



Understanding A-F School Grading

These Slides

- Find them at:

bit.ly/tn-school-grading

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Overview of A-F School Grading

Overview of A-F School Grading

- For the first time in 2017-18, all schools will receive an A-F grade.
- The A-F grading system replaces the prior system of Reward, Focus, and Priority schools.

Schools are evaluated based on performance on various indicators.

All Schools are evaluated on:

- Achievement
- Growth
- Chronically Out of School
- Getting English Learners to English Proficiency

High Schools are evaluated additionally on:

- Graduation Rate
- Ready Graduates (Graduates with a 21+ ACT Composite Score)

Most indicators provide an absolute and a growth pathway for schools to demonstrate success.

Grade	Graduation Rate	Graduation Rate Target
A	95 – 100%	Graduation Rate Exceeds Double AMO Target
B	90 – 94.9%	Graduation Rate Exceeds AMO Target
C	80 – 89.9%	Upper Bound of Confidence Interval Equals or Exceeds AMO Target
D	67 – 79.9%	Upper Bound of Confidence Interval Exceeds Prior Graduation Rate
F	0 – 66.9%	Upper Bound of Confidence Interval is Less Than or Equal to Prior Year Graduation Rate

Schools are graded on each indicator for All Students and eligible subgroups.

	Achievement	Growth	Absenteeism	ELPA
All Students	C	B	C	F
Black/Hispanic/ Native American	B	B	C	F
Economically Disadvantaged	C	C	D	
Students with Disabilities	C	A	F	
English Learners		D		F

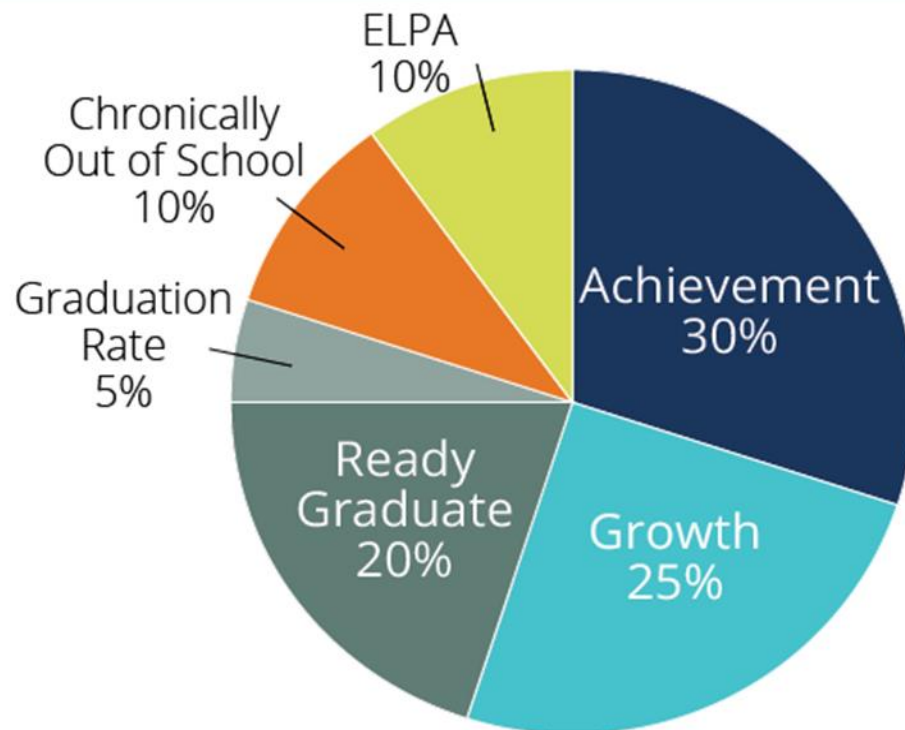
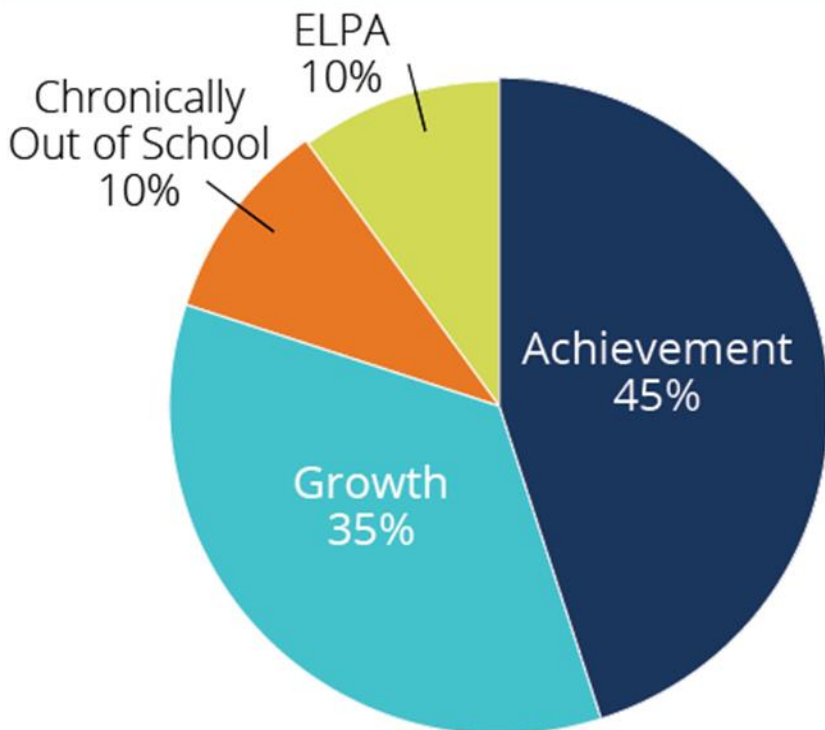
- Eligibility is based on having N = 30 for Achievement, Absenteeism, Graduation, ACT; N = 10 for ELPA.

K-8 Schools

High Schools

(Schools that serve grade 12)

Starting with data from 2017-18, all schools that pass the minimum performance goal will receive a letter grade based on the performance of all students and historically underserved student groups in the following areas.



Except for growth, all indicators provide schools two opportunities to show success, through either absolute performance or growth in school performance.

GUIDING PRINCIPLES

All schools should have the opportunity to earn an "A" • All means all
All growth should be rewarded • Reporting should be transparent

Overview of A-F School Grading

- For the first time in 2017-18, all schools will receive an A-F grade.
- Schools are evaluated based on performance on various indicators.
- Most indicators provide an absolute and a growth pathway for schools to demonstrate success.
- Schools are graded on each indicator for All Students and eligible subgroups.
- Final grades are based on the performance of All Students (60%) and Subgroups (40%)

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Some Essential Terminology

Success Rate

- A **Success Rate** is the percentage of students scoring On Track or Mastered, aggregated across all subjects with 30 or more valid tests.

Subject	Valid Tests	# On Track/Mastered
Math	30	12
ELA	30	8
Science	29	10

Math and ELA have 30 or more tests, so they will count toward a success rate.

Success Rate

- A **Success Rate** is the percentage of students scoring On Track or Mastered, aggregated across all subjects with 30 or more valid tests.

Subject	Valid Tests	# On Track/Mastered
Math	30	12
ELA	30	8
Science	29	10

The success rate for this school is:

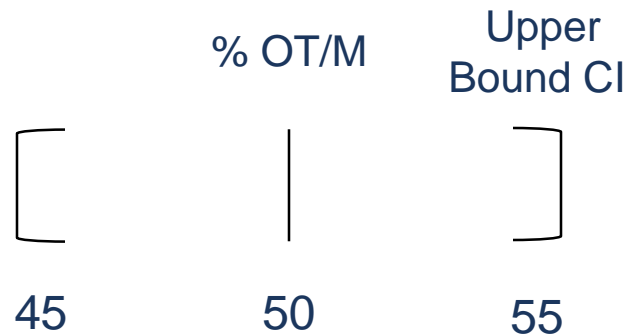
$$\frac{20}{60} = 33.3\%$$

Confidence Interval

- In statistics, a **Confidence Interval** is a range of values that, with some level of confidence, contains a parameter of interest.
- For instance, in testing students with a math test, we are trying to assess what percentage of students are **able to meet the grade level standards** for math.
- However, the percentage of students who **score On Track/Mastered** might be slightly higher (or lower) than the percentage of students whose true math ability meets grade level standards.

Confidence Interval

- Based on the percentage of students who score On Track/Mastered, we can cite a range of plausible values for the percentage of students able to meet the grade level standards.



- This is the idea of a **confidence interval**. The upper bound of a confidence interval is applied in certain places in order to give schools the benefit of the doubt.

Confidence Interval

- The width of a confidence interval is a function of three things:
 - Level of confidence (higher => wider CI)
 - Number of tests (more tests => narrower CI)
 - Value of % On Track/Mastered (i.e., Upper bound can't go above 100)

AMO Target

- An **Annual Measurable Objective (AMO) Target** establishes a benchmark for progress from one year to the next.
- To meet an AMO target, schools are expected to reduce the percent of students scoring Below/Approaching by 6.25%.

AMO Target

- Suppose a school's success rate in 2017 is 36%. Its success rate AMO target for 2018 is:

$$36 + \frac{(100 - 36)}{16} = 40\%$$

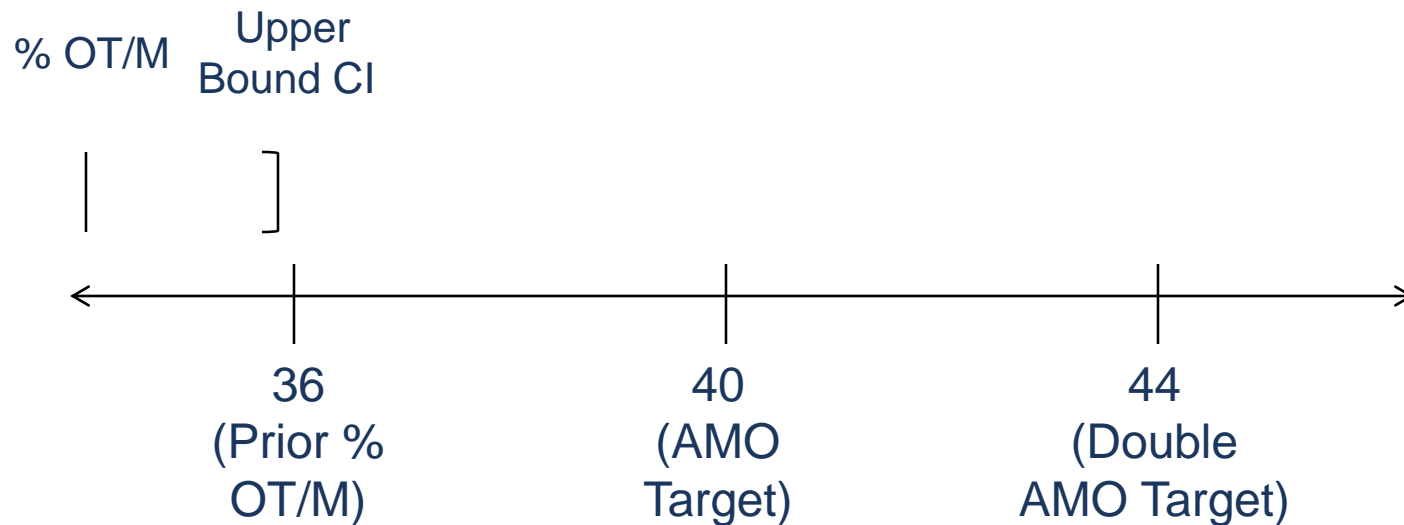
AMO Target

- TDoE also sets a double AMO target, which schools can pass in order to earn an A:

$$36 + \frac{(100 - 36)}{8} = 44\%$$

A school can perform in several ways in relation to its AMO target.

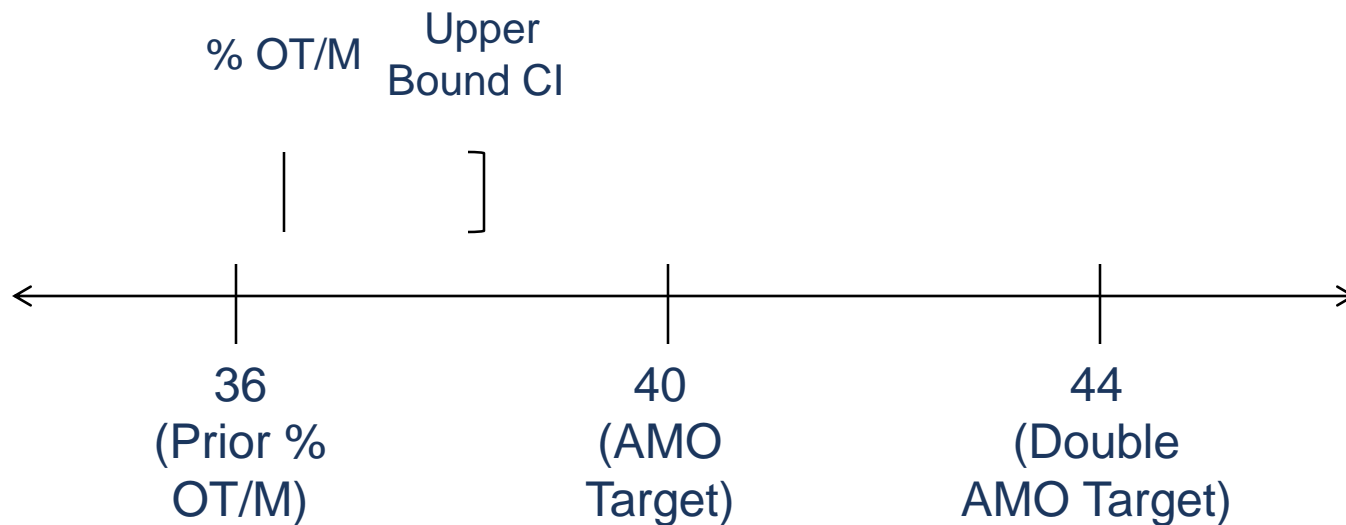
- A school can perform worse than its prior % OT/M, even considering its upper bound confidence interval:



- This earns a school an F grade via an AMO pathway.

A school can perform in several ways in relation to its AMO target.

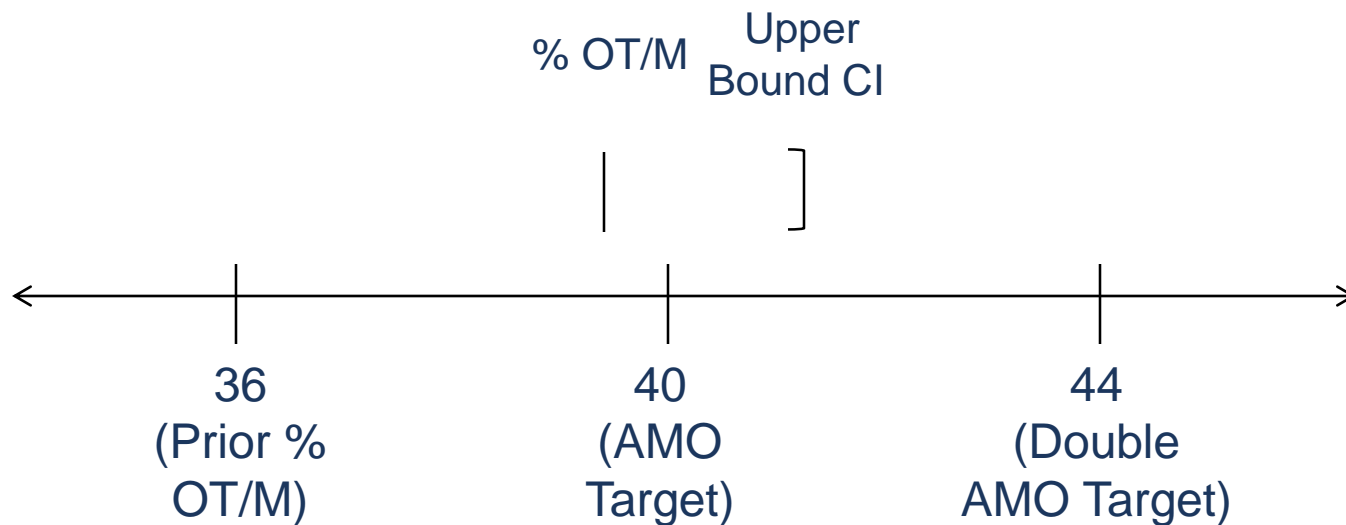
- A school can perform better than its prior % OT/M, but not meet its AMO Target:



- This earns a school a D grade via an AMO pathway.

A school can perform in several ways in relation to its AMO target.

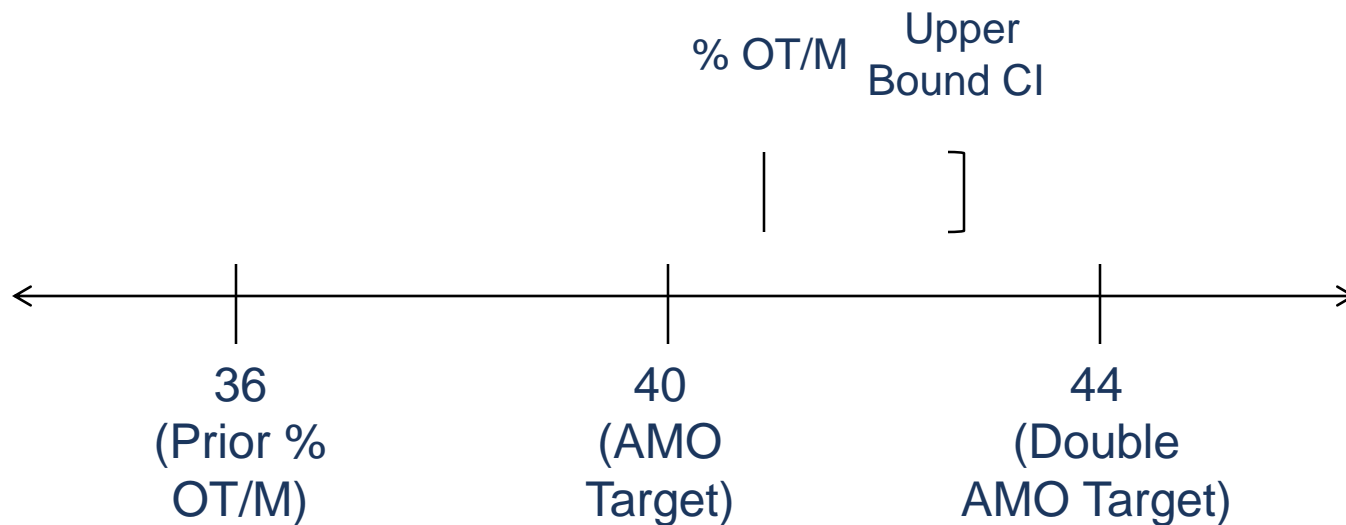
- A school can meet its AMO target with a confidence interval applied:



- This earns a school a C grade via an AMO pathway.

A school can perform in several ways in relation to its AMO target.

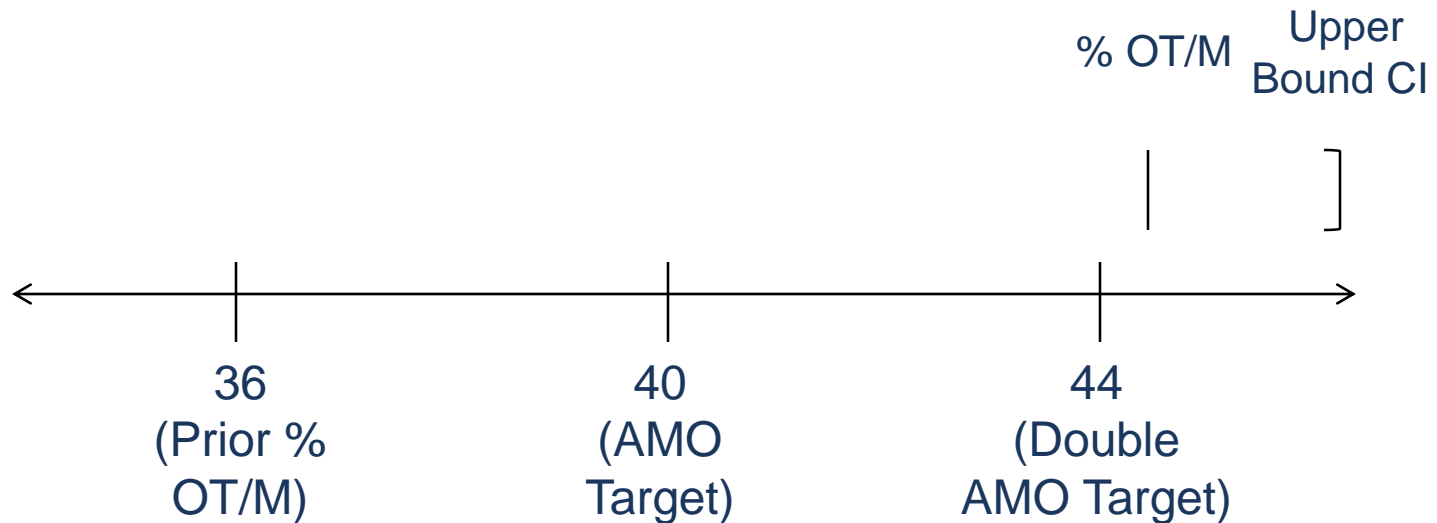
- A school can meet its AMO target outright:



- This earns a school a B grade via an AMO pathway.

A school can perform in several ways in relation to its AMO target.

- A school can meet its double AMO target outright:



- This earns a school an A grade via an AMO pathway.

Each scenario corresponds to a letter grade for the Target pathway.

Grade	Graduation Rate	Graduation Rate Target
A	95 – 100%	Graduation Rate Exceeds Double AMO Target
B	90 – 94.9%	Graduation Rate Exceeds AMO Target
C	80 – 89.9%	Upper Bound of Confidence Interval Equals or Exceeds AMO Target
D	67 – 79.9%	Upper Bound of Confidence Interval Exceeds Prior Graduation Rate
F	0 – 66.9%	Upper Bound of Confidence Interval is Less Than or Equal to Prior Year Graduation Rate

Grade Pool

- Schools are placed in one of two **Grade Pools**.

School Has 30 or More Students in the Graduating Cohort	Otherwise
HS Pool	K-8 Pool

- Grade pools determine which indicators apply in school grading, and the weights that are placed on each indicator.

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A-F School Grading Model

F Schools

- F schools are 5 percent of schools with the lowest three-year success rates which do not earn a level 4 or 5 Composite TVAAS in the two most recent years.
- F schools are identified by pool to ensure equal representation.
- High schools with a graduation rate below 67 percent are also F schools.
- All non-F schools receive a grade based on applicable indicators.

Achievement Indicator

Grade	Success Rate	Success Rate Target
A	50 – 100%	One-Year Success Rate Exceeds Double AMO Target
B	45 – 49.9%	One-Year Success Rate Exceeds AMO Target
C	35 – 44.9%	Upper Bound of Confidence Interval Equals or Exceed AMO Target
D	25 – 34.9%	Upper Bound of Confidence Interval Exceeds Prior One-Year Success Rate
F	0 – 24.9%	Upper Bound of Confidence Interval Is Less Than or Equal to Prior One-Year Success Rate

Growth Indicator

Grade	TVAAS	Subgroup Growth
A	Level 5 TVAAS	Subgroup Growth is Better than that of 80% of Schools
B	Level 4 TVAAS	Subgroup Growth is Better than that of 60% of Schools
C	Level 3 TVAAS	Subgroup Growth is Better than that of 40% of Schools
D	Level 2 TVAAS	Subgroup Growth is Better than that of 20% of Schools
F	Level 1 TVAAS	Subgroup Growth is in the Bottom 20% of Schools

Subgroup growth refers to students who improve their performance level from the prior year.

		Current Year Proficiency			
Prior Year Proficiency		Below	Approaching	On Track	Mastered
	Below				
	Approaching				
	On Track				
	Mastered				

- Applies to BHN, ED, SWD, EL, Super Subgroup (If applicable) only.

Graduation Rate Indicator

Grade	Absolute Pathway	AMO Target Pathway
A	95 – 100%	Graduation Rate Exceeds Double AMO Target
B	90 – 94.9%	Graduation Rate Exceeds AMO Target
C	80 – 89.9%	Upper Bound of Confidence Interval Equals or Exceeds AMO Target
D	67 – 79.9%	Upper Bound of Confidence Interval Exceeds Prior Graduation Rate
F	0 – 66.9%	Upper Bound of Confidence Interval is Less Than or Equal to Prior Year Graduation Rate

Ready Graduates Indicator

Grade	Ready Graduates	Ready Graduates Target
A	40 – 100%	Ready Graduates Exceeds Double AMO Target
B	30 – 39.9%	Ready Graduates Exceeds AMO Target
C	25 – 29.9%	Upper Bound of Confidence Interval Equals or Exceeds AMO Target
D	16– 24.9%	Upper Bound of Confidence Interval Exceeds Prior Ready Graduates
F	0 – 15.9%	Upper Bound of Confidence Interval is Less Than or Equal to Prior Year Ready Graduates

Chronically Out of School Indicator

Grade	Absenteeism	Absenteeism Reduction Target
A	0 – 6% (K-8) 0 – 10% (HS)	Chronic Absenteeism is Less Than or Equal to Double AMO Target
B	6.1 – 9% (K-8) 10.1 – 14% (HS)	Chronic Absenteeism is Less Than AMO Target
C	9.1 – 13% (K-8) 14.1 – 20% (HS)	Lower Bound of Confidence Interval is Less Than or Equal to AMO Target
D	13.1 – 20% (K-8) 20.1 – 30% (HS)	Lower Bound of Confidence Interval is Less Than Prior Year Chronic Absenteeism
F	20.1 – 100% (K-8) 30.1 – 100% (HS)	Lower Bound of Confidence Interval Equals or Exceeds Prior Year Chronic Absenteeism

English Language Proficiency Assessment Indicator

Grade	Percent Meeting Differentiated Growth Standard
A	60 – 100%
B	50 – 59.9%
C	40 – 49.9%
D	25 – 39.9%
F	0 – 24.9%

A School's Achievement Grade is the Better of its Success Rate and Success Rate Target Grades.

	Achievement	Growth	Graduation Rate	Ready Graduate	Absenteeism	ELPA
All Students	A					



Grade	Success Rate	Success Rate Target
A	50 – 100%	One-Year Success Rate Exceeds Double AMO Target
B	40 – 49.9%	One-Year Success Rate Exceeds AMO Target
C	30 – 39.9%	Upper Bound CI Equals or Exceeds AMO Target
D	20 – 29.9%	Upper Bound CI Exceeds Prior One-Year Success Rate
F	0 – 19.9%	Upper Bound CI Is Less Than or Equal to Prior One-Year Success Rate

A School's Growth Grade is Determined by TVAAS for All Students.

	Achievement	Growth	Graduation Rate	Ready Graduate	Absenteeism	ELPA
All Students	A	A				



Grade	TVAAS
A	Level 5
B	Level 4
C	Level 3
D	Level 2
F	Level 1

A School's Graduation Rate Grades is the better of its Graduation Rate and Graduation Rate Target Grades.

	Achievement	Growth	Graduation Rate	Ready Graduate	Absenteeism	ELPA
All Students	A	A	C			



Grade	Graduation Rate	Graduation Rate Target
A	95 – 100%	Graduation Rate Exceeds Double AMO Target
B	90 – 94.9%	Graduation Rate Exceeds AMO Target
C	80 – 89.9%	Upper Bound CI Equals or Exceeds AMO Target
D	67 – 79.9%	Upper Bound CI Exceeds Prior Graduation Rate
F	0 – 66.9%	Upper Bound CI is Less Than or Equal to Prior Year Graduation Rate

A School's Ready Graduate Grade is the Better of its Ready Graduates and Ready Graduates Target Grade.

	Achievement	Growth	Graduation Rate	Ready Graduate	Absenteeism	ELPA
All Students	A	A	C	D		



Grade	Ready Graduates	Ready Graduates Target
A	40 – 100%	Ready Graduates Exceeds Double AMO Target
B	30 – 39.9%	Ready Graduates Exceeds AMO Target
C	25 – 29.9%	Upper Bound CI Equals or Exceeds AMO Target
D	16 – 24.9%	Upper Bound CI Exceeds Prior Ready Graduates
F	0 – 15.9%	Upper Bound CI is Less Than or Equal to Prior Year Ready Graduates

The Absenteeism Grade is the Better of a School's Absenteeism and Absenteeism Reduction Target Grades.

	Achievement	Growth	Graduation Rate	Ready Graduate	Absenteeism	ELPA
All Students	A	A	C	D	C	



Grade	Absenteeism	Absenteeism Reduction Target
A	0 – 10%	Chronic Absenteeism is Less Than or Equal to Double AMO Target
B	10.1 – 14%	Chronic Absenteeism is Less Than AMO Target
C	14.1 – 20%	Lower Bound CI is Less Than or Equal to AMO Target
D	20.1 – 30%	Lower Bound CI is Less Than Prior Year Chronic Absenteeism
F	30.1 – 100%	Lower Bound CI Equals or Exceeds Prior Year Chronic Absenteeism

The ELPA Grade is Determined by the Percentage of Students Meeting a Differentiated Growth Standard.

	Achievement	Growth	Graduation Rate	Ready Graduate	Absenteeism	ELPA
All Students	A	A	C	D	C	



Grade	Percent Meeting Differentiated Growth Standard
A	60 – 100%
B	50 – 59.9%
C	40 – 49.9%
D	25 – 39.9%
F	0 – 24.9%

Repeat to fill in table for all eligible indicators and subgroups.

	Achievement	Growth	Graduation Rate	Ready Graduate	Absenteeism	ELPA
All Students	A	A	C	D	C	
Black/Hispanic/ Native American		B			C	
Economically Disadvantaged	B	A	D	C	D	
Students with Disabilities		A			B	
English Learners						

To calculate school grades, first convert letter grades to number values.

	Achievement	Growth	Graduation Rate	Ready Graduate	Absenteeism	ELPA
All Students	4	4	2	1	2	
Black/Hispanic/ Native American		3			2	
Economically Disadvantaged	3	4	1	2	1	
Students with Disabilities		4			3	
English Learners						

Calculate subgroup averages by multiplying points by weights.

	Achievement (30%)	Growth (25%)	Graduation Rate (5%)	Ready Graduate (20%)	Absenteeism (10%)	ELPA (10%)
All Students	4	4	2	1	2	
Black/Hispanic/ Native American		3			2	
Economically Disadvantaged	3	4	1	2	1	
Students with Disabilities		4			3	
English Learners						

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**What if indicators
are missing?**

Case 1: ELPA is Missing

	Achievement	Growth	Absenteeism	ELPA	Total Weight
Grade	A	B	C		
Weight	45%	35%	10%	10%	90%

Case 1: ELPA is Missing

	Achievement	Growth	Absenteeism	ELPA	Total Weight
Grade	A	B	C		
Weight	50%	40%	10%		100%

- Add 5% each to Achievement and Growth, assuming school has data for those indicators.

Case 2: Indicator other than ELPA is Missing

	Achievement	Growth	Grad Rate	Ready Graduate	Absenteeism	ELPA	Total Weight
Grade		A	B		C	D	
Weight	30%	25%	5%	20%	10%	10%	50%

Case 2: Indicator other than ELPA is Missing

	Achievement	Growth	Grad Rate	Ready Graduate	Absenteeism	ELPA	Total Weight
Grade		A	B		C	D	
Weight		50%	10%		20%	20%	100%

- Scale up other indicators in equal proportion such that the total weight is 100%

Case 3: ELPA and Some Other Indicator is Missing

	Achievement	Growth	Absenteeism	ELPA	Total Weight
Grade		B	C		
Weight	45%	35%	10%	10%	45%

Case 3: ELPA and Some Other Indicator is Missing

	Achievement	Growth	Absenteeism	ELPA	Total Weight
Grade		B	C		
Weight	50%	40%	10%		50%

- First, reassign 5% each from ELPA to Achievement and Growth (if applicable).

Case 3: ELPA and Some Other Indicator is Missing

	Achievement	Growth	Absenteeism	ELPA	Total Weight
Grade		B	C		
Weight		80%	20%		100%

- Then, scale up other indicators in equal proportion such that the total weight is 100%

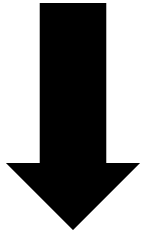
Calculate subgroup averages by multiplying points by weights.

	Achievement (30%)	Growth (25%)	Graduation Rate (5%)	Ready Graduate (20%)	Absenteeism (10%)	ELPA (10%)	Average
All Students	4	4	2	1	2		3.1
Black/Hispanic/ Native American		3			2		2.8
Economically Disadvantaged	3	4	1	2	1		2.8
Students with Disabilities		4			3		3.8
English Learners							

A school's All Students average counts 60 percent toward its final grade.

All Students

3.1

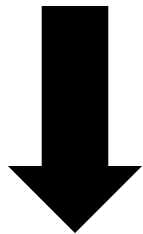


**Achievement
Average (60%)**

3.1

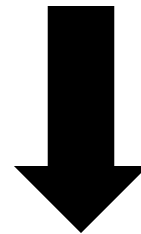
A school's subgroup averages count 40 percent toward its final grade.

All Students
3.1



Achievement Average (60%)
3.1

BHN	ED	SWD
2.8	2.8	3.8



Gap Closure Average (40%)
3.0

Subgroup averages count toward the gap closure average in proportion to the weight of the indicators represented.

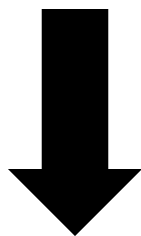
	Achievement (30%)	Growth (25%)	Graduation Rate (5%)	Ready Graduate (20%)	Absenteeism (10%)	ELPA (10%)	Average
All Students	4	4	2	1	2		3.1
Black/Hispanic/ Native American		3			2		2.8
Economically Disadvantaged	3	4	1	2	1		2.8
Students with Disabilities		4			3		3.8
English Learners							

Subgroup averages count toward the gap closure average in proportion to the weight of the indicators represented.

BHN	ED	SWD
2.8	2.8	3.8
35%	90%	35%

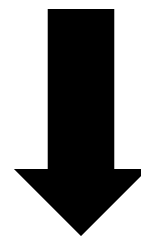
Subgroup averages count 40 percent toward a school's final grade.

All Students
3.1



Achievement Average (60%)
3.1

BHN	ED	SWD
2.8	2.8	3.8



Gap Closure Average (40%)
3.0

Combine the achievement and gap closure averages to produce a final average.

Achievement Average (60%)	+	Gap Closure Average (40%)	=	Final Average
3.1		3.0		3.1

Final averages map to A-D grades.

Final Grade	Final Average
A	3.1 – 4.0
B	2.1 – 3.0
C	1.1 – 2.0
D	0 – 1.0
F	Bottom 5% by Pool without level 4 or 5 TVAAS in two most recent years; Graduation Rate < 67

Targeted Support Schools

- Targeted support schools are 5 percent of schools with the lowest subgroup averages for each of BHN, ED, SWD, and EL subgroups.
 - A school must have all indicators in order to be named targeted support.
- Targeted support schools receive a - next to their final grade (e.g.: B-).
- All D schools are also targeted support schools.

School Grading Modeling Tool

- We have a tool which allows users to enter their data and estimate a school grade.
- <https://tnedu.shinyapps.io/school-grading>

Questions?

- tned.accountability@tn.gov
- alex.poon@tn.gov

These slides available at:

- bit.ly/tn-school-grading