61	219	83	(45,75)	(71,91)
5	213	61	225	83	(45,75)	(71,92)
6	217	62	230	86	(45,76)	(74,93)
7	221	64	234	87	(48,78)	(76,94)
8	224	64	238	88	(48,78)	(78,94)

Note. Percentiles are based on the 2025 norms (NWEA, 2025).

3.2. Variability in Percentiles

Percentiles are a nonlinear transformation of test scores. They are spread out in the tails of the score distribution and condensed in the middle of the score distribution. A difference of 1 RIT point in the tail of the distribution will have a larger difference in percentiles than a difference of 1 RIT point near the middle of the distribution. Given that the spread of percentiles is affected by the location of the RIT cut scores, the variability in percentiles was evaluated in this study.

Table 3.2 presents the range of percentiles across studies (i.e., the number of percentile units between the lowest and highest percentile cut values across all studies). Overall, estimates of *Proficient* cut scores vary substantially across studies. *Advanced* cut scores for both subjects show less spread. For example, the grade 8 *Advanced* mathematics cut scores span 15 percentile units across states compared with the grade 8 *Proficient* mathematics cut scores that span 40 percentile units. These results illustrate the variability of cut scores across states and

caution partners against using the default cut scores for predictive purposes on their summative assessments.

Table 3.2. Percentile Ranges Across States

Grade	Percentile Range Across Studies			
	Mathematics		Reading	
	Proficient	*Advanced*	*Proficient*	*Advanced*
3	35	18	25	20
4	43	15	27	19
5	44	15	28	20
6	42	16	33	16
7	40	15	28	19
8	40	15	35	21

The appendices at the end of this document further depict the range of cut scores across states by subject, grade, and performance level, as summarized below.

- Appendix A presents the range of percentiles associated with the *Proficient* mathematics cut scores for the 41 states included in the study sample. Grade 5 shows the widest variability across states with a span of 44 percentile units, with the lowest *Proficient* cut for a state at the 41st percentile (Iowa) and the highest *Proficient* cut for a state at the 85th percentile (Illinois). Virginia, Iowa, and Indiana generally have the lowest *Proficient* mathematics cut scores, while Illinois and Kansas generally have the highest.

- Appendix B presents the range of percentiles associated with the *Proficient* reading cut scores for the 41 states included in the study sample. Grade 8 has the greatest range of 35 percentile units, with the lowest *Proficient* cut for a state at the 46th percentile (Virginia) and the highest *Proficient* cut for a state at the 81st percentile (Kansas). Virginia, Pennsylvania, and Ohio have the lowest *Proficient* reading cut scores, while Tennessee and Indiana have the highest.

- Appendix C presents the range of percentiles associated with the *Advanced* mathematics cut scores for the 41 states included in the study sample. The same pattern found between the *Proficient* and *Advanced* reading cut scores is also evident for mathematics. The states that use SBAC tests (i.e., Vermont, Idaho, Montana, Hawaii, Connecticut, and Delaware) have the lowest *Advanced* mathematics cut scores, while Illinois and Colorado have the highest.

- Appendix D presents the range of percentiles associated with the *Advanced* reading cut scores for the 41 states included in the study sample. Overall, the *Advanced* cut scores are less dispersed across states than the *Proficient* cut scores. For example, the grade 8 *Proficient* reading cut scores span 35 percentile units, whereas the grade 8 *Advanced* reading cut scores span 21 percentile units, from the 74th percentile (Texas) to the 95th percentile (Tennessee). New Mexico, California, and Texas have the lowest *Advanced* reading cut scores, while Colorado and Tennessee have the highest.

4. Conclusion and Discussion

The default cut scores from this study can be used by partners as an indication of student performance on MAP Growth relative to the performance standards set by MAP Growth users across states. To generate the new default cut scores that distinguish *Below Standards*, *Proficient*, and *Advanced* performance levels on MAP Growth for mathematics and reading, quantitative and expert judgement were applied, which is standard practice for identifying cut scores for an assessment.

First, all results from eligible linking studies across 41 states were aggregated and synthesized. The median of RIT cut scores was calculated for each subject and grade. This approach yields cut scores that reflect states' current designations of *Proficient* and *Advanced* performance and is empirically derived without any subjective judgments about the scores. It also reflects what is seen in real-world proficiency rates. For example, it leads to the meaningful revelation that grade 3 performance levels tend to be lower than what is seen in higher grades. Results from this study show that the 40th and 70th percentile cut values for the *Proficient* and *Advanced* performance levels, respectively, for MAP Growth are too low for today's performance level standards.

It is important to note that the cut scores were not derived from the standard NWEA linking study process and should therefore not be applied the same way as results from a linking study. Notably, the default cut scores designate universal performance expectations on MAP Growth and should not be used to predict student performance on any summative assessment. One reason is that the underlying data in this study are not test events from a single assessment but rather RIT cut scores from linking study results from various states with different content standards. As shown in the variability of percentiles across states, different states have different definitions of proficiency. The default cut score may under-predict proficiency in some states and over-predict proficiency in others. A partner-specific linking study is preferred for making predictions of performance levels on a specific summative assessment. Another limitation of the default cut scores is that classification accuracy statistics cannot be generated that reflect how well MAP Growth tests predict performance on a particular summative assessment. Finally, the default performance level definitions *(Below Standards*, *Proficient*, and *Advanced)* are not the same as those adopted for other assessments. They may have different interpretations than the performance levels set for a particular summative assessment.

Cut scores from partner-specific linking studies are therefore always preferred if the intention is to predict student proficiency on end-of-grade or end-of-course summative tests. Partners should refer to their own linking study for RIT cut scores that directly correlate with their summative assessment and content standards. Those studies apply methods that ensure representativeness of the student population and provide classification accuracy statistics that indicate confidence in how well MAP Growth predicts proficiency on the summative test.

References

Cronin, J., Dahlin, M., Adkins, D., & Kingsbury, G. (2007, October 4). *The proficiency illusion*. Thomas B. Fordham Institute and NWEA. https://fordhaminstitute.org/national/research/proficiency-illusion

Hu, A. H. (2021). *MAP Growth linking studies: Intended uses, methodology, and recent studies*. NWEA. https://www.nwea.org/content/uploads/2022/01/MAP-Growth-Linking-Studies_Uses-Methodology-Recent-Studies-2021-11-15.pdf

No Child Left Behind Act of 2002 (NCLB), Pub. L. No. 107–110, § 115, Stat.1425 (2002). https://www.govinfo.gov/content/pkg/BILLS-107hr1enr/pdf/BILLS-107hr1enr.pdf

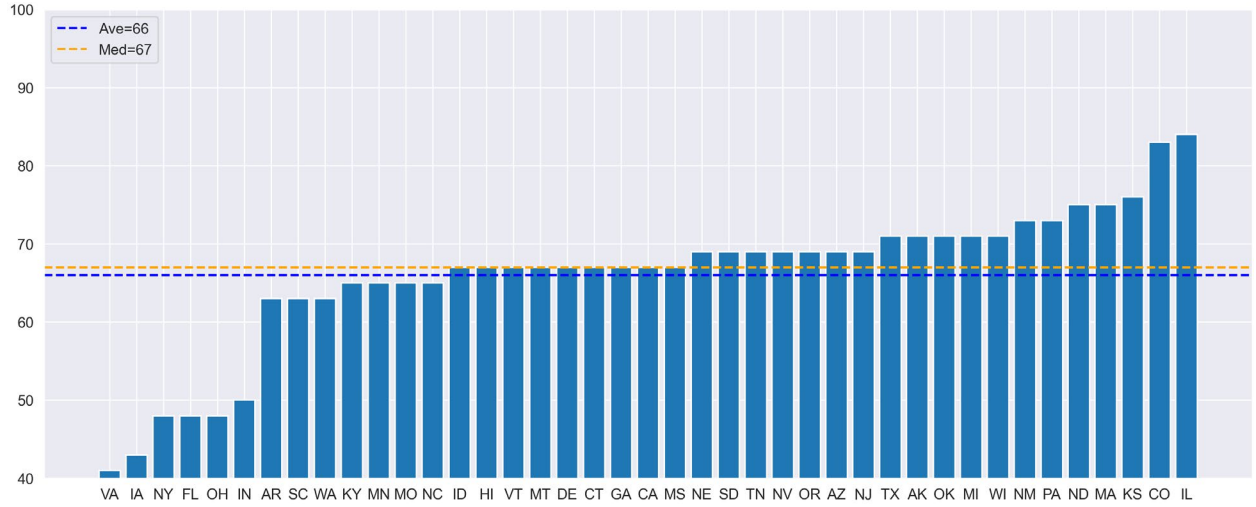
NWEA. (2019). *MAP Growth technical report*. https://www.nwea.org/uploads/2021/11/MAP-Growth-Technical-Report-2019_NWEA.pdf

NWEA. (2025). *MAP Growth achievement status and growth norms for students and schools*. [Tech Rep.]. NWEA.

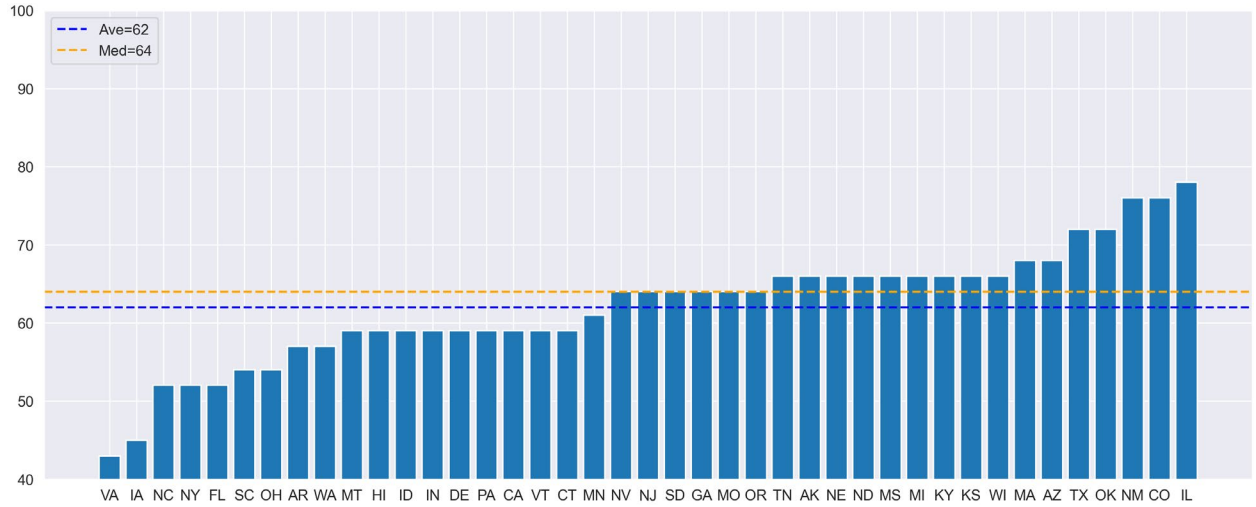
Thum, Y. M., & Kuhfeld, M. (2020). *NWEA 2020 MAP Growth achievement status and growth norms for students and schools*. NWEA Research Report. NWEA. https://teach.mapnwea.org/impl/normsResearchStudy.pdf

Appendix A: *Proficient* Percentile Cuts by State—Mathematics

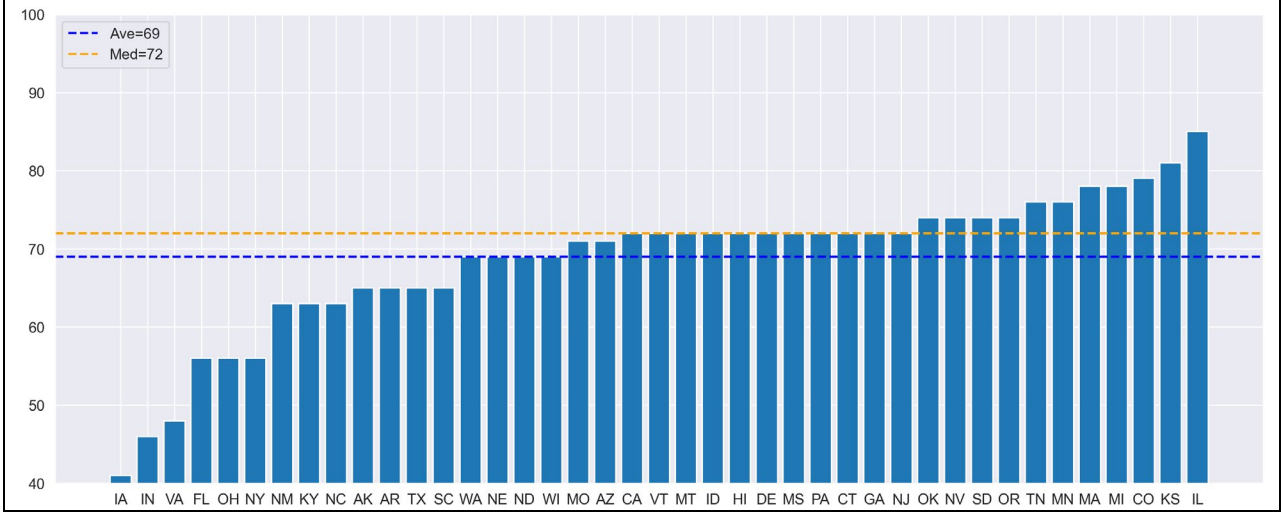
Mathematics Grade 3 *Proficient*



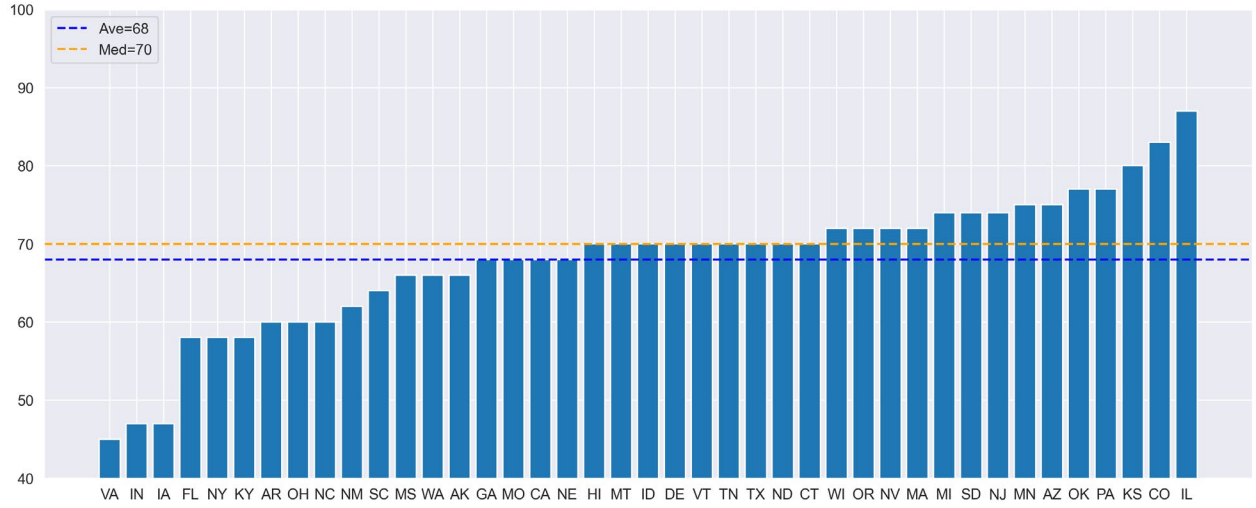
Mathematics Grade 4 *Proficient*



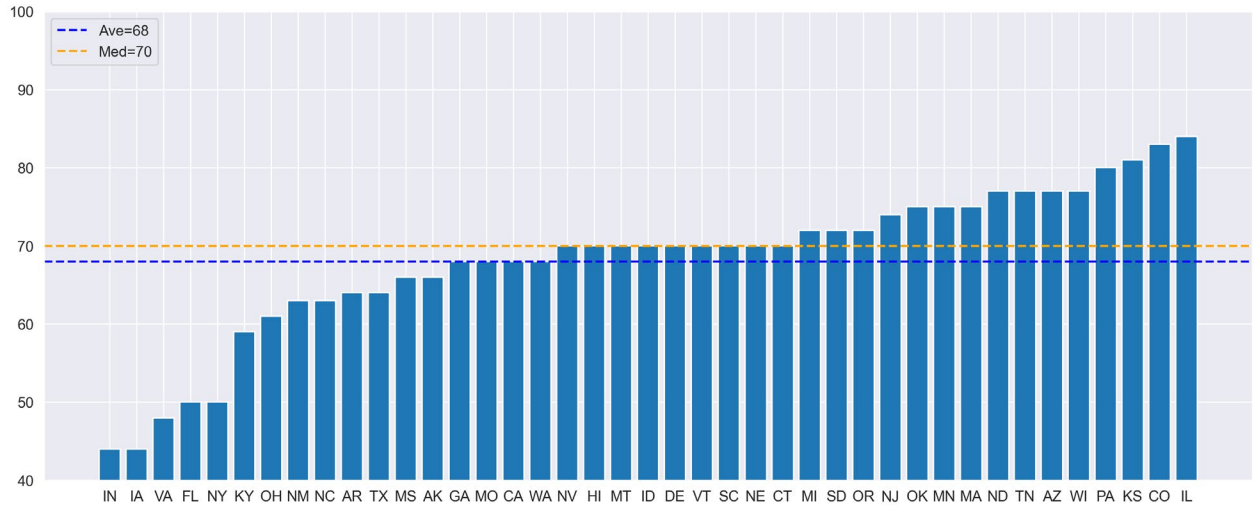
Mathematics Grade 5 *Proficient*



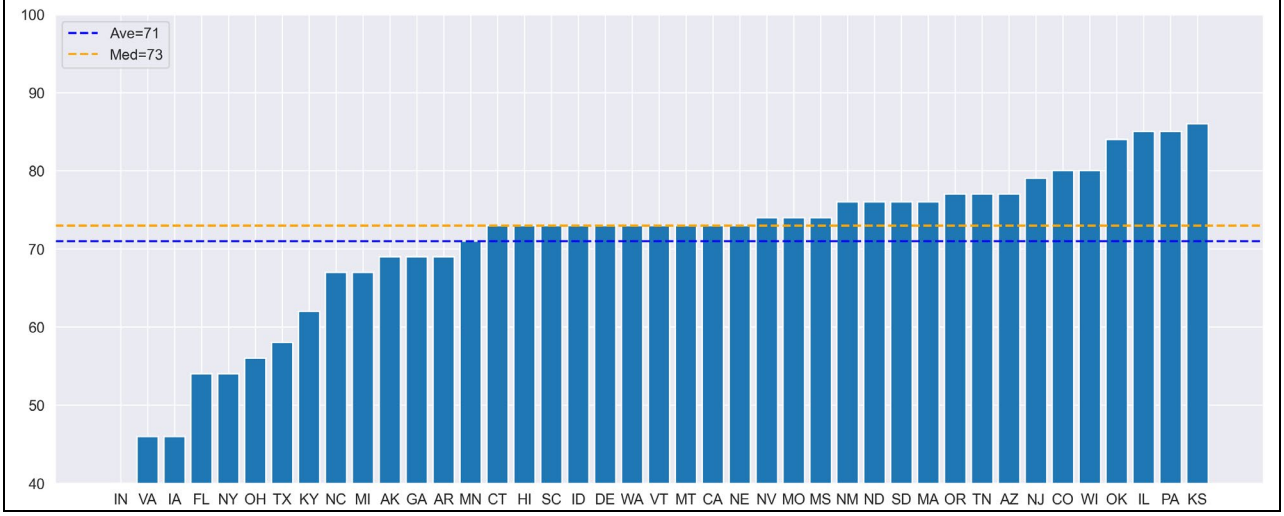
Mathematics Grade 6 *Proficient*



Mathematics Grade 7 *Proficient*



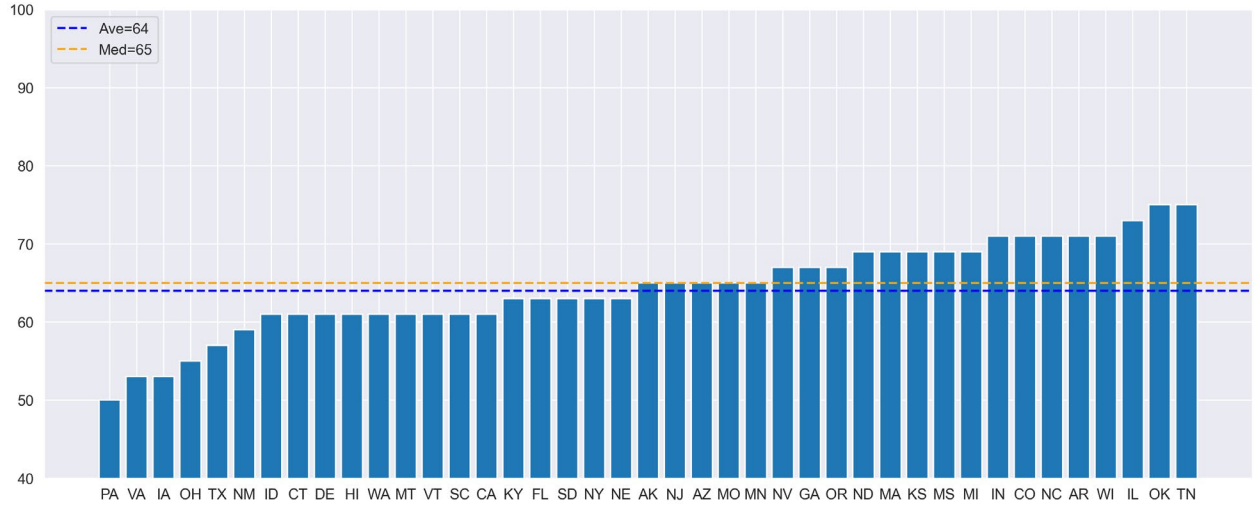
Mathematics Grade 8 *Proficient*



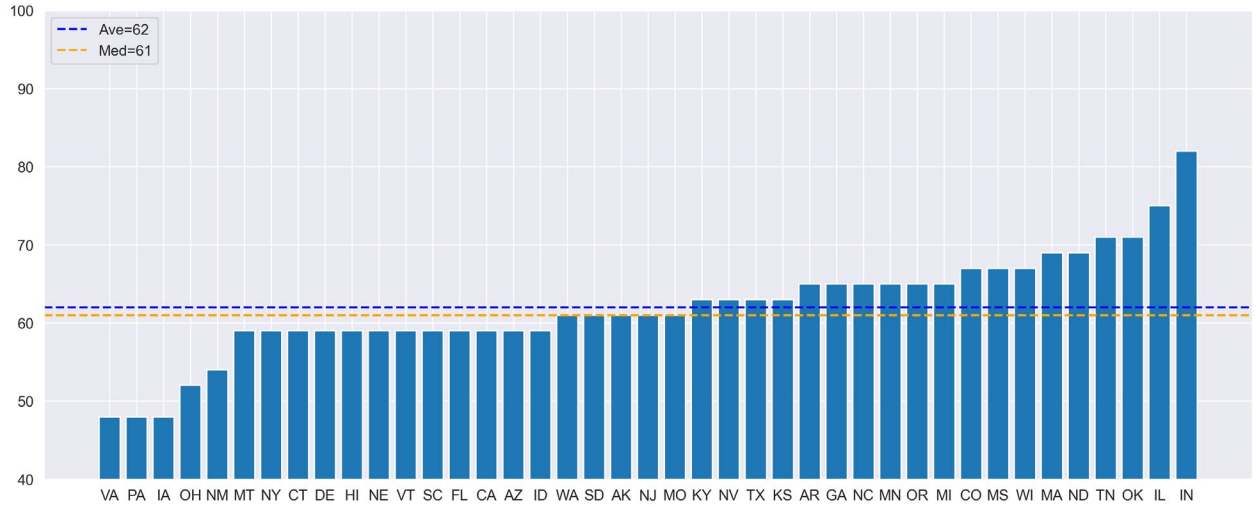
Note. Avg = sample average; Med = sample median

Appendix B: *Proficient* Percentile Cuts by State—Reading

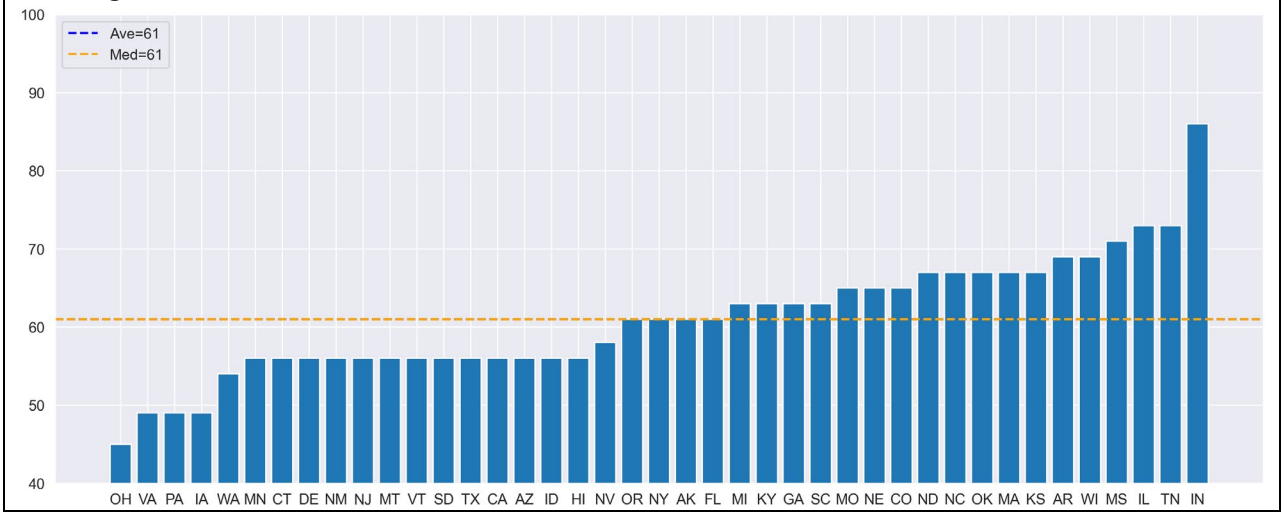
Reading Grade 3 *Proficient*



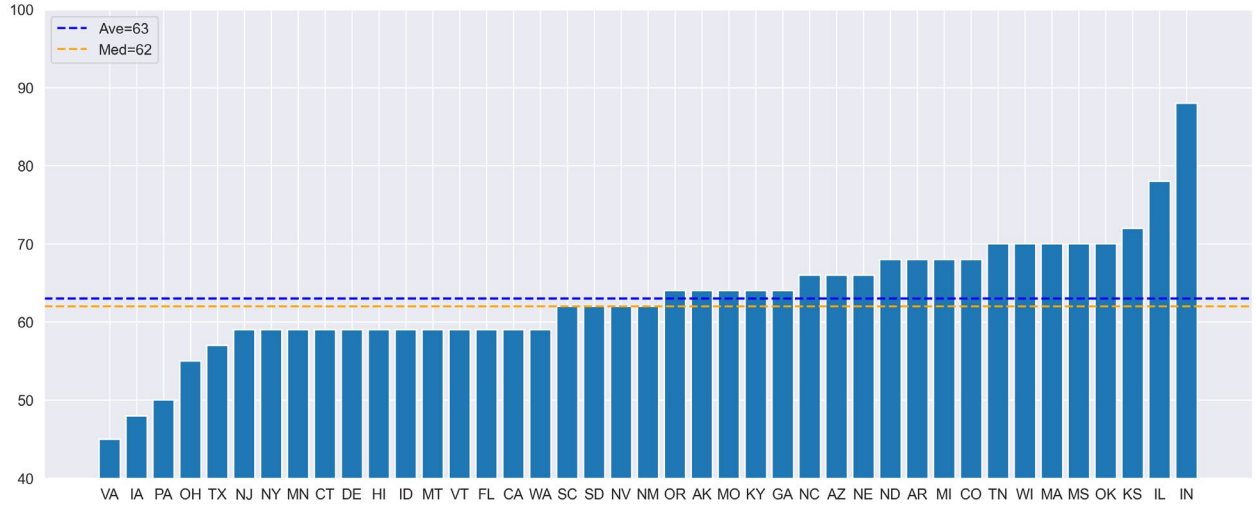
Reading Grade 4 *Proficient*



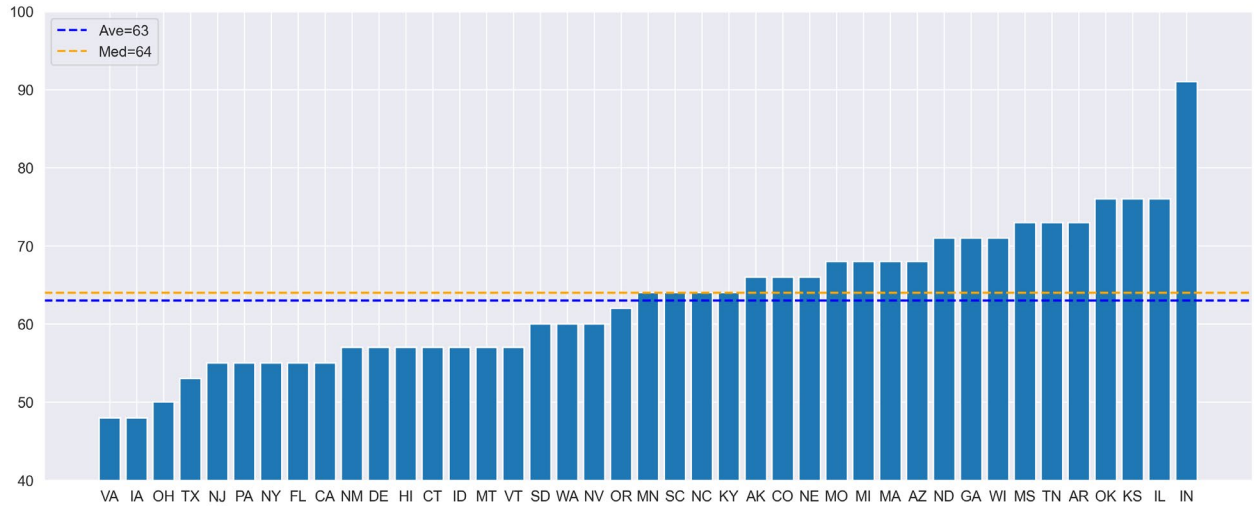
Reading Grade 5 *Proficient*



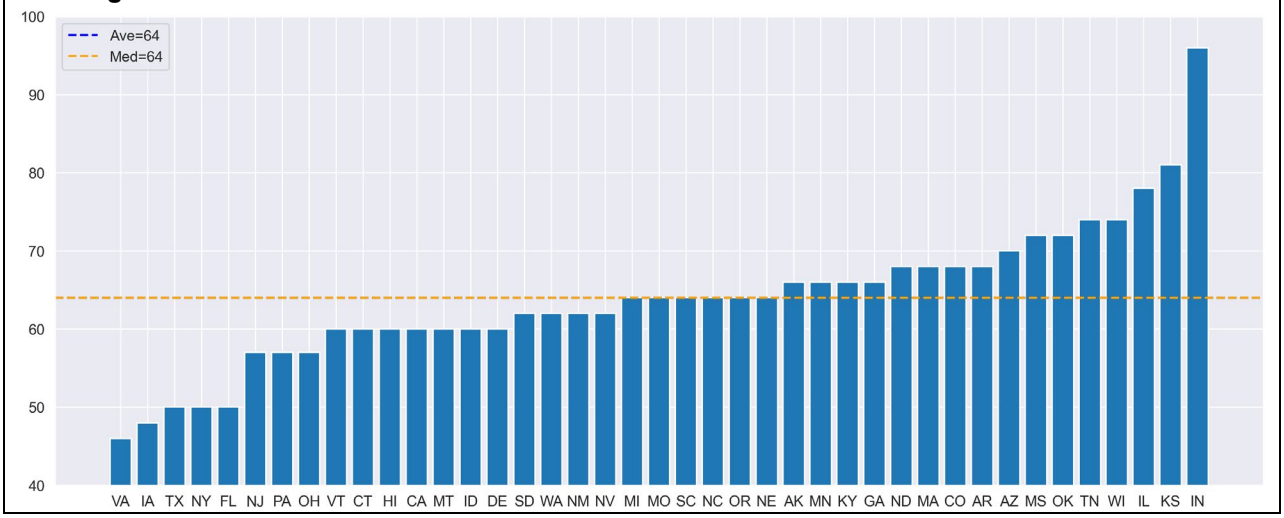
Reading Grade 6 *Proficient*



Reading Grade 7 *Proficient*



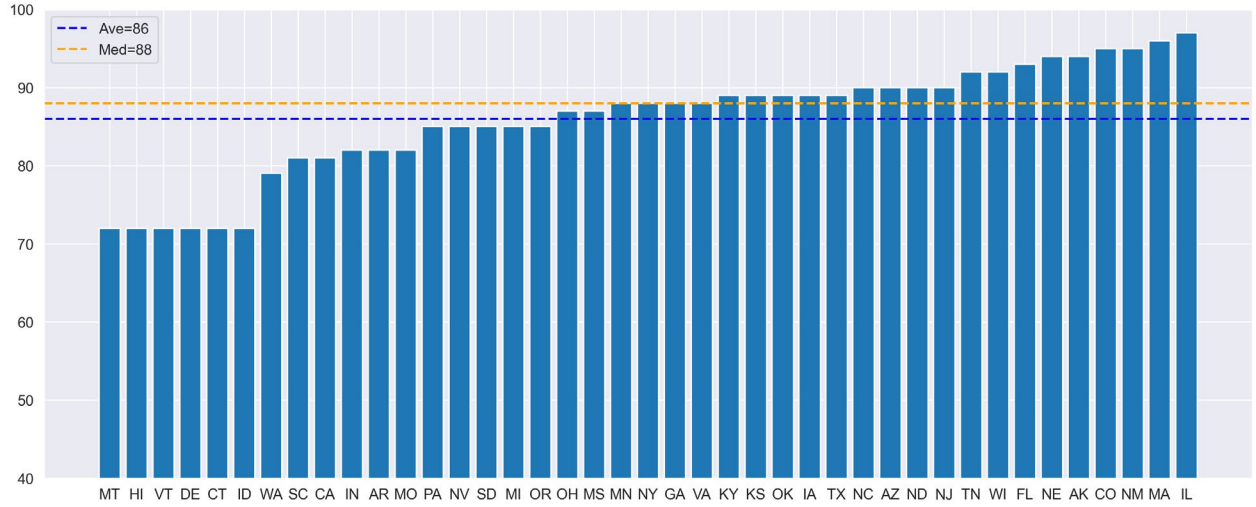
Reading Grade 8 *Proficient*



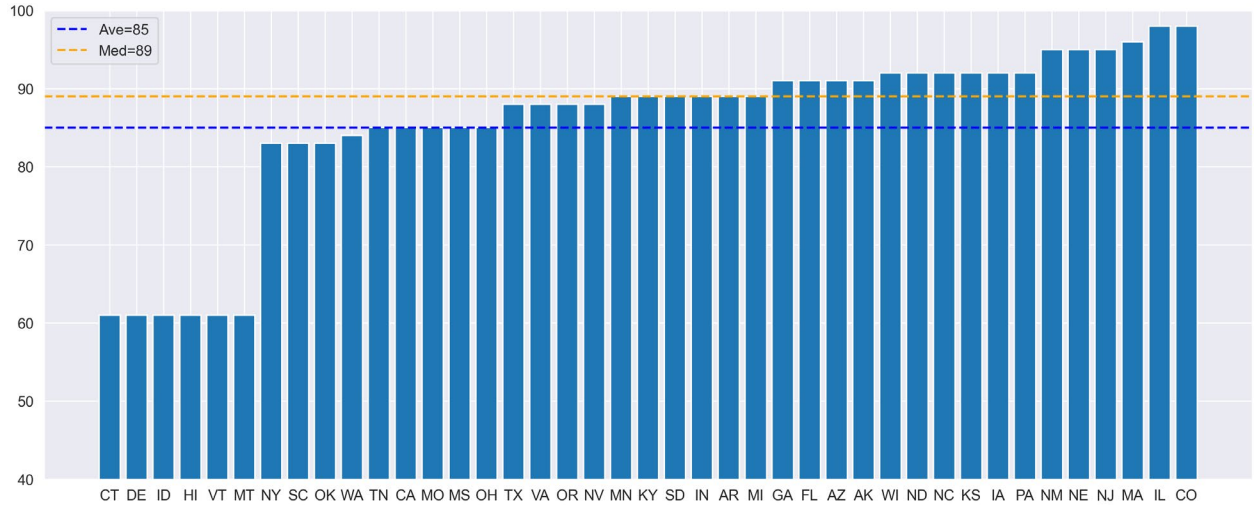
Note. Avg = sample average; Med = sample median

Appendix C: *Advanced* Percentile Cuts by State—Mathematics

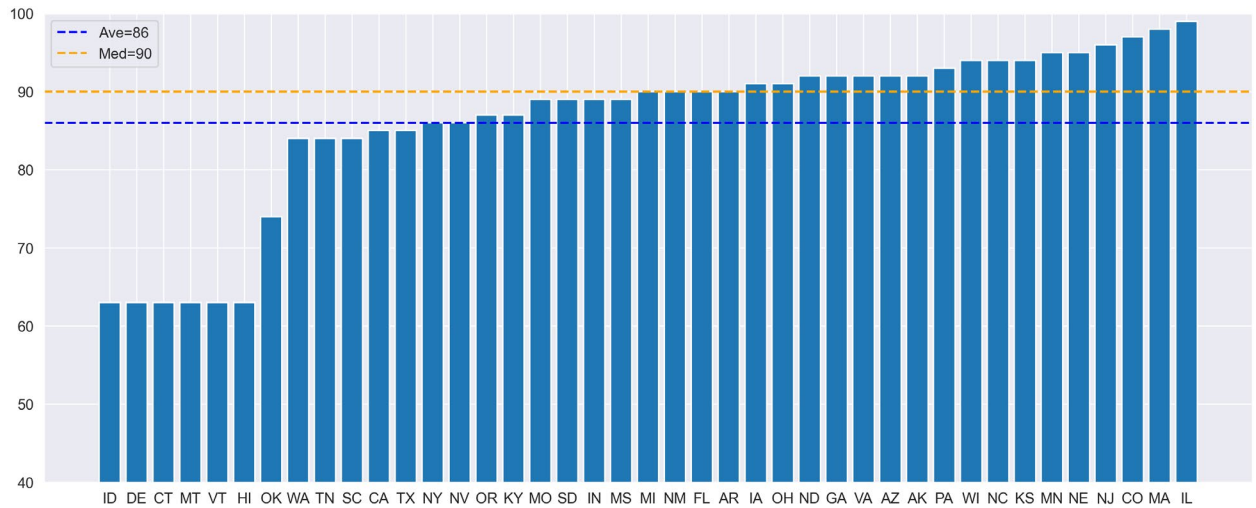
Mathematics Grade 3 *Advanced*



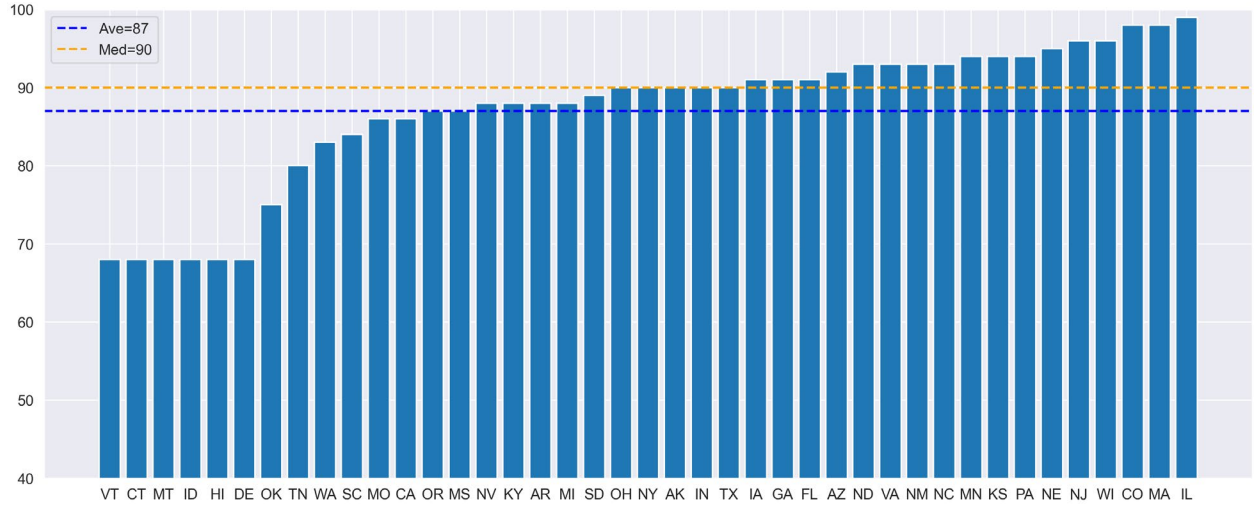
Mathematics Grade 4 *Advanced*



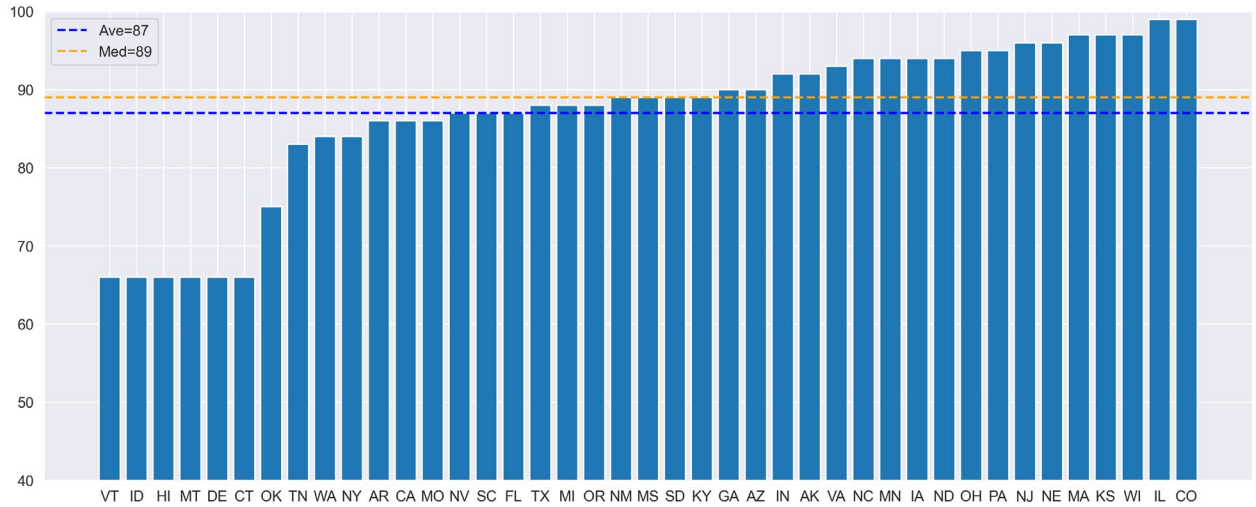
Mathematics Grade 5 *Advanced*



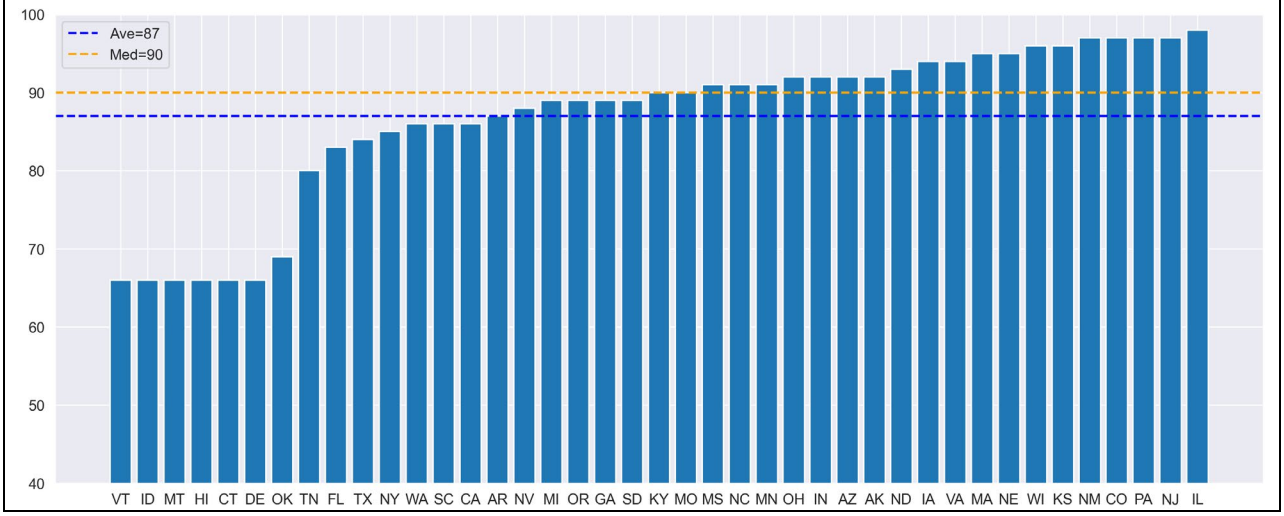
Mathematics Grade 6 *Advanced*



Mathematics Grade 7 *Advanced*



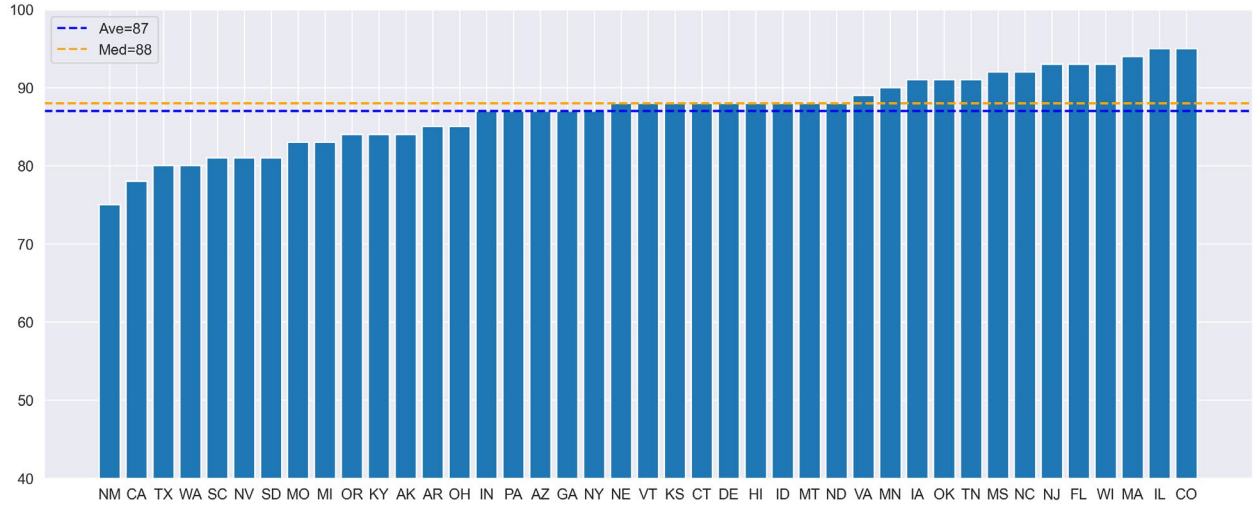
Mathematics Grade 8 *Advanced*



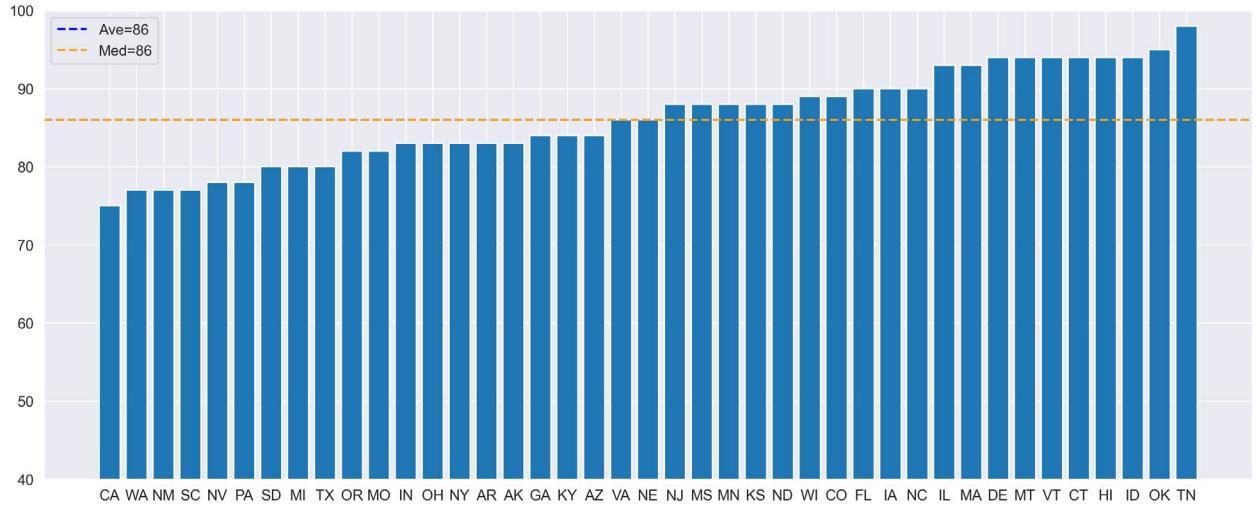
Note. Avg = sample average; Med = sample median

Appendix D: *Advanced* Percentile Cuts by State—Reading

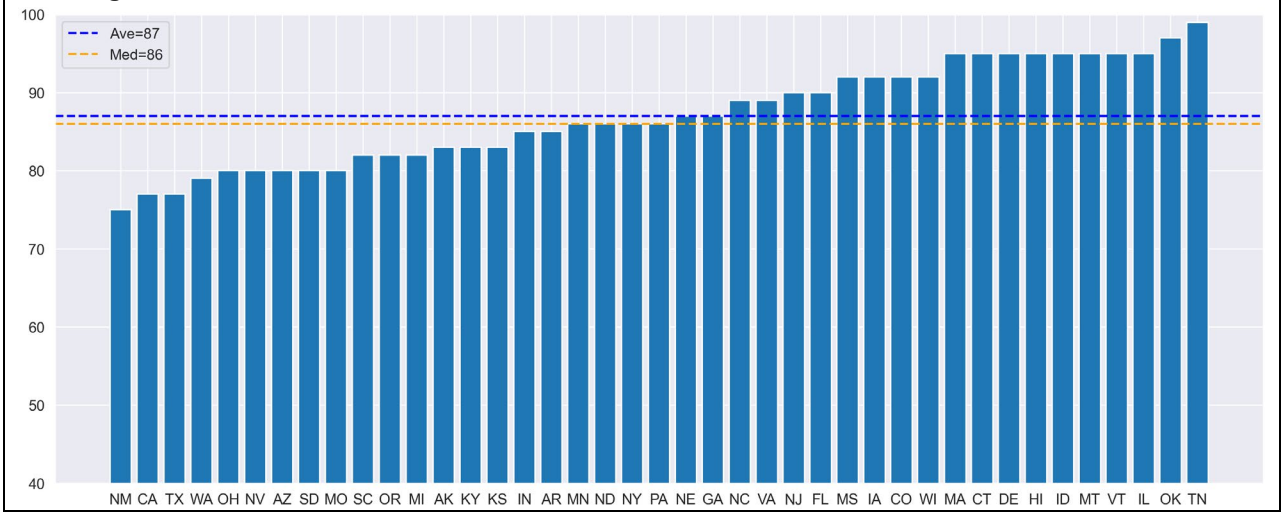
Reading Grade 3 *Advanced*



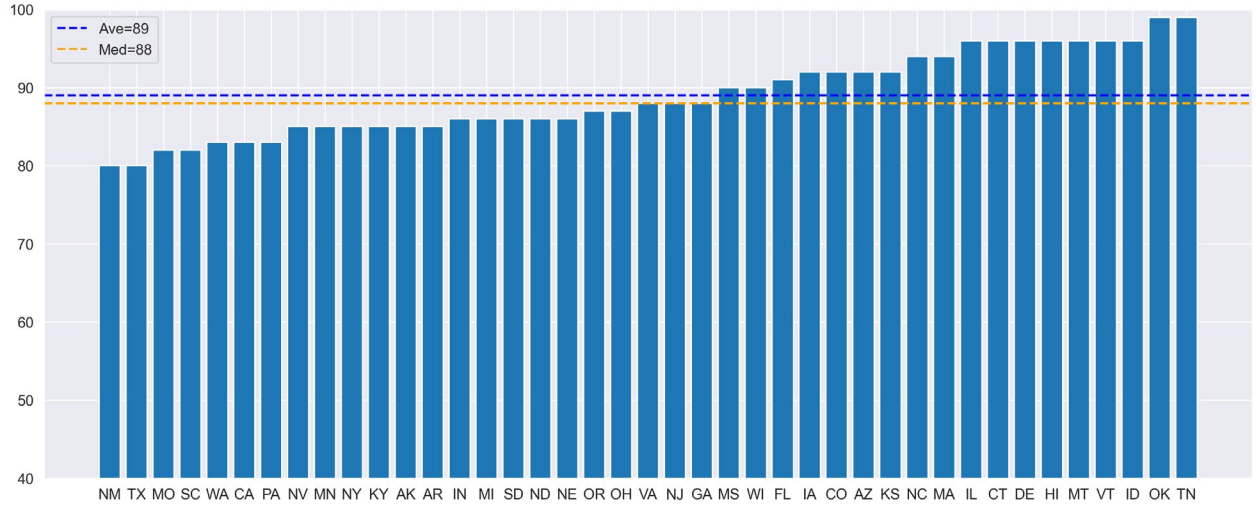
Reading Grade 4 *Advanced*



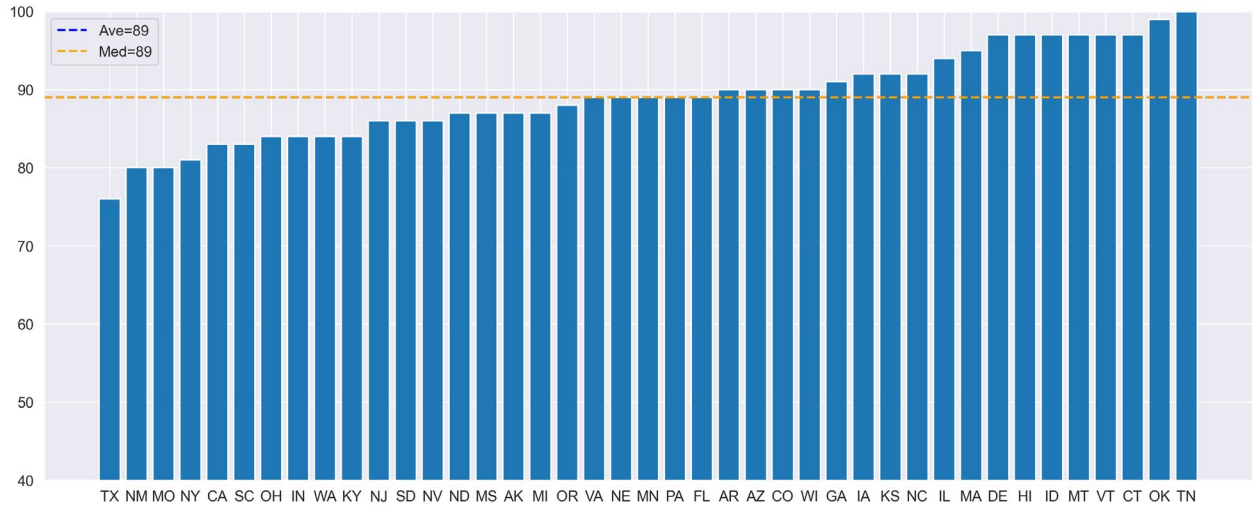
Reading Grade 5 *Advanced*



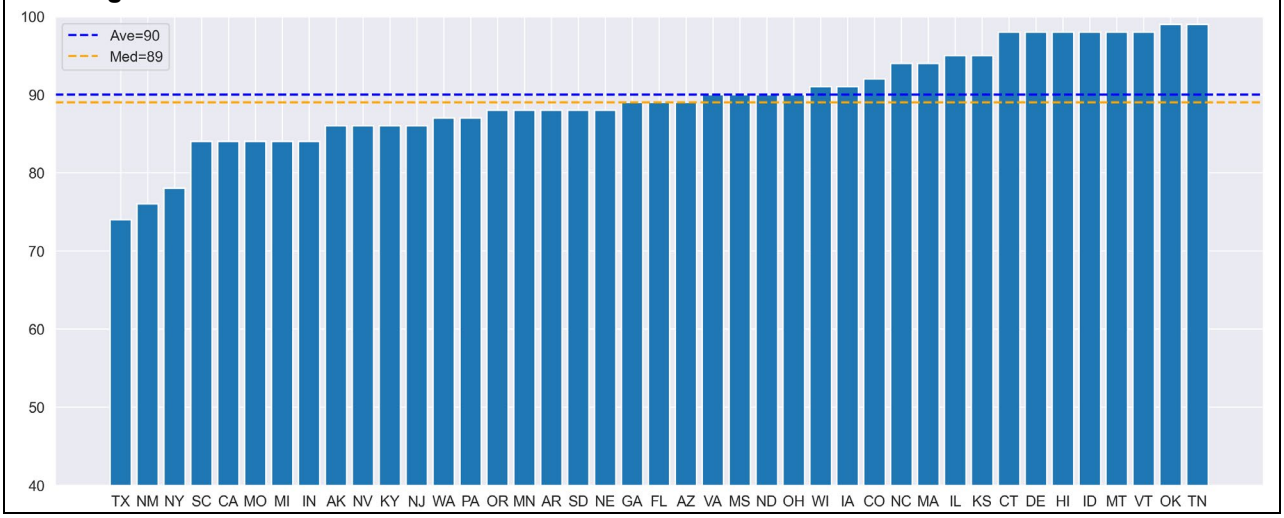
Reading Grade 6 *Advanced*



Reading Grade 7 *Advanced*



Reading Grade 8 *Advanced*



Note. Avg = sample average; Med = sample median