

Calculating Projections with the Texas Projection Measure

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The Texas Projection Measure (TPM) estimates whether a student is likely to meet the standard or achieve commended performance on the TAKS assessments at a future grade. This measure is based on 1) the student's current performance on TAKS and the student's previous performance on TAKS, if available, and 2) the average TAKS scores from the student's campus. The TPM will be available in reading, English language arts, mathematics, social studies, and science. The table below shows the grades for which the TPM will be reported in Confidential Student Report in 2011.

Grade From	Grade To
9	11
10	11

In 2011, TPM projections will be based on TAKS data. Only those students in grades 9 and 10 in 2011 will continue to be assessed with TAKS from 2012. Therefore, TPM information will be reported only for grades 9 and 10 students on the Confidential Student Report (CSR) in 2011. The grades 3 – 8 students in 2011 will take the STAAR assessments, instead of TAKS, starting in 2012, and the projected scores based on the TAKS scoring system cannot be compared with the STAAR performance standards. Therefore, TPM information will not be reported on the CSRs for these students in 2011.

The purpose of this document is to illustrate the steps needed to calculate a projection. The document includes seven sections:

1. Single-year TPM calculation steps for students in grades 9–10 for TAKS reading/English language arts and mathematics
2. Two-year TPM calculation steps for students in grades 9–10 for TAKS reading/English language arts and mathematics
3. TPM calculation steps for TAKS social studies and science in grade 10.
4. Appendices with equation constants, coefficients, and sample TPM calculations

Note that grades 3–10 projections are available on the student data file or via the online TPM calculator. Additionally, grades 9 and 10 projections are also available on the Confidential Student Report (CSR).

For more information about the Texas Projection Measure, see the Texas Education Agency website at <http://www.tea.state.tx.us/student.assessment/taks/tpm/index.html>.

Please note the following before calculating a TPM.

- A student must test in all subjects needed for the calculation in order to receive TPM scores. If test scores for the previous year are available for reading and mathematics, then a two-year equation will be used for these subjects. For all other subjects, only a single-year equation is available if the student has tested in all subjects needed for the calculation.
- A student must test all subjects in TAKS (the general form, Accommodated form, or linguistically accommodated test form) in order to receive the associated TPM. For example, when calculating a grade 10 social studies TPM, a student in grade 10 must test in all subjects required to calculate the social studies TPM (reading, mathematics, and social studies) using one of the previously mentioned forms of the TAKS test. A general form, Accommodated form, and/or linguistically accommodated

test form can be combined for a TPM calculation. For example, a TPM for grade 10 social studies can be calculated from reading scores based on the general form and mathematics and science scores based on Accommodated forms. If a student tested with TAKS and TAKS-M, the TPM cannot be calculated. If a student tested in all subjects with TAKS-M then the coefficients for TAKS-M TPM calculations will be used.

Below, TPM calculation steps are shown for grades 9 and 10. As mentioned above, students currently in grades 3 – 8 will transition from TAKS to the State of Texas Assessments of Academic Readiness (STAAR) from 2012, and TPM projections using TAKS scores will have a limited use. Therefore, TPM information for these students will be available only on the student data file.

Single-Year TPM Calculation Steps for Students in Grades 9–10 for TAKS Reading/English Language Arts and Mathematics

Following are the steps needed to make English language arts or mathematics projections in grade 11 for students in grades 9–10 using scale scores from the TAKS, TAKS (Accommodated), or linguistically accommodated test (LAT) versions of TAKS tests.

Step 1: Start with the following student information:

- current grade and subject for the student for whom the TPM is being calculated
- TAKS reading/English language arts scale score (current year) for the student (Read-SS)
- TAKS mathematics scale score (current year) for the student (Math-SS)

Step 2: Find the previous year's campus mean scale score for the student in the projection subject. Campus mean scale scores from the previous year can be found at <http://www.tea.state.tx.us/WorkArea/DownloadAsset.aspx?id=2147501031>. To find the correct campus mean, locate the row with the following information:

- Select the County-District-Campus (CDC) number for the student's current campus from column "A". Locate the correct row containing the student's current grade from column "D".
- Columns "E," "G," "I," "K," and "M": Select the mean campus scale score for the appropriate projection subject. The mean was calculated with previous year's scores in the campus if the campus had at least 30 students in the student's current grade and in the projection subject. If the campus did not have at least 30 students, the district mean is used. If neither the campus nor the district had at least 30 students, the state mean is used. The source of the mean scale score value associated with each subject is designated in columns "F," "H," "J," "L," and "N".

If a student attends a campus that did not have students that took TAKS in the previous year, or if the student's current grade did not have students that took TAKS in the previous year, the district means are used. The district mean is provided in the row with the CDC that has the district's County-District number (precedes the first campus record within the list of CDCs for that district). The state means will be used in situations where a charter school is first testing students in the current year. The state means can be found in rows 6 through 13 of the file containing the campus means.

Step 3: Identify the correct coefficients and constant value. Locate the correct row in the Single-Year Texas Projection Measure Constants and Coefficients Table in Appendix A. Note that the column labels represent:

- *FROM-GRADE* = grade from which the projection is made (current grade)
- *FROM-LANG* = always E for grades 9–10
- *TO-GRADE* = grade to which the projection will be made (projection grade)
- *TO-LANG* = always E for grades 9–10
- *SUBJECT* = projection subject

The numerical values in the table associated with the correct subject, grade, and language will be used to calculate the projected score(s) as described in Step 4. The numerical values needed to make mathematics and reading/English language arts projections for grade 9–10 students are:

- *CONSTANT* = a value for each grade and subject determined when the coefficients are developed annually
- *READ-CO* = coefficient to multiply by student’s reading/ELA scale score
- *MATH-CO* = coefficient to multiply by the student’s mathematics scale score
- *C-MEAN-CO* = coefficient to multiply by the campus mean scale score in the projection subject

Step 4: Calculate the student’s projected scores by substituting the student’s current scale scores from Step 1, the campus mean scale score in the projection subject from Step 2, and the constant and coefficients obtained in Step 3 (from Appendix A) into the following equations.

In the following equations, *READ-SS* is the student’s current scale score in reading/ELA and *MATH-SS* is the student’s current scale score in mathematics. *C-READ-SS* and *C-MATH-SS* are the campus mean scale scores for the previous year (reading/ELA when calculating the ELA TPM and mathematics when calculating the mathematics TPM).

Projected scale score in reading or English language arts =
 $CONSTANT + (READ-CO * READ-SS) + (MATH-CO * MATH-SS) + (C-MEAN-CO * C-READ-SS)$

Projected scale score in mathematics =
 $CONSTANT + (READ-CO * READ-SS) + (MATH-CO * MATH-SS) + (C-MEAN-CO * C-MATH-SS)$

Step 5: Locate the passing standard and commended standard for the projection grade and subject of interest in the last two columns (MET STANDARD or COMMENDED PERFORMANCE) of the table in Appendix A.

Step 6: Compare the projected score to the met standard and commended performance. If the projected score is at or above the met standard, then the student is projected as currently on track to meet the standard for the TAKS test in the projection grade and subject. If the projected score is at or above the commended performance, then the student is projected as currently on track to achieve commended performance for the TAKS test in the projection grade and subject. The projection outcome is reported on the student’s Confidential Student Report (CSR) as “Texas Projection Measure—Projected to Meet Standard at Grade 11: ZZZ” where “ZZZ” is either “YES” or “NO”. The outcome reported will be “YES” if the student is projected to meet the standard at the projection grade and subject and will be reported as “NO” if the student is not projected to meet the standard at the projection grade and subject. Also on the student’s Confidential Student Report (CSR) is “Texas Projection Measure—Projected to Achieve Commended at Grade 11: ZZZ” where “ZZZ” is either “YES” or “NO”. The outcome reported will be “YES” if the student is projected to achieve commended performance at the projection grade and subject and will be reported as “NO” if the student is not projected to achieve commended performance at the projection grade and subject.

A sample calculation example for grades 9–10 reading and mathematics are provided in Appendix C for:

- Example 1: Projecting grade 11 mathematics from grade 9 mathematics

Two-Year TPM Calculation Steps for Students in Grades 9–10 for TAKS Reading/English Language Arts and Mathematics

Following are the steps needed to make English language arts or mathematics projections in grade 11 for students in grades 9–10 using scale scores from the TAKS, TAKS (Accommodated), or linguistically accommodated test (LAT) versions of TAKS tests.

Step 1: Start with the following student information:

- current grade and subject for the student for whom the TPM is being calculated
- TAKS reading/English language arts scale score (current year) for the student (Read-SS)
- TAKS mathematics scale score (current year) for the student (Math-SS)
- If projection subject is reading/English language arts, TAKS reading/English language arts scale score from the previous year for the student (Read-SS-2)
- If projection subject is mathematics, TAKS mathematics scale score from the previous year for the student (Math-SS-2)

Step 2: Find the previous year's campus mean scale score for the student in the projection subject. Campus mean scale scores from the previous year can be found at <http://www.tea.state.tx.us/WorkArea/DownloadAsset.aspx?id=2147501031>. To find the correct campus mean, locate the row with the following information:

- Select the County-District-Campus (CDC) number for the student's current campus from column "A". Locate the correct row containing the student's current grade from column "D".
- Columns "E," "G," "I," "K," and "M": Select the mean campus scale score for the appropriate projection subject. The mean was calculated with previous year's scores in the campus if the campus had at least 30 students in the student's current grade and in the projection subject. If the campus did not have at least 30 students, the district mean is used. If neither the campus nor the district had at least 30 students, the state mean is used. The source of the mean scale score value associated with each subject is designated in columns "F," "H," "J," "L," and "N".

If a student attends a campus that did not have students that took TAKS in the previous year, or if the student's current grade did not have students that took TAKS in the previous year, the district means are used. The district mean is provided in the row with the CDC that has the district's County-District number (precedes the first campus record within the list of CDCs for that district). The state means will be used in situations where a charter school is first testing students in the current year. The state means can be found in rows 6 through 13 of the file containing the campus means.

Step 3: Identify the correct coefficients and constant value. Locate the correct row in the Two-Year Texas Projection Measure Constants and Coefficients Table in Appendix B. Note that the column labels represent:

- *FROM-GRADE* = grade from which the projection is made (current grade)
- *FROM-LANG* = always E for grades 9–10
- *TO-GRADE* = grade to which the projection will be made (projection grade)
- *TO-LANG* = always E for grades 9–10
- *SUBJECT* = projection subject

The numerical values in the table associated with the correct subject, grade, and language will be used to calculate the projected score(s) as described in Step 4. The numerical values needed to make mathematics and reading/English language arts projections for grade 9–10 students are:

- *CONSTANT* = a value for each grade and subject determined when the coefficients are developed annually
- *MATH-CO-1* = the coefficient for the student’s mathematics scale score for current year
- *MATH-CO-2* = the coefficient for the student’s mathematics scale score for previous year (necessary only if the projection subject is mathematics)
- *READ-CO-1* = the coefficient for the student’s reading/English language arts scale score for current year
- *READ-CO-2* = the coefficient for the student’s reading/English language arts scale score for previous year (necessary only if the projection subject is reading/English language arts)
- *C-MEAN-CO* = coefficient to multiply by the campus mean scale score in the projection subject

Step 4: Calculate the student’s projected scores by substituting the student’s current and previous year scale scores from Step 1, the campus mean scale score in the projection subject from Step 2, and the constant and coefficients obtained in Step 3 (from Appendix B) into the following equations.

In the following equations, *READ-SS* is the student’s current scale score in reading/ELA and *MATH-SS* is the student’s current scale score in mathematics. *READ-SS-2* is the student’s previous scale score in reading and *MATH-SS-2* is the student’s previous scale score in mathematics. *C-READ-SS* and *C-MATH-SS* are the campus mean scale scores for the previous year (reading/ELA when calculating the ELA TPM and mathematics when calculating the mathematics TPM).

Projected scale score in reading or English language arts =
 $CONSTANT + (READ-CO-1 * READ-SS) + (READ-CO-2 * READ-SS-2) + (MATH-CO-1 * MATH-SS) + (C-MEAN-CO * C-READ-SS)$

Projected scale score in mathematics =
 $CONSTANT (READ-CO-1 * READ-SS) + (MATH-CO-1 * MATH-SS) + (MATH-CO-2 * MATH-SS-2) + (C-MEAN-CO * C-MATH-SS)$

Step 5: Locate the passing standard and commended standard for the projection grade and subject of interest in the last two columns (MET STANDARD or COMMENDED PERFORMANCE) of the table in Appendix B.

Step 6: Compare the projected score to the met standard and commended performance. If the projected score is at or above the met standard, then the student is projected as currently on track to meet the standard for the TAKS test in the projection grade and subject. If the projected score is at or above the commended performance, then the student is projected as currently on track to achieve commended performance for the TAKS test in the projection grade and subject. The projection outcome is reported on the student’s Confidential Student Report (CSR) as “Texas Projection Measure—Projected to Meet Standard at Grade 11: ZZZ” where “ZZZ” is either “YES” or “NO”. The outcome reported will be “YES” if the student is projected to meet the standard at the projection grade and subject and will be reported as “NO” if the student is not projected to meet the standard at the projection grade

and subject. Also on the student's Confidential Student Report (CSR) is "Texas Projection Measure—Projected to Achieve Commended at Grade 11: ZZZ" where "ZZZ" is either "YES" or "NO". The outcome reported will be "YES" if the student is projected to achieve commended performance at the projection grade and subject and will be reported as "NO" if the student is not projected to achieve commended performance at the projection grade and subject.

A sample calculation example for grades 9–10 reading and mathematics for two-year projection are provided in Appendix C for:

- Example 2: Projecting grade 11 English language arts from grade 9 reading with two-year projections

TPM Calculation Steps for TAKS Social Studies and Science

Following are the steps needed to project a student's social studies or science TAKS score in a future grade for a student in grade10. The TPM equations are available for students who take the TAKS, TAKS (Accommodated), or linguistically accommodated test (LAT) versions of TAKS tests.

For **social studies**, the TPM equations are available from:

- grade 10 to grade 11

For **science**, the TPM equations are available from:

- grade 10 to grade 11

Step 1: Start with the following student information:

- current grade and subject for the student for whom the TPM is being calculated
- TAKS reading/English language arts scale score (current year) for the student (Read-SS)
- TAKS mathematics scale score (current year) for the student (Math-SS)
- TAKS scale score in projection subject (SOC-ST-SS for social studies, and SCI-SS for science)

Step 2: Find the previous year's campus mean scale score for the student in the projection subject. Campus mean scale scores from the previous year can be found at <http://www.tea.state.tx.us/WorkArea/DownloadAsset.aspx?id=2147501031>. To find the correct campus mean, locate the row with the following information:

- Select the County-District-Campus (CDC) number for the student's current campus from column "A". Locate the correct row containing the student's current grade from column "D".
- Columns "E," "G," "I," "K," and "M": Select the mean campus scale score for the appropriate projection subject. The mean was calculated with previous year's scores in the campus if the campus had at least 30 students in the student's current grade and in the projection subject. If the campus did not have at least 30 students, the district mean is used. If neither the campus nor the district had at least 30 students, the state mean is used. The source of the mean scale score value associated with each subject is designated in columns "F," "H," "J," "L," and "N".

If a student attends a campus that did not have students that took TAKS in the previous year, or if the student's current grade did not have students that took TAKS in the previous year, the district means are used. The district mean is provided in the row with the CDC that has the district's County-District number (precedes the first campus record within the list of CDCs for that district). The state means will be used in situations where a charter school is first testing students in the current year. The state means can be found in rows 6 through 13 of the file containing the campus means.

Step 3: Identify the correct coefficients and constant value. Locate the correct row in the Single-Year Texas Projection Measure Constants and Coefficients Table in Appendix A. Note that the column labels mean:

- *FROM-GRADE* = grade from which the projection is made (current grade)
- *TO-GRADE* = grade to which the projection will be made (projection grade)
- *SUBJECT* = projection subject

The numerical values in the table associated with the correct subject, grade, and language will be used to calculate the projected score(s) as described in Step 4. The numerical values needed to make social studies or science projections are:

- *CONSTANT* = a value for each grade and subject determined when the coefficients are developed annually
- *READ-CO* = coefficient to multiply by student's reading/ELA scale score
- *MATH-CO* = coefficient to multiply by the student's mathematics scale score
- Coefficient for projection subject
 - *SOC-ST-CO* = coefficient to multiply by student's social studies scale score
 - *SCI-CO* = coefficient to multiply by student's science scale score
- *C-MEAN-CO* = coefficient to multiply by the campus mean scale score in the projection subject

Step 4: Calculate the student's projected scores by substituting the student's scale scores from Step 1, the mean campus scale score for the projection subject from Step 2, and the constant and coefficients obtained in Step 3 (from Appendix A) into the following equations.

In the following equations, *READ-SS* is the student's current scale score in reading/English language arts and *MATH-SS* is the student's current scale score in mathematics. *SOC-ST-SS* is the social studies scale score, and *SCI-SS* is the science scale score. *C-SOC-ST-SS*, and *C-SCI-SS* are the campus mean scale scores for the previous year's TAKS test (social studies when calculating the social studies TPM, and science when calculating the science TPM).

Projected scale score in social studies =

$$\mathbf{CONSTANT + (READ-CO * READ-SS) + (MATH-CO * MATH-SS) + (SOC-ST-CO * SOC-ST-SS) + (C-MEAN-CO * C-SOC-ST-SS)}$$

Projected scale score in science =

$$\mathbf{CONSTANT + (READ-CO * READ-SS) + (MATH-CO * MATH-SS) + (SCI-CO * SCI-SS) + (C-MEAN-CO * C-SCI-SS)}$$

Step 5: Locate the passing standard and commended standard for the projection grade and subject of interest in the last two columns (MET STANDARD or COMMENDED PERFORMANCE) of the table in Appendix A.

Please note that the cut points presented in Appendix A are for TAKS assessments. Only grade 9 and 10 students in 2010–2011 will take TAKS assessments when they are in the projection grade (Grade 11 for grade 9 and 10 students) and will be able to compare their projection scores with their actual performance in the projection grade. Students in grades 3–8 in 2010–2011 will take STAAR assessments starting from 2012, and new STAAR cut points, which are on a different score scale from TAKS, will be applied. Therefore the students who are currently in grades 3–8 will not have TAKS scores to compare with their projections when they are in the projection grades.

Step 6: Compare the projected score to the met standard and commended performance. If the projected score is at or above the met standard, then the student is projected as currently on track to meet the standard for the TAKS test in the projection grade and subject. If the projected score is at or above the commended performance, then the student is projected as currently on track to achieve commended performance for the TAKS test in the projection grade and subject. Only for students who are at grade 9 or 10 in 2010–2011, the projection outcome is

reported on the student's Confidential Student Report (CSR) as "Texas Projection Measure—Projected to Meet Standard at Grade 11: ZZZ" where "ZZZ" is either "YES" or "NO". The outcome reported will be "YES" if the student is projected to meet the standard at the projection grade and subject and will be reported as "NO" if the student is not projected to meet the standard at the projection grade and subject. Also on the student's Confidential Student Report (CSR) is "Texas Projection Measure—Projected to Achieve Commended at Grade 11: ZZZ" where "ZZZ" is either "YES" or "NO". The outcome reported will be "YES" if the student is projected to achieve commended performance at the projection grade and subject and will be reported as "NO" if the student is not projected to achieve commended performance at the projection grade and subject.

See sample calculation examples 3 and 4 in Appendix C for:

- Example 3: Projecting grade 11 social studies from grade 10 social studies
- Example 4: Projecting grade 11 science from grade 10 science

Appendix A
 Single-Year Texas Projection Measure Constants and Coefficients
 (see next page for an explanation of column names and additional details about the table)

In 2011, TPM projections will be based on TAKS data. Only those students in grades 9 and 10 in 2011 will continue to be assessed with TAKS from 2012. Therefore, TPM information will be reported only for grades 9 and 10 students on the Confidential Student Report (CSR) in 2011 (The highlighted rows indicate those grades). The grades 3 – 8 students in 2011 will take the STAAR assessments, instead of TAKS, starting in 2012, and **the projected scores for grades 3-8 based on the TAKS scoring system cannot be compared with the STAAR performance standards.**

Row	FROM- GRADE	FROM- LANG	TO- GRADE	TO- LANG	SUBJECT	CONSTANT	MATH- CO	READ- CO	WRIT- CO	SOC ST-CO	SCI-CO	C-MEAN- CO	MET STANDARD	COMMENDED PERFORMANCE
1	03	C ¹	05	E	Mathematics	283.99	0.6839	0.1806				-0.1701	603	738
2	03	E	05	E	Mathematics	279.94	0.6175	0.1897				-0.0882	603	738
3	03	S	05	E	Mathematics	350.37	0.5307	0.1734				-0.1402	603	738
4	03	S	05	S	Mathematics	264.25	0.5556	0.1807				-0.0764	627	755
5	03	C ¹	05	E	Reading	235.00	0.2866	0.4373				0.0070	620	763
6	03	E	05	E	Reading	274.67	0.2585	0.4179				0.0511	620	763
7	03	S	05	E	Reading	277.19	0.2398	0.4178				-0.0082	620	763
8	03	S	05	S	Reading	311.38	0.2218	0.4658				-0.0496	623	744
9	04	C ¹	05	E	Mathematics	191.39	0.6533	0.1897				-0.0723	603	738
10	04	E	05	E	Mathematics	251.27	0.5991	0.1935				-0.1024	603	738
11	04	S	05	E	Mathematics	255.76	0.5422	0.1787				-0.0622	603	738
12	04	S	05	S	Mathematics	150.03	0.5787	0.2160				0.0048	627	755
13	04	C ¹	05	E	Reading	201.73	0.2415	0.4089				0.0491	620	763
14	04	E	05	E	Reading	233.14	0.1911	0.4844				0.0547	620	763
15	04	S	05	E	Reading	124.96	0.1839	0.4541				0.1786	620	763
16	04	S	05	S	Reading	212.72	0.1442	0.5774				0.0267	623	744
17	04	C ¹	07	E	Writing	1447.77	0.4906	0.4586	0.1374			-0.0332	2100	2400
18	04	E	07	E	Writing	1127.31	0.4290	0.5385	0.2722			0.0041	2100	2400
19	04	S	07	E	Writing	1446.18	0.3588	0.4720	0.1485			-0.0172	2100	2400
20	05	C ¹	08	E	Mathematics	473.29	0.5213	0.1196				-0.2193	700	850
21	05	E	08	E	Mathematics	294.72	0.5665	0.1984				-0.0730	700	850
22	05	S	08	E	Mathematics	416.36	0.4627	0.1476				-0.1056	700	850
23	05	E	08	E	Science	693.17	0.6303	0.5099			0.4408	-0.0879	2100	2400
24	05	S	08	E	Science	1065.29	0.5177	0.4223			0.3298	-0.1092	2100	2400
25	05	C ¹	08	E	Reading	295.35	0.2234	0.4402				0.0158	700	850
26	05	E	08	E	Reading	271.95	0.2114	0.5196				0.0714	700	850
27	05	S	08	E	Reading	261.41	0.2151	0.4803				0.0228	700	850
28	06	E	08	E	Mathematics	275.66	0.6246	0.1456				-0.0817	700	850

Row	FROM- GRADE	FROM- LANG	TO- GRADE	TO- LANG	SUBJECT	CONSTANT	MATH- CO	READ- CO	WRIT- CO	SOC ST-CO	SCI-CO	C-MEAN- CO	MET STANDARD	COMMENDED PERFORMANCE
29	06	E	08	E	Reading	234.69	0.2232	0.5169				0.0694	700	850
30	07	E	08	E	Mathematics	111.06	0.7311	0.1337				0.0259	700	850
31	07	E	08	E	Reading	126.43	0.2494	0.5512				0.1216	700	850
32	08	E	11	E	Mathematics	1078.84	1.3405	0.2184				0.0239	2100	2400
33	08	E	11	E	Science	1170.00	0.2978	0.1449			0.3244	0.0229	2100	2400
34	08	E	11	E	ELA	1199.63	0.5411	0.6463				0.2671	2100	2400
35	08	E	11	E	Social	1123.53	0.3067	0.2570		0.4180		-0.0580	2100	2400
36	09	E	11	E	Mathematics	866.45	0.5029	0.1135				0.0128	2100	2400
37	09	E	11	E	ELA	872.73	0.2160	0.3467				0.0719	2100	2400
38	10	E	11	E	Mathematics	404.52	0.6509	0.1413				0.0563	2100	2400
39	10	E	11	E	Science	761.56	0.1428	0.0748			0.4299	0.0354	2100	2400
40	10	E	11	E	ELA	270.20	0.2361	0.5337				0.1421	2100	2400
41	10	E	11	E	Social	638.99	0.1431	0.1187		0.4684		0.0324	2100	2400

¹ C represents Cross Languages. It indicates that the subjects projected 'from' were taken in different languages such as the mathematics test was taken in English and the reading and/or writing test was taken in Spanish.

- FROM-GRADE = the student's current grade
- FROM-LANG = the language version of the TAKS test that the student took in the current grade
- TO-GRADE = the grade to which the projection is made
- TO-LANG = the language version of the TAKS test for the projection
- SUBJECT = the projection subject
- CONSTANT = value used in the projection equation for each grade and subject, which is determined when the coefficients for the projection formulas are developed annually
- READ-CO = the coefficient for the student's reading/English language arts scale score
- MATH-CO = the coefficient for the student's mathematics scale score
- WRIT-CO = the coefficient for the student's writing scale score
- SOC-ST-CO = the coefficient for the student's social studies scale score
- SCI-CO = the coefficient for the student's science scale score
- C-MEAN-CO = the coefficient for the student's campus mean
- MET STANDARD = the scale score cut point indicating met standard in the projection grade and subject
- COMMENDED PERFORMANCE = the scale score cut point indicating commended performance in the projection grade and subject

Note that some of the coefficients for the student's campus mean are negative. The part of the equation with the campus mean is best interpreted as a statistical adjustment for the projection. That part of the equation related to the school mean should **not** be interpreted independently from the rest of the equation. The different parts of the equation work together to create the projection.

Appendix B
Two-Year Texas Projection Measure Constants and Coefficients
(see next page for an explanation of column names and additional details about the table)

In 2011, TPM projections will be based on TAKS data. Only those students in grades 9 and 10 in 2011 will continue to be assessed with TAKS from 2012. Therefore, TPM information will be reported only for grades 9 and 10 students on the Confidential Student Report (CSR) in 2011 (The highlighted rows indicate those grades). The grades 3 – 8 students in 2011 will take the STAAR assessments, instead of TAKS, starting in 2012, and **the projected scores for grades 3-8 based on the TAKS scoring system cannot be compared with the STAAR performance standards.**

Row	FROM- GRADE	FROM- LANG	TO- GRADE	TO- LANG	SUBJECT	CONSTANT	MATH- CO1	MATH- CO2	READ- CO1	READ- CO2	C-MEAN-CO	MET STANDARD	COMMENDED PERFORMANCE
1	04	E	05	E	Mathematics	182.23	0.4399	0.3140	0.1395		-0.0624	603	738
2	04	S	05	E	Mathematics	236.78	0.4136	0.2520	0.1193		-0.0698	603	738
3	04	S	05	S	Mathematics	121.41	0.4713	0.2486	0.1329		0.0239	627	755
4	04	E	05	E	Reading	218.07	0.1469		0.3545	0.2399	0.0289	620	763
5	04	S	05	E	Reading	77.57	0.1530		0.3499	0.2400	0.1702	620	763
6	04	S	05	S	Reading	171.48	0.1200		0.4341	0.2672	0.0113	623	744
7	05	E	08	E	Mathematics	261.93	0.4094	0.2815	0.1347		-0.0636	700	850
8	05	S	08	E	Mathematics	407.72	0.3713	0.1587	0.1192		-0.1151	700	850
9	05	E	08	E	Reading	264.06	0.1435		0.3513	0.3121	0.0364	700	850
10	05	S	08	E	Reading	220.49	0.1604		0.3503	0.2438	0.0491	700	850
11	06	E	08	E	Mathematics	207.92	0.4598	0.2709	0.1078		-0.0436	700	850
12	06	E	08	E	Reading	199.14	0.1518		0.3417	0.3249	0.0587	700	850
13	07	E	08	E	Mathematics	97.01	0.4985	0.3118	0.0867		0.0241	700	850
14	07	E	08	E	Reading	135.29	0.1688		0.3657	0.3212	0.0656	700	850
15	08	E	EX	E	Mathematics	1049.81	0.8878	0.6616	0.1066		-0.0060	2100	2400
16	08	E	EX	E	ELA	1192.63	0.4072		0.3963	0.4712	0.2063	2100	2400
17	09	E	EX	E	Mathematics	854.00	0.3330	0.6566	0.0682		0.0139	2100	2400
18	09	E	EX	E	ELA	938.23	0.1661		0.2212	0.4520	0.0650	2100	2400
19	10	E	EX	E	Mathematics	554.74	0.4296	0.2372	0.0850		0.0266	2100	2400
20	10	E	EX	E	ELA	281.16	0.1815		0.4122	0.2129	0.0954	2100	2400

- FROM-GRADE = the student’s current grade
- FROM-LANG = the language version of the TAKS test that the student took in the current grade
- TO-GRADE = the grade to which the projection is made
- TO-LANG = the language version of the TAKS test for the projection
- SUBJECT = the projection subject
- CONSTANT = value used in the projection equation for each grade and subject, which is determined when the coefficients for the projection formulas are developed annually
- MATH-CO-1 = the coefficient for the student’s mathematics scale score for current year
- MATH-CO-2 = the coefficient for the student’s mathematics scale score for previous year

- READ-CO-1 = the coefficient for the student's reading/English language arts scale score for current year
- READ-CO-2 = the coefficient for the student's reading/English language arts scale score for previous year
- C-MEAN-CO = the coefficient for the student's campus mean
- MET STANDARD = the scale score cut point indicating met standard in the projection grade and subject
- COMMENDED PERFORMANCE = the scale score cut point indicating commended performance in the projection grade and subject

Note that some of the coefficients for the student's campus mean are negative. The part of the equation with the campus mean is best interpreted as a statistical adjustment for the projection. That part of the equation related to the school mean should **not** be interpreted independently from the rest of the equation. The different parts of the equation work together to create the projection.

Appendix C
 Sample TPM Calculations for Students in Grades 9 and 10 for
 Reading/English Language Arts, Mathematics, and Social Studies

Example 1: Projecting Grade 11 Mathematics from Grade 9 with Single-Year Projections

STEPS	EXAMPLE VALUES
1. Start with the following information: <ul style="list-style-type: none"> • current grade for the student • projection grade • projection subject • language of the TAKS test taken by the student • language of the test the student is expected to take in the projection grade • TAKS reading scale score for the student (READ-SS) • TAKS mathematics scale score for the student (MATH-SS) 	Grade 9 Grade 11 Mathematics English English READ-SS = 2010 MATH-SS = 2290
2. Find the prior-year campus mean scale score for the student in the projection subject (C-MATH-SS).	C-MATH-SS = 1905 (this is only an example and will vary depending on which campus the student currently attends)
3. Identify the correct constant and coefficients from table in Appendix A. <ul style="list-style-type: none"> • constant • reading coefficient • mathematics coefficient • campus mean coefficient 	Row 36 CONSTANT = 866.45 READ-CO = 0.1135 MATH-CO = 0.5029 C-MEAN-CO = 0.0128

STEPS	EXAMPLE VALUES
<p>4. Calculate the student’s projected score by substituting the scale scores from Step 1, the campus mean scale score in the projection subject from Step 2, and the constant and coefficients obtained in Step 3 (from Appendix A) into the equation. Round the projected score to the nearest integer.</p> <p style="text-align: center;">Projected grade 11 mathematics score =</p> $\begin{aligned} & \text{CONSTANT} + \\ & (\text{READ-CO} * \text{READ-SS}) + \\ & (\text{MATH-CO} * \text{MATH-SS}) + \\ & (\text{C-MEAN-CO} * \text{C-MATH-SS}) = \end{aligned}$	<p style="text-align: center;">Projected grade 11 mathematics score =</p> $\begin{aligned} & 866.45 + \\ & (0.1135 * 2010) + \\ & (0.5029 * 2290) + \\ & (0.0128 * 1905) = \\ & 2270.61 = 2271 \end{aligned}$
<p>5. Locate the met standard and commended performance for the projection grade and subject of interest in the last two columns of the table in Appendix A.</p>	<p>Passing standard for grade 11 mathematics = 2100 Commended Performance for grade 11 mathematics = 2400</p>
<p>6. Compare the projected score to the met standard and commended performance. If the projected score is at or above the met standard, then the student is projected as currently on track to meet the standard for the TAKS test in the projection grade and subject. If the projected score is at or above the commended performance, then the student is projected as currently on track to achieve commended performance for the TAKS test in the projection grade and subject.</p>	<p style="text-align: center;">$2271 > 2100$</p> <p>Therefore, the student is projected to score above the passing standard in TAKS mathematics in grade 11. Texas Projection Measure— Projected to Meet Standard at Grade 11: YES</p> <p style="text-align: center;">$2271 < 2400$</p> <p>Therefore, the student is projected to score below the commended performance in TAKS mathematics in grade 11. Texas Projection Measure— Projected to Achieve Commended Performance at Grade 11: NO</p>

Note. Although numbers are rounded for these examples, they will be carried out to more places in the operational calculations.

**Example 2: Projecting Grade 11 English Language Arts from Grade 9
with Two-Year Projections**

STEPS	EXAMPLE VALUES
<p>1. Start with the following information:</p> <ul style="list-style-type: none"> • current grade for the student • projection grade • projection subject • language of the TAKS test taken by the student • language of the test the student is expected to take in the projection grade • TAKS reading scale score for the student (READ-SS) for current year • TAKS reading vertical scale score for the student (READ-SS-2) for previous year • TAKS mathematics scale score for the student (MATH-SS) for current year 	<p align="center">Grade 9</p> <p align="center">Grade 11</p> <p align="center">English language arts</p> <p align="center">English</p> <p align="center">English</p> <p align="center">READ-SS = 1850</p> <p align="center">READ-SS-2 = 650</p> <p align="center">MATH-SS = 2110</p>
<p>2. Find the prior-year campus mean scale score for the student in the projection subject (C-READ-SS).</p>	<p align="center">C-READ-SS = 1906</p> <p align="center">(this is only an example and will vary depending on which campus the student currently attends)</p>
<p>3. Identify the correct constant and coefficients from table in Appendix B.</p> <ul style="list-style-type: none"> • constant • reading coefficient current year • reading coefficient previous year • mathematics coefficient current year • campus mean coefficient 	<p align="center">Row 18</p> <p align="center">CONSTANT = 938.23</p> <p align="center">READ-CO-1 = 0.2212</p> <p align="center">READ-CO-2 = 0.4520</p> <p align="center">MATH-CO-1 = 0.1661</p> <p align="center">C-MEAN-CO = 0.0650</p>

STEPS	EXAMPLE VALUES
<p>4. Calculate the student’s projected score by substituting the scale scores from Step 1, the campus mean scale score in the projection subject from Step 2, and the constant and coefficients obtained in Step 3 (from Appendix A) into the equation. Round the projected score to the nearest integer.</p> <p>Projected grade 11 English language arts score =</p> $\begin{aligned} & \text{CONSTANT} + \\ & (\text{READ-CO-1} * \text{READ-SS}) + \\ & (\text{READ-CO-2} * \text{READ-SS-2}) + \\ & (\text{MATH-CO-1} * \text{MATH-SS}) + \\ & (\text{C-MEAN-CO} * \text{C-READ-SS}) \end{aligned}$	<p>Projected grade 11 English language arts score =</p> $\begin{aligned} & 938.23 + \\ & (0.2212 * 1850) + \\ & (0.4520 * 650) + \\ & (0.1661 * 2110) + \\ & (0.0650 * 1906) = \\ & 2115.61 = 2116 \end{aligned}$
<p>5. Locate the met standard and commended performance for the projection grade and subject of interest in the last two columns of the table in Appendix A.</p>	<p>Passing standard for grade 11 English language arts = 2100 Commended Performance for grade 11 English language arts = 2400</p>
<p>6. Compare the projected score to the met standard and commended performance. If the projected score is at or above the met standard, then the student is projected as currently on track to meet the standard for the TAKS test in the projection grade and subject. If the projected score is at or above the commended performance, then the student is projected as currently on track to achieve commended performance for the TAKS test in the projection grade and subject.</p>	<p>$2116 > 2100$</p> <p>Therefore, the student is projected to score above the passing standard in TAKS English language arts in grade 11.</p> <p>Texas Projection Measure— Projected to Meet Standard at Grade 11: YES</p> <p>$2116 < 2400$</p> <p>Therefore, the student is projected to score below the commended performance in TAKS English language arts in grade 11.</p> <p>Texas Projection Measure— Projected to achieve commended performance at Grade 11: NO</p>

Note. Although numbers are rounded for these examples, they will be carried out to more places in the operational calculations.

Example 3: Projecting Grade 11 Social Studies from Grade 10

STEPS	EXAMPLE VALUES
<p>1. Start with the following information:</p> <ul style="list-style-type: none"> • current grade for the student • projection grade • projection subject • language of the TAKS test taken by the student • language of the test the student is expected to take in the projection grade • TAKS English language arts scale score for the student (READ-SS) • TAKS mathematics scale score for the student (MATH-SS) • TAKS social studies scale score for the student (SOC-ST-SS) 	<p>Grade 10</p> <p>Grade 11</p> <p>Social studies</p> <p>English</p> <p>English</p> <p>READ-SS = 1850</p> <p>MATH-SS = 2100</p> <p>SOC-ST-SS = 1885</p>
<p>2. Find the prior-year campus mean scale score for the student in the projection subject (C-SOC-ST-SS).</p>	<p>C-SOC-ST-SS = 1841</p> <p>(this is only an example and will vary depending on which campus the student currently attends)</p>
<p>3. Identify the correct constant and coefficients from table in Appendix A.</p> <ul style="list-style-type: none"> • constant • reading coefficient • mathematics coefficient • social studies coefficient • campus mean coefficient 	<p>Row 41</p> <p>CONSTANT = 638.99</p> <p>READ-CO = 0.1187</p> <p>MATH-CO = 0.1431</p> <p>SOC-ST-CO = 0.4684</p> <p>C-MEAN-CO = 0.0324</p>

STEPS	EXAMPLE VALUES
<p>4. Calculate the student’s projected score by substituting the scale scores from Step 1, the campus mean scale score in the projection subject from Step 2, and the constant and coefficients obtained in Step 3 (from Appendix A) into the equation. Round the projected score to the nearest integer.</p> <p style="text-align: center;">Projected grade 11 social studies score =</p> $\begin{aligned} & \text{CONSTANT} + \\ & (\text{READ-CO} * \text{READ-SS}) + \\ & (\text{MATH-CO} * \text{MATH-SS}) + \\ & (\text{SOC-ST-CO} * \text{SOC-ST-SS}) + \\ & (\text{C-MEAN-CO} * \text{C-SOC-ST-SS}) \end{aligned}$	<p style="text-align: center;">Projected grade 11 social studies score =</p> $\begin{aligned} & 638.99 + \\ & (0.1187 * 1850) + \\ & (0.1431 * 2100) + \\ & (0.4684 * 1885) + \\ & (0.0324 * 1841) = \\ & 2101.68 = 2102 \end{aligned}$
<p>5. Locate the met standard and commended performance for the projection grade and subject of interest in the last two columns of the table in Appendix A.</p>	<p style="text-align: center;">Passing standard for grade 11 social studies = 2100 Commended Performance for grade 11 social studies = 2400</p>
<p>6. Compare the projected score to the met standard and commended performance. If the projected score is at or above the met standard, then the student is projected as currently on track to meet the standard for the TAKS test in the projection grade and subject. If the projected score is at or above the commended performance, then the student is projected as currently on track to achieve commended performance for the TAKS test in the projection grade and subject.</p>	<p style="text-align: center;">$2102 > 2100$</p> <p style="text-align: center;">Therefore, the student is projected to score above the passing standard and the commended performance in TAKS Social Studies in grade 11.</p> <p style="text-align: center;">Texas Projection Measure— Projected to Meet Standard at Grade 11: YES</p> <p style="text-align: center;">$2102 < 2400$</p> <p style="text-align: center;">Texas Projection Measure— Projected to Achieve Commended Performance at Grade 11: NO</p>

Note. Although numbers are rounded for these examples, they will be carried out to more places in the operational calculations.

Example 4: Projecting Grade 11 Science from Grade 10

STEPS	EXAMPLE VALUES
<p>1. Start with the following information:</p> <ul style="list-style-type: none"> • current grade for the student • projection grade • projection subject • language of the TAKS test taken by the student • language of the test the student is expected to take in the projection grade • TAKS English language arts scale score for the student (READ-SS) • TAKS mathematics scale score for the student (MATH-SS) • TAKS science scale score for the student (SCI-SS) 	<p>Grade 10</p> <p>Grade 11</p> <p>Science</p> <p>English</p> <p>English</p> <p>READ-SS = 1950</p> <p>MATH-SS = 2100</p> <p>SCI-SS = 1890</p>
<p>2. Find the prior-year campus mean scale score for the student in the projection subject (C-SCI-SS).</p>	<p>C-SCI-SS = 1850</p> <p>(this is only an example and will vary depending on which campus the student currently attends)</p>
<p>3. Identify the correct constant and coefficients from table in Appendix A.</p> <ul style="list-style-type: none"> • constant • reading coefficient • mathematics coefficient • science coefficient • campus mean coefficient 	<p>Row 39</p> <p>CONSTANT = 761.56</p> <p>READ-CO = 0.0748</p> <p>MATH-CO = 0.1428</p> <p>SCI-CO = 0.4299</p> <p>C-MEAN-CO = 0.0354</p>

STEPS	EXAMPLE VALUES
<p>4. Calculate the student’s projected score by substituting the scale scores from Step 1, the campus mean scale score in the projection subject from Step 2, and the constant and coefficients obtained in Step 3 (from Appendix A) into the equation. Round the projected score to the nearest integer.</p> $\begin{aligned} \text{Projected grade 11 science score} = & \\ & \text{CONSTANT} + \\ & (\text{READ-CO} * \text{READ-SS}) + \\ & (\text{MATH-CO} * \text{MATH-SS}) + \\ & (\text{SCI-CO} * \text{SCI-SS}) + \\ & (\text{C-MEAN-CO} * \text{C-SCI-SS}) \end{aligned}$	$\begin{aligned} \text{Projected grade 11 science} \\ \text{score} = & \\ & 761.56 + \\ & (0.0748 * 1950) + \\ & (0.1428 * 2100) + \\ & (0.4299 * 1890) + \\ & (0.0354 * 1850) = \\ & 2085.30 = 2085 \end{aligned}$
<p>5. Locate the met standard and commended performance for the projection grade and subject of interest in the last two columns of the table in Appendix A.</p>	<p>Passing standard for grade 11 science = 2100 Commended Performance for grade 11 science = 2400</p>
<p>6. Compare the projected score to the met standard and commended performance. If the projected score is at or above the met standard, then the student is projected as currently on track to meet the standard for the TAKS test in the projection grade and subject. If the projected score is at or above the commended performance, then the student is projected as currently on track to achieve commended performance for the TAKS test in the projection grade and subject.</p>	<p>2085 < 2100</p> <p>Therefore, the student is projected to score below the passing standard and the commended performance in TAKS Science in grade 11.</p> <p>Texas Projection Measure— Projected to Meet Standard at Grade 11: NO</p> <hr/> <p>Texas Projection Measure— Projected to Achieve Commended Performance at Grade 11: NO</p>

Note. Although numbers are rounded for these examples, they will be carried out to more places in the operational calculations.