Texas Projection Measure (TPM) for TAKS-M

Technical and Research

FAQs

1. In what grades and subjects will the Texas Projection Measure for TAKS-M be available in spring 2011?

In spring 2011, the Texas Projection Measure (TPM) will be available for TAKS-M grades 3, 4, 6, and 7 mathematics and reading and grade 10 English language arts (ELA), mathematics, science, and social studies. Projections for grade 10 will be available on the Confidential Student Report (CSR) and the student data files, while projections for grades 3, 4, 6, and 7 will be available only in the student data files.

Beginning in 2011-2012, STAAR Modified assessments will replace TAKS-M assessments for grades 3-9. Students currently in grades 3-8 who receive a projection for TAKS-M will not be able to compare their 2011 TAKS-M projections to future
TAKS-M scores and the TAKS-M performance standards. Projected scores based on the TAKS-M scoring system cannot be compared with the STAAR Modified performance standards. However, TAKS-M assessments will continue to be administered in subsequent years for students in grades 10 and 11. Therefore, students currently in grade 10 who receive a projection for TAKS-M will be able to compare their 2011 TAKS-M projections to their TAKS-M scores and the TAKS-M performance standards in 2012.

2. What projection equations are available for the Texas Projection Measure for TAKS-M in 2011?

In 2011, projection equations using two years of data and projection equations using one year of data are available for the TPM for TAKS-M. A projection equation based on two years of data uses a student's current-year scores and prior-year scores in the projection subject to calculate the projection, while a projection equation based on one year of data uses only the student's current-year scores to calculate the projection. In 2011, projection equations using two years of data are available for students in grades 4 and 7 mathematics and reading. If a student has all necessary information to calculate the projection using the two-year model, the two year-model will be applied. If a student has only information necessary for calculating the projection using the one-year model, the projection will be made based on the one-year model. Projection equations using one year of data are available for students in grades 3, 4, 6, and 7 mathematics and reading and grade 10 ELA, mathematics, science, and social studies.

3. How are projections for TAKS-M made using two-year data?

When using the two-year model, the projections are made using students' current-year scale scores, prior-year scale score in the projection subject, and prior-year district average scale scores to project a scale score for students in a future grade. Projection equations using two years of data are only available for grades 4 and 7 mathematics and reading because these are the only grades/subjects in which there were sufficient data to develop the projection equations. Prior to the development of these equations, analyses were done to determine whether there were sufficient numbers of students who had two years of data in the projection subject to develop two-year model equations. After evaluating the data, it was determined that there were sufficient numbers of students to develop equations using two-year data. Table 1 shows what information is used to make the projections in each subject.

Table 1. Predictors Used in the Texas Projection Measure with Two-year Data

	Predictors Used
Reading	1. Student Reading Scale Score received in current year 2. Student Mathematics Scale Score received in current year 3. Student Reading Scale Score received in previous year 4. Mean District Scale Score in Reading in previous year
Mathematics	1. Student Mathematics Scale Score received in current year 2. Student Reading Scale Score received in current year 3. Student Mathematics Scale Score received in previous year 4. Mean District Scale Score in Mathematics in previous year

5. Will students receive the projections for writing, social studies, and science using two-year data?

No. The projections using two-year data can only be made for reading/ELA and mathematics. The projection equations for social studies and science are available only for projections using current year data. The projection equations for writing are not available.

6. How are projections for TAKS-M made using one-year data?

Students' current year scale scores and prior-year district average scale scores are used to project a scale score for students in a future grade. Table 2 shows the information used to make the projections using one-year data in each subject that has a projection equation available.

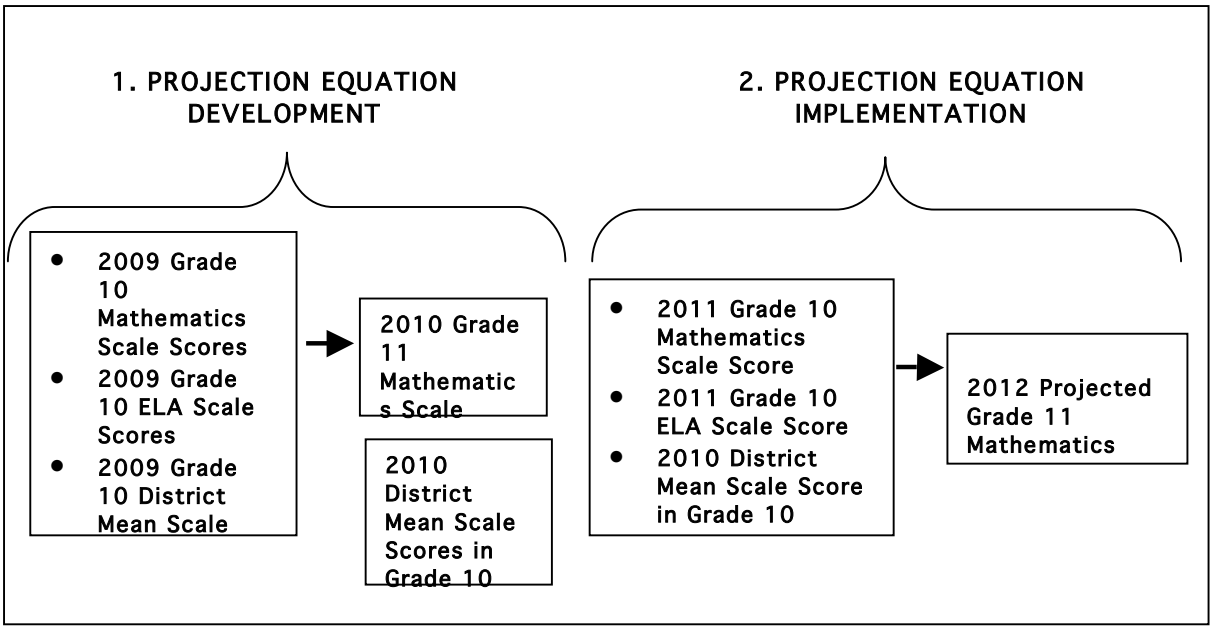
Table 2. Predictors Used in the Texas Projection Measure with One-year Data

Projection Subject	Predictors Used
Reading/ELA	• Student Reading/ELA Scale Score • Student Mathematics Scale Score • Mean District Scale Score in Reading
Mathematics	• Student Mathematics Scale Score • Student Reading/ELA Scale Score • Mean District Scale Score in Mathematics
Science	• Student Science Scale Score • Student Reading/ELA Scale Score • Student Mathematics Scale Score • Mean District Scale Score in Science
Social Studies	• Student Social Studies Scale Score • Student Reading/ELA Scale Score • Student Mathematics Scale Score • Mean District Scale Score in Social Studies

For each projection, an equation is developed using TAKS–M results for students taking the assessments in prior years. For example, to develop the projection equations for grade 10 students in 2011 projected to grade 11 ELA, scores from all students with grade 11 ELA scores in 2010 and grade 10 ELA and mathematics scores in 2009 are used. The comparison establishes the relationship of specific scale score values in 2009 to a specific ELA scale score in 2010. Once projection equations are determined, they are applied the following year.

As an example, the steps used to make 2011 projections from grade 10 to grade 11 mathematics are illustrated in Figure 2 and steps for this process are listed below.

Figure 2. Example Process for Projection Equation Development and Implementation with One-year Data



Steps for developing and applying projection equations from grade 10 to grade 11 mathematics include the following:

1. Projection Equation Development
   a. The following data are used to project grade 11 mathematics from grade 10:
      i. Students' grade 10 mathematics scale scores
      ii. Students' grade 10 ELA scale scores
      iii. Students' mean district mathematics scale score in grade 10
   b. The following data are used to develop the equations:
      i. Grade 11 mathematics scale scores in 2010
      ii. Grade 10 mathematics scale scores in 2009
      iii. Grade 10 ELA scale scores in 2009
      iv. Grade 10 mean district mathematics scale score in 2009
   c. The grade 11 mathematics scale scores from 2010 are regressed on the other three variables in a multi-level model.
   d. Coefficients from the analyses are recorded and reported.
   e. District mean scale scores are calculated using 2010 statewide data for grade 10 mathematics.
2. Projection Equation Implementation
   a. The coefficients from the development of the projection equations are used with the following information to make a student projection in grade 10 mathematics in spring 2011:
      i. A student's 2011 scale score in grade 10 mathematics
      ii. A student's 2011 scale score in grade 10 ELA

iii. A student's 2010 mean district mathematics scale score in grade 10

b. Once the projection equation is calculated, a student receives the following information:

i. A projection scale score in grade 11 mathematics

ii. Indicators about whether the student's projected grade 11 mathematics scale score is at least as high as the grade 11 mathematics scale scores that indicate Met Standard and Commended Performance

For more information about model development and projection calculation, see Procedures for Developing the Texas Projection Measure Equations for TAKS-M and Calculating Projections with the Texas Projection Measure for TAKS-M.

7. To what are projections compared in order to determine if students are projected to meet the standard or achieve commended performance?

To determine if a student is projected to meet the standard or achieve commended performance in the projected grade, the projected score is compared with the Met Standard cut point and the Commended Performance cut point in the projected grade and subject. Table 3 shows the Met Standard and Commended Performance cut points for the grades and subjects with projection equations in 2011.

Note that the cut points presented in Table 2 are for TAKS-M assessments. Only students in grade 10 in 2010-2011 will take TAKS-M assessments when they are in the projection grade (grade 11) and will be able to compare their projected scores with their actual performance in the projection grade. Students in grades 3-8 in 2010-2011 will take modified versions of STAAR assessments starting in 2012, and new STAAR cut points will be applied. Therefore, the students who are currently in grades 3-8 will not have TAKS-M scores to compare with their projected scores when they are in the projection grades.

Table 3. Met Standard and Commended Performance Cut Points for Projection Grades and Subjects

Projection Grade	Grades From Which Projections are Made	Projection Subject	Met Standard Cut Point	Commended Performance Cut Point
5	3 and 4	Reading	2100	2400
5	3 and 4	Mathematics	2100	2400
8	6 and 7	Reading	2100	2400
8	6 and 7	Mathematics	2100	2400

11	10	English Language Arts	2100	2400
11	10	Mathematics	2100	2400
11	10	Science	2100	2400
11	10	Social Studies	2100	2400

For example, a student taking TAKS–M in grade 10 is projected to have a score of 2200 in grade 11 mathematics. Since the student's projected score of 2200 is greater than the Met Standard cut point (2100) in TAKS–M grade 11 mathematics, that student is projected to meet the standard in TAKS–M grade 11 mathematics. When the same projected scale score of 2200 is compared to the Commended Performance cut point (2400), that student is not projected to achieve Commended Performance in TAKS–M grade 11 mathematics.

8. Will the Texas Projection Measure be available for students who take a linguistically accommodated TAKS–M test?

Yes, there will be projection equations available for students who take a linguistically accommodated TAKS–M test in grades 3, 4, 6, 7, or 10 in projection subjects as long as these students have been assessed with TAKS–M in all the subjects required to calculate a projection.

9. Why is the Texas Projection Measure for TAKS–M not available for students who take assessments across testing programs?

Students who take assessments across testing programs will not receive a projection because there were not a sufficient number of students who took combinations of TAKS–M and TAKS or TAKS (Accommodated) to develop projection equations. The minimum sample size required to develop stable projections is 1,000 students per projection equation. After evaluating the operational TAKS–M data for all possible assessment combinations, the analyses indicated that the number of students who take different assessments within a school year is not sufficient to develop stable projection equations. As a result, projections will not be available for students who, in the current year, take a combination of TAKS–M and TAKS or TAKS (Accommodated) assessments.

10. Why are district means used in the projection equations?

District means are included in the TAKS–M projection equations to allow for stable TPM projections. In order for the measurement of campus performance to be adequately reliable, it was determined that scores from at least 30 students must be used to calculate the campus mean. Analysis of the TAKS–M data found that few campuses had a minimum of 30 students taking TAKS–M in a grade and subject. Although few campuses had the minimum number of students to develop the mean predictor, when the data were aggregated at the district level, the majority of districts had the minimum number of students to calculate the

mean predictor. As a result, the TPM for TAKS–M will use a district mean. The district means, like the campus means, provide information about the environment in which students learn and add to the precision of the projection equations.

11. How are the district means calculated for TAKS–M?

District means are calculated the year before they are applied. For spring 2011, district means in a grade and a subject are calculated from the statewide student scores of the 2010 primary administrations for students taking TAKS–M. District means are calculated only for districts with at least 30 students who have valid TAKS–M scores in that grade and subject. If there are fewer than 30 students with valid TAKS–M scores in the district, the statewide mean is used.

12. Why are projection equations and district means from the prior year used?

The projection equations and district means from the prior year are used so that the TPM equations can be reported on the Confidential Student Report (CSR). If current year results and district means were used in the projection equations, the TPM projections would not be able to be reported on the CSR because there is not enough time to calculate equations and district means, and they would need to be reported later on a separate report.

13. If a student moves to a new district, which district mean is used in calculating the Texas Projection Measure?

If a student moves to a new district, the mean for that new district (calculated from the prior year scores) will be used in all TPM calculations. For example, a student takes the grade 10 March primary ELA administration at District A. That student will not have a TPM yet because all TPM calculations require both reading/ELA and mathematics scale scores. Then the student moves to District B and takes the primary mathematics administration in April. That student's TPM for ELA and mathematics will use the mean scale score from District B. As with all mean district scale scores, the mean scale score from District B will be calculated from the prior year.

14. Is the Texas Projection Measure a growth measure?

The TPM does not evaluate student score changes in past years, so it is more accurately classified as a projection measure, which provides information about how a student will likely perform in the future after receiving grade-level instruction. The Texas Education Agency (TEA) has developed a vertical scale for TAKS that allows for comparisons of student scores over years/grades in a way that will offer a measure of actual growth for students in specific languages and subjects. However, TAKS–M does not have a vertical scale.

Also note that growth is measured for students who take the TAKS–Alt using a transition table approach known as the TAKS–Alt Growth Measure. For more information about the TAKS–Alt Growth Measure see the TAKS-Alt Growth page.

15. How accurate are the projections?

In order to evaluate projection accuracy for students in grade 10, their observed student scores from 2012 (when they are in grade 11) are needed in the projection subjects. When sufficient data are available, projection accuracy will be evaluated in two ways. First, the accuracy of the Met Standard and Commended Performance classifications will be analyzed by comparing the 2011 projections to the 2012 observed results. Second, mean projection scores from 2011 projections will be compared to the 2012 observed mean scores. Projection accuracy will not be conducted for students in grades 3–8 in 2011 because these students will no longer be taking TAKS–M in subsequent years.