

1SUPPORTING STATEMENT A:
REQUEST FOR CLEARANCE OF INFORMATION
COLLECTION FORMS FOR
“An Examination of Trends in
Algebra II Enrollment and
Completion in Texas Public High
Schools”

December 2014

Submitted to:

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Contents

Introduction.....	4
A. Justification.....	8
1. Circumstances Necessitating the Data Collection.....	8
2. How, by Whom, and for What Purpose Information Is to Be Used.....	11
3. Use of Automated, Electronic, Mechanical, or Other Technological Collection Techniques.....	13
4. Efforts to Avoid Duplication of Effort.....	13
5. Sensitivity to Burden on Small Entities.....	14
6. Consequences to Federal Program or Policy Activities if the Collection Is Not Conducted or Is Conducted Less Frequently Than Proposed.....	14
7. Special Circumstances.....	14
8. Federal Register Announcement and Consultation.....	14
c. Unresolved Issues.....	16
9. Payment or Gift to Respondents.....	16
10. Data Confidentiality.....	16
11. Additional Justification for Sensitive Questions.....	18
12. Estimates of Hour Burden.....	18
13. Estimate of Total Annual Cost Burden to Respondents or Record-Keepers.....	20
14. Estimates of Annualized Cost to the Federal Government.....	21
15. Reasons for Program Changes or Adjustments.....	21
16. Plan for Tabulation and Publication and Schedule for Project.....	21
17. Approval Not to Display the Expiration Date for OMB Approval.....	23
18. Exception to the Certification Statement.....	23
References.....	24
Attachment A-1. District Staff Survey.....	25
Attachment A-2. Follow-up Email.....	26
Attachment A-3. Follow-up Telephone Script.....	27
Attachment A-4. Student Records Data.....	28
Attachment A-5. IRB Approval.....	29
Attachment A-6. Educational Sciences Reform Act (ESRA).....	30
Attachment A-7. Federal Register Notices.....	31
Attachment A-8. Confidentiality Form and Affidavits.....	32

Attachment A-9. Technical Working Group Suggestions.....33

Introduction

The U.S. Department of Education (ED) requests clearance for data collection under the Office of Management and Budget (OMB) clearance agreement (OMB number 1850-NEW) for activities related to the Regional Educational Laboratory (REL) Program. ED, in consultation with SEDL, intends to study changes in student mathematics course-taking and course failures, as well as changes in district mathematics course offerings and diploma plan placement, that occur after implementation of Texas House Bill 5 (HB 5)—the Foundation High School Program. This is a descriptive study.

Under the Foundation High School Program, students may select from among three different graduation plans—the Foundation Plan, the Foundation plus Endorsement Plan, and the Distinguished Plan. Prior to implementation of the Foundation High School Program, which commenced with the incoming cohort of grade 9 students in the 2014-15 school year, students were required to complete algebra II in order to graduate from a Texas public high school¹. Under the Foundation High School Program, students may elect to complete algebra II², but they are no longer required to do so in order to graduate. Currently, the public universities in Texas require students to have completed algebra I, geometry, and algebra II in order to gain admission. Despite the disparity between some of the new graduation plans and admission requirements to state four-year colleges, the Texas Higher Education Coordinating Board has stated that the universities will not be changing their admissions requirements. Removing the algebra II graduation requirement for all high school students will affect some students' eligibility for admission to state four-year colleges and universities.

In addition, the State Board of Education has opted to change the Texas 10 percent rule, which offers admission to state-funded universities to all Texas high school students who graduate in the top 10 percent of their class, to only include students who graduate in the top ten percent of their class and complete the foundation plus distinguished plan beginning with the 2014-15 incoming cohort of grade 9 students. Thus, opting not to complete algebra II could have important consequences for Texas high school graduates.

OMB approval is being requested for a survey data collection in Texas public school districts to discern what districts in Texas are doing in response to HB 5 with regard to diploma plan placement, advanced mathematics course offerings, and information dissemination about the new graduation requirements.

¹ Prior to HB 5, students were only allowed to complete the minimum high school graduation requirements, which did not include algebra II, if they received special permission.

² Algebra II is required for students who wish to complete the STEM endorsement or the Distinguished Plan.

The Texas Education Agency (TEA) wishes to understand any changes in algebra II enrollment, algebra II completion, and third mathematics course³ failure rates that occur after enactment of HB 5. In particular, this study will inform TEA about the mathematics courses students are completing by the end of their junior year⁴, as well as whether or not fewer students, particularly low-income and minority students, are enrolling in algebra II, completing algebra II, and/or failing their third mathematics course by the end of junior year. TEA will be able to use this information to answer questions about changes in course taking patterns and course failure rates that may arise from parents, education practitioners and administrators, policymakers, and researchers. It will also allow them to respond to inquiries regarding any variation in how districts responded to the HB 5 graduation requirements. For example, the Associate Commissioner for Standards and Programs, who is in charge of curriculum and instruction for TEA is interested in learning which mathematics courses student are completing. In particular the Commissioner is interested knowing the number of new math courses districts are creating and/or adding in order for students to be able to complete the endorsements. Similarly, district administrators are curious to know what other districts are doing with regard to changes in the courses offered in the districts in order to allow students to complete the new endorsements, particularly in mathematics.

This study also will provide TEA and the Texas Higher Education Coordination Board (THECB) with information on the level of Texas students' college preparation in mathematics. This information should be of particular interest to THECB. In the 2013 State of Higher Education Address, Commissioner Raymond Paredes reported that while overall higher education enrollments are on track to meet 2015 goals, Fall 2013 preliminary data show that enrollment rates have slowed, especially among Black and Hispanic males. HB 5 has the potential to reduce enrollment rates even more, especially for low-income and minority students who are already less likely to take a rigorous high school curriculum. This study will provide TEA and THECB with information about changes in students' college readiness (as defined by mathematics course completion) that it can report to the Texas state legislature.

This study will address the following research questions:

- 1) What is the trend in student enrollment in algebra II by the end of grade 11 for students who entered grade 9 during the 2004-05 through 2014-15 academic years?
 - a. Does the trend in student enrollment in algebra II by the end of grade 11 across these cohorts differ by:
 - i. Gender?
 - ii. Race/ethnicity?

³ Students in Texas must complete algebra I and geometry in order to graduate from a public high school. After students have completed algebra I and geometry, they must select a third advanced mathematics course from an approved list of courses, which includes algebra II.

⁴ Due to time constraints inherent in the REL contract, we will be able to follow students only through grade 11. However, course-taking patterns suggest that if students have not completed Algebra II by the end of their junior year, it is unlikely they will do so in their senior year.

- iii. Free or reduced price lunch eligibility?
 - iv. Student achievement?
 - b. Does the trend in student enrollment in algebra II by the end of grade 11 across these cohorts differ between:
 - i. High-minority and low-minority districts⁵?
 - ii. High-income and low-income districts⁶?
 - iii. Geographic locations (i.e., urban, rural, suburban)?
 - iv. Regions of Texas (i.e., north, south, east, west, and central)?
- 2) What is the trend in student completion of algebra II by the end of grade 11 for students who entered grade 9 during the 2004-05 through 2014- academic years?
- a. Does the trend in student completion of algebra II by the end of grade 11 across these cohorts differ by:
 - i. Gender?
 - ii. Race/ethnicity?
 - iii. Free or reduced price lunch eligibility?
 - iv. Student achievement?
 - b. Does the trend in student completion of algebra II by the end of grade 11 across these cohorts differ between:
 - i. High-minority and low-minority districts?
 - ii. High-income and low-income districts?
 - iii. Geographic locations (i.e., urban, rural, suburban)?
 - iv. Regions of Texas (i.e., north, south, east, west, and central)?
- 3) What is the trend in third mathematics course failure by the end of grade 11 for students who entered grade 9 during the 2004-05 through 2014-15 academic years?
- a. Does the trend in third mathematics course failure by the end of grade 11 across these cohorts differ by:
 - i. Gender?
 - ii. Race/ethnicity?
 - iii. Free or reduced price lunch eligibility?
 - iv. Student achievement?
 - b. Does the trend in third mathematics course failure by the end of grade 11 across these cohorts differ between:
 - i. High-minority and low-minority districts?
 - ii. High-income and low-income districts?
 - iii. Geographic locations (i.e., urban, rural, suburban)?
 - iv. Regions of Texas (i.e., north, south, east, west, and central)?

⁵ High-minority districts are districts with percentages of minority students (i.e., American Indian or Alaska Native, Black, Hispanic, Native Hawaiian or Other Pacific Islander, Two or more races) that are in the top one-third of all districts in the state. Low-minority districts are districts with percentages of minority students that are in the bottom one-third of all districts in state.

⁶ High-income districts are districts with percentages of students who are eligible for free/reduced price lunch that are in the top one-third of all districts in the state. Low-income districts are districts with percentages of students who are eligible for free/reduced price lunch that in the bottom one-third of all districts in the state.

- 4) How are districts enacting the graduation requirement provisions of HB 5?
- 5) Which advanced mathematics courses are districts offering students who enter grade 9 after the enactment of House Bill 5?
- 6) Which mathematics courses do students who enter grade 9 after the enactment of House Bill 5 complete by the end of their junior year?
 - a. Do the mathematics courses that students complete differ by:
 - i. Gender?
 - ii. Race/ethnicity?
 - iii. Free or reduced price lunch status?
 - iv. Student achievement?
 - v. The diploma plan into which districts automatically place their students⁷?
- 7) Are there differences in the mathematics courses that students complete by the end of their junior year before (2014-15 through 2015-16) and after enactment of House Bill 5 (2016-17)?
 - a. Do the mathematics courses that students complete differ by:
 - i. The diploma plan into which districts automatically place their students?

Data collection for this project consists of online surveys to be administered to district administration staff who work in Texas public school districts. Specifically, in this OMB clearance package, ED is requesting clearance for the following data collection approach:

- A web-based survey of district administrative staff in Texas public high school districts, including follow-up telephone calls
- Extant data collection consisting of student records data to be obtained from the Texas Education Agency
- A review of information on school district websites for each of Texas' school districts

ED believes that the data collections for which clearance is being requested represent the bare minimum necessary to describe trends in algebra II enrollment, algebra II completion, and third mathematics course failures; district responses to changes in the Texas high school graduation plans; and student mathematics course-taking patterns before and after the enactment of HB 5.

⁷ Several district in Texas have indicated that they will begin placing all incoming grade 9 students in the distinguished diploma plan. Students will have the opportunity to opt into a different diploma plan after their sophomore year.

A. Justification

1. Circumstances Necessitating the Data Collection

In June 2013, Texas Governor Rick Perry signed House Bill (HB) 5—the Foundation High School Program—into law, which changed high school graduation requirements and reduced the number of required state secondary school exams in the state. HB 5 also grants the Texas State Board of Education (SBOE) decision-making authority on a number of other graduation-related issues. Prior to HB 5, Texas students could choose between two graduation plans: recommended and distinguished, with special provisions given for students to drop down to a minimum plan.⁸ In both the recommended and distinguished plans, students were required to take four courses each in English, mathematics, science, and social studies—earning the credits they needed to be admitted to most state universities and colleges.

With the enactment of HB 5, these two high school graduation plans were replaced with three new graduation plans: foundation, foundation plus endorsement,⁹ and foundation plus distinguished. The foundation plan was crafted to give students who want to go directly into career and technical fields the flexibility to take more classes focused on their interests, instead of college preparation classes. Under the foundation plan, the number of credits required to graduate has been reduced from 26 to 22, and students are required to complete only three courses each in science, social studies, and mathematics. The foundation plus endorsement plan requires students to continue to earn 26 credits to graduate. Students selecting this plan must continue to complete four courses each in English, mathematics, and science; however, the third and fourth mathematics courses do not have to include algebra II, with the exception of the STEM endorsement¹⁰. Only students completing the foundation plus distinguished plan and the foundation plus STEM endorsement plan will continue to be required to complete four courses each in English, science, and mathematics, including algebra II—the course requirements for admission to most state four-year colleges and universities.

In response, the SBOE has opted to change the Texas 10 percent rule, which offers admission to state-funded universities to all Texas high school students who graduate in the top 10 percent of their class, to only include students who graduate in the top ten percent of their class and

⁸ Only students meeting strict criteria were able to select the minimum plan, and a waiver acknowledging understanding of the Texas Minimum Graduation Plan had to be signed by a student's parent or guardian.

⁹ The endorsements include science, technology, engineering, and mathematics (STEM); business and industry; public services; arts and humanities; and multidisciplinary studies.

¹⁰ A student may earn a STEM endorsement by completing foundation and general endorsement requirements including Algebra II, chemistry, physics, a coherent sequence of four or more credits in Career and Technical Education (CTE) that consist of at least two courses in the same career cluster including at least one advanced CTE course which includes any course that is the third or high course in a sequence, and a coherent sequence of four credits in computer science selected from the approved list.

complete the foundation plus distinguished plan beginning with the 2014–15 incoming cohort of grade 9 students.

The public universities in Texas still require students to have completed algebra I, geometry, and algebra II in order to gain admission, despite the disparity between some of the new graduation plans and admission requirements to state four-year colleges. As such, removing the algebra II graduation requirement for all high school students will affect some students' eligibility for admission to state four-year colleges and universities.

To investigate trends in algebra II enrollment, algebra II completion, and third mathematics course failure, we will plot the algebra II enrollment, algebra II completion, and third mathematics course failure rates by the end of grade 11 over time for all public high schools in Texas for the incoming cohorts of students. Particular attention will be paid to trends in the algebra II enrollment, algebra II completion, and third mathematics course failure rates of low-income, low-achieving, and minority students. We will also describe how districts are responding to HB 5. Specifically, we will describe whether districts are opting to automatically place students into a specific diploma plan, and if so, which plan; changes in the number and type of mathematics courses offered; and how districts are communicating with parents about changes to the high school graduation requirements being implemented under HB 5. This study will utilize extant student- and school-level data collected and archived by TEA, data retrieved from district websites, and a survey administered to district administrators. Table 1 lists the data source used to address each of the research questions.

Table 1. Data sources used to address each research question

Research Question	TEA	Survey
1. What is the trend in student <u>enrollment</u> in algebra II by the end of grade 11 for students who entered grade 9 during the 2004-05 through 2014-15 academic years?	X	
2. What is the trend in student <u>completion</u> of algebra II by the end of grade 11 for students who entered grade 9 during the 2004-05 through 2014-15 academic years?	X	
3. What is the trend in third mathematics course failure by the end of grade 11 for students who entered grade 9 during the across the 2004-05 through 2014-15 academic years?	X	
4. How are districts enacting the graduation requirement		

provisions of HB 5?		X
5. Which advanced mathematics courses are districts offering students who enter grade 9 after the enactment of House Bill 5?		X
6 Which mathematics courses do students who enter grade 9 after the enactment of House Bill 5 complete by the end of their junior year?	X	
7. Are there differences in the mathematics courses that students complete by the end of their junior year before (2014-15 through 2015-16) and after enactment of House Bill 5 (2016-17)?	X	

To answer research questions 1, 2, 3, 6, and 7, REL Southwest will utilize student- and school-level data sets available from the TEA. Specifically, the study will use data from TEA’s Public Education Information Management System (PEIMS), statewide assessment files, and Texas Academic Performance Report (TAPR) files. PEIMS contains data on student enrollment and demographic characteristics, special program participation, and course completion data, while the statewide assessment files contain data on students’ performance on the STAAR assessments. TAPR contains organizational data for schools and districts.

To answer research questions 4 and 5, we will use an online survey, as well as information posted on district websites collected as part of a separate study to describe how districts are responding to the provisions of HB 5. Specifically, we will use data collected by a separate fast response study to describe which graduation plan, if any, districts are automatically placing students in upon enrollment in grade 9. We will use the online survey to fill in the gaps from the website search regarding which graduation plan, if any, districts are automatically placing students and to determine the number and type of endorsements districts are offering. REL Southwest will administer the online survey to district staff who oversee curriculum and instruction. See attachment A-1 for a copy of the survey.

The timeline for data collection is shown in Table 2.

Table 2. Data Collection Timeline

Data Collection	Purpose	Requesting OMB Clearance?	Oct /Nov 2015	July 2017
Extant district staff contact information	<ul style="list-style-type: none"> • Email addresses and telephone numbers for dissemination of online surveys 	Yes	X	
District staff surveys	<ul style="list-style-type: none"> • Student diploma plan placement • Endorsements offered • Advanced mathematics courses offered • Parent information dissemination 	Yes	X	
Extant administrative school and student data from the Texas Education Agency	<ul style="list-style-type: none"> • Student mathematics course enrollment, completion, and failure data • Student background characteristics • Description of Texas public high schools 	Yes		X

2. How, by Whom, and for What Purpose Information Is to Be Used

ED’s contractor for REL Southwest will analyze the data to be collected through this study using statistical models and procedures that are preapproved by the Institute of Education Sciences (IES). The contractor will then summarize the findings in a report that will undergo review for quality and relevance by the National Center for Education Evaluation and Regional Assistance’s (NCEE’s) external review contractor. After the report has undergone IES review, findings will be presented to TEA (the primary audience) and published through IES for educators and education researchers (secondary audience).

To provide this information to the primary audience and the secondary audience, ED’s contractor is requesting OMB clearance to collect the three types of data listed in Table 2. The contractor is requesting OMB clearance to collect two types of extant data from TEA:

- 1) **TEA administrative student data.** For this project, REL Southwest will use TEA’s Public Education Information Management System (PEIMS), statewide assessment files and Texas Academic Performance Report (TAPR) files data files (research

questions 1, 2, 3, 6 and 7). Since we are requesting data for all students in all public schools in the state as opposed to requesting a customized report, we do not anticipate that it will place much of a time burden on TEA staff to provide us with this data—not more than 2-3 hours.

- 2) **District staff email addresses and phone numbers from TEA.** REL Southwest will obtain a list of district superintendent email addresses and telephone numbers in order to facilitate dissemination of the online surveys. The data is available from the TEA website site, and there is no associated time burden for TEA staff.

ED's contractor is also requesting OMB clearance to collect data via a district survey to be administered to all public school districts in the state of Texas:

- 3) **District staff survey.** In the fall of 2015, SEDL will send an email message to superintendents at each of the 1,026 public school districts in Texas containing a link to the online survey.¹¹ The email message will inform respondents about the purpose of the survey and the intended use for the data. The survey will ask respondents to provide information on new mathematics courses offered in the district in response to HB 5, which endorsements are being offered at each of the schools in the district¹², and the types of information being distributed to students and parents (and means of distribution) regarding changes to the high school graduation requirements enacted under HB 5. The survey will also ask districts to report which graduation plan, if any, they are automatically placing students in upon enrollment in grade 9. The survey will be sent to district superintendents; however, superintendents will be directed to forward the email to other district staff who might better be able to respond to the survey questions. After one week, a second electronic mail message will be sent to all nonrespondents. If a response to the survey is not received within one week of sending the second electronic mail message, telephone calls will be made to the district to collect this information. Districts contacted via telephone will be asked to respond to the survey questions orally. A researcher will record their responses in the online survey form.

¹¹ We will obtain contact information from TEA's website. ED's contractors will include the link to the online survey in the email message explaining the intent and purpose of the survey, as this is more expedient than sending an initial email explaining the survey and inviting administrators to participate in it. That is, district administrators will have access to the survey immediately, rather than having to be on the lookout for an additional email. District administrators will have the opportunity to forward the email to other district staff, if desired. If district administrators do not complete the online survey, they will receive a phone call. At this time, another district staff member can be identified to provide the information.

¹² There are approximately 1,026 school districts in Texas and most have a maximum of 2-3 high schools.

The surveys are designed to be completed online in approximately 10-15 minutes. Since some districts will need to be contacted more than once, and some districts will complete the survey via telephone, it is assumed that the average burden per online survey response will be 15 minutes and the average burden per telephone survey response will be 20 minutes. For the purposes of this OMB package, it is assumed that district staff members for each of Texas' 1,026 districts that include a high school will complete a district staff survey.

3. Use of Automated, Electronic, Mechanical, or Other Technological Collection Techniques

The data collection plan reflects sensitivity to issues of efficiency, accuracy, and respondent burden. To address the study's research questions, the contractor will collect data using electronic data collection tools. The electronic tools include the following:

- A secure electronic file transfer protocol site that allows TEA to transfer administrative records to ED's contractor in an efficient and secure way.
- Online data collection tools (e.g., Survey Gizmo) that allows for the secure collection of survey responses and eliminates the need for third-party data entry

4. Efforts to Avoid Duplication of Effort

To the extent possible, this project will rely on extant administrative data or existing documents that are available for students, schools, and district staff, rather than asking individuals to provide the data for study purposes. The only data to be collected that will be unique to this study will be obtained via the district staff survey. Presently, no other systematic effort has been made or is currently underway to collect information regarding how districts are responding to the new graduation requirements implemented under HB 5; as such there is no alternative source of the information collected by the online district staff survey¹³.

5. Sensitivity to Burden on Small Entities

The use of state-level administrative records will reduce the burden on districts by ensuring that only the minimum amount of original data is requested from districts in order to meet the

¹³ A review of Texas public school district websites revealed that only about 45 percent of districts had some information about how they are responding to HB 5 available on the district website.

objectives of this study. Aside from surveys emailed directly to district superintendents, ED's contractors will not contact districts to request additional data.

6. Consequences to Federal Program or Policy Activities if the Collection Is Not Conducted or Is Conducted Less Frequently Than Proposed

The Education Science Reform Act of 2002 states that the central mission and primary function of the regional education laboratories is to support applied research and provide technical assistance to state and local education agencies within their region (ESRA, Part D, section 174[f]). If the proposed data were not collected, REL Southwest would not be fulfilling its central mission to serve the states in the region and provide support for evidence-based research. The research questions addressed in this study respond to questions raised by TEA, which is a constituent member of the REL Southwest. If the proposed data were not collected, TEA would not know how Texas public school students and districts are responding to the new graduation requirements outlined in HB 5. Because Texas is a leader among states as it relates to high school graduation standards (they were one of the first states to adopt a requirement that students complete Algebra II to graduate), the results of this study may also inform decisions regarding high school graduation requirements nationwide.

7. Special Circumstances

This request for OMB clearance does not include any of the stipulated special circumstances and thereby fully complies with regulations.

8. Federal Register Announcement and Consultation

a. Federal Register Announcement

A 60-day Federal Register Notice was published on 1/02/2015. To date, no public comments have been received. A 30-day notice was issued at the same time the ICR was submitted to OMB for review.

b. Consultations Outside the Agency

ED and/or the REL Southwest contractor have consulted with individuals regarding the availability of data, the soundness of the evaluation design for addressing evaluation questions, and the clarity of measures. Specifically, a technical working group (TWG) comprising experts in research methodology and REL Southwest's core areas of

emphasis, which was assembled by the REL Southwest contractor to review studies. The TWG met twice, April 29, 2014 and August 4, 2014, to discuss the changes to the graduation requirements being implemented as a result of HB 5, the study methodology, and measures. The contractor was required to submit to ED the TWG comments and the contractors' plan for addressing those comments (see appendix A-7).

Members of the TWG include:

Dan Goldhaber, Ph.D.

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c. Unresolved Issues

There are no unresolved issues.

9. Payment or Gift to Respondents

This request for OMB clearance does not include any payment or gifts to respondents. District staff will not be paid or provided monetary incentives for completing the online survey. Districts will be offered copies of the final aggregated, statewide results of the survey. District administrators are interested in what other districts are doing in response to the changes to the graduation requirements.

10. Data Confidentiality

The data collection efforts that are the focus of this clearance package will be conducted in accordance with all relevant federal regulations and requirements. The Southwest REL will be following the new policies and procedures required by the Education Sciences Reform Act of 2002, Title I, Part E, Section 183 requires “All collection, maintenance, use, and wide dissemination of data by the Institute” to “conform with the requirements of section 552 of title 5, United States Code, the confidentiality standards of subsection (c) of this section, and sections 444 and 445 of the General Education Provision Act (20 U.S.C. 1232g, 1232h).” These citations refer to the Privacy Act, the Family Educational Rights and Privacy Act, and the Protection of Pupil Rights Amendment.

Every measure will be taken to protect the confidentiality of the data collected and the data will be used for the purpose of the study. All survey responses will be kept strictly confidential, and will only be used for the purpose of the study. No one at the school, district, or the state will have access to survey responses that include respondents' names, school names, or other information that could potentially be used to identify individuals or schools. The project has been approved by E&I Review Services, which serves as SEDL's Institutional Review Board to review research involving human subjects. E&I is registered with the Office of Human Research Protection (OHRP). E&I's IRB Organization number is 000065. E&I's IRB Registration number, effective until November 28, 2015, is IRB00007807 (see attachment A-3).

In addition, for student information, the data collection efforts will ensure that all individually identifiable information about students, their academic achievements, their families and information with respect to individual schools, shall remain confidential in accordance with section 552a of Title 5, United States Code, the confidentiality standards of subsection (c) of this section, and sections 444 and 445 of the General Education Provision Act. The study will also adhere to requirements of subsection (d) of section 183 prohibiting disclosure of individually identifiable information as well as making the publishing or inappropriate communication of individually identifiable information by employees or staff a felony. All administrative records will be sent to ED's contractor by TEA using a file transfer protocol (FTP). Access to the FTP site will be password protected, and all data will be immediately deleted from the FTP site upon successful download by ED's contractor. All data files will be stored on secure server administered by ED's contractor. Extant student data records will already have been de-identified by TEA prior to transfer. That is, all student identification numbers and school identification numbers will have been systematically replaced by TEA using algorithm designed by TEA.

ED's contractor will protect the confidentiality of all information collected for the study and will use it for research purposes only. No information that identifies any study participant will be released publicly. Information from participating institutions and respondents will be presented at aggregate levels in reports. Information on respondents will be linked to their institution but not to any individually identifiable information. No individually identifiable information will be maintained by the study team upon study completion.

To protect confidential data, only the contractor's data management staff, investigators, and research staff will have access to the data files on a "need-to-know" basis. Any identifiable variables, raw data, or derived variables will be stored in encrypted files on a secure data management site. Access to this site will be limited to staff assigned to the project. Any data obtained for this study will be used only for statistical and descriptive analyses. All identifiers will be destroyed as soon as they are no longer required. Study reports will not identify the

name of any specific analysis unit (e.g., students, school staff members, or schools). In no case will information be reported when the total number for a quantity represents fewer than four cases. Moreover, any data that permit identity disclosure, when used in combination with other known data, will not be published or made available in restricted-use files.

All members of the study team have obtained their certification on the protection of human subjects in research, and REL Southwest staff members will also have obtained federal security clearances. The REL study team will submit to the NCEE security officer a list of the names of all people who will have access to respondents and data. All staff members working on the project who have access to the data or to respondents will be required to sign a confidentiality pledge and affidavits of non-disclosure (see copies of the forms in Attachment A-10; we will obtain the appropriate signatures). The project team will track new staff and staff who have left the study and ensure that additional signatures will be obtained or clearances will be revoked.

Respondents to the surveys will be informed that project staff are committed to keeping data confidential and that participation in the data collection activities is voluntary. Although all of the information collected by the survey is publically available information, district identification numbers will be scrambled prior to submission of the data to ED in the form of a restricted-use file. The instructions for providing extant documents and instructions for online surveys will reiterate these points.

11. Additional Justification for Sensitive Questions

No questions of a highly sensitive nature appear in any instrument, including the online survey. In addition, participants will be informed that their responses are voluntary, and they may decline to answer any question.

12. Estimates of Hour Burden

There are two components for which ED's contractor has calculated hours of burden for this clearance package: (1) extant data provided by the state to ED's contractor, and (2) survey data collected from study participants by ED's contractor. Table 3 shows the hourly burden overall and for both components. The total burden associated with this study, across three study years, is approximately 305 hours, with an annualized burden of 101.7 over three years. This burden estimate includes the time required for district staff to complete the online survey—273 hours—as well as the burden estimate for extant data collection—32 hours. For this data collection, the burden was estimated based on the contractor's performance of similar survey collections and confirmed through pilot testing with TEA staff, as well as the contractor's previous

experience obtaining extant data from TEA. To be conservative, the burden estimates assume response rates of 100 percent. The annualized number of responses is 343 rounded (a total of 1027 across three years), and the annualized number of burden hours is 102 rounded (a total of 305 across three years).

Table 3. Time Burden Estimates for the REL Southwest Study of HB 5

Instrument	Person Incurring Burden	Number of Respondents	Responses per Respondent	Hours per Response	Total Burden (Hours)
1. Extant district staff contact information	n/a	0	0	0	0
2. District staff survey (online)	District staff	821	1	0.25	205.3
2a. District staff survey (telephone)	District staff	205	1	0.33	67.7
3. Extant student records data	State data manager	1	2	16	32
Total	--	1027	--	16.5 (across responses)	305
<p>One individual (e.g., district superintendent, district curriculum and instruction director) from each Texas public school district will complete the online survey. It is estimated to take no longer than 10 minutes to complete the online version of the survey. We assume an average of 5 minutes per respondent for the initial and follow-up emails (a total of 15 minutes for the online survey) and an additional 5 minutes for telephone calls (a total of 20 minutes for the telephone survey).</p>					

Burden for Extant Data Collection

The total estimated burden for TEA to compile and transmit secondary data to ED’s contractors is 32 hours. This calculation assumes one data manager works a collective total of 32 hours (4 total days) on compiling the data request. We are requesting complete data sets (all variables) from the data files maintained by TEA, rather than requesting a customized dataset, which would be more time consuming. The complete files will contain extraneous variables, such as data flags, variables that provide duplicate data, and variables used to create other variables. These extraneous variables will be deleted by ED’s contractor prior to analysis of the data files. As such, the burden to downloading the data files and transmitting them to ED’s contractor is very low. The extant district staff contact information is public information that is available for download from TEA’s website. As such, there are no respondents, no total burden hours, and no monetary costs of burden associated with this data collection activity.

Burden for Survey Data Collection

The total estimated burden for survey data collection for the study is 273 hours, including 205.3 hours for districts that complete the online survey and 67.7 hours for districts that complete the telephone survey. District administrative staff will be surveyed once and asked to complete a total of 7-8 questions. The survey will take place during year 1 of the study.

The total cost to respondents for the three components of this study that require data collection from outside sources—the district staff survey, the extant district staff contact information, and the extant student records data collection—is provided in Table 4. The total respondent cost associated with this study is approximately \$12,168. The annualized cost for this three-year study is \$4,056. The cost of the district staff survey is \$10,920 (\$8212 for the online survey; \$2708 for the telephone survey); the cost of the extant data collection is \$1,248. There are no start-up costs associated with this data collection.

Table 4. Estimates of Annualized Costs for Respondents

Tasks	Type of Respondent	Total Burden Hours	Hourly Wage Rate ¹	Monetary Cost of Burden
1. Extant district staff contact information	None	0	0	\$0
2. District staff survey (online)	District staff	205.3	\$40	\$8212
2a. District staff survey (telephone)	District staff	67.7	\$40	\$2708
3. Extant student records data	State data manager	32	\$39	\$1,248
Total	--	288.5	--	\$12,168

NOTE: The hourly wage rates for district administrative staff are based on mean wage rates in Texas reported by the Bureau of Labor Statistics (2013). For district administrative staff the mean wage for education administrators of elementary and secondary schools is used (\$39.59). For state data managers the mean wage for statisticians is used (\$38.80).

13. Estimate of Total Annual Cost Burden to Respondents or Record-Keepers

There are \$0 start-up costs associated with this collection.

14. Estimates of Annualized Cost to the Federal Government

The annualized cost to the federal government for all project activities is \$184,333.33. The estimated total cost for the three-year project is \$553,000.

15. Reasons for Program Changes or Adjustments

This is a new study.

16. Plan for Tabulation and Publication and Schedule for Project

All results for REL studies are made available to the public through peer-reviewed reports that are published by IES. The data sets from these studies will be turned over to the REL’s IES project officer. These data may become IES restricted-use data sets requiring a user’s license that is applied for through the same process as National Center for Education Statistics restricted-use data sets (see <http://nces.ed.gov/pubs96/96860rev.pdf> for procedures related to obtaining and using restricted-use data sets). These files will contain all the primary survey data

collected for the study with all personal identifiers removed. Thorough documentation will be provided for each data file, including a detailed codebook and explanations of the unit of observation, weights, and methods for handling missing data. The REL contractor also would be required to obtain a restricted-use license to conduct any work with the data beyond the original report. The extant student records data will not be turned over to the REL's IES project officer.

To answer research questions 1 through 3, we will conduct a series of trend analyses. Our trend analyses are designed to investigate changes in algebra II enrollment, algebra II completion, and first advanced mathematics course failure rates over time. To do so, we will calculate algebra II enrollment, algebra II completion, and first advanced mathematics course failure rates by the end of grade 11 over time for students in public high schools in Texas for students who entered grade 9 in the 2006-07 through 2014-15 cohorts. Additionally, because the literature shows that low-achieving, low-income, and minority students are the least likely to complete a rigorous curriculum in high school and the most likely to be influenced by graduation requirements, we will also look at whether trends in algebra II enrollment, algebra II completion, and third mathematics course failure differ for these subgroups of students. We will also look at differences by gender. We will create tables and graphs to present the descriptive data.

To answer research question 4 and 5, we will conduct descriptive analyses. Using data from our district staff survey, we will describe what districts in Texas are doing in response to HB 5 with regard to diploma plan placement, advanced mathematics course offerings, and information dissemination about the new graduation requirements. For example, one of the questions on the survey ask respondents to indicate which diploma plan, if any students are being placed into upon enrollment. We will use descriptive statistics to indicate the number and percentage of districts placing students into each diploma plan. These results will also be broken down by district characteristics. A companion table will show the number and percentage of students in the state being placed into each diploma plan overall and by student characteristics¹⁴.

We will also use descriptive statistics to answer research questions 6 and 7. Under HB 5, students completing the foundation plus endorsement graduation plan must still complete four mathematics courses to graduate. Since students will no longer be required to complete algebra II, it will be instructive to see which mathematics courses students choose to complete. As such, we will take an in-depth look into students' mathematics course completion by the end

¹⁴ We will assign all students in the incoming 2014-15 grade 9 cohort within a district into the diploma plan indicated by the district administrator.

of junior year and investigate differences in the types of mathematics courses students completed for those students who began grade 9 before and after the implementation of HB 5. In particular, we are interested in seeing whether or not students enroll in more career/vocational education mathematics courses. To do so, we will group mathematics courses into categories, including statistics and probability, vocational mathematics, alternative mathematics¹⁵, International Baccalaureate mathematics, algebra II, and precalculus/trigonometry/calculus, and present frequencies for each category. This approach will allow us to determine the types of mathematics courses students are completing by the end of their junior year. Then, we will assess differences in the percentages of students completing each course type for students who began grade 9 before and after implementation of HB 5. As above, we will assess differences in course-type completion by minority status, free or reduced-price lunch status, and prior mathematics achievement. We will also look at differences between districts that automatically students into the Distinguished Plan and those that do not.

The project schedule is presented in Table 5.

Table 5. Schedule of Activities

Activity	Date
Draft study proposal to REL Southwest COR	May 2014
Revised draft proposal to RPR	September 2014
Draft OMB package to COR	September 2014
Grade 9 cohort begins high school	August 2014
Final study proposal approved by ED	November 2014
Project start	November 2014
Notice of IRB clearance	November 2014
Draft OMB Submission	December 2014
Students begin selecting courses for their sophomore year	Mid-February 2015
Final OMB approval	July 2015
Administer District Survey	October/November 2015
Preliminary data analysis: Course completion data available for students who took geometry in grade 9	July 2016
Students begin selecting courses for their junior year	Mid-February 2016
Final data analysis: Course completion data available for all students	July 2017
Dissemination of limited distribution memo to TEA	Late Summer - Early

¹⁵ Under HB 5 several new mathematics courses are being developed, such as algebraic reasoning and other locally developed mathematics courses. Additionally, students may complete courses such as mathematical models with applications, advanced quantitative reasoning, and discrete mathematics for problem solving. All of these mathematics courses would fall under the category of “alternative mathematics”.

	Fall 2017
Dissemination of public reports	Late Fall 2017

17. Approval Not to Display the Expiration Date for OMB Approval

Approval not to display the expiration date for OMB approval is not requested.

18. Exception to the Certification Statement

No exceptions to the certification statement are being sought.

References

- Bureau of Labor Statistics (2013). May 2012 state occupational employment and wage estimates: Minnesota. Washington, DC: Author. Retrieved http://www.bls.gov/oes/current/oes_mn.htm#00-0000.
- U.S. Department of Education. (2010). A blueprint for reform: The reauthorization of the Elementary and Secondary Education Act. Washington, DC: Author. Retrieved from <http://www2.ed.gov/policy/elsec/leg/blueprint/blueprint.pdf>

Attachment A-1. District Staff Survey

See attachment

Attachment A-2. Follow-up Email

See attachment

Attachment A-3. Follow-up Telephone Script

See attachment

Attachment A-4. Student Records Data

See attachment

Attachment A-5. IRB Approval

See attachment

Attachment A-6. Educational Sciences Reform Act (ESRA)

See attachment

Attachment A-7. Federal Register Notices

See attachment

Attachment A-8. Confidentiality Form and Affidavits

See attachment

Attachment A-9. Technical Working Group Suggestions

See attachment