

Postsecondary Completion in Rural Texas: A Statewide Overview

Submitted to
Educate Texas

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Most people are surprised when they learn Texas has the largest population of rural K-12 students in the nation—more than 834,000, with many of them living in poverty. Although Texas has six of the largest cities in our nation, we also have some of our nation’s smallest and most geographically isolated communities. Urban America and urban Texas receive a great deal of attention from policy makers and philanthropists. This report and the graduate capstone students who completed the research seek to shed light on an under examined and underserved population.

Through interviews, a survey, and quantitative research using large secondary datasets, the researchers made interesting discoveries. For example, at both the federal and state level, different government agencies use different definitions of rural—the Texas Education Agency and the Texas Higher Education Coordinating Board define rural differently. So do the U.S. Census Bureau, the U.S. Department of Education, and the U.S. Department of Agriculture. Rural is not always rural. Related to that, the researchers discovered that each rural region in Texas has its own unique characteristics—there is no monolithic rural Texas—and that students from those rural regions often encounter unique barriers to postsecondary completion. Most importantly, the researchers found no widespread responses to those unique rural barriers.

Nine months ago, rural postsecondary completion in Texas was simply a research topic on a piece of paper. Today, I congratulate Candice, Leti, Orsi, Shuyu, Taylor, Vlad, and Zach. They made the topic come alive and have indeed spotlighted issues for further examination. My thanks to our Educate Texas partners—John Fitzpatrick, Dr. Reo Pruiett, and Kelty Garbee—for their support, encouragement, advice, and counsel. Finally, thanks to the Bush School faculty and staff—especially Sally Wade and Kimberly Reeves—for supporting our work. Additionally, Dr. Kalena Cortes provided data used to determine distances to institutions of higher education in rural Texas, and we’re appreciative of Dr. Cortes’s feedback on our quantitative methodology.

Our hope is that by completing the research and placing this report in your hands that the issues of rural Texans—especially related to postsecondary completion—will take on new meaning to you. Together we can continue the inquiry and dialogue that will lead to changes so that more young Texans can participate in the Texas in which we believe—the Texas that is on the frontier, leading change, and pioneering the way ahead.

Best regards,

A handwritten signature in black ink, appearing to read "Wynn Rosser".

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EXECUTIVE SUMMARY

Educate Texas, our client, is a partner and key player in postsecondary education in Texas. The nonprofit seeks to improve postsecondary completion statewide. Under their mission, our capstone was charged with assessing the state of postsecondary completion in Rural Texas. Using a mixed methods approach, the capstone studied institutional, attitudinal, and academic barriers that impede rural students from pursuing and obtaining a postsecondary credential.

Why should policymakers and stakeholders focus specifically on the rural student population in Texas for postsecondary enrollment and completion?

- Texas ranks below the national average in postsecondary educational enrollment and completion.¹ Texas needs to “enroll immediately 200,000 more students” to reach the national average, according to Closing the Gaps, the Texas Higher Education Coordinating Board strategic plan. Within the state, the issue also applies to rural students. Only 26% of the most recent Texas high school graduating class tracked as a cohort ended up earning a postsecondary credential.²
- There are 834,000 rural K-12 students in Texas, which is 18% of the total K-12 enrollment.³

- Approximately 43% of the rural K-12 student population is considered low-income.⁴
- With the largest population of rural students in the country, Texas has a unique opportunity to capitalize on the success of these youth completing a postsecondary credential.

Methodology

Through mixed research methods using a review of existing literature, descriptive statistics and stakeholder interviews, the capstone used a regional approach to identify the challenges that rural students face. The state was divided into three distinct regions- East, West, and South, combining area districts from the Texas Higher Education Coordinating Board (THECB). The quantitative databases utilized in this study include Integrated Postsecondary Data System (IPEDS) 2011-2012, THECB regional data 2011 and 8th grade cohort data. For the qualitative portion of the analysis, the stakeholder interviews were conducted through online surveys and phone interviews. Interviewees were selected based on their occupation, region, and work in rural education issues. Results from both the descriptive statistics and the interviews were combined to arrive at the findings for this report.

¹ Educate Texas. “Texas Regional Action Plan”. 2011. 1. <http://www.edtx.org/main/research-and-reports/regional-action-plan/>. Accessed March 8 2014.

² Texas Higher Education Coordinating Board. “7th Grade Cohort Data FY 1998”, 2013, <http://www.txhighereddata.org/index.cfm?objectId=9758C37F-9CF2-BB2F-C97BB6387A5C2B7E>. Accessed Dec 2 2013.

³ Why Rural Matters. “Texas”. 2012. Accessed April 12, 2014. <<http://files.ruraledu.org/wrm2011-12/Texas.pdf>>

⁴ Southern Education Foundation. “A New Majority: Low Income Students in the South”. 2013. Appendix 2. Accessed April 12, 2014 <<http://www.southerneducation.org/getattachment/0bc70ce1-d375-4ff6-8340-f9b3452ee088/A-New-Majority-Low-Income-Students-in-the-South-an.aspx>>

Findings

We found that students in rural Texas face a combination of barriers to postsecondary enrollment and completion that are common to urban students, while some are unique to the rural setting. The rural Texas experience is characterized by long travel distances to a higher education institution, lack of personal access to broadband, and expectations held for students by parents.

Other barriers include curricular rigor, college readiness, teacher retention, out-of-field teaching and lack of information about financial aid. Through our observations, the capstone study found for many of the barriers there are no rural-specific or unified responses to help alleviate the issues that students face, there are no rural-specific or unified responses to help alleviate the issues. Another major finding is the need for a universal definition of rural that captures social and geographic needs for the students in these areas. Also, partnerships are key in leveraging resources to improve rural postsecondary completion.

Recommendations

- Create a uniform definition to identify rural areas for funding and resource distribution purposes.
- Recognize rural students as an underserved population.
- Engage in actively attracting qualified teachers to rural areas by offering various incentives. Also, provide training and leadership development for rural teachers to diversify course offerings.
- Customize academic programs and policies to address the barriers unique to rural students.

- Leverage parents' great influence by actively facilitating parental engagement in the K-12 setting and postsecondary setting by expanding programs and school counseling services.
- Tailor programs to address barriers most prevalent in rural Texas.
- Explore the role of FFA and 4-H in rural Texas related to postsecondary completion for rural youth.

Areas for Further Study

Additional research on rural postsecondary completion is important to improving outcomes. Because of the time limitations and wide-scope of this research project, there are many opportunities for deeper analysis. Further study topics include the implications of one definition for rural in Texas, parental interaction and student counseling, the intensity of academic rigor through curriculum, and a survey of rural student perspectives on education aspirations. Many of these topics surfaced during the study and would provide insight into solutions for rural postsecondary completion.

Conclusion

Rural students in Texas have to overcome several barriers to complete a postsecondary credential. Though there are many independent efforts to address these issues, the impact would be increased by a collective effort at the policymaking and implementation level. Our hope is to inspire dialogue that ignites action to resolve the issue of postsecondary completion in rural areas.

INTRODUCTION

Educate Texas, our client, charged our capstone team at the Bush School of Government and Public Service, with analyzing postsecondary completion in rural Texas and with researching and finding best practices to target postsecondary enrollment and completion for rural students in Texas. Educate Texas is a partner and key player in postsecondary education advocacy and seeks to engage stakeholders to improve postsecondary completion, statewide, in Texas. At the client's direction, the research is focused on students who are traditionally college aged, because it is the client's primary population focus. Why is it crucial to increase postsecondary enrollment and completion in Texas? Is this a goal that can be achieved? How should this goal be achieved? Why focus on rural students in Texas? These are some of the many questions our capstone seeks to answer through thoughtful analysis and stakeholder interviews.

"Our progress as a nation can be no swifter than our progress in education."

-President John F. Kennedy, 1961.

THE CHALLENGE AHEAD

Texas ranks below the national average in postsecondary educational enrollment and completion.⁵ Texas needs to “enroll immediately 200,000 more students” to reach the national average, according to Closing the Gaps, the Texas Higher Education Coordinator Board strategic plan.

- There are approximately 834,000 rural K-12 students in Texas, which makes up 18% of the overall K-12 student population in Texas.
- Only 26% of the most recent Texas high school graduating class tracked as a cohort ended up earning a postsecondary credential.⁶
- Nationally, more than 50% of rural K-12 students aspire to earn a postsecondary credential.⁷
- Out of those students who do not immediately enroll in college following

high school graduation, the enrollment rates in a postsecondary program were 30 percentage points lower.⁸

- In Texas, 32.2% of adults have a postsecondary credential.⁹
- According to the Georgetown Center for Education and the Workforce, by 2018, 60% of all jobs will require a postsecondary credential.¹⁰
- Texas enrolls “only 5 percent” of its population in postsecondary programs, as “compared to a national average of 5.4 percent.”¹¹ The percentage difference between the national average and Texas “represents 76,000 students.”¹²

⁵ Educate Texas. “Texas Regional Action Plan.” 2011. 1. <http://www.edtx.org/main/research-and-reports/regional-action-plan/>. Accessed March 8, 2014.

⁶ Texas Higher Education Coordinating Board. “7th Grade Cohort Data FY 1998,” 2013, <http://www.txhighereddata.org/index.cfm?objectid=9758C37F-9CF2-BB2F-C97BB6387A5C2B7E>. Accessed Dec 2, 2013.

⁷ National Research Center on Rural Education Support “Recent Findings Update: Educational Aspirations of Rural Youth,” <http://www.nrcres.org/Research%20Briefs/HSA/HSA%20Educational%20Aspirations%20brief.pdf>. Accessed April 28, 2014

⁸ James, Johnathan. “Delaying Enrollment and College Completion.” 2012. <<http://www.clevelandfed.org/research/trends/2012/0912/01labmar.cfm>> Accessed April 24, 2014.

⁹ Department of Education. “College Attainment Goals.” 2012. <<http://www.ed.gov/news/press-releases/new-state-state-college-attainment-numbers-show-progress-toward-2020-goal>> Accessed April 26, 2014.

¹⁰ Georgetown University Center on Education and the Workforce. “Projections of Jobs and Education Requirements Through 2018.” 2013. <<http://cew.georgetown.edu/jobs2018>> Accessed April 26, 2014.

¹¹ Texas Higher Education Coordinating Board. “Closing the Gaps: The Texas Higher Education Plan,” 2013, 8, <http://www.theccb.state.tx.us/reports/PDF/0379.PDF>. Accessed Nov 18, 2013.

¹² Texas Higher Education Coordinating Board, 8.

- Specifically in Texas, the reported high school graduation rate statewide for the class of 2012 was 87.7%.¹³

Though the potential for enrolling in college is high due to the relatively high percentage of high school students graduating in Texas, there are significant challenges with postsecondary enrollment and more so completion. The Texas legislature passed House Bill 5 to alleviate some of these concerns. Within HB5 are policies to increase graduation requirements and implementation of the Texas Success Initiative.¹⁴ HB5 also seeks to close the gap in college readiness. Not being college ready can contribute to a student not succeeding in postsecondary education. While the legislature may be addressing the issues at the state level for the high school-to-college enrollment gap, there are additional challenges facing Texas in the college enrollment-to-college completion gap. Additionally, while research has been done on underrepresented groups, “rural students have received relatively little attention.”¹⁵

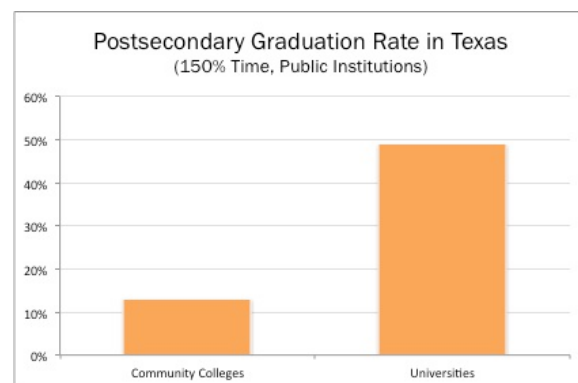
¹³

http://tea.state.tx.us/news_release.aspx?id=25769806299, Accessed Dec 3, 2013

¹⁴ *Ibid.*

¹⁵ Koricich, Andrew. “The Effects of Rurality on College Access and Choice.” 2014. 3. Forthcoming.

On-time graduation rates for Texans enrolled in universities are below 50%. On-time graduates are defined as students who complete their degree plan within two years at community college or four years for universities.¹⁶ Texas public universities graduate 24.4% of students on-time, and community colleges graduate 13.1% of students on-time.¹⁷ In Texas, the rural university graduation rate is even lower than the overall state average.



Stakeholders such as school principals, superintendents, nonprofit leaders, economic development organizations, and policy leaders are involved with the college completion dialogue, but the efforts are either statewide or, more often, specific to a single school or community. Additionally, the focus on postsecondary completion has been primarily within major urban population areas, mainly because these areas have a larger

¹⁶<http://collegecompletion.chronicle.com/state/#state=TX§or=public>, Accessed Dec 3, 2013

¹⁷ *Ibid.*

population of students and stakeholders.¹⁸ Rural regions are often neglected within the postsecondary completion conversation, though these communities are also greatly impacted by low completion rates. The conversation on postsecondary completion and enrollment needs to shift to a more regionalized approach for rural Texas due to the variances between regions.

Most importantly, rural students in Texas represent an opportunity for stakeholders to increase postsecondary completion in the state. Rural students are well positioned to enroll in postsecondary education due to their already high levels of high school graduation. The gains based on rural students in the state enrolling and completing a postsecondary credential would give Texas an advantage to closing the gap.

¹⁸ Koricich, Andrew. "The Effects of Rurality on College Access and Choice." 2014. Forthcoming.

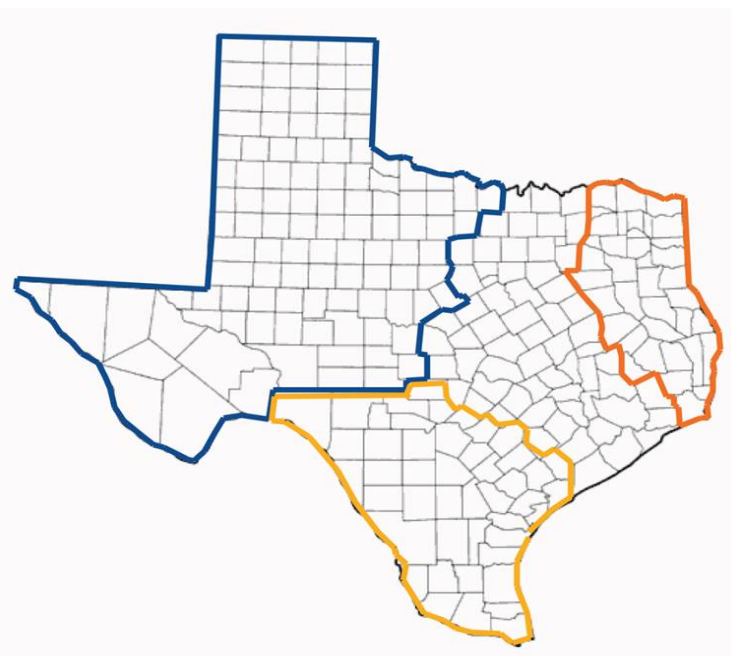
FRAMING THE OPPORTUNITY

The challenges described in the postsecondary enrollment to postsecondary completion gap also present significant opportunities. Much of the literature surrounding rural postsecondary enrollment and completion is either at the local or statewide scale. We advocate a third level of analysis: at the regional level for Texas.

Rural Texas is unique in its geography and social culture across regions. We have identified three distinct rural areas: East, South, and West Texas. The rationale for a regional approach rather than a statewide approach for rural Texas is the distinctiveness of each region as well as geographic characteristics. The geographic differences also “have an impact on institutional choice.”¹⁹

To highlight the areas of opportunities for stakeholders, data needs to be presented or analyzed in terms of region. Because of the lack of regional level data currently available, we seized upon the opportunity to create descriptive statistics for each region with the goal of giving stakeholders a more nuanced view of these

three large rural regions. Although rural East Texas may be different in several ways from rural West Texas, the two share a common thread of rural experience. A student attending K-12 or postsecondary education in these three identified regions faces distinct opportunities and challenges compared with a student in urban or suburban Texas.



Blue: West Texas; orange: East Texas;
yellow: South Texas

Although a common rural experience exists, the geographic distance and proximity to postsecondary opportunities differ enough to present the data in distinct regions. Students in East Texas most likely

¹⁹ *Ibid.*

have more postsecondary institutions in their area than does a student in West Texas. The stakeholder responses, therefore, should be tailored to the uniqueness of the regions in which the

student is in high school or seeks to attend a postsecondary institution. Capturing these regional differences present stakeholders opportunities to regionalize not just localize

CHARACTERIZING THE RURAL STUDENT

Rural students in Texas have diverse and unique backgrounds. Within the three regions, the cultural and demographic differences between students are distinct.

Notable facts about rural students include

- There are more than 834,000 rural K-12 students in Texas, which makes up 18% of the overall K-12 population in Texas.²⁰
- Approximately 43% of the rural student population is considered low-income, as compared to 56% of the urban student population.²¹

In 2011, according to the THECB, there were approximately 1.5 million postsecondary students in Texas.²² Out of all postsecondary students in Texas, approximately 27% of the students attend

institutions in rural areas.²³ The diversity among the three regions can be highlighted by the ethnic and racial makeup of each region as well as the number of students enrolled.

Regional Enrollment Diversity

East Texas

- 63,481 enrolled students

Race and Ethnicity	Enrollment Percentage
White	64%
African American	18%
Hispanic	11%
Other	7%

²⁰ Why Rural Matters. "Texas." 2012.

<<http://files.ruraledu.org/wrm2011-12/Texas.pdf>> Accessed April 12, 2014.

²¹ Southern Education Foundation. "A New Majority: Low Income Students in the South." 2013. Appendix 2.

<<http://www.southerneducation.org/getattachment/0bc70ce1-d375-4ff6-8340-f9b3452ee088/A-New-Majority-Low-Income-Students-in-the-South-an.aspx>> Accessed April 12, 2014.

²² Texas Higher Education Coordinating Board. "Student enrollment." 2013. <<http://www.thecb.state.tx.us/reports/PDF/2964.PDF?CFID=9634891&CFTOKEN=82775635>> Accessed April 24, 2014.

²³ Because a majority of rural students also attend postsecondary education close to their hometown, we are assuming for the purposes of this analysis that the 27% of students attend institutions in rural areas can also be considered rural students in character.

South Texas

- 246,292 enrolled students

Race and Ethnicity	Enrollment Percentage
White	23%
African American	4%
Hispanic	68%
Other	5%

West Texas

- Total Enrolled Students 119,546

Race and Ethnicity	Enrollment Percentage
White	41%
African American	3%
Hispanic	50%
Other	6%

In 2011, according to the THECB, there were approximately 1.5 million postsecondary students in Texas.²⁴ In the East Texas defined region, approximately 63,481 students are enrolled in postsecondary education. Within this group, according to the THECB: 64% of the

students are white, 18% are African American, 11% are Hispanic, and 7% are other races. A contrast to the East Texas region is the South Texas rural region, which includes approximately 246,292 total students 68% Hispanic 23% of students are white, 4% African American, and 5% are other races. The difference between the race and ethnic makeup of the students in each region highlights the need for a regional tailored approach.

In Texas, rural students have generally high levels of high school graduation rates. This makes the population especially prime for postsecondary enrollment; however, graduation rate alone does not tell the complete story of the barriers and opportunities rural students face.

²⁴ Texas Higher Education Coordinating Board. "Enrollment Forecast." 2014. <<http://www.thecb.state.tx.us/reports/PDF/2964.PDF?CFID=9557734&CFTOKEN=30295131>> Accessed April 24, 2014.

TELLING THE STORY: BARRIERS AND OPPORTUNITIES FOR RURAL STUDENTS COMPARED TO NON-RURAL STUDENTS

Literature on postsecondary access for “the rural poor, and rural students generally, is particularly sparse.”²⁵ Within the available literature, however, there is evidence rural students share common barriers with urban and suburban students. Rural students, though, face additional, unique challenges according to the literature.

The barriers that rural students face can be separated into educational setting barriers and non-educational setting barriers. It is important to recognize that many of the barriers affect the ability of rural students to complete postsecondary institutions actually take place in a non-educational setting.

Rural Student Barriers in the Non-Educational Setting

Rural students face significant non-educational barriers that have an impact on educational outcomes. Some of these barriers include migration, job loss and economic changes, declining agricultural bases, family expectations, and differences

in K-12 education quality. These barriers are discussed and studied throughout the literature on rural students versus non-rural students. Although these barriers are not unique to rural students in Texas, these barriers can be utilized as a context when looking to understand the experiences of rural students and to create best practices.

Although rural can imply a variety of geographic regions, the images associated with rural life include “images of farms, ranches, villages, small town, and open spaces.”²⁶ Over time, due to erosion of employment bases and job opportunities, many rural areas have experienced outmigration, according to Johnson.²⁷ Other authors in the literature on rural barriers share this view. Much of the population decline in rural areas includes the “plains region from North Dakota to Texas.”²⁸ With new technology and shifts in employment, jobs in rural areas now require education or

²⁵Koricich, Andrew. “The Effects of Rurality on College Access and Choice.” 2014. Forthcoming.

²⁶ Byun, Sooyong, Judith L. Meece, Matthew J. Irvin, and Bryan C. Hutchins. “The Role of Social Capital in Educational Aspirations of Rural Youth.” *Rural Sociology* 77, no. 3 (2012): 355-379, 372

²⁷ Johnson, T. G. (2001). The rural economy in a new century. *International Regional Science Review*, 24(1), 36.

²⁸ *Ibid*, 23.

training beyond a high school diploma. Gibbs notes in his research that throughout the course of twenty years, “between 1980 and 2000...the share of rural workers in low-skill professions fell from 47 to 42 percent.”²⁹ Although the five percent change may not seem significant, those lost jobs were in areas with low education requirements. The 2007 recession exacerbated the loss of low-skilled jobs. Other authors, Goetz and Gibbs, highlight the trend of employment and loss of jobs in several sectors.

Currently, rural employment opportunities that do not require postsecondary credentials include construction, manufacturing, and retail sales; however, future job creation is predicted in other sectors, according to Goetz.³⁰ The areas of “finance and insurance; healthcare and social assistance; professional, scientific and technical services” as well as real estate and education are predicted to see the highest levels of growth.³¹ Most of these new jobs will require a postsecondary credential to remain competitive, which is

one reason rural postsecondary completion is being explored in this capstone.

Research illustrates the critical link between higher education and economic development and future growth for rural areas. In his paper, Gibbs states that “prospective employers may view a well-educated local labor force as an asset when choosing among alternative locations for new establishments.”³² Gibbs also notes that educated workforces in rural areas tend to bring up the local standard of living in the area.³³ Higher percentages of educated people in a rural area are associated with faster economic and personal income growth, and lower levels of unemployment.³⁴ Linking this need for rural workers to obtain additional credentials is the research that has been done on aspirations. Aspirational research spans the gap between what workers and students would like to do and where jobs and opportunities require them to be. Several authors highlight that rural, non-rural, and urban students have similar aspirations.

Scholars such as Byun et al. found rural students want to continue their

²⁹ Gibbs, R. (2005). Education as a rural development strategy. *Amber Waves*, 3(5), 22.

³⁰ Goetz, S. J., Loveridge, S., & Albrecht, D. E. (2013). Where the jobs went after 2007 National Agricultural and Rural Development Policy Center.

³¹ *Ibid.*

³² Gibbs, Education as a rural development strategy, 22.

³³ *Ibid.*

³⁴ *Ibid.*, 23.

education beyond the secondary level.³⁵ This idea is confirmed through a study conducted by the National Center on Rural Education Support. Researchers at NCRES note that a “majority of rural youth are aspiring to continue their education beyond high school” and are interested in jobs or careers that will require either a postsecondary degree or certification.³⁶

A logical question based on this research would be how to best link rural student aspirations with job opportunities. Authors Byun, Hutchins, Irvin, and Meece focus on the relationship between families, teachers and their influence on student aspirations as a means to link aspirations and goals to outcomes. The authors assert “students who seek to attend college had parental expectations and more-frequent discussions with their parents about college. [These] students had significantly higher educational aspirations.”³⁷ Additionally, the research of Byun et al

highlighted the importance of teachers’ educational expectations as a positive correlation for aspirations even after controlling for the background variables.”³⁸ Therefore, interpersonal relationships could be a powerful link between aspirations, educational opportunities, and eventually economic development in rural areas.

The definitions used to delineate rural from urban areas have important policy implications.³⁹ Whether the definitions are based around “urban cores” or counties may change the target and outcome of policies.⁴⁰ Researchers Hart et al. highlight the issue of miscounting entire rural populations in analysis by using different definitions with the example of the federal Office of Management and Budget (OMB) definition versus the U.S. Census definition.⁴¹ Hart et al. show that by using different definitions, it is possible to arrive at a difference of 29 million to 79 million people fitting the definition of rural.⁴² The OMB definition has a county level geographical unit and counties are designated as either “metropolitan” or

³⁵ Byun, Sooyong, Judith L. Meece, Matthew J. Irvin, and Bryan C. Hutchins. "The Role of Social Capital in Educational Aspirations of Rural Youth." *Rural Sociology* 77, no. 3 (2012): 355-379, 372

³⁶ National Research Center on Rural Education Support. 2011. “Rural High School Aspirations Study.” Accessed May 13, 2013.

³⁷ Byun, Sooyong, Judith L. Meece, Matthew J. Irvin, and Bryan C. Hutchins. "The Role of Social Capital in Educational Aspirations of Rural Youth." *Rural Sociology* 77, no. 3 (2012): 355-379, 372.

³⁸ *Ibid*, 372.

³⁹ L. Gary Hart, Eric H. Larson and Denise M. Lishner. “Rural Definitions for Health Policy and Research”, 2005, 1149, *American Journal of Public Health*, Vol 95, No. 7.

⁴⁰ *Ibid*.

⁴¹ *Ibid*.

⁴² *Ibid*.

“nonmetropolitan”.⁴³ Metropolitan counties have a population greater than 50,000 people. Non-metropolitan counties are designated as having the presence of an urban cluster, meaning a population of “less than 50,000 but greater than 2,500 people.”⁴⁴

The U.S. Department of Agriculture uses the Urban Influence Codes to delineate rural from urban. The geographical unit is also the county but the metropolitan counties are grouped into two categories while the nonmetropolitan counties are grouped into seven different categories “based on the size of the largest city in the county and adjacency to metro areas.”⁴⁵ Authors Hart et al. also examine the strengths and weaknesses of various definitions and found the OMB definition leads to significant under counting of the size of the rural population nationwide.⁴⁶

The National Center for Education Statistics (NCES) and U.S. Department of Education both revised their definitions in 2006 to “rely less on population size and county boundaries than proximity of an

address to an urbanized area.”⁴⁷ This revision of definitions combines the OMB and U.S. Census Bureau approaches. Rather than counties, there are four distinct locales: city, suburban, town, and rural.⁴⁸ The town and rural locales are further subdivided into fringe, distant, and remote.⁴⁹

Within Texas, the two education agencies use different definitions of “rural.” The Texas Education Agency (TEA), bases its definition of rural on a district’s growth rate and enrollment figures. According to the TEA, a district is classified as rural if it “has either: (a) an enrollment between 300 and the median district enrollment for the state and an enrollment growth rate over the past five years of less than 20%; or (b) an enrollment of less than 300 students.”⁵⁰ The Texas Higher Education Coordinating Board (THECB) uses a definition of rural that is similar to the U.S. Census Bureau. An area is considered rural if it is not located in a Metropolitan Statistical Area (MSA), which

⁴³ *Ibid.*

⁴⁴ *Ibid.*

⁴⁵ *Ibid.*

⁴⁶ *Ibid.*

⁴⁷ National Center for Education Statistics. “School Locale Codes,” 2013, <<http://nces.ed.gov/surveys/urbaned/definitions.asp>> Accessed Dec 1, 2013.

⁴⁸ *Ibid.*

⁴⁹ *Ibid.*

⁵⁰ Texas Education Agency. “District Type Glossary of Terms, 2007-08.” <<http://www.tea.state.tx.us/acctres/analyze/0708/gloss0708.html>>, Accessed November 24, 2013.

is a geographic unit used to “gather statistics in metropolitan areas of the United States.”⁵¹ The State Demographer designates the boundaries of the MSAs.⁵² A similar definition is used by the Carnegie Foundation for the Advancement of Teaching; their definition of rural entails areas that are not located within MSAs or Primary MSAs (PMSAs) or in MSAs with a population of less than 500,000.⁵³

A challenge for policymakers, community advocates, and educators alike in the rural context is determining which definition best describes the population or region. Another challenge that is Texas specific is the geographical differences between East, West, and South Texas. Portions of East Texas are rural, but proximity wise are much closer to metropolitan areas unlike portions of South and West Texas. It may be possible that one definition of rural captures the differences of size across rural communities in East Texas, but may under count the differences

across rural areas in West or South Texas, in the words of Hart et al.

Rural students face significant barriers in migration, job loss, economic changes, family expectations, and proximity and definition difference. All of these barriers contribute to the overall non-educational barriers that rural students operate within. For this reason, it may be beneficial for Texas to have a statewide rural definition that captures the different levels of “rural.” Doing so may also allow a more precise look at the education pipeline from K-12 to postsecondary to identify students who are missing the completion opportunity.

Rural Student Barriers to Post-Secondary Completion

Rural students face additional unique barriers during primary and secondary education that non-rural students do not: differing levels of curriculum intensity, preparation and counseling, and available coursework. Researchers Meece, Irvin, and Byun found rural students have “significantly lower curriculum intensity than suburban and urban students.”⁵⁴ Meece and others in the Rural High School

⁵¹ Texas Higher Education Coordinating Board. “Glossary of Terms,” <www.theccb.state.tx.us/reports/Docfetch.cfm?DocID=1316&Format=DOC>, Accessed November 24, 2013.

⁵² *Ibid.*

⁵³ Carnegie Foundation for the Advancement of Teaching. “Methodology: Basic Classification,” <http://classifications.carnegiefoundation.org/methodology/basic.php> Accessed November 24, 2013.

⁵⁴ Byun, S., Irvin, M. J., & Meece, J. L. (2012). Predictors of Bachelor’s degree completion among rural students at universities. *The Review of Higher Education*, 35(3), 473.

Aspirations Study examined preparation for postsecondary education for various subjects. Specifically, the authors found that more than one-third of students had not spoken with an academic counselor in the previous year and that smaller, more isolated schools were less likely to offer Advanced Placement (AP) coursework. Students who take AP coursework are likely to be more college ready.⁵⁵ AP classes allow students to take college-level content in high school and gain college credit for the class by successfully scoring at certain levels on a standardized exam.

Although rural students aspire to achieve postsecondary credentials, barriers to postsecondary completion often begin in high school. Postsecondary enrollment barriers fall into the following categories: systemic barriers, family barriers, community barriers and personal barriers.⁵⁶ System barriers are academic based and emphasize course access, tutoring, assessments, and preparedness for college-level academics.⁵⁷ Community strategies

involve mentoring and neighborhood partnerships that expose students to different career paths. Family strategies provide parent information and support to encourage college attendance. Personal strategies vary, but mostly involve providing families with supports to foster an appreciation and understanding of college life. Another significant barrier that rural students face is socioeconomic barriers, and “particularly racial and ethnic minorities are poor.”⁵⁸

Education Specific Barriers to Postsecondary Enrollment and Completion for Non-rural Students

The literature on college readiness for non-rural students is similar in its message: college readiness matters and impacts postsecondary enrollment. Authors Greene and Winters believe that college readiness should simply mirror the minimum requirements for admission at one of the country’s least selective universities.⁵⁹ There are three measures that a student must meet to be college-ready according to Greene and Winters: the

⁵⁵ Meece, J., et al. (2011). Rural high school aspirations study. <<http://www.nrcres.org/HSA.htm>> Accessed November 17, 2013.

⁴⁸ Schneider, B. “Forming a College-Going Community in U.S. Public High Schools”. 2007. <<https://docs.gatesfoundation.org/Documents/CollegeGoing.pdf>> Accessed April 12, 2014.

⁵⁷ *Ibid.*

⁵⁸ Schaefer, Victoria A. and Judith L. Meece. “Aspirations in Rural Youth”, 2009. National Research Center on Rural Education Support. 3. Pp 1-42.

⁵⁹ Greene, J. P., & Winters, M. A. (2005). Public high school graduation and college-readiness rates: 1991–2002. Education Working Paper 8, 6.

student must obtain a regular high school diploma, have basic literacy, and have taken a minimum number of courses required by the college.⁶⁰ Roderick, Nagaoka and Coca also include indicators of coursework, achievement test scores, and GPA as markers for college preparation.⁶¹ Conley's definition for college readiness is an amount of preparation that allows a student to enter higher education and succeed, without developmental education courses.⁶² Conley further explains in a separate paper what he views as a comprehensive definition for college readiness. He writes that college readiness should incorporate four different factors: "key cognitive strategies, academic knowledge and skills, academic behaviors, and contextual skills and awareness."⁶³

In their literature review, Yamamura, Martinez, and Saenz describe a model of college readiness based on the idea of a "college-going culture," which has elements such as adequate support structures, challenging coursework, and information to

encourage student success in college.⁶⁴ College readiness is an important metric to predict postsecondary achievement. If students are unprepared for the academic rigor of postsecondary education, they can take remedial courses; however, author Jack Leonard paints a bleak picture of graduation for students who are enrolled in remedial courses. Leonard describes remedial courses as an "opening step" to dropping out. He indicates that if students take remedial courses in college "only about one third [of them] earn a bachelor's degree in six years and less than 10% graduate from community colleges within three years."⁶⁵

Other authors agree with the negative relationship between remedial classes and educational attainment. According to Conley, nationally, "only seventeen percent of those students who must take a remedial reading class receive a bachelor's degree or higher" and "only twenty percent receive a bachelor's or higher" who have to take two non-reading

⁶⁰ *Ibid.*

⁶¹ Roderick, M., Nagaoka, J., & Coca, V. (2009). College readiness for all: The challenge for urban high schools. *The Future of Children*, 19(1), 185-210.

⁶² Conley, D. T. (2008). Rethinking college readiness. *New Directions for Higher Education*, (144), 4.

⁶³ Conley, D. T. (2007). Redefining college readiness No. 3). Eugene, OR: Educational Policy Improvement Center, 12.

⁶⁴ Yamamura, E. K., Martinez, M. A., & Saenz, V. B. (2010). Moving beyond high school expectations: Examining stakeholder's responsibility for increasing Latina/o student's college readiness. *High School Journal*, 93(3), 127.

⁶⁵ Leonard, J. (2013). Maximizing college readiness for all through parental support. *School Community Journal*, 23(1), 184.

developmental courses.⁶⁶ Rosenbaum demonstrates poor high school performance and lack of college readiness and its effects on college completion. Rosenbaum discusses how high school GPA is a strong predictor of a student's likelihood of graduating from a postsecondary institution. He illustrates how lower grades in high school decrease the likelihood of graduating from a postsecondary institution.⁶⁷ Though the exact components of college readiness vary, the consensus among scholars is that academic rigor in high school is positively related to completion of a postsecondary credential.

Several factors lead to attrition among postsecondary students: lack of preparation, financial resources, support systems, and personal backgrounds. In another study, "results indicated that both ability and motivation are important aspects of predicting postsecondary retention;" therefore, students who face these barriers in postsecondary institutions may be more likely to leave the institution.⁶⁸

⁶⁶ Conley, Redefining college readiness, 10.

⁶⁷ Rosenbaum, J. E. (2004). It's time to tell the kids: If you don't do well in high school, you won't do well in college (or on the job). *American Educator*, 28(1), 8-10.

⁶⁸ Alarcon, Gene M., and Jean M. Edwards. "Ability and motivation: Assessing individual factors that contribute to university retention." *Journal of*

Educational Psychology 105, no. 1 (2013): 129, 134.

HISTORICAL AND POLITICAL CONTEXT

Policy Development in the K-12 Education

Given the personal barriers that rural students face and the context in which they experience these barriers, the development of historical and political changes in K-12 policy and postsecondary policy further frames the conversation of barriers. Although rural schools face similar difficulties found in urban and suburban schools, rural school districts face obstacles that are unique to their geographic location and population. Low district enrollment, an inadequate tax base for local revenue to support schools, and remote locations create extra hardships for rural schools that are not major issues for other types of schools.⁶⁹ Policy developments since the 1960s have slowly shifted more attention to rural districts.

A major policy development occurred within the 1965 Elementary and Secondary Educational Act: Regional Education Service Centers (RESC). The RESC brought about a new model of funding where schools were provided with matching funds for educational innovation.⁷⁰ RESCs were able

to provide services by cost effective means through collaborating with the school districts in a geographical area.⁷¹ Frequently, RESCs form partnerships with other agencies to provide program options for schools.⁷² Another major policy development is the No Child Left Behind Act (NCLB) of 2001 which created the Rural Education Initiative. The Rural Education Achievement Program (REAP), further addresses hardships faced by rural school districts. The legislation remedies one of the largest issues facing rural districts face: being too small in population to qualify for federal grants. Within the state of Texas, the Texas Education Agency distributes additional grants to low-income rural schools through the Rural and Low-Income School Program (RLISP).⁷³ The Rural and Low-Income School Program, recognizes the needs of rural, low-income schools by awarding grants to the state education

⁶⁹ DeYoung, Alan J. "Rural Education: Issues and Practice." 1991. (New York: Garland Pub.,).

⁷⁰ U.S. Department of Education, 2013.

⁷¹ Darnell, Frank. "Rural Education: In Pursuit of Excellence." 1981. (Nedlands, W.A.: National Centre for Research on Rural Education, University of Western Australia).

⁷² Texas Education Agency. "Texas Education Agency," 2013.

⁷³ Rural Low Income School Program (RLISP). "Title VI, Part B, Subpart 2." 2014. <http://www.tea.state.tx.us/index4.aspx?id=4268&menu_id=798> Accessed April 12, 2014.

agencies that then offer sub-grants to rural districts on a competitive or formula basis.⁷⁴

Interestingly, federal policy recognizes the challenge that rural areas face regarding broadband Internet access. The USDA offers funding for areas that lack the infrastructure to support a broadband network. The Community Connect program offers funds to build capacity to provide broadband services and free public access points.

The Distance Learning and Telemedicine grant pays for equipment that facilitates video conferencing for courses. Though a great emphasis has been placed on outfitting, the distinction has been made between simply setting up access to broadband services versus actively using and integrating its benefits in daily life. Researchers from the nonprofit Connected Nation “It is not enough to simply make broadband service available to every household; just like any tool, home broadband service doesn’t benefit residents if they don’t adopt and use it.”⁷⁵ The infrastructure has to be layered with usage and understanding.

⁷⁴ *Ibid.*

⁷⁵ Connected Nation. “Residential Survey Data.” 2013. <<http://www.connectednation.org/residential-survey-data>> Accessed April 13, 2014.

Connected Nation surveys national broadband use and 69% of U.S rural residents have adopted and fully use broadband services, as compared to 70% of urban residents.⁷⁶ They also conduct a study of the percentage of counties with broadband use and the level of educational attainment. In Texas rural areas, rural areas with broadband usage range from 10% to 25% of residents with a bachelor’s degree or higher.⁷⁷

These developments in policy since 1965 seek to equalize some of the funding disparities between rural and non-rural K-12 districts.

Policy Development in the Post-Secondary Education

The Higher Education Act of 1965 (HEA) sets postsecondary policies for higher education institutions.⁷⁸ The policies were enacted by President Lyndon Johnson to provide groundwork for federal financial aid to schools and to individual students.⁷⁹ The legislation also defines the criteria for classification as a postsecondary institution, outlines the allotment of federal resources to schools, details programmatic

⁷⁶ *Ibid.*

⁷⁷ Connected Nation. “Mapping Access.” 2013. <<http://www.connectednation.org/data-center-mapping>> Accessed April 13, 2014.

⁷⁸

<http://www2.ed.gov/policy/highered/leg/hea08/index.html>, Accessed February 8, 2014.

⁷⁹ *Ibid.*

requirements, and sets rules to guide institutional administration. Similar to the Elementary and Secondary Education Act that governs K-12 institutions, the legislation is reauthorized periodically to amend existing provisions and add updates to address education issues that may be missing from current statutes. The most recent reauthorization of HEA occurred in 2008, the Higher Education Opportunity Act. This updated legislation specifically addresses the rising cost of higher education, the effect of higher costs on student loan borrowing, developing workforce program initiatives, and issuing grants and resources for innovative coursework and financial aid programs at postsecondary institutions.⁸⁰ Most postsecondary programs from the Higher Education Opportunity Act are managed through the Office of Postsecondary Education within the US Department of Education.⁸¹

Currently under HEA, there are no provisions specifically for rural higher

education institutions. Rural colleges and universities are subject to the same federal rules as non-rural institutions; however, the Obama administration is aware that there are special concerns and needs in rural areas that may not be recognized. This realization prompted the issuance of Executive Order 13575 which formed the White House Rural Council in 2011.⁸² The Council's purpose is to "better coordinate federal programs and maximize the impact of federal investments to promote economic prosperity and quality of life in our rural communities."⁸³ The programs created under this Executive Order seek to increase resources for economic development, healthcare, and education; therefore, postsecondary institutions could benefit from initiatives that target overall rural development. Within Texas, postsecondary education is governed through the Texas Higher Education Coordinating Board (THECB). THECB was established in 1965 under the title Texas College and University System Coordinating Board.⁸⁴ THECB

⁸⁰ Center for Law and Social Policy. "Congress Expands Basic Aid and Supports Innovation in Student Success, Basic Skills, and Workforce Partnerships." <<http://www.clasp.org/resources-and-publications/publication-1/0430.pdf>> Accessed February 8, 2014.

⁸¹Office of Postsecondary Education. "Office of Postsecondary Education." <<http://www2.ed.gov/about/offices/list/ope/index.html>> Accessed February 8, 2014.

⁸² The White House Press Office. "Executive Order 13575." <<http://www.whitehouse.gov/the-press-office/2011/06/09/executive-order-establishment-white-house-rural-council>>. Accessed February 8, 2014.

⁸³ *Ibid.*

⁸⁴ Ashworth, Kenneth. "Texas Higher Education Coordinating Board," *Texas State Historical Association*.

administers federal and state policies on higher education. Institutions under the jurisdiction of THECB include all public colleges and universities, community colleges, and technical institutes.⁸⁵ The THECB also does not distinguish between rural institutions and non-rural institutions. Similarly, the THECB regional areas are not defined by rural or non-rural. As described, federal policies have rural initiatives, but these initiatives do not specifically address the unique and distinct rural regions within Texas. The East Texas rural region may have the same level of support as the West Texas region even though the barriers and geographical proximity differ. At the K-12 level, funding is to the school district; therefore, the rural characteristics are measured and recognized by the TEA. Although the THECB does have a definition of rural, the board does not define “rural” institutions.

<<http://www.tshaonline.org/handbook/online/articles/mdtpx>>, Accessed February 9, 2014.

⁸⁵ *Ibid.*

METHODOLOGY

The literature surveyed by the capstone helped to highlight a general lack of research on the proximity of postsecondary institutions in Texas to rural students. The methodology for the capstone study is two-fold: develop descriptive statistics for rural regions and perform interviews and surveys of stakeholders. Descriptive statistics help define the rural areas in Texas as regions. The stakeholder interviews further assist the descriptive statistics in filling in the rural level picture, especially for where data may be lacking. Our capstone team feels that our client, Educate Texas, and their stakeholders could benefit from a regional analysis of postsecondary enrollment and completion.

To define rural regions within Texas for the quantitative research, the Texas Higher Education Coordinating Board regions were combined according to rural regions. With much of the analysis for postsecondary access and completion documented at the postsecondary institution level, it was prudent to use the THECB geographical regions. For the scope of the analysis, three major regions were studied: South Texas (consisting of THECB Region 8), West Texas (consisting of THECB Regions 1, 2, 9, and 10), and East Texas

(consisting of THECB Regions 4 and 5). The quantitative and qualitative data collection methodology and analysis is based on the newly combined THECB regional areas.

There are significant challenges for the data collection and descriptive statistics at the postsecondary level:

- An institution that is in sparsely populated region may actually be in a metropolitan area. An example of this is Texas Tech University, which serves both rural and nonrural students. Texas Tech University is located in West Texas; however, Lubbock is a larger MSA.
- The TEA and THECB, the two state education agencies databases, do not coordinate regions or databases. Each agency has its own regional structure. For this reason, it is difficult to combine and to analyze regional K-12 and postsecondary data.
- The available data on students entering and completing postsecondary education is published by the THECB in cohorts. Unfortunately, this database does not specify rural versus non-rural students.
- Is a student from a rural area attending postsecondary at a rural institution different from a rural student who attends an urban institution?

- Finally, the greatest challenge is: what is a rural student? Is rural a culture or a geographical area or both? This is a major challenge we faced when developing a set of descriptive statistics.

For the purposes of gathering descriptive statistics, the capstone had to work within a set of assumptions:

- We assume that if a postsecondary institution is located in a geographically rural area, the students who attend the postsecondary institution are most likely the rural students described in the literature review.⁸⁶
- Because we are unable to determine the percentage of rural students enrolled, we assume the colleges are reflective of a rural student population.

Within the list of postsecondary institutions, the quantitative data in the form of descriptive statistics and summary statistics was analyzed to include only postsecondary institutions that offer a broader range of instruction. Included in the data are public community colleges and public universities. Health science centers and other medical schools were not included because the data includes students pursuing graduate education. Additionally, the analysis

was further divided into two categories: postsecondary institutions located within cities with a population of 40,000 or more people and postsecondary institutions located within cities with a population less than 40,000. The databases utilized include the Institutional Postsecondary Education Database System (IPEDS) database, specifically the 2011-2012 academic year; the THECB regional data, specifically for 2011. Additional information used included the 7th grade cohort data.

For the qualitative portion of the regional study, 27 key stakeholders were interviewed over a course of four weeks. Ten additional respondents provided input through a Qualtrics survey, which included questions that mirrored the telephone interview protocol. The stakeholders interviewed and surveyed represent each defined rural region: South, West, and East Texas and span several career areas: superintendents, teachers, economic development leaders, nonprofit leaders, and postsecondary institution presidents and leaders. The quantitative and qualitative portions together with the literature review informed our findings and recommendations.

⁸⁶ Based on the lack of data available, indicating a rural or non-rural student, the authors acknowledge the potential errors with using such dataset. Every effort has been made to present the information in a detailed and accurate way.

BARRIERS AND RESPONSES

Barrier	Literature Review	Quantitative	Qualitative	Response & Finding
Parental knowledge and role as influencer	✓		✓	Programs fostering parent engagement and FAFSA applications
Access to broadband Internet	✓		✓	Wi-Fi on buses; use state and federal grants to improve connections
Curricular rigor and variety of rigorous courses	✓		✓	School district and higher education institution partnerships
Out of field teaching	✓		✓	Stakeholders working together to provide additional certification; partnerships with postsecondary faculty teaching at the high school level; video streaming
Teacher retention	✓		✓	Stakeholders providing financial incentives for education major graduates; merit pay
Access to higher education	✓	✓	✓	Dual credit courses and Early College High Schools
College readiness	✓		✓	Dual credit courses and Early College High Schools
Distance and transportation	✓	✓	✓	Distance education
Financial aid and higher education affordability	✓	✓	✓	Work with students to apply for FAFSA

For ease of presentation and understanding, our qualitative and quantitative findings will be integrated.

Findings will be presented by thematic area and are summarized below.

Our research found unique barriers but no widespread responses to those current unique barriers.

Parental knowledge and role as influencer

"I have attended meetings where parents question the value of going to college."

Within the literature, scholars identified that most rural students want to continue their education beyond a secondary level.⁸⁷ When examined further,

⁸⁷ Byun, Sooyong, Judith L. Meece, Matthew J. Irvin, and Bryan C. Hutchins. "The Role of Social Capital in Educational Aspirations of Rural Youth." *Rural Sociology* 77, no.3 (2012): 355-379, 372.

family expectations play a large role in affirming a student's desire to go to college. Authors Byun, Hutchins, Irvin, and Meece examined the relationship between families, teachers, and other trusted adults and the connection to postsecondary aspirations. They found that "students who seek to attend college had parental expectations and more-frequent discussions with their parents about college. [These] students had significantly higher educational aspirations."⁸⁸ Parental encouragement is a key indicator to a rural student's desire to pursue a postsecondary education. Without positive parental reinforcement, students' chances of completing a postsecondary credential are decreased.

The literature corresponds to the qualitative interview findings. Familial expectations play a role related to barriers to postsecondary enrollment and completion. Interviewees highlighted the persistent attitude of family members that students need stay in the area to provide financial support or to be close to family. The interview findings consistently support the literature in identifying parental involvement and support as a barrier to postsecondary completion in rural Texas. Further, research as recent as April 2014

⁸⁸ *Ibid.*

notes that effective parental involvement is as simple as "expecting your child to go college."⁸⁹

Based on both the literature and interview results, parental involvement helps to influence postsecondary choices.⁹⁰ Additionally, parental involvement has been shown to be "important to a child's social emotional, behavioral, and academic outcomes."⁹¹ Finally, parental involvement, especially "expecting children to go to college, and discussing activities' is important in fostering aspirations to complete postsecondary education."⁹²

Access to Broadband Internet

In our interviews, we found that most rural universities and community colleges are wired for and offer wireless broadband access to students on and around campus. The schools are equipped, but when the students are at home, many only have access to the Internet through slower

⁸⁹ Robinson, K. & Harris, A. "Parental Involvement is Overrated." 2012. New York Times p. SR7.

⁹⁰ Schnneider, B. "Forming a College-Going Community in US Public High Schools." 2007. <<https://docs.gatesfoundation.org/Documents/CollegeGoing.pdf>> Accessed April 12, 2014.

⁹¹ Smith, T.E, Myers, Z.R., Moen, A.L, Moorman Kim, E. & Sheridan, S.M. "A Quantitative Synthesis of Family Engagement Interventions: A Preliminary Examination of Rural Context." 2013.

<http://r2ed.unl.edu/workingpapers/2013/2013_7_Smith_Myers_MoenKim_Sheridan.pdf> Accessed April 12, 2014.

⁹² *Ibid.*

means, if they have access at all. Modern connections are impractical and do not provide sufficient bandwidth for students to stream or access distance education online classes.⁹³ Though a great emphasis has been placed on outfitting, the distinction has been made between simply setting up access to broadband services versus actively using and integrating its benefits in daily life.

A few rural education institutions and communities have also installed Wi-Fi on school and regional transport buses. Such programs have been implemented in small rural districts to make practical use of long commutes to and from school, and to help reduce the problem of at-home personal broadband access.⁹⁴

Curricular Rigor and Variety of Rigorous Courses

"Students from schools with rigorous educational standards are going to do better when they enter college."

⁹³ Strover, S. (2003). The prospects for broadband deployment in rural America. *Government Information Quarterly*, 20(2), 95-106.

⁹⁴ Cramer, J. "WiFi on School Buses: Rolling Study Hall Trend?" 2013. CradlePoint 3G/4G Network Solutions. <<http://cradlepoint.com/about/blog/wifi-school-buses-rolling-study-hall-trend>> Accessed April 16, 2014.

"We need to assure quality teachers and quality courses. We need to better educate parents about the importance of postsecondary education. Students need access to high level courses."

According to the literature, rural students face additional unique barriers during primary and secondary education that non-rural students do not including: lower levels of curriculum intensity and less available rigorous coursework. Researchers Meece, Irvin, and Byun found rural students have "significantly lower curriculum intensity than suburban and urban students."⁹⁵ Meece and others in the Rural High School Aspirations Study examined preparation for postsecondary education for various subjects. Specifically, the authors found that more than one-third of students had not spoken with an academic counselor in the previous year and that smaller, more isolated schools were less likely to offer Advanced Placement coursework. Students who take AP coursework are seen in the literature to be more college ready.⁹⁶

The opportunity to access a rich and rigorous curriculum is often not available to

⁹⁵ Byun, S., Irvin, M. J., & Meece, J. L. "Predictors of Bachelor's degree completion among rural students at universities." 2012. *The Review of Higher Education*, 35(3), 473.

⁹⁶ Meece, J., et. al. "Rural high school aspirations study." 2011. <<http://www.nrcres.org/HSA.htm>> Accessed November 17, 2013.

rural students. Our interviews highlight the need for more qualified teachers and more rigorous course offerings. The issue of rigor for rural schools partially lies in the shortage of highly qualified teachers available to teach a variety of subjects. According to stakeholder interviews, teacher recruitment and retention would be more successful if schools offer higher salaries and opportunities for professional development and leadership growth.

A response to increase curricular intensity is the use of partnerships between high schools the local community college, and a local (if in close proximity) university. Stakeholder interviews reveal that these partnerships are key to curricular alignment and student preparation for community college or university rigor. One such partnership in the East Texas region sends math teachers from the local community college to the surrounding rural secondary campuses to offer math classes. Not only do the community college faculty teach classes, but they also collaborate with the high school math teachers on curriculum alignment and intensity. Interview respondents also referred to the use of video-streaming postsecondary classes to high schools to increase the number of advanced course offered to rural students.

Many of these responses are achieved through solid, partnerships.

Out-of-Field teaching

As mentioned in the literature review, rural students have differing levels of curriculum intensity. Researchers Meece, Irvin, and Byun found rural students have “significantly lower curriculum intensity than suburban and urban students.”⁹⁷ Also, more isolated schools were less likely to offer Advanced Placement coursework. The level of curriculum intensity in rural areas can be correlated to teacher resources. Interviewees mentioned one of the persistent issues within small districts is out-of-field teaching. Many teachers are required to teach subjects in which they are not necessarily proficient due to course need. Interviewees agreed that limited teacher proficiency may have a negative impact especially on the STEM fields. Stakeholders in the rural areas of Texas are finding creative ways to respond to their out of field teaching issues. Community colleges and universities are supplying teachers to their local high schools to teach higher intensity courses through dual credit. Another response that was discussed by

⁹⁷ Byun, S., Irvin, M. J., & Meece, J. L. “Predictors of Bachelor’s degree completion among rural students at universities.” 2012. *The Review of Higher Education*, 35(3), 473.

stakeholders involves assisting out-of-field teachers to become certified in the courses they are teaching.

Teacher Retention

“In rural areas, we lose young, new teachers to the bigger cities and suburbs because of the higher pay.”

Similar to out of field teaching, teacher retention is also related to the differing levels of curriculum intensity mentioned in the literature review. The difficulty of recruiting and retaining teachers affects the types of courses that can be offered in rural schools. Access to rigorous courses like AP courses or dual credit is less likely to be offered in smaller, more isolated schools because of teacher availability. These issues derive from the difficulty of recruiting teachers to rural areas. Stakeholders assert that rural areas are not attractive or popular locations for teachers. Stakeholders interviewed and surveyed suggested providing financial incentives for education majors and graduates to return to teach in rural areas.

Access to higher education

Access to AP, dual credit, and other rigorous courses, discussed in the literature review, are associated with access to higher education. AP and dual credit courses serve

as introductions to college-level content and provide students with the opportunity to gain college credit in high school. Lack of access to these or other rigorous courses can result in the need for developmental education when entering postsecondary institutions. The need for developmental education has been referred to as a black hole for students who may get lost in this pathway. Author Jack Leonard asserts that remedial courses can lead to a student dropping out.⁹⁸ This literature is consistent with our quantitative findings. Based on data from THECB, for both community colleges and universities, students who take developmental education in college fall behind in graduation rates compared to those who are college ready. In community colleges, students taking remedial classes fall behind the state average graduation rates by 10%, and the gap between the state average and those students taking remedial courses in universities is larger. In addition to access to rigorous courses, authors concluded in the Rural High School Aspirations study that more than one-third of students had not spoken with an academic counselor in the previous year.⁹⁹

⁹⁸ Leonard, J. “Maximizing college readiness for all through parental support.” 2013. *School Community Journal*, 23(1), 184.

⁹⁹ Meece, J., et al. “Rural high school aspirations study.” 2013. Accessed November 17, 2014.

Academic counselors can have a significant impact on access to higher education in terms of provision of information and guidance for students. Another type of barrier to access to higher education discussed in the literature review are socioeconomic barriers, which specifically affect poor racial and ethnic minorities.¹⁰⁰ To increase students' access to rigorous courses and higher education, stakeholders have begun to form partnerships. Community colleges and universities are partnering with school districts to provide dual-credit courses and college counseling. In some instances, stakeholders are providing developmental education at the high school level to bypass student need for developmental courses when entering higher education. Early college high schools are another form of offering college credit and resources to provide access to higher education. Interview and survey participants assert that community colleges are usually the main facilitator of partnerships that provide dual credit programs and early college high schools.

¹⁰⁰ Schaefer, Victoria A. and Judith L. Meece. "Aspirations in Rural Youth." 2009. National Research Center on Rural Education Support. 3. Pp 1-42.

College readiness

From the literature review on measuring college readiness, author Conley's definition for college readiness involves preparation that allows a student to enter higher education and succeed, without developmental education courses.¹⁰¹ Not taking developmental education classes is important because taking developmental education classes is strongly related to dropping out of college and not obtaining a degree. Jack Leonard found that for students who have to take remedial courses, "only about one third earn a bachelor's degree in six years and less than 10% graduate from community colleges within three years."¹⁰² Other authors within the literature review highlight the negative relationship between developmental education and college completion.

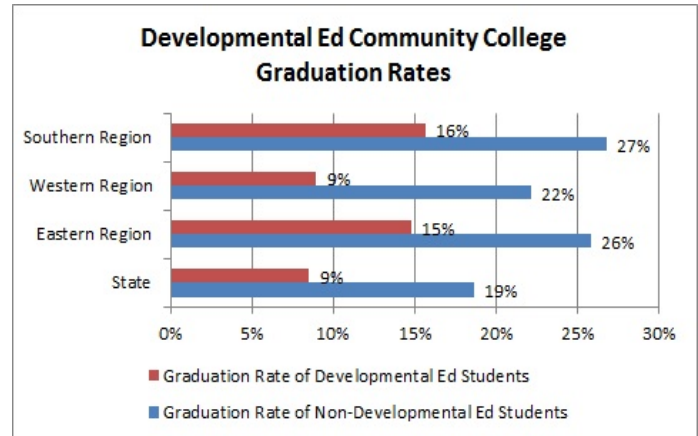
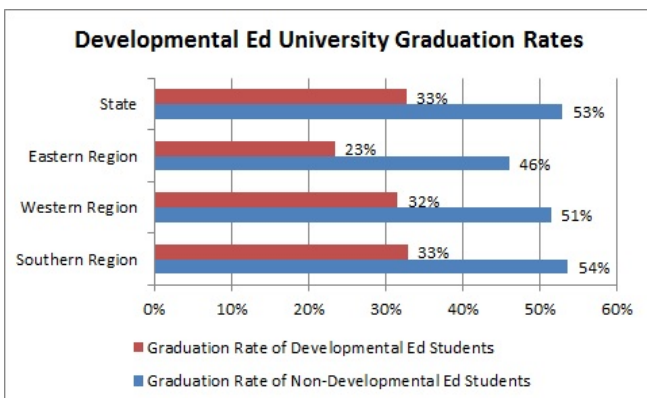
Using the Fall 2006 through FY 2012 cohort data from the THECB, our study found major differences in graduation rates for students who have to take developmental education and students who do not, both at the university and

¹⁰¹ Conley, D. T. (2008). Rethinking college readiness. *New Directions for Higher Education*, (144), 4.

¹⁰² Leonard, J. "Maximizing college readiness for all through parental support." 2013. *School Community Journal*, 23(1), 184.

community college levels. The state median graduation rate at the university level for students not requiring developmental education was 53% and 33% for students requiring developmental education. In the East Texas Region, the gap between the two groups was 23 percentage points, 20 percentage points in the West Texas Region, and 21 percentage points in the South Texas Region.

Using the 2009-2012 cohort, at the community college level, the statewide median graduation rate for students not requiring developmental education was 19% and 9% for students requiring developmental education. There is also a large gap between the two groups in our three regions: in the East Texas Region, the gap is 11 percentage points, 13 percentage points in the West Texas Region, and 11 percentage points in the South Texas Region. The community colleges in our data set did not report standardized test scores, but the universities did.



The variance between standardized test scores in Texas and the national average was not large. It was found that a score of 500 on the different sections of the SAT constitutes college ready, and across the board, in every region, at least 25% of the students are not college ready on this measure. The lack of curriculum alignment with postsecondary institutions was frequently mentioned as a barrier to postsecondary completion. Among others, a reason behind the low level college enrollment is those high school graduates are not academically prepared to enter into colleges. Such academic gap requires the students to complete developmental education courses. Many rural students who enroll in college, according to our qualitative interview findings, are unprepared to engage in and complete a rigorous college curriculum. This is especially true for math, science, and technology subjects. Students placed in developmental education run a greater risk of dropping out and failing to

complete a postsecondary certificate or degree. Early College High Schools (ECHS) allow students to complete college credits while completing their high school coursework.¹⁰³ In Texas, ECHS are focused on low-income students and are located close to a postsecondary campus and allow students to gain 60 core hours.¹⁰⁴ They provide dual credit at no cost to students.¹⁰⁵ Meanwhile, 47% of ECHS graduates went on to pursue bachelor's degree compared with 30% of non-ECHS students. Over time, 54% of ECHS participating students earned a postsecondary degree compared to 30% of students who did not attend an ECHS. Similar to Early College High Schools, dual credit classes are offered within the high school campus where students can gain credit hours that can be transferred to an associate's or bachelor's degree program. Authors Strul and Vargas found that students who take at least one dual enrollment course are 2.5 times more likely to attend any type of college or university than students who do not take a dual enrollment course.¹⁰⁶ Also, the authors note

that students who complete a dual enrollment course are more likely to persist through the first and second year of college than is a student who did not complete a dual enrollment course.¹⁰⁷

Distance and transportation

The literature highlights distance and transportation as a potential barrier for rural students. The distances that students have to travel in some rural areas to get to an institution of higher education can be discouraging. Access to transportation can also be a problem for many rural students and public transportation is limited in many rural areas. From our interviews and survey, it is evident that distance is more important in some regions and less important in other regions. Distance to the nearest higher education institution differentiates the three regions used in this study. Using data gathered by Dr. Kalena Cortes, we found the average distance from a high school to the nearest university in the East Texas region was 27 miles, with a maximum distance of approximately 70 miles from a high school to a university in the region. In the West Texas region, the average distance is approximately 39 miles and the maximum

¹⁰³ Swanson, Joni L. "An Analysis of the Impact of High School Dual Enrollment Course Participation on Postsecondary Academic Success, Persistence and Degree Completion." 2008. Iowa City, IA

¹⁰⁴ Ward, D & Vargas, J. "Using Dual Enrollment Policy to Improve College and Career Readiness: Jobs for the Future." 2012.

¹⁰⁵ *Ibid.*

¹⁰⁶ *Ibid.*

¹⁰⁷ Struhl, B. & Vargas, J. "Taking College Courses in High School: A Strategy for College Success Jobs for the Future." 2012.

distance any student must travel is 141 miles from their high school to a university. In the South Texas region, the average distance is 20 miles to the nearest university with a maximum distance of approximately 90 miles. In the non-rural regions, the average distance to the nearest university is approximately 24 miles with a maximum distance of 78 miles. In terms of community colleges, in the East Texas region, the average distance from a high school to the nearest community college is

average distance to the nearest community college is approximately 16 miles with a maximum distance of 91 miles. In the non-rural regions, the average distance to the nearest community college was approximately 11 miles with a maximum distance of 71 miles.

The distance between students' residence and the institution could be a barrier for students. Some areas of the

Distance from High School to Higher Ed (in miles)	Average to nearest Community College	Maximum Distance to Community College	Average to nearest University	Maximum Distance to University
Eastern Region	17	62	27	70
Western Region	38	188	39	141
Southern Region	16	91	20	90
Non-Rural	11	71	24	78

17 miles with a maximum distance of approximately 62 miles. In the West Texas region, the average distance is 38 miles to the nearest community college with the maximum distance traveled approximately 188 miles. In the South Texas Region, the

state require one-hour or longer bus rides for K-12 students to attend school. The barriers also persist at the postsecondary level with students struggling to enroll and persist in college due to the distance of the college from home. One mentioned a 90-

minute one-way commute to an institution of higher education. Not only is the distance an issue, but also access to personal transportation is an issue for some students and public transportation systems are extremely limited in rural Texas.

The stakeholders interviewed mentioned transportation barriers as factors affecting postsecondary enrollment. Distance education is beneficial at both the postsecondary and the high school level. Research performed by Hannum, et al, found that from their sampled population “about 81% of rural high school administrators report that they need distance education to provide advanced and enrichment classes that students wanted.”¹⁰⁸ The distance education method is actually being used in a small number of rural school districts in West Texas.

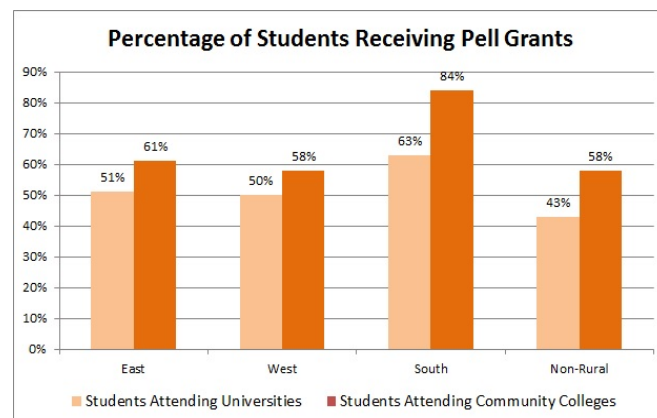
Access to broadband is not a complete response due to a shortage of comprehensive online degree programs.

Financial aid and higher education affordability

According to the literature, the most recent reauthorization of the Higher Education Act in 2008 addresses increasing costs of student loans and the rising cost of

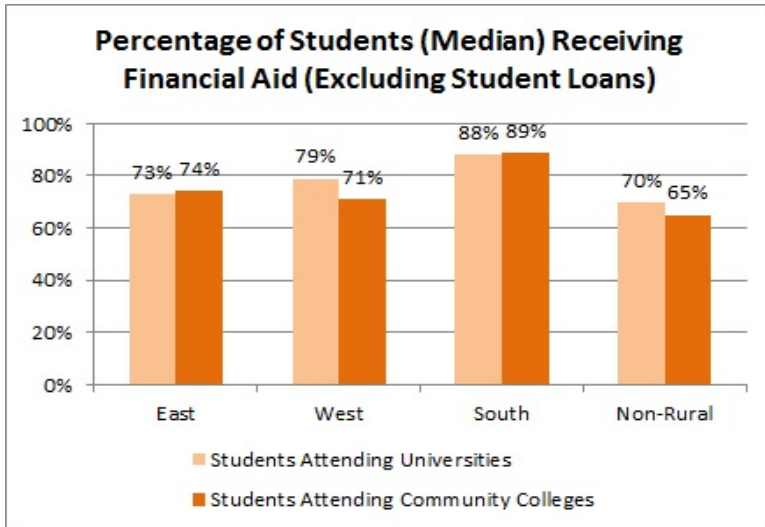
¹⁰⁸ *Ibid.*

higher education.¹⁰⁹ According to data from the IPEDS database, the cost of attendance at community colleges in Texas does not vary significantly across the three regions. At community colleges 73% of students in the East Texas region receive aid, 79% in the West Texas region, and 89% of students receive aid in the South Texas region. In Pell Grant aid, 63% of students in the South Texas region qualify, 50% in the East qualify, and 50% in the West Texas region. About 47% of students in the non-rural areas actually receive Pell Grant aid. For universities, the percentage of students receiving aid in the East is 61%, 84% in the South, and 58% in the West Texas region.



¹⁰⁹ Center for Law and Social Policy. “Congress Expands Basic Aid and Supports Innovation in Student Success, Basic Skills, and Workforce Partnerships.” Accessed February 8, 2014.

There is a great deal of variation in the percentage of students receiving financial aid in each of the regions. Higher education affordability is one of the barriers rural students face according to the literature.



RECOMMENDATIONS

- Although there was evidence of schools and postsecondary institutions responding to the unique or pervasive barriers to rural postsecondary completion, none of the literature we reviewed nor our interview or survey participants described widespread responses to the unique or pervasive rural barriers. With the exceptions of dual credit classes and Early College High Schools, no evidence based best practices came to our attention. Given that major finding, we offer the following recommendations.
- *Metrics to calculate rural students.* Rural students are not being tracked in agency databases. Designing programs for completion would be better served with accurate information about the target student population.
- *Develop a single definition of rural.* By not having a single definition of rural, policymakers and stakeholders alike can significantly under count the rural population leading to missed opportunities for funding and exclusion of underserved populations.
- *Broadband Internet access in the home to mitigate distances to education.* Stakeholders surveyed mentioned opportunities within the educational setting to access broadband, but there is a persistent lack of broadband access in students' residences, especially those students in the West Texas region.¹¹⁰ Author Koricich notes, "some of the most isolated communities in the United States have, until recently, lacked basic utilities."¹¹¹ Personal access to broadband Internet service for rural students is a major issue. Although 69% of U.S. rural households have broadband, having broadband and using it educationally are not necessarily the same thing. Further, as more and more content is pushed to the web and as organizations see technology and the web as the answer for all things, school districts and postsecondary institutions should not assume all constituents have access to broadband Internet because

¹¹⁰ Connected Nation. "FCC Underserved Areas." 2012. <http://www.connectednation.org/sites/default/files/connected-nation/files/tx_usf_mobilityfund.pdf> Accessed April 12, 2014.

¹¹¹ Koricich, Andrew. "The Effects of Rurality on College Access and Choice." 2014. 3. Forthcoming.

nationally 30% of rural households do not. Forty-three percent of rural K-12 students live in poverty, and it is likely their families are among those who do not have broadband access to the Internet. Establishing the infrastructure to support broadband services is very expensive, especially in rural areas that do not have existing capacities.¹¹² To overcome this barrier, rural schools should take advantage of state, federal, and philanthropic funds to support increased broadband access.

- *Explore the roles of FFA and 4-H in rural Texas.* Neither the literature nor our interviews surfaced the role of agricultural science teachers, FFA, county extension agents or 4-H related to rural postsecondary completion strategies. Given the historic role of agricultural science teachers, the FFA, county extension agents, and 4-H in rural Texas, we recommend an exploration of the role each can play, or perhaps is playing, toward increasing postsecondary preparation, access, and completion for rural Texans. Agricultural science teachers and county extension agents are highly networked groups with professional development

structures. Likewise, FFA and 4-H are nationally, statewide, and regionally organized youth development organizations.

- *Recognize rural students as an underserved population.* Because rural students are often geographically isolated, are often less likely to have opportunities for rigorous and diverse K-12 curricular offerings, and often live in poverty, we recommend rural students be added to the definition of “underserved populations” and that state, federal, corporate and private philanthropic grant programs consider adding rural populations to their list of underserved populations.
- *Implement strategies to increase teacher retention.* One suggestion is that college students choosing to become teachers be offered free tuition if they agree to teach in a rural area. Another suggestion interview respondents mentioned was for education graduates to be offered debt-forgiveness incentives, if they agree to teach in rural areas. In addition, offering teachers opportunities for upward mobility and leadership roles may be another incentive for retention. Stakeholders also mentioned ongoing

¹¹² *Ibid.*

discussions about the possibility of merit pay that will provide teachers with increases in pay based on performance.

- *Reduce out-of-field teaching in K-12, especially science, engineering, technology and math (STEM) classes.* Many of the high demand, high growth positions requiring a postsecondary credential in the three regions also have an emphasis on STEM courses, to meet demand for skilled professionals, we must ensure K-12 rural students have access to teachers qualified to teach specifically in STEM areas.
- *Increase rigor in high school courses leading to postsecondary education.* The issue of rigor for rural schools partially lies in the shortage of highly qualified teachers available to teach a variety of subjects. The USDA offers additional funding to rural areas to supplement the cost of housing for teachers as well as provides affordable home loans for those who qualify.¹¹³ According to stakeholder interviews, recruitment and retention would be successful if schools offer higher salaries and opportunities for professional development and leadership growth.

¹¹³ US Department of Agriculture. "Community Funds." 2014.
<http://www.rurdev.usda.gov/HCF_CF.html>
Accessed April 13, 2014.

- *Contextualize all programs and policies to rural students.* Based on the interviews and survey responses, stakeholders in rural Texas are excellent at forming partnerships. The partnerships should continue to emphasize the unique experience of rural students in specific regions. Given that our regions vary, our responses should also vary. For example, programs tailored to students in the West region should also address the distance barriers that students face.
- *Facilitate parental engagement in the K-12 setting and postsecondary setting.* According to the literature, engaging parents is crucial so that students have the aspirational support to continue postsecondary education. K-12 and postsecondary institutions should develop strategies to leverage the greater influence parents have on rural students' decisions. Rural education institutions at the secondary and postsecondary levels should create and produce programs that inform parents of their financial options and how to complete a Free Applications for Federal Student Aid (FAFSA). Workshops should also inform parents on how to academically prepare their child for the

path to postsecondary completion. Many rural independent school districts partner with local higher education institutions to provide these services to parents through innovative programming.

- *Increase academic rigor in K-12 courses to adequately prepare students for postsecondary education.* Preparedness gaps “which are in turn a result of socioeconomic status” have an impact on academic outcomes. Increasing the rigor of courses offered can mitigate some of these factors.¹¹⁴ Additionally, rural communities should work regionally to align curriculum between K-12 and postsecondary institutions.
- *Tailor programs to address barriers most prevalent in rural Texas.* These barriers include: transportation, technology, and distance. A rural university and local rural school district partnered to provide an Early College High School program delivered by video and other distance technologies.¹¹⁵ By providing university level rigor to students who are many miles away, students are able to start early on

college coursework. Author Koricich also notes “these [dual enrollment] programs would help alleviate the proximity issues associated with rural residence and might equalize access to dual enrollment programs.”¹¹⁶

- *Provide access to transportation.* Stakeholder interviews and a review of the literature reveal that transportation is a large barrier for students in rural areas. Lack of access to personal or public transportation is a key reason some individuals do not enroll or complete a postsecondary credential. The capstone research has shown that community colleges are an important access point for students in rural areas to receive a postsecondary credential. In the face of the transportation challenge, there are some resources and innovative ideas to help rural community communities provide for student mobility needs. The U.S. Department of Agriculture (USDA) offers funding to rural learning institutions through the Community Facilities Program to enhance transportation options.¹¹⁷ K-12, community colleges, and

¹¹⁴ Koricich, Andrew. “The Effects of Rurality on College Access and Choice.” 2014. 7. Forthcoming.

¹¹⁵ OAOA Online. “UTPB teams up with school district.” 2013. <http://www.oaoa.com/news/education/utpb/article_af3653f2-d2f4-11e2-a771-0019bb30f31a.html> Accessed April 12, 2014.

¹¹⁶ Koricich, Andrew. “The Effects of Rurality on College Access and Choice.” 2014. 33. Forthcoming.

¹¹⁷ US Department of Agriculture. “Community Funds.” http://www.rurdev.usda.gov/HCF_CF.html> Accessed April 14, 2014.

universities can benefit from these funds. The funds offered through this program can be used to purchase buses and shuttles that not only provide service around campus, but also in neighboring communities. Shuttles are usually free or of minimal cost to students, and provide important access to campus for those without a car or who could not afford other forms of transportation. Buses and shuttles are common for use in many rural institutions, but there are other methods that schools are using to bypass the barrier of transportation. There are carpools, vanpool programs, park and ride options, and even bike sharing programs.¹¹⁸ Private mass transportation options are also available to the smaller universities where operating a transportation division is impractical. Also, rural universities partner with the local transportation authorities, if possible, to provide services to students.¹¹⁹

- *Develop an understanding of Texas rural high school student aspirations.* Because the Rural High School Aspirations Study is national in scope, work with the National Research Center on Rural Education Support to perform an in-depth study of Texas rural high school students or develop a similar assessment to investigate student aspirations.
- *Encourage school districts and postsecondary institutions to self-assess.* School districts and postsecondary institutions should develop a self-assessment of their responses to the unique postsecondary completion barriers encountered by rural students.

¹¹⁸ This information was gathered by reviewing the transportation options for students on the websites of rural community colleges in the capstone research regions.

¹¹⁹ Federal Communications Commission. "Broadband Outreach." 2014. <http://wireless.fcc.gov/outreach/index.htm?job=broadband_home> Accessed April 14, 2014.

AREAS FOR FURTHER STUDY

Additional research on rural postsecondary completion is key to improving rural student outcomes. During our research we discovered many topics for further exploration. Because of time limitations and wide scope of this capstone project there are several areas that require more research.

These areas include:

- Performing an in-depth cohort study focusing on rural student mobility.
- Furthering research on the impact of 4-H and FFA organizations on rural students in Texas.
- Exploring rural education practices in other states and identifying evidence based best practices.
- Leveraging the influence of parental expectation and academic and career counseling for rural students.
- Analyzing ways to increase academic rigor through curriculum for rural students.
- Surveying Texas rural students' perspectives on postsecondary education aspirations.
- Performing an in-depth comprehensive study on the state of rural K-12 and postsecondary education in Texas.

CONCLUDING NOTES

Our reviews of the literature and research findings demonstrate rural students are underserved and face unique barriers to postsecondary completion. To increase rates of postsecondary completion in rural Texas, we need responses tailored to those unique barriers. We found no unique widespread responses; although, individual schools, colleges, and universities are responding in ways that fit the scope of challenges to postsecondary completion in rural Texas.

ACKNOWLEDGEMENTS

We would like to thank the individuals who played essential roles in helping us with this report.

We would like offer our profound thanks to Dr. Wynn Rosser, our faculty advisor. His guidance and assistance from the first day until the final presentation has been essential. Dr. Rosser devoted significant amount of time in helping us with this Capstone; for that we offer our sincere appreciation.

Another faculty member who played a crucial role in our research is Dr. Kalena Cortes. Her allowing us to use her Education Proximity dataset helped us in our regional approach to analyze Texas postsecondary education.

We would also like to thank our client, Educate Texas, especially John Fitzpatrick, Dr. Reo Pruiett, and Keltly Garbee, for their continued support throughout the year. Their assistance with finding information sources, reviewing our findings, and understanding the complex challenge that is postsecondary completion in rural Texas was invaluable.

We are indebted to education professionals, government officials, and community leaders who participated in our interview and survey research. Without their responses, this report would not be possible.

The administrative staff at The Bush School, especially Kimberly Reeves, provided logistical support throughout the project, assisting with transportation requirements, room reservations, and technology assistance. We appreciate their assistance and time.

We would like to especially thank the Bush School writing consultant Sally Dee Wade for her guidance and coaching from the project's beginning until the very end.

APPENDICES

Appendix A: STATA Proximity Data Outputs

University Distance Findings

1. Minimum proximity to 4 year public in East Region

Variable	Obs	Mean	Std. Dev.	Min	Max
-----+-----					
mindist4yr~b	251	27.38254	15.47563	1.063212	69.66138

2. Minimum proximity to 4 year public in West Region

Variable	Obs	Mean	Std. Dev.	Min	Max
-----+-----					
mindist4yr~b	519	38.68872	30.44637	.2212348	141.4677

3. Minimum proximity to 4 year public in South Region

Variable	Obs	Mean	Std. Dev.	Min	Max
-----+-----					
mindist4yr~b	487	20.2337	16.38158	.2165297	89.49229

4. Minimum proximity to 4 year public in all regions combined, excluding 3 main composite rural regions

Variable	Obs	Mean	Std. Dev.	Min	Max
-----+-----					

mindist4yr~b	1155	23.84992	20.11079	.0062135	78.62519
--------------	------	----------	----------	----------	----------

5. Minimum proximity to 4 year public in 3 composite rural regions combined

Variable	Obs	Mean	Std. Dev.	Min	Max
-----+-----					
mindist4yr~b	1257	29.28105	24.5529	.2165297	141.4677

Community College Distance Findings

1. Minimum proximity to 2 year public in East Region

Variable	Obs	Mean	Std. Dev.	Min	Max
-----+-----					
mindist2yr~1	251	17.23907	13.48599	.2702953	62.40304

2. Minimum proximity to 2 year public in West Region

Variable	Obs	Mean	Std. Dev.	Min	Max
-----+-----					
mindist2yr~1	519	38.31623	27.70761	.2184656	188.2374

3. Minimum proximity to 2 year public in South Region

Variable	Obs	Mean	Std. Dev.	Min	Max
----------	-----	------	-----------	-----	-----

-----+-----
mindist2yr~1 | 487 16.0785 16.16579 .4181575 91.59215

4. Minimum proximity to 2 year public in all regions combined, excluding 3 main composite rural regions

Variable	Obs	Mean	Std. Dev.	Min	Max
-----+-----					
mindist2yr~1	1155	11.62287	11.61073	.1529894	71.47078

5. Minimum proximity to 4 year public in 3 composite rural regions combined

Variable	Obs	Mean	Std. Dev.	Min	Max
-----+-----					
mindist2yr~1	1257	25.49193	23.87195	.2184656	188.2374

Appendix B: List of Rural Postsecondary Institutions Used in Quantitative Research

East Texas Community Colleges

1. Angelina College
2. Kilgore College
3. Lamar State College-Orange
4. Lamar State College-Port Arthur
5. Northeast Texas Community College
6. Panola College
7. Paris Junior College
8. Texarkana College
9. Trinity Valley Community College
10. Tyler Junior College
11. Texas State Technical College-Marshall

East Texas Universities

1. Lamar University
2. Stephen F Austin State University
3. Texas A & M University-Texarkana
4. The University of Texas at Tyler

South Texas Community Colleges

1. Coastal Bend College
2. Del Mar College
3. Laredo Community College
4. South Texas College
5. Southwest Texas Junior College
6. Victoria College
7. Texas State Technical College Harlingen

South Texas Universities

1. Texas A & M International University
2. Texas A & M University-Corpus Christi
3. Texas A & M University-Kingsville
4. The University of Texas at Brownsville
5. The University of Texas at San Antonio
6. The University of Texas-Pan American
7. University of Houston-Victoria

West Texas Community Colleges

1. Amarillo College
2. Cisco College

3. Clarendon College
4. El Paso Community College
5. Frank Phillips College
6. Howard College
7. Midland College
8. Odessa College
9. Ranger College
10. South Plains College
11. Texas State Technical College-West Texas
12. Vernon College
13. Western Texas College

West Texas Universities

1. Angelo State University
2. Midwestern State University
3. Sul Ross State University
4. Texas Tech University
5. The University of Texas at El Paso
6. The University of Texas of the Permian Basin
7. West Texas A & M University

Appendix C: IRB Protocol

Interview Protocol & Survey Questions **A Statewide Strategy for Rural Postsecondary** **Completion: A Bush School Capstone Project**

Interviewee (Title and Name): _____

Organization: _____

Interviewer(s): _____

Sections Used:

_____ A: Interview Background

_____ B: Defining the Rural Educational Problem

_____ C: Barriers to Postsecondary Access and Completion

_____ D: Rural Economic Development Issues

_____ E: K-16 Issues

_____ F: Miscellaneous Questions

Other Topics Discussed: _____

Documents Obtained: _____

Post Interview Comments or Leads:

To facilitate our note-taking, we would like to audio tape our conversations today. Please indicate your preference on page one of the consent form. Only researchers on the project will have access to the tapes which will be destroyed after they are transcribed. In addition, you must sign a consent form devised to meet our human subject requirements. Essentially, this document states that: (1) all information will be reported anonymously, (2) your participation is voluntary, and you may stop at any time if you feel uncomfortable, and (3) we do not intend to inflict any harm or cause risks that are not present in everyday life.

We have planned this interview to last about one hour. During this time, we have a number of questions we would like to cover. We respect your time, so we'll be watching the time and will provide time checks so we can stay on target and finish in about an hour.

Thank you for participating in the interview process. Your contribution is valuable to our research.

Introduction

You have been invited to speak with us today because of your knowledge and experience with rural education and/or rural economic development issues. Our capstone project is developing a statewide strategy for increasing the number of students from rural areas in Texas who attend a postsecondary educational institute and obtain a credential. We will be using both quantitative and qualitative research methods to develop this statewide strategy. Your interview is part of the qualitative portion. The information



IRB NUMBER: IRB2014-0035
IRB APPROVAL DATE: 02/14/2014
IRB EXPIRATION DATE: 02/01/2015

and insight you provide in rural issues will help us develop this strategy.

A. Interviewee Background

1. Which field do you most identify with in your current role?

- a. Teaching
- b. Educational Administration, K-12
- c. Educational Administration, Higher Education
- d. Nonprofit Organization
- e. Governmental Agency
- f. Other (please specify)

2. How many years have you spent in your current position?

3. How many years have you spent working on rural issues in your career?

- a. 0-5 years
- b. 5-10 years
- c. 10-15 years
- d. 15-20 years
- e. 20+ years

4. What percentage of your time, currently, is spent on rural education issues?

- a. 0-20%
- b. 20%-40%
- c. 40%-60%
- d. 60%-80%
- e. 80%-100%

5. Have you completed any postsecondary credentials? If so, which credentials?

B. Defining the Rural Educational Problem

6. Is there a challenge with rural postsecondary education completion in Texas today?

Yes

No

7. As applicable to your role, do you face any challenges with rural postsecondary retention and completion among the students with whom you work or with whom you're familiar?

Yes



No

7a. (If YES above) Briefly describe any specific initiatives you are taking to increase postsecondary retention and completion? (OPEN ENDED QUESTION)

C. Barriers to Postsecondary Access and Completion (OPEN ENDED QUESTIONS)

8. What do you feel are some barriers that make it more difficult for students to enroll in a college or university and complete a credential?

9. How have you seen students overcome these barriers? Are there effective practices you're aware of that schools or postsecondary institutions are using or could use to help students overcome barriers? (If any practices are mentioned, get a good description to include where, the number of students, and why effective.)

10. What does your organization do to help at risk rural students succeed in postsecondary education?

11. Do you feel that technology can be seen as a barrier to postsecondary access and completion?

Yes

No

11a. (IF YES above): Do your students have access to technology that will help them succeed in higher education? (If broadband internet access is not mentioned, ask specifically about access.)

11b.(IF YES above): How are you using technology to help students, whether it be related to postsecondary preparation, gaining access to higher education, or completing higher education?

D. Rural Economic Development Issues

12. Do you feel that the economy in your region is performing:

a. Above Average

b. At Average

c. Below Average

13. For jobs that require a postsecondary credential, do you feel there is a shortage of workers with postsecondary credentials in your area?

Yes

No

14. Are new jobs being created in your region? If yes, in what sectors?

14a. Do the students/youth in your region have the skills for these job or do they have the resources to gain the skills needed for these jobs?

15. Do your local colleges and universities produce career-ready graduates?

16. Do you feel that local employment opportunities target the career-ready graduates from area colleges and universities?



Yes

No

E. K-16 Issues

17. What are your thoughts on curriculum intensity (or rigor) in rural schools?

17a. How does this affect postsecondary success?

17b. (If related to success and response indicates too low, ask: How can curriculum intensity/rigo be increased?)

18. Is there curriculum alignment between high school and postsecondary education?

18a. (IF NO to above) Should there be an alignment between curriculum?

18b. (IF YES to a) What is being done to better align the curriculum between high school and postsecondary education?

19. How are your students/students in your area performing on the ACT and SAT?

a. Below Average

b. Average

c. Above Average

20. What are your thoughts on postsecondary preparation for rural students?

20a. Are rural students prepared for higher education?

20b. (If NO to a) How can we better prepare rural students for higher education?

21. Is recruiting qualified teachers a problem in rural areas?

21a. How do you retain qualified teachers in rural areas?

21b. Is out of field teaching a problem? How do you/your organization deal with this problem if there is one?

21c. How do you ensure teacher accountability for student success?

22. To what careers do your students aspire?

22a. How many of your students aspire to complete a postsecondary education?

22b. How many of your students actually enroll in a postsecondary education institution? What initiatives are you using to increase enrollment in postsecondary institutions?

23. Do you feel your students/students in your area are equipped to enroll in, or access, postsecondary education?

24. Do you feel your students/students in your area are prepared to succeed in and complete college?

25. Is college counseling/advising a priority in your district/partner districts? What are you doing to inform



all students of postsecondary options?

F. Partnerships

26. Have you created any partnerships with other stakeholders to work on the rural postsecondary completion issue?

27. What is the role of the Legislature in rural postsecondary completion? Is it an appropriate/effective role?

Universal Follow-Up on Questions that highlight programs/best practices:

To what level of quality/what is the evidence of success?

For how many students (absolute number and percentage of total population)

