

**Department of Education** 

# **Technical Advisory Panel Meeting**

February 9, 2023

#### **Welcome & Introductions**

#### • Welcome!

• The purpose of the TAP is to provide non-binding technical recommendations to CDE regarding the Colorado Growth Model, state accountability, and other topics as needed.

#### • Meeting Logistics:

- Non-members, please add your Name/Affiliation to the chat box.
- Everyone please mute your sound.
- We ask all non-TAP members to hold any comments until the end of the meeting. We do this to ensure we have sufficient time to address all meeting agenda items.



## **Agenda for Today**

- Welcome and Logistics
- Evaluation of Colorado's K-12 Education Accountability System Lisa Medler
  - Discussion Item
- New Post Secondary and Workforce Readiness Measures Analysis

   Marie Huchton
  - Decision Item
- Wrap-Up





# Evaluation of Colorado's K-12 Education Accountability System Lisa Medler

**Discussion Item** 

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- HB 21-1294: Audit of Statewide Education Accountability Systems
- Audit overseen by the Office of the State Auditor. They selected HumRRO to collect information and evaluate the system.
- Report was released publicly by the Legislative Audit Committee on December 12, 2022. Posted on the State Auditor's Office website: <a href="http://www.colorado.gov/auditor">www.colorado.gov/auditor</a>. OSA and HumRRO also presented the report at the December State Board of Education meeting. Presentation is <a href="http://www.newsites.newsites">here</a> (at about 20-min marker). Board materials are <a href="http://www.newsites.newsit
- The intent was to determine whether the current system:
  - Meets the goals and intentions of the General Assembly, as stated in the legislative declarations set forth in Section 22-7-1002, C.R.S., and Section 22-11-102, C.R.S.
  - Contains institutional or cultural biases based on race, ethnicity, religion, sex, sexual orientation, nationality, disability, age, or economic status.
  - Provides an accurate, credible, and comparable assessment of public education throughout the state.



#### TAP Discussion: Key Takeaways from the Report

- Note capture: <u>https://docs.google.com/document/d/12Dv8RPoC2IBiUertihy</u> <u>NuJKYURpDDvWB4wzjpCqD4z0/edit</u>
- TAP Members: Lisa M will try to capture notes from your discussion, but feel free to jump in there and add your comments



#### TAP Discussion: Areas for further follow up or next steps

- Note capture: <u>https://docs.google.com/document/d/12Dv8RPoC2IBiUertihy</u> <u>NuJKYURpDDvWB4wzjpCqD4z0/edit</u>
- TAP Members: Lisa M will try to capture notes from your discussion, but feel free to jump in there and add your comments



#### Cheat Sheet: High Level Summary

- Overall: Accountability System "... provide[s] a reasonable and appropriate basis for objectively measuring the performance of districts and public schools...did not identify any significant gaps in the design ...schools and districts are assigned performance ratings consistent with their underlying performance indicator scores."
- **Disaggregated Student Groups:** "...found statistically significant differences in academic outcomes among some student groups...Hispanic or Black students, ...students receiving free or reduced lunches, and ...students with disabilities...we caution against over-interpreting the results...could indicate the presence of unintended barriers...[or] differences could also be attributed to other factors..."
- State Interventions: "...lower performing schools that participated in ... intensive state-supported interventions ...generally experienced more gains or fewer losses in academic achievement, academic growth, and graduation rates than non-participating schools."
- Postsecondary & Workforce Readiness: "...high schools with a higher number of [AP] ...course offerings or a higher percentage of career and technical education graduates tended to have better student academic achievement, academic growth, and postsecondary and workforce readiness outcomes. ...schools serving higher proportions of students receiving free or reduced lunch tended to have fewer [AP] opportunities ...or did not have [IB] programs."
- Access and Use of Accountability Data: "... accountability data are being used to help inform decision making in support of students' educational outcomes. However, the results also indicate that these data need to be made more accessible, understandable, and useful, especially for parents."



#### Chapters 1 & 2

- On track growth is being developed based upon input from field
- Frustration by some educators at the constant change in accountability measures (e.g., transition from ACT to PSAT/SAT)
- Perception by many educators that the system is punitive, especially for lower performing schools (e.g., community perception can impact enrollment and teacher recruitment).
- Not clear consensus from field on next steps, but stakeholders should be consulted
- Disaggregated groups of students did not tend to meet achievement and growth expectations, even in higher performing schools.
- More variability in aggregated assessment results for smaller systems
- Assessment participation rates do not have a significant effect on plan type assignments.



#### Cheat Sheet: More Details (cont.)

#### Chapter 3

- HS performance indicators are positively linked to the number of AP courses and % of CTE graduates. Sites with higher FRL tended to have fewer of these opportunities for students.
- Growth model meets/partially meets state accountability objectives. Partially meets comes from imprecision of growth models.
  - Potential error associated with individual students or smaller schools
  - Growth correlations of school-level performance attributes are not as strong as mean scale score correlations
  - An error estimate has not been typically included in reporting, including public reporting
  - Attributes of the growth model make it difficult to report on student success in making a year's growth or more in a year's time as outlined in statute
  - There are limitations of the growth model for high stakes decision making for individual students and small schools
  - Recognition that the growth model does build from the individual student level and does indicate student improvement
  - SchoolView does provide public access to growth data in alignment with statute



#### Cheat Sheet: More Details (cont.)

#### Chapter 3 (cont.)

- Accountability data are being used to help inform decision making in support of students.
- Despite the volume of reports and resources, there is still a need for more resource development that is accessible, understandable and useful, especially for parents.
- Smaller districts could use even more help in interpreting state data.

#### Chapter 4

 Schools participating in the optional state intensive interventions experienced more gains and fewer losses. High schools experienced higher graduation rates.





# New Postsecondary & Workforce Readiness Sub-Indicators

# **Marie Huchton**



#### **Two New PWR Sub-Indicators**



## • SB17-272

- Higher achievement levels in ELA and Math, as defined by the State Board, on certain graduation guidelines measures
  - (Accuplacer, ACT, ACT Work Keys, AP, ASVAB, Concurrent Enrollment, IB, SAT).

#### • HB18-1019

- Successful completion of AP, IB, and/or Concurrent Enrollment for non-ELA and non-Math courses.
  - AP examination score of 3 or higher
  - IB examination score of 4 or higher
  - CE course grade of B or higher



At the February 2021 meeting, TAP recommended using the same calculation methodology for both sub-indicators:

unduplicated count of graduates that have met at least one measure

graduates identified by the school / district

- ✓ Graduation Guidelines reporting is required for graduates
- ✓ Consistency in the denominator between the two sub-indicators
- ✓ Counting at graduation allows for a complete dataset across the state
  - About 85% of IB examinations are taken in the final year of high school
  - About 65% of AP examinations are taken in the final two years of high school
- ✓ A graduate is counted in the numerator if they met the requirement at any time during grades 9-12.



#### Higher Bar Metric Options, Cut Scores, and Data Sources

Moocuro	Higher Bar & PWR Di Cut So		
Ivieasure	Reading, Writing & Communicating	Mathematics	Data Source
ACCUPLACER Classic	80 Reading Comprehension or 95 Sentence Skills	85 Elementary Algebra	GG Collection
ACCUPLACER Next Generation	246 Writing*	265 Arithmetic or 240 Quantitative Reasoning or Advanced Algebra	GG Collection
ACT	18 ACT English	22 ACT Math	GG Collection
ACT WorkKeys	Silver	Silver	GG Collection

15 \* No cuts assigned for Reading

## Higher Bar Metric Options, Cut Scores, and Data Sources

Maaqura	Higher Bar & PWR Di Cut Se	Data Source		
ivieasure	Reading, Writing & Mathematics		Data Source	
Advanced Placement (AP)	3	3	College Board, GG Collection	
ASVAB	50	50	GG Collection	
Concurrent Enrollment (credit bearing course)	Passing grade of C or higher	Passing grade of C or higher	CDHE, GG Collection	
International Baccalaureate (IB)	4	4	IB, GG Collection	
SAT	480	530	CO SAT, GG Collection	

HB18-1019 is intended to complement SB17-272, giving schools and districts credit for students demonstrating high achievement and postsecondary readiness in subjects other than ELA or Math.

Measure		Data Source
Advanced Placement (AP)	3	College Board
International Baccalaureate (IB)	4	IB
Concurrent Enrollment (credit bearing course)	Passing grade of <b>B</b> or higher	CDHE



#### **Defining ELA and Math**

- Guidance from CDE's PWR office around Graduation Guidelines Demonstration Options allows districts to choose what AP and IB exam subjects and Concurrent Enrollment course offerings qualify as ELA and Math.
- Majority of districts are allowing a variety of social sciences and arts/humanities to count for ELA and science/technology courses to count for Math
- Districts do not submit exam name or course title being used for Graduation Guidelines collection.
- As recommended by TAP, applying strict interpretation of ELA and Math for both Higher Bar and Non-ELA/Math calculations.



Advanced Placement Exams

International Baccalaureate Exams

Concurrent Enrollment from CDHE

Grad Guidelines Collection

CO SAT

Aggregated student level file. Contains 1 student record from each contributing file that provides "bestof" outcome for that data stream.

Matriculation File to establish denominator Unique by Student ID. Includes "best-of" numerator value from all available files for Higher Bar metric and Non-ELA/Math metric



#### Advanced Placement Exam Summary

Summary of AP Exam Records									
	# Records	# Missing SASID	% Missing SASID	# Unique SASIDs					
2017	81,150	343	0.4%	48,176					
2018	84,704	373	0.4%	50,156					
2019	86,475	163	0.2%	51,032					
2020	83,916	84	0.1%	49,211					
2021	75,916	82	0.1%	45,097					
2022	79,386	164	0.2%	47,199					
Total	491,547	1209	0.2%	290,871					

- Students in AP courses took an average of 2.3 exams per year (max 14)
- Students in AP courses took an average of 3.7 exams across all years (max 24)



- 34-38% of students enrolled in AP took one or more ELA exams
- 22-24% of students enrolled in AP took one or more Math exams
- 80-83% of students enrolled in AP took one or more non-ELA/non-Math exams

Students Meeting AP Exam Higher Bar Expectations										
		ELA			Math		Non-ELA/Math			
	Student Count	# Meeting HB	% Meeting HB	Student Count	# Meeting HB	% Meeting HB	Student Count	# Meeting HB	% Meeting HB	
2017	18,320	10,410	56.8%	11,634	6,851	58.9%	38,782	23,465	60.5%	
2018	18,258	10,504	57.5%	11,358	6,877	60.5%	41,158	25,613	62.2%	
2019	17,868	10,182	57.0%	11,295	6,858	60.7%	42,440	26,418	62.2%	
2020	17,400	11,493	66.1%	10,914	6,655	61.0%	40,992	27,458	67.0%	
2021	15,796	9,049	57.3%	9,676	5,433	56.1%	37,448	22,284	59.5%	
2022	15,972	10,786	67.5%	10,510	6,450	61.4%	39,214	24,383	62.2%	



Summary of IB Exam Records									
	# Records	# Missing SASID	% Missing SASID	# Unique SASIDs					
2018	12,217	39	0.3%	3,267					
2019	11,416	36	0.3%	3,210					
2020	11,229	137	1.2%	3,363					
2021	10,272	9	0.1%	3,161					
2022	10,761	4	0.0%	3,427					
Total	55,895	225	0.4%	16,428					

- Students in IB courses took an average of 3.2 exams per year (max 9)
- Students in IB courses took an average of 3.8 exams across all years (max 12)



#### International Baccalaureate Exam Summary

- 47-51% of students enrolled in IB took one or more ELA exams
- 37-46% of students enrolled in IB took one or more Math exams
- 87-91% of students enrolled in IB took one or more non-ELA/non-Math exams

Stude	Students Meeting IB Exam Higher Bar Expectations										
	ELA				Math		No	on-ELA/Ma	ath		
	Student Count	# Meeting HB	% Meeting HB	Student Count	# Meeting HB	% Meeting HB	Student Count	# Meeting HB	% Meeting HB		
2018	1,635	1,492	91.3%	1,495	990	66.2%	2,978	2,384	80.1%		
2019	1,631	1,381	84.7%	1,394	807	57.9%	2,878	2,224	77.3%		
2020	1,579	1,448	91.7%	1,392	1,015	72.9%	2,991	2,421	80.9%		
2021	1,497	1,348	90.0%	1,174	977	83.2%	2,858	2,463	86.2%		
2022	1,738	1,504	86.5%	1,331	992	74.5%	2,981	2,342	78.6%		



#### **Concurrent Enrollment Summary**

Summary of Concurrent Enrollment Records									
	# Missing % Missing # Remedial % Remed					# Unique			
	# Records	SASID	SASID	Courses	Courses	SASIDs			
2018	119,907	11,591	9.7%	3 <i>,</i> 895	3.2%	36,630			
2019	132,470	17,119	12.9%	4,098	3.1%	38,552			
2020	145,718	13,761	9.4%	3,792	2.6%	45,313			
2021	138,344	13,327	9.6%	2,304	1.7%	42,930			
Total	536,439	55,798	10.4%	14,089	2.6%	163,425			

- Students enrolled in CE took an average of 2.8 courses per year (max 45)
- Students enrolled in CE took an average of 4.5 courses across all years (max 68)



## 2020-2021 Concurrent Enrollment Counts by Institution

	Frequency	Percent		Frequency	Percent
Adams State University	800	0.7	Metropolitan State University of Denver	703	0.6
Aims Community College	8,393	6.8	Morgan Community College	2,472	2.0
Arapahoe Community College	17,182	14.0	Northeastern Junior College	1,434	1.2
Colorado Mesa University	2,967	2.4	Otero College	1,391	1.1
Colorado Mountain College	4,297	3.5	Pikes Peak Community College	13,504	11.0
Colorado Northwestern Community College	1,206	1.0	Pueblo Community College	7,441	6.0
Colorado School of Mines	17	0.0	Red Rocks Community College	7,485	6.1
Colorado State University	19	0.0	Technical College of the Rockies	783	0.6
Colorado State University - Pueblo	888	0.7	Trinidad State College	1,730	1.4
Community College of Aurora	12,463	10.1	University of Colorado Boulder	178	0.1
Community College of Denver	2,726	2.2	University of Colorado Colorado Springs	677	0.6
Emily Griffith Technical College	796	0.6	University of Colorado Denver	9,022	7.3
Fort Lewis College	348	0.3	University of Northern Colorado	730	0.6
Front Range Community College	20,127	16.4	Western Colorado University	1,830	1.5
Lamar Community College	1,414	1.1	Total	123,023	100.0

Note: Excludes records missing SASIDs or for remedial courses



## 2020-2021 Concurrent Enrollment Counts by Course (most popular)

	Frequency	Percent									
ENG	17,552	14	ART	1,880	1.5	HWE	823	0.7	ASL	440	0.4
MATH	17,573	14	NUA	1,785	1.5	CNG	778	0.6	ocos	436	0.4
HIS	5,567	4.5	CIS	1,692	1.4	CAD	773	0.6	PHO	428	0.3
BUS	4,905	4.0	MUS	1,499	1.2	EMS	756	0.6	LEA	422	0.3
PSY	4,877	4.0	POS	1,484	1.2	PSCI	730	0.6	AST	417	0.3
LIT	4,009	3.3	MAR	1,442	1.2	ACT	648	0.5	ECE	408	0.3
ASE	3,216	2.6	SOC	1,426	1.2	AAA	646	0.5	GEO	392	0.3
СОМ	3,042	2.5	CSC	1,351	1.1	CAR	589	0.5	ENP	387	0.3
BIO	2,783	2.3	HUM	1,286	1.0	FST	580	0.5	PSYC	351	0.3
MGD	2,360	1.9	HIST	1,194	1.0	ACC	577	0.5	GEY	339	0.3
SPA	2,089	1.7	PHI	1,186	1.0	EST	568	0.5	COMM	333	0.3
COS	2,055	1.7	ECO	1,146	0.9	CUA	567	0.5	DPM	320	0.3
HPR	1,992	1.6	BIOL	1,056	0.9	MAN	554	0.5	NAT	312	0.3
CRJ	1,945	1.6	CHE	955	0.8	ENV	511	0.4	THE	294	0.2
WEL	1,891	1.5	CHEM	830	0.7	PHY	489	0.4	MOT	279	0.2

Note: Excludes records missing SASIDs or for remedial courses



#### **Concurrent Enrollment Summary**

- 14% of students enrolled in CE took one or more ELA courses
- 13-14% of students enrolled in CE took one or more Math courses
- 71-73% of students enrolled in CE took one or more non-ELA/non-Math courses

Students Meeting Concurrent Enrollment Higher Bar Expectations									
	ELA			Math			Non-ELA/Math		
	Student Count	# Meeting HB	% Meeting HB	Student Count	# Meeting HB	% Meeting HB	Student Count	# Meeting HB	% Meeting HB
2018	14,729	10,990	74.6%	13,877	8,818	63.5%	76,363	58,276	76.3%
2019	16,014	11,820	73.8%	15,007	9,562	63.7%	80,799	61,419	76.0%
2020	18,642	13,922	74.7%	17,922	12,026	67.1%	91,801	69,474	75.7%
2021	17,552	13,483	76.8%	17,676	12,480	70.6%	87,795	67,536	76.9%



Summary of Grad Guidelines Records									
	# Records	# Missing SASID	% Missing SASID	# Unique SASIDs					
2021	133,941	3	0.0%	88,283					
2022	186,055	13	0.0%	105,883					
Total	319,996	16	0.0%	194,166					

- Students in GG file had an average of 1.3 records per content per year (max 15)
- Students in GG file had an average of 1.7 records per content area across all years (max 19)



		2020	2021		2021-2022			
Demonstration Option Submitted for	Eng	lish	Ma	ith	English		Math	
Graduation Guidelines Collection	Count	%	Count	%	Count	%	Count	%
ACCUPLACER Elementary Algebra	0	0.0%	643	0.5%	0	0.0%	132	0.1%
ACCUPLACER Reading Comprehension	1,215	0.9%	0	0.0%	103	0.1%	0	0.0%
ACCUPLACER Sentence Skills	1,475	1.1%	0	0.0%	227	0.1%	0	0.0%
Accuplacer Next-Generation Arithmetic	0	0.0%	1,014	0.8%	0	0.0%	1,970	1.1%
Accuplacer Next-Generation Quantitative	0	0.0%	5,111	4.1%	0	0.0%	9,364	5.4%
Reasoning Algebra and Statistics								
Accuplacer Next-Generation Reading	678	0.5%	0	0.0%	924	0.5%	0	0.0%
Accuplacer Next-Generation Writing	6,395	4.8%	0	0.0%	9,947	5.3%	0	0.0%
ACT	7,070	5.3%	6 <i>,</i> 588	5.3%	5,134	2.8%	4,775	2.8%
ACT WorkKeys	2,565	1.9%	2,564	2.1%	11,512	6.2%	11,690	6.8%
Advanced Algebra and Function	0	0.0%	0	0.0%	0	0.0%	3,001	1.7%
Advanced Placement (AP)	9,793	7.3%	3,690	3.0%	18,278	9.8%	8,240	4.8%
Armed Services Vocational Apptitude Battery	5,114	3.8%	5,026	4.0%	11,755	6.3%	12,252	7.1%
(ASVAB)								
Collaboratively developed standards based	201	0.2%	248	0.2%	210	0.1%	245	0.1%
performance assessment								
Concurrent Enrollment	10,391	7.8%	8,104	6.5%	27,547	14.8%	20,545	11.9%
District Capstone	15,124	11.3%	14,910	12.0%	37,332	20.1%	39,443	22.9%
Industry Certificate	2,017	1.5%	2,015	1.6%	5,352	2.9%	5,410	3.1%
International Baccalaureate (IB)	248	0.2%	250	0.2%	278	0.1%	231	0.1%
Local Measure	37,866	28.3%	39,019	31.4%	0	0.0%	0	0.0%
SAT	33,789	25.2%	34,990	28.2%	57,456	30.9%	55,112	32.0%
Total	133,941		124,172		186,055		172,410	
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Higher Bar Cuts Applied to 2021-2022 Grad Guidelines Results by Demonstration Option

		ELA			Math	
	Student	# Meeting	% Meeting	Student	# Meeting	% Meeting
	Count	HB	HB	Count	HB	HB
ACCUPLACER Elementary Algebra	0	0		132	53	40.2%
ACCUPLACER Reading Comprehension	103	78	75.7%	0	0	
ACCUPLACER Sentence Skills	227	63	27.8%	0	0	
ACT	5,134	4,934	96.1%	4,775	3,520	73.7%
ACT WorkKeys	11,512	7,350	63.8%	11,690	6,969	59.6%
Advanced Placement	18,278	12,463	68.2%	8,240	5,574	67.6%
Armed Services Vocational Apptitude Battery (ASVAB)	11,755	4,579	39.0%	12,252	4,799	39.2%
Concurrent Enrollment	27,547	26,414	95.9%	20,545	19,535	95.1%
International Baccalaureate	278	253	91.0%	231	206	89.2%
Next-Generation Arithmetic	0	0		1,970	436	22.1%
Next-Generation Quantitative Reasoning Algebra and Statistics	0	0		9,364	7,113	76.0%
Next-Generation Writing	9,947	6,775	68.1%	0	0	
SAT	57,456	41,679	72.5%	55,112	27,231	49.4%



Higher Bar Cuts Applied to 2021-2022 Grad Guidelines Results by Content Area

#### Students Meeting Grad Guidelines Higher Bar Expectations

	ELA			Math			Both ELA & Math		
	Student Count	# Meeting HB	% Meeting HB	Student Count	# Meeting HB	% Meeting HB	Student Count	# Meeting HB	% Meeting HB
2021	84,982	37,289	43.9%	85,124	28,707	33.7%	88,283	25,956	29.4%
2022	102,980	65,582	63.7%	100,917	51,366	50.9%	105,883	47,437	44.8%



#### Colorado SAT Summary

Summary of Colorado SAT Records										
	# Records	# Missing SASID	% Missing SASID	# Unique SASIDs						
2018	62,948	20	0.0%	62,928						
2019	66,183	1	0.0%	66,182						
2021	67,363	5	0.0%	67,353						
2022	67,524	11	0.0%	67,513						
Total	264,018	37	0.0%	16,428						

Students Meeting CO SAT Higher Bar Expectations										
	ELA			Math			Both ELA & Math			
	Student Count	# Meeting HB	% Meeting HB	Student Count	# Meeting HB	% Meeting HB	Student Count	# Meeting HB	% Meeting HB	
2018	62,928	34,635	55.0%	62,928	22,743	36.1%	62,928	21,559	34.3%	
2019	66,182	33,931	51.3%	66,182	22,597	34.1%	66,182	21,349	32.3%	
2021	67,353	30,706	45.6%	67,353	18,625	27.7%	67,353	17,809	26.4%	
2022	67,513	31,749	47.0%	67,513	19,116	28.3%	67,513	18,061	26.8%	



Note that all non-participants on SAT are counted as not meeting HB

- After collapsing each data source so it contains only 1 record per SASID per year containing the "best-of" outcome for that data stream.
- Combine all data source files into a single file, max 1 record per SASID per data source per year.
- Add in denominator for the cohort graduating in spring 2021 (from matriculation file), total 61,643 students
- Using this matriculation denominator and matching in all available records from the aggregated measure data set, yields 153,433 total records across all data sources with an average of 2.1 submitted data sources per student across all years (max 10)



## Final Aggregation to Unique by SASID for 2021 graduating cohort

- Collapse across data sources and years so final file contains only 1 record per SASID, the "best-of" outcome across all data sources.
- Calculate final Higher Bar for ELA/Math metric where both ELA and Math variables indicate student met higher bar.

	Total	ELA		Math		Both EL/	A & Math	Non-ELA/Math	
	Student Count	# Meeting HB	% Meeting HB						
2021	60,343	27,746	46.0%	22,366	37.1%	19,627	32.5%	26,693	44.2%



#### 2021 Distribution of Schools by Percent of Students Meeting ELA & Math Higher Bar



#### 2021 Distribution of Schools by Percent of Students Meeting Non-ELA/Math Higher Bar



#### Correlations to Framework Total Percent of Points Earned





## Correlations to Achievement Indicator Percent of Points Earned





#### Correlations to Growth Indicator Percent of Points Earned





# Correlations to PWR Indicator Percent of Points Earned





#### Correlations to Framework Total Percent of **Points Earned by Rural Designation**



#### Correlations to Framework Total Percent of Points Earned by District Setting



#### Correlations to School Demographics- Percent Eligible for Free- or Reduced-Price Lunch Programs





Note that AECs are included

## Correlations to School Demographics-Percent of Minority Students





Note that AECs are included

#### Correlations to School Demographics-Percent of Students with Disabilities





Note that AECs are included

#### Correlations to School Demographics-Percent of English Learners





Note that AECs are included

# TAP Feedback

- What questions and/or concerns do TAP members have about the results from and implications of the new PWR metrics?
- Does the TAP recommend moving forward with the current calculation methodologies for each metric?
- Does the TAP have additional suggestions or recommendations on communicating about these new metrics and incorporating them into the frameworks?



#### Next Steps for New PWR Indicators

- Discuss potential reporting and framework weighting scenarios
- Plan for both new PWR metrics to be included for informational purposes in fall 2023 frameworks, and for points in 2024.



#### **Technical Advisory Panel**

#### • Meeting Summary

- Suggested future analysis
- TAP recommendations from this meeting
- Public Comment
- Close Meeting
  - Next Scheduled Meeting: March 8<sup>th</sup>, 1-4 pm

