ACKNOWLEDGEMENTS

This comprehensive needs assessment of the adult literacy pipeline in the Permian Basin was conceived and made possible by the visionary leaders at the Abell-Hanger Foundation, FMH Foundation, the Prentice Farrar and Alline Ford Brown Foundation, and the Permian Strategic Partnership. They share a common belief that by working together as a unified coalition we can measurably improve the lives of the individuals and families in our region.

A small army of individuals and organizations also deserve a special mention and thanks. First, throughout the assessment process, the Literacy Coalition of the Permian Basin’s advisory board shared their invaluable wisdom and local knowledge and helped to mobilize the study at critical junctures when we needed support for employer outreach. Many thanks to the advisory board.

Second, the bulk of the analysis in this study literally would not have happened without support from Mayra Lovas at the JF Maddox Foundation and the staff at the Texas Workforce Commission, New Mexico Department of Higher Education, and Texas 2036. Thank you so much for your patience with our many questions and requests.

Next, we would be remiss to not mention several individuals by name who spearheaded recruitment and helped to organize the interviews with the adult learners in all four regions. Specifically, a huge thanks to Alba Austin, Executive Director at the Permian Basin Adult Literacy Center; Tammy Alexander, Director of Adult Education at Howard College; Misty McCormack, Director of Adult Education at New Mexico State University; and Matt Tarpley, Director of Adult Education at Midland College in Fort Stockton. Again, many thanks for going above and beyond.

Last, we must thank the many stakeholders whose voices and keen insights are threaded throughout the pages that follow. Your experiences and stories gave life to the data. Having learned about your goals, strengths, and resiliency, we feel more confident now than ever that, together, we can make a difference for adults and their families in the Permian Basin. We hope that this report will help guide your paths forward.
The population in the Permian Basin is projected to grow by over 68% in the next 20 years. Simultaneously, the Permian Basin is expected to see substantial economic growth, which will drive the need for additional workers for the approximately 115,000 new jobs that will need to be filled by 2050. Thirty percent of these new jobs will require Level-3 literacy skills—skills that require workers to navigate dense, lengthy, and complicated texts and apply their understanding to new tasks and contexts (see p. 6).

Today, the majority of the counties in the Permian Basin rank among the least literate and least educated in the United States. It will be necessary to significantly increase the Level 3 and above literacy rates over the course of the next generation to meet high-skilled job demand. If adult literacy rates remain flat over the next three decades, the economic impact would be substantial, with losses in the hundreds of millions to local industry.

Improving adult literacy would have a transformative economic impact for the Permian Basin and its residents. If the Permian Basin were able to match the current literacy rates in Texas and New Mexico by 2040, the annual earnings gain would be approximately $353 million, with more than $242 million in new gross product each year and over 6,725 new jobs.

Improving the region's literacy pipeline will require improving the capacity, availability and accessibility of educational programs. In this analysis we found that:

1. A large percentage of residents in each county are estimated to have Level 1 literacy skills (approximately second grade) and do not have a high school diploma.
2. The county averages for reading and language arts assessments in 3rd, 5th, and 9th grades are lower than the state average in most counties.
3. A small percentage of adults are enrolled in adult education programs, but of those who are, a notable percentage of English learners have postsecondary degrees from other countries.
4. Many adults are not able to access education programs due to lack of proximity, digital access, childcare, or scheduling conflicts with work.
5. Libraries are positioned to expand access and offer needed programs but are understaffed and under resourced.
6. Fluctuations in local economies due to changes in the energy sector disrupt students’ ability to attend courses and providers’ ability to retain qualified staff.
7. The Permian Basin has clear assets that can be leveraged to address findings one through six.
We offer the following recommendations to improve the adult literacy system across the Permian Basin:

1. Coordinate as a coalition to develop a shared data and performance management infrastructure to focus coordination between stakeholders based on common goals, measurement, and commitments to action.
2. Mobilize a regional adult literacy awareness and advocacy campaign to inform learners of what is available and state and federal officials of what is needed for individuals and programs to succeed.
3. Collaborate with K–12 school districts, adult literacy providers, public libraries, and postsecondary partners to expand adult education options into specific communities that are most isolated.
4. Convene employers and adult education providers to identify ways to improve access to adult education opportunities and accelerate pathways for English learners with some college and post-secondary degrees.
5. Consider adopting and expanding access to adult educational programs that are braid with workplace training, such as Integrated Education and Training.
6. Partner with the region’s school districts to develop additional literacy supports for students in the middle grades (5th through 8th) and improve the pipeline from high school graduation to post-secondary education and workforce training.

In addition to the larger-scale efforts above, we suggest the following to improve the impact of programs:

1. Offer childcare at adult education centers.
2. Incentivize adult education, social services, and other non-profit staff to staff learn Spanish.
3. Hold classes in familiar places (like libraries) or have trusted community members help adult learners feel comfortable navigating college campuses.
4. Increase funding salaries for adult education teachers who demonstrate that they build close relationships and trust with students.
5. Create stable funding for adult education and social service providers to reduce time spent on grant management.
6. Create intake systems that allow frequent enrollment for new students without disrupting the classes of existing students.
7. Allow students to move in and out of programs when available and track their progress over time rather than requiring consistent attendance.
8. Offer short-term certificates to give adult learners smaller more manageable goals and reduce the fear of higher education.
9. Use paper-based distance learning as a supplement when internet access is limited.
10. Leverage the region’s strong preschool programs (e.g., First 5) to share resources with parents about adult literacy and other social services.
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KEY TERMS AND METHODS

SECTION 1. KEY TERMS AND METHODS

Key Terms Used Throughout This Report

**Adult Literacy**: The ability to apply basic reading and writing skills to real-world tasks.

**PIAAC levels**: The Program for the International Assessment of Adult Competencies (PIAAC), also known as the Survey of Adult Skills, is a large-scale international study of key cognitive and workplace skills for adults ages 16–65. The PIAAC rates adult literacy based on the test-taker's ability to complete real world tasks that range from simple to complex (see Figure 1 for the PIAAC level descriptions).

**Figure 1. PIAAC Level Descriptions**

<table>
<thead>
<tr>
<th>Level 1 Task Description</th>
<th>Level 2 Task Description</th>
<th>Level 3 Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The adult may have difficulty reading a basic sentence or short paragraph and locate a single piece of information, and oftentimes may be functionally illiterate.</td>
<td>The adult can make matches between texts, can paraphrase, or make low-level inferences.</td>
<td>The adult can navigate dense, lengthy, and complicated texts and apply their understanding to new tasks and contexts.</td>
</tr>
</tbody>
</table>

**Highly-Skilled Adults**: Adults who can complete Level 3 tasks or above and are prepared to fill high-skilled, high demand occupations. (Please note: We recognize that many adults who have low literacy skills are often highly skilled in other ways. Our use of “high-skilled” in this assessment is specific to the relationship between adult literacy and future occupations.)

**Low-Literate Adults**: Adults who can complete Level 1 tasks or below and would potentially benefit from additional adult education and workforce training through providers and employers.

**Low-Educational Attainment**: Adults who have not received their high school diploma or GED.

**Permian Basin Region**: The Permian Basin is the cluster of 22 counties ranging from west Texas to southeastern New Mexico and covering approximately 75,000 square miles (see Figure 2).

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The Barbara Bush Foundation for Family Literacy estimates that Level 2 skills are equivalent to a 5th grade reading level, and Level 1 literacy skills are roughly at a 2nd grade reading level.¹ These estimates do not reflect adults' other talents, skills, and experiences, but do provide a simplified way to understand the complexity of PIAAC literacy tasks. For the full overview of PIAAC literacy levels, see Appendix A.

Economic Impact Analysis

A central principle of the economic impact analysis conducted by Dr. Ray Perryman and his colleagues at The Perryman Group (see Section 2) is that any economic stimulus—positive or negative—leads to dynamic response across the economy. In this economic impact analysis, The Perryman Group (1) projected economic growth in the Permian Basin by industry; (2) translated projected growth by industry, retirement rates, and individuals leaving jobs into projected needs for workers in specific occupations; (3) identified occupations that require Level 3 literacy skills; and finally (4) quantified the economic impact of current and possible adult literacy rates. Figure 3 provides a simplified depiction of how The Perryman Group quantified the demand for Level 3 workers based on projected economic growth and high-skilled occupations.

![Figure 3. Demand for Level 3 workers](image)

**Permian Basin Subregions:** The Permian Basin is a large and diverse place. To make certain we heard from different communities, we subdivided the Permian Basin into four subregions: (1) Midland and Ector County, (2) West Texas, (3) The Trans-Pecos, and (4) Southeastern New Mexico.

**Stakeholders:** For this study our key stakeholders include adult learners, adult literacy providers, postsecondary institutions, K-12 public school districts, social service providers, county officials, and employers.

**Some Notes on Our Research Methods**

This needs assessment is based on findings across three connected phases of analysis: (1) a regional analysis of the economic impacts of low literacy by the Perryman Group; (2) an analysis of the Permian Basin’s adult literacy pipeline, including outcomes, social factors, and programs; and (3) interviews and focus groups with key stakeholder groups from across the Permian Basin.

In this report, we provide a high-level summary of critical findings from the economic impact analysis. Access the full report on the Literacy Coalition of the Permian Basin website: [https://literacypb.org/](https://literacypb.org/).
Adult Literacy Pipeline Analysis
COVID-19 was disruptive for all learners, from prekindergarten to postsecondary. With this in mind, we used the most recent pre-pandemic data available to develop a sense of the health of the adult literacy pipeline. These data are included in Figure 4.

Figure 4. Data sources for adult literacy pipeline analysis (See Appendix C for description of data sources).

Stakeholder Interview and Focus Group Analysis
To better understand the successes and challenges related to improving adult literacy, we held focus groups and interviews with a variety of stakeholders from across the Permian Basin. Figure 5 depicts the number, locations, and numbers of engagements with different stakeholder groups.

Figure 5. Focus group and interview demographics.

<table>
<thead>
<tr>
<th>Participants by Region</th>
<th>Participants by Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region 1</td>
<td>Adult Literacy</td>
</tr>
<tr>
<td>Region 2</td>
<td>Learner</td>
</tr>
<tr>
<td>Region 3</td>
<td>Employer</td>
</tr>
<tr>
<td>Region 4</td>
<td>Social Services</td>
</tr>
<tr>
<td>State-Level</td>
<td>K-12</td>
</tr>
<tr>
<td></td>
<td>Library</td>
</tr>
<tr>
<td></td>
<td>Immigration Support</td>
</tr>
</tbody>
</table>

25  18
12  14
10  13
20  11
2   7
2  5
1
SECTION 2. PERMIAN BASIN ECONOMIC IMPACT ANALYSIS

Over the next three decades, the Permian Basin is expected to see substantial economic growth, which will drive the need for additional workers (see Figure 6).

Figure 6. Employment Forecast: 2020–2050

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Jobs</th>
<th>Percent Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>338,800</td>
<td>N/A</td>
</tr>
<tr>
<td>2030</td>
<td>398,000</td>
<td>+17.5%</td>
</tr>
<tr>
<td>2040</td>
<td>458,400</td>
<td>+15%</td>
</tr>
<tr>
<td>2050</td>
<td>519,400</td>
<td>+13%</td>
</tr>
</tbody>
</table>

Source: The Perryman Group, 2022

Approximately 30% of the new jobs in the Permian Basin over the next 30 years will require Level 3 literacy skills or higher.

Across all industry sectors in the Permian Basin, different occupations require different levels of literacy skills. Over the next three decades, approximately 30% of the new jobs in the Permian Basin will require at least Level 3 literacy skills. For example, many oil and gas industry jobs (e.g., SCADA technicians, artificial lift technician) do not require an advanced degree yet do require workers to understand complex reports and clearly communicate about operational status. Other fast-growing occupations that contribute to the overall health and well-being of the Permian Basin community (e.g., various roles in health care, social services, libraries, and education) also require Level 3 literacy skills along with relevant degrees. Figure 7 details the demand for workers with Level 3 literacy skills by occupation.
### Figure 7: Demand for Workers with Level 3 Literacy Skills by Occupation

<table>
<thead>
<tr>
<th>Occupational Category</th>
<th>2020-2030</th>
<th>2030-2040</th>
<th>2040-2050</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTAL: All Jobs</strong></td>
<td>98,266</td>
<td>106,882</td>
<td>114,655</td>
</tr>
<tr>
<td><strong>LEVEL 3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL: Level 3 Jobs</strong></td>
<td>29,908</td>
<td>31,712</td>
<td>33,808</td>
</tr>
<tr>
<td>Management (including Executives, Operations Managers, Financial Managers, and Other Managers)</td>
<td>4,913</td>
<td>4,936</td>
<td>5,244</td>
</tr>
<tr>
<td>Business and Financial Operations (including Truck Drivers)</td>
<td>4,486</td>
<td>4,584</td>
<td>4,837</td>
</tr>
<tr>
<td>Transportation and Material Moving (including Truck Drivers)</td>
<td>3,854</td>
<td>4,539</td>
<td>5,109</td>
</tr>
<tr>
<td>Healthcare Practitioners and Technical</td>
<td>2,434</td>
<td>2,730</td>
<td>2,889</td>
</tr>
<tr>
<td>Educational Instruction and Library</td>
<td>2,845</td>
<td>2,468</td>
<td>2,531</td>
</tr>
<tr>
<td>Computer and Mathematical (including Software Developers)</td>
<td>2,231</td>
<td>2,091</td>
<td>2,182</td>
</tr>
<tr>
<td>Architecture and Engineering</td>
<td>1,730</td>
<td>1,900</td>
<td>1,992</td>
</tr>
<tr>
<td>Life, Physical, and Social Science</td>
<td>1,127</td>
<td>1,117</td>
<td>1,166</td>
</tr>
<tr>
<td>Installation, Maintenance, and Repair (including Vehicle Mechanics and Service Technicians)</td>
<td>1,195</td>
<td>1,440</td>
<td>1,552</td>
</tr>
<tr>
<td>Healthcare Support (including Counselors and Social Workers)</td>
<td>1,161</td>
<td>1,384</td>
<td>1,509</td>
</tr>
<tr>
<td>Community and Social Service (including Counselors and Social Workers)</td>
<td>935</td>
<td>962</td>
<td>1,014</td>
</tr>
<tr>
<td>Arts, Design, Entertainment, Sports, and Media</td>
<td>699</td>
<td>762</td>
<td>801</td>
</tr>
<tr>
<td>Legal</td>
<td>467</td>
<td>450</td>
<td>463</td>
</tr>
</tbody>
</table>

Source: The Perryman Group
The Perryman Group estimates that the Permian Basin needs more than 50,000 more workers with Level 3 literacy skills by 2050 to meet its projected workforce needs.

As of 2020, 31.1% of the Permian Basin population was projected to have at least Level 3 literacy skills. Given projected demographic and workforce participation patterns, the Permian Basin will need approximately 37.7% of the Permian Basin population (51,444 individuals) to have at least Level 3 literacy skills to meet projected workforce needs by 2050. Figure 8 shows the projected shortfalls of workers with at least Level 3 literacy skills over the next 30 years.

Skilled-worker shortfalls will have substantial economic impact

If adult literacy rates in the Permian Basin remain flat over the next three decades, the economic impact would be substantial, with losses in the hundreds of millions to local industry. Figure 9 depicts potential losses from 2020 to 2040.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>- $226.4 million</td>
<td>- $111.7 million</td>
<td>- $69.7 million</td>
<td>- 1,438</td>
</tr>
<tr>
<td>2030</td>
<td>- $591.1 million</td>
<td>- $291.6 million</td>
<td>- $181.9 million</td>
<td>- 3,755</td>
</tr>
<tr>
<td>2040</td>
<td>- $955.1 million</td>
<td>- $471.1 million</td>
<td>- $293.9 million</td>
<td>- 6,067</td>
</tr>
</tbody>
</table>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Notes From the Field

Oil and gas employers noted that there are not enough adults with the necessary education qualifications for certain technical jobs, nor the desire to seek higher education. This is an issue because even jobs that do not require advanced degrees must have at least Level 3 literacy skills to be able to perform the job functions, yet there are currently not enough new high school graduates to create a healthy supply of future workers for these positions. Public health employers (e.g., hospitals) are facing similar issues.

Business activity generates tax revenue. As of 2020, the Perryman Group estimates that shortages of workers with Level 3 literacy skills in the Permian Basin led to losses in tax receipts of -$8.4 million to the State of Texas, -$3.9 million to the State of New Mexico, and -$6.2 million to local governments across the region. If current patterns persist, these losses are expected to grow to approximately -$49.2 million to the State of Texas, -$228.8 million to the State of New Mexico, and -$36.2 million to local governments across the region by 2050.
Improving adult literacy would have a transformative economic impact for the Permian Basin and its residents.

The economic and tax losses described above assume that adult literacy rates remain static for the next generation and beyond. However, through our engagement with adult literacy providers, educators, social service providers, employers, and adults enrolled in education programs, it is clear that there is a shared desire to shift the tide on adult literacy in the region. The Perryman Group estimates that a coordinated effort to improve literacy rates could be transformative. Figure 10 details these potential economic benefits.

**Figure 10. Projected Benefits of Enhancing Adult Literacy Levels by 2040**

<table>
<thead>
<tr>
<th>Scenario 1: Improve regional Level 3 literacy rates from 31% to the state averages in Texas (40%) and New Mexico (39%)</th>
<th>Total Expenditures (2021 Dollars)</th>
<th>Gross Product (2021 Dollars)</th>
<th>Personal Income (2021 Dollars)</th>
<th>Employment (Jobs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1.1 billion</td>
<td>$522.3 million</td>
<td>$325.7 million</td>
<td>6,725</td>
<td></td>
</tr>
</tbody>
</table>

| Scenario 2: Improve regional Level 3 literacy rates from 31% to the national average (46%) | $1.8 billion | $866.9 million | $540.7 million | 11,162 |

| Scenario 3: Improve regional literacy rates from 31% to the state averages in the top 5 states in the U.S. (56%) | $2.9 billion | $1.4 billion | $901.4 million | 18,609 |

**Business activity generates tax revenue.** The Perryman Group estimates that improving literacy rates would also result in substantial increases in tax receipts including $108.4 million to the State of Texas, $50.2 million to the State of New Mexico, and $79.7 million to local government entities across the Permian Basin depending on the level of improvement attained.

Adult literacy clearly matters—to the region, its institutions, its people, its future.
The population in the Permian Basin will grow by over 68% in the next 20 years.

Efforts to align and improve the adult literacy pipeline will occur in the context of rapid population change. According to projections from the state demographers in Texas and New Mexico, the population in the 22 counties in the Permian Basin is expected to grow from approximately 750,000 in 2020 to 1.3 million by 2040. This represents a growth rate of 68% in Permian Basin counties over the next 20 years. Figure 11 compares projected growth rates of the Permian Basin, the State of Texas, the State of New Mexico, and the nation.

**Figure 11. Projected Population Growth Rates (percent): 2020-2040**

<table>
<thead>
<tr>
<th></th>
<th>2020-2030</th>
<th>2030-2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permian Basin</td>
<td>28</td>
<td>40</td>
</tr>
<tr>
<td>Texas</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>New Mexico</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Nation</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: Growth rates use 2020 as the base.

---

Most of the counties in the Permian Basin rank among the least literate and least educated in the United States.

The percentage of adults with Level 1 literacy skills or below and adults with less than a high school diploma is much higher than the national average in most Permian Basin counties. Figure 12 highlights the top quartile (25%) of counties in the United States with the lowest levels of adult literacy and educational attainment.

All four subregions across the Permian Basin have challenges related to adult literacy and educational attainment. However, adult literacy levels are not uniform across all regions and counties, nor are the causes and conditions related to adult literacy levels uniform across communities. Figure 13 shows the literacy levels by county compared to Texas and New Mexico state averages.
Figure 13. Percentage of Adults by Proficiency Levels Across the Permian Basin Counties

<table>
<thead>
<tr>
<th>County</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3 or above</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Mexico</td>
<td>29</td>
<td>31</td>
<td>39</td>
</tr>
<tr>
<td>Texas</td>
<td>28</td>
<td>32</td>
<td>40</td>
</tr>
<tr>
<td>Midland</td>
<td>26</td>
<td>32</td>
<td>42</td>
</tr>
<tr>
<td>Glasscock</td>
<td>31</td>
<td>31</td>
<td>39</td>
</tr>
<tr>
<td>Loving</td>
<td>24</td>
<td>38</td>
<td>38</td>
</tr>
<tr>
<td>Terrell</td>
<td>33</td>
<td>32</td>
<td>34</td>
</tr>
<tr>
<td>Martin</td>
<td>31</td>
<td>36</td>
<td>34</td>
</tr>
<tr>
<td>Eddy</td>
<td>29</td>
<td>38</td>
<td>33</td>
</tr>
<tr>
<td>Chaves</td>
<td>36</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Howard</td>
<td>31</td>
<td>38</td>
<td>31</td>
</tr>
<tr>
<td>Crane</td>
<td>38</td>
<td>33</td>
<td>29</td>
</tr>
<tr>
<td>Ector</td>
<td>36</td>
<td>35</td>
<td>29</td>
</tr>
<tr>
<td>Ward</td>
<td>33</td>
<td>39</td>
<td>28</td>
</tr>
<tr>
<td>Upton</td>
<td>35</td>
<td>39</td>
<td>27</td>
</tr>
<tr>
<td>Lea</td>
<td>39</td>
<td>35</td>
<td>25</td>
</tr>
<tr>
<td>Yoakum</td>
<td>40</td>
<td>34</td>
<td>25</td>
</tr>
<tr>
<td>Andrews</td>
<td>37</td>
<td>38</td>
<td>25</td>
</tr>
<tr>
<td>Winkler</td>
<td>42</td>
<td>32</td>
<td>25</td>
</tr>
<tr>
<td>Crockett</td>
<td>39</td>
<td>37</td>
<td>23</td>
</tr>
<tr>
<td>Reagan</td>
<td>42</td>
<td>35</td>
<td>22</td>
</tr>
<tr>
<td>Gaines</td>
<td>42</td>
<td>39</td>
<td>19</td>
</tr>
<tr>
<td>Reeves</td>
<td>50</td>
<td>33</td>
<td>17</td>
</tr>
<tr>
<td>Pecos</td>
<td>44</td>
<td>39</td>
<td>17</td>
</tr>
<tr>
<td>Culberson</td>
<td>55</td>
<td>37</td>
<td>8</td>
</tr>
</tbody>
</table>

Note: Counties are sorted in descending order by percentage of adults in Level 3 or above.

<table>
<thead>
<tr>
<th>Remember</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving literacy rates to the current state averages by 2040 would result in an estimated $1.1 billion in expenditures, $522 million in gross product, $326 million in personal income, and 6,725 new jobs.</td>
</tr>
</tbody>
</table>

Source: The Perryman Group

Due to their low population density, PIAAC estimates in rural counties are accurate but less precise than their more populous neighbors. Regardless, these county-level figures highlight the scale of the challenge ahead. Meeting the expected demand for high-skilled workers with Level 3 literacy skills in the coming decades will require that a significant proportion of the current adults with Level 1 and Level 2 literacy skills have an opportunity to learn and grow.
Improving the region’s literacy pipeline will require improving the availability and accessibility of education programs for the large number of estimated adults with Level 1 or below literacy skills.

To better understand the strengths and challenges in the region’s adult literacy pipeline, we have focused on the low-literate adult population with the understanding that improving systems to support the neediest populations will benefit all populations. Figure 14 illustrates that while the total number of low-literate adults (i.e., Level 1 or below) varies widely across the region, they represent a significant percentage of the population in every county.

The number of estimated low-literate adults ranges from 39,000 in Ector county to 20 in Loving County.
A small percentage of low-literate adults participate in formal adult education programs.

Based on data from the Texas Workforce Commission and New Mexico Higher Education Department, a small percentage of low-literate adults (i.e., Level 1 or below) participate in adult education programs across the Permian Basin (see Figure 15).

**Figure 15. Adult Education Participation by County**

<table>
<thead>
<tr>
<th>State</th>
<th>County</th>
<th>Number of Adult Education Participants by County</th>
<th>Estimated Number of Low-Literate Adults by County</th>
<th>Total Number Served as Percent of the Number Of Low-Skilled Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas</td>
<td>Andrews</td>
<td>10</td>
<td>4,358</td>
<td>0.2 %</td>
</tr>
<tr>
<td></td>
<td>Crane</td>
<td>0</td>
<td>1,246</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Crockett</td>
<td>0</td>
<td>1,065</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Culberson</td>
<td>0</td>
<td>871</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Ector</td>
<td>1203</td>
<td>38,951</td>
<td>3.1 %</td>
</tr>
<tr>
<td></td>
<td>Gaines</td>
<td>142</td>
<td>5,319</td>
<td>2.7 %</td>
</tr>
<tr>
<td></td>
<td>Glasscock</td>
<td>0</td>
<td>327</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Howard</td>
<td>93</td>
<td>8,485</td>
<td>1.1 %</td>
</tr>
<tr>
<td></td>
<td>Loving</td>
<td>0</td>
<td>15</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Martin</td>
<td>0</td>
<td>1,134</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Midland</td>
<td>1,191</td>
<td>26,720</td>
<td>4.1 %</td>
</tr>
<tr>
<td></td>
<td>Pecos</td>
<td>0</td>
<td>5,063</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Reagan</td>
<td>0</td>
<td>1,084</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Reeves</td>
<td>63</td>
<td>5,470</td>
<td>1.2 %</td>
</tr>
<tr>
<td></td>
<td>Terrell</td>
<td>0</td>
<td>151</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Upton</td>
<td>0</td>
<td>823</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Ward</td>
<td>0</td>
<td>2,642</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Winkler</td>
<td>29</td>
<td>2,194</td>
<td>1.3 %</td>
</tr>
<tr>
<td></td>
<td>Yoakum</td>
<td>76</td>
<td>2,251</td>
<td>3.4 %</td>
</tr>
<tr>
<td>New Mexico</td>
<td>Chaves</td>
<td>561</td>
<td>16,310</td>
<td>3.4 %</td>
</tr>
<tr>
<td></td>
<td>Eddy</td>
<td>256</td>
<td>11,456</td>
<td>2.2 %</td>
</tr>
<tr>
<td></td>
<td>Lea</td>
<td>434</td>
<td>18,667</td>
<td>2.3 %</td>
</tr>
</tbody>
</table>

**Opportunity Spotlight**

Comprehensive adult literacy data is currently very hard to collect across the Permian Basin. Adult education providers' reporting requirements (e.g., what data they collect, how often they collect it, and where it is reported) vary based on the state they are in, the type of organization they are and they type of funding they receive. The majority of the large providers' data is available through the Texas Workforce Commission and New Mexico Higher Education Department; however, those sources do not include some of the smaller non-profits and faith-based organizations that are offering services. The region's providers have an opportunity to join as a unified coalition to agree on common data that they will all collect, share, and use as a focal point for their collaborations and improvement efforts.

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3 The participation numbers for Midland County also include the adult education program enrollment at Midland College in Fort Stockton in Pecos County.

4 This illustrates the need for a centralized system for data and reporting that includes all providers in the region.
Adult learners have different backgrounds, needs, and reasons for continuing their education.

The Texas Workforce Commission and New Mexico Department of Higher Education provided detailed student enrollment data in 12 of the 22 counties in the region. These data highlight the diversity of the adult education population in the Permian Basin. According to available data:

- English as a second language (ESL) courses have the highest enrollment of all adult education courses in eight counties.\(^6\)
- In three counties, adult basic education (ABE) courses have the highest enrollment, with more than 75% of adult learners in these counties enrolled in ABE courses.
- Over 80% of adult learners have not completed high school or higher education in 8 out of 12 counties.\(^8\)
- Approximately 40% to 50% of adult learners are currently employed in 8 of 12 counties.\(^9\) Others have lower percentages.

Low literacy is related to a variety of social factors.

Expanding adult education opportunities alone will be insufficient to transform adult literacy at a systemic level. Low literacy is often braided with a variety of other social factors that can negatively impact one’s ability to access and complete education or training programs.

**County-level trends**

Using the most recent PIAAC data and data from the American Community Survey through the U.S. Census,\(^{10}\) we found that at the county level in the Permian Basin:

1. Higher percentages of adults speaking Spanish related to higher percentages of low-literate adults.
2. Higher percentages of adults with less than a high school education related to higher percentages of low-literate adults.
3. Lower population density in the county related to higher percentages of low-literate adults.

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**Opportunity Spotlight**

There were a noteworthy number of students in the adult education enrollment data and participants in interviews who were taking basic ESL courses but had earned postsecondary degrees in another country. The Coalition has an opportunity to convene adult education providers and employers to design innovative supports that fast-track these students’ pathways to high-skilled work.

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\(^1\) Data for counties with fewer than 10 students are suppressed to protect the identity of the students.
\(^6\) Ector, Howard, Martin, Midland, Reeves, Yoakum, and Eddy and Lea counties. In Howard and Yoakum ESL is included in the multicoursework (ABE/ASE/ESL).
\(^8\) Chaves, Andrews, and Winkler counties.
\(^9\) All 12 counties with the exception of Andrews, Gaines, Howard and Martin counties.
\(^10\) Ector, Gaines, Reeves, Winkler, Eddy, Lea; Chaves (3996), Martin (3896) Census Bureau, 2015–2019 American Community Survey 5-Year Estimates.
Low literacy is most strongly related to low educational attainment.

Figure 16 shows the percentages of low-skilled adults (left) and educational attainment less than high school by county (right). These data are broken down by quartiles within the Permian Basin (i.e., only compared to the counties in the region). While the statistical relationship between low literacy and low educational attainment is strong, there are some differences. For example, in Reeves County, the percentage of those with less than a high school diploma is between the 50th and 75th percentile (3rd quarter), while the percentage of low-skilled adults is in the top 75th percentile (4th quarter). In Yoakum County, the opposite is true.

Figure 16. Comparison of County-Level Percentages of Low-Literate Adults and Adults With Less Than a High School Diploma

These county-level comparisons are useful in that they highlight some of the core factors that our target population of adults may be experiencing. However, the data that are aggregated at the county level miss the nuance of factors that are impacting specific communities.
Adults with low educational attainment are more concentrated in specific communities across the region.

Communities within Permian Basin counties are not homogenous. Adults with low educational attainment are concentrated in specific areas within both rural and urban areas. Figure 17 highlights the census-tract-level concentrations of adults with no high school diploma.

**Figure 17. Census-Level Map Showing Percentage of the Population With Less Than a High School Diploma**

One advantage of using low educational attainment as a proxy for low literacy is that U.S. Census data are available at the census tract level, which highlights differences within counties.
Many remote communities do not have easy access to adult education providers.

Increasing the number of adults with at least Level 3 literacy will also require sufficient access to adult education opportunities across the Permian Basin. Based on adult education enrollment data from New Mexico, the majority of students commuted an average of 40 minutes to their adult education classes. The first map in Figure 18 shows the major adult education providers with a 40-minute drive time halo that is calculated based on the availability of roads and public transit. As you can see, large swaths of the region do not have ready access to programs, and many of these areas have the highest percentages of low educational attainment (see the previous page). The second map adds the locations of public libraries, which are in many cases ideally located to fill the gaps in the adult education network.

Figure 18. Regional Maps With 40-Minute Drive Times to Adult Literacy Providers and Public Libraries

Opportunity Spotlight

A key theme from our interviews with adult students is that accessing adult education coursework is a challenge due to several factors that constrain their schedule (e.g., work, childcare) and derail their plans for education. The region’s public library system is evenly distributed and holds the potential for scaling adult education programming and reducing the amount of time some students would lose in transit. Many of the region’s postsecondary partners and the Region 17 Education Service Center have experience launching and managing satellite programs. However, the majority of librarians across the region indicated that they are both understaffed and underfunded to handle such an expansion. The Coalition has an opportunity to mobilize state and local officials in partnership with the philanthropic community to provide targeted investments to the library system and expand adult education options—options that are closer to home at a trusted site.

**11** Similar student enrollment data were not available in Texas.
A variety of other factors are related to low educational attainment.

Using low educational attainment as a proxy for low literacy, we conducted a census-tract-level analysis in order to understand the relationship between low attainment and 32 other variables from the American Community Survey and the Digital Distress Index.

Seven factors had significant relationships. Higher levels of low attainment related to:

1. Higher percentages of adults speaking Spanish
2. Higher percentages of adults speaking language other than Spanish or English
3. Higher percentages of foreign-born adults who entered the country before 2010
4. Higher levels of digital distress on the Digital Distress Index
5. Higher percentages of households with renter housing burden
6. Lower percentages of households with reliable broadband connections
7. Lower percentages of the population who are 65 and over

We describe several of these trends in more detail below and in Figures 19–23.

The Digital Divide

The Digital Divide Index (DDI)\textsuperscript{12} measures the levels of digital distress in communities across the U.S. Using a variety of infrastructure factors (e.g., availability of fixed broadband, percentage of homes with no computing device) and socioeconomic factors (e.g., adults with less than a high school diploma, individual poverty rate), the DDI assigns communities a score of 0 to 100, where 100 represents the highest level of digital divide.

In the Permian Basin, expanding virtual and hybrid learning options is one potential approach to expanding adult education opportunities at scale. However, digital access is uneven (see Figure 19). Based on interviews with adult

education providers and students, many adult learners struggled to access adult education virtually before and throughout the pandemic.

One college administrator noted,

“People [in rural areas] don’t have access to internet or computers...but we don’t have any money to pay for individual, face-to-face classes in all these rural areas. We can’t afford to.”

The lack of educational opportunities is especially pronounced in several counties along the Trans-Pecos and in northern Yoakum, southwestern Ector, and south-central Chaves where the highest rates of low educational attainment and the highest likelihood of digital divide combine with having no adult education provider within 40 miles (see Figure 20). One adult learner described her experience:

“I wanted to start studying English, but it’s a bit difficult for me because where I can attend it would be Fort Stockton (45 minutes away) and Midland (75 minutes away). There is no possibility of taking English courses online, as the opportunity with the GED has now presented itself.”
Variations in the Job Market and Housing Instability

Figure 21. Rental Housing Burden

The high concentration of rental housing units in urban areas with higher income and education rates masks the relationship between housing burden rates and low-skilled adults in urban areas, contributing to high costs of living and creating instability in the lives of low-skill adults. One adult literacy provider described a common scenario:

“The reasons we get [for dropping out] are always the same things: a loss of a job, a loss of childcare, a loss of transportation, moving completely. A lot of our ESL students go back to Mexico... a lot of it is not having the support or the home life stability that they need. If you don’t have a job, if you don’t have a home, school’s going to take a second place to that.”

Adult learners are not the only ones to experience this housing volatility. We heard from hospitals, social service providers, adult education providers, and K–12 school administrators that these same peaks and valleys in the housing market posed barriers to their efforts to recruit and retain great staff (e.g., nurses, teachers, social workers).

English Language Learners

Figure 22. Percentage of Population Speaking Spanish at Home

Many learners seeking adult education to earn their GED or transition to postsecondary education are also English
learners, with the majority speaking Spanish (see Figure 22). While speaking Spanish can be an asset in many jobs (e.g., healthcare), adults also need to speak English to meet job requirements and demand. Of our 14 learner interviews, eight were conducted in Spanish at the learner’s request.

It is important to note that not all ESL students have less than a high school diploma. For example, one provider shared that only about a third of their ESL students had no high school diploma, with the rest having completed secondary or postsecondary education in their home country. According to census track data, there is limited overlap between those who speak Spanish at home and those with less than a high school diploma across the Permian Basin (see Opportunity Spotlight on page 19).

In some cases, taking ESL classes first can help learners build the trust and comfort needed to continue in adult education to GED or ABE classes. One adult learner described the importance of ESL classes:

“It’s not just teaching with the book. The teacher talks to us, makes us feel good…What we are doing in a group is good because many times at home you cannot do it because you need other people to let out a little bit of English in conversation. Many times at home you cannot.”

However, two issues compromise these trust-based relationships. One, some adult learners indicated that they were frustrated with the amount of time and effort needed to both learn English and advance their literacy skills or earn their degree. Second, fluctuations in the regional economy make it difficult to retain staff in these teaching roles that are so dependent on consistency. See Figure 23 for communities where these relationships would be a priority.

Achieving adult literacy and educational attainment goals in the Permian Basin will also require improvements earlier in the education pipeline.

The social factors described above influence adult learners’ ability to enroll in, succeed in, and complete education programs that can help build their skills for the future of work. While addressing these factors should be one of the Coalition’s primary objectives, they should also be mindful of challenges earlier in the education pipeline.
K–12 reading levels are below state averages in most Permian Basin counties, from elementary through high school.

According to the 2018–2019 state language arts assessments, in most counties in the Permian Basin, K–12 students are performing below the state average in reading and language arts. Figure 24 shows the average percentage of 3rd graders, 5th graders (New Mexico), 6th graders, (Texas), and 9th graders who are on or above grade level in each county.

The green cells indicate where the county schools have equaled or outperformed the state averages. The yellow cells indicate that the grade level was below the state average, and the red cells indicate where 25% or less students are on grade level.

Opportunity Spotlight

There are a number of counties where 3rd graders are significantly outperforming the state. On the other end of the spectrum, several counties appear to have a significant rebound from the elementary and middle grades and are outperforming the state by 9th grade. It would be worthwhile for the Coalition to convene a learning community to better understand what is happening in these counties and how their best practices might be scaled region-wide.

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13 New Mexico Public Education Department 2019 Achievement Data; Texas Education Agency 2019 Achievement Data.
14 These figures represent the averages for all schools in a county. For example, if there are two elementary schools in a Texas county, then all 3rd-grade outcomes from both schools would be averaged. Glasscock and Loving counties had too few students to report in most grade levels. Alternative programs, such as juvenile justice centers, have been removed from this analysis.
Place-based literacy interventions can reach multiple generations if they are targeted within specific communities.

Research has long established that educational opportunities are unevenly distributed from place to place. The same is true across the Permian Basin where many of the neediest schools are clustered in communities with the lowest levels of educational attainment for adults 25 and over. These communities are potential sites for collaboration between K–12 schools, adult education providers, social service providers, and the community members themselves to implement literacy interventions that can impact multiple generations. Figure 25 highlights a few examples of communities with low educational attainment and K–12 schools where 25% or fewer of the students were on grade level for reading or language arts. These patterns are common across the region.

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The individual stories and perspectives of adult learners and providers from the Permian Basin underscore both the commonalities across subregions and their unique differences.

The stories of adult learners in the Permian Basin cannot be fully captured by quantitative data alone. To better understand the local context and lived experiences of those living in the Permian Basin subregions, we held interviews and focus groups with adult learners, a variety of providers (e.g., adult education, social services, libraries), elected officials, and employers. Several common challenges emerged across these conversations, including access to childcare, access to technology, and cultural barriers. However, different aspects of these challenges are unique to specific subregions or locales. Common successes arose across subregions as well, particularly the partnerships between non-profits, higher education, and school districts.

The following sections highlight additional strengths, opportunities, and challenges that surfaced from our conversations with stakeholders in each of the four Permian Basin subregions.
Subregion 1: Ector and Midland Counties

Having the largest population of the subregions, Ector and Midland counties also have the largest proportion of low-literate adults (67,700); however, in terms of percentage of low-literate adults they are lower than the other subregions. In addition, the number of adult education participants constitutes almost 4% of the estimated low-literate adult population—the highest among the subregions. Although 80% of adults have higher than a high school degree, K-12 performance is not at the state average and has some room for improvement.
Strengths and Assets

Adult education teachers consistently help students feel comfortable though caring, encouragement, and the use of specific evidence-based ESL teaching strategies that help them feel successful.

“They are very kind and patient that we do not speak the language. English and all that is very difficult for me. They are also learning how we can communicate with them because I know the basics, but I couldn't follow a conversation. I feel like they are there supporting you and, more than anything, having patience with you.”

- Adult Learner

Providers collaborate for “warm hand-offs.”

Asking for help often prevents individuals and families from seeking further assistance due to stress or intimidation; therefore, staff should do a “warm hand-off” to other service providers rather than simply providing individuals and families with a list of services. In a warm hand-off:

- Staff give the individual or family the name and contact information for a specific person at that organization and contact them in advance, knowing that personal connection helps individuals and families feel safer and more welcome when seeking services.
- Staff use technology (e.g., Charity Tracker) to ensure that families do not get lost in the system when referred to other providers.
- Staff at the most common first point of contact (e.g., independent school district, Midland College) are ready to connect individuals to adult education (e.g., ESL classes with the Permian Basin Literacy Center) and other services (e.g., citizenship supports).

Successful Engagement Strategies

- Free bus passes
- Free GED class materials
- Familiar class settings (e.g., libraries)

Navigating support service systems can be intimidating or require more energy than one can give when living in poverty and working several jobs to survive. The combination of collaborative relationships across organizations and these software supports help staff effectively connect individuals and families with the services they need.
"We've tried to develop what we call a warm handoff system where if somebody walks in my door and they don't fit what we do, I'm not just going to hand them a list. I'm going to say here, 'Let me call [name] and get you guys in touch with you with each other so that you don't get dropped in the middle [of seeking services].''

-Social Service Provider

"Families don’t have the bandwidth to do it. They are trying to meet all of these essential functions like housing, food, healthcare. We can’t just keep throwing classes at them when they don’t have the energy to access those resources.... Families either don’t know how to get [services], don’t know they exist at all, or don’t have the bandwidth to try to coordinate [admission], let alone going to courses."

-Social Service Provider

The doors are always open.

Adult education staff welcome back students who cannot consistently commit to attending classes, understanding that many adult learners have changing work and family situations and need flexibility. Staff also recognize it takes time for adult learners to develop the trust and courage to engage with school staff; therefore, they do not pressure anyone to participate in programs even if they see the need.

"You have to build that trust before you can make a difference with anyone....A lot of the families have had doors slammed behind them and so to reestablish trust in a relationship with somebody that knows what they’re doing is a huge step in the right direction."

-Social Service Provider
Midland ISD is working to improve adult literacy through early education.

Low literacy can be cyclical: when parents and caregivers have low literacy skills, their children can miss out on early literacy experiences and become more likely to have low literacy as adults themselves. In addition, families who cannot afford or find reliable transportation to childcare cannot access the early literacy supports that daycare and preschool provide. To combat these challenges, Midland ISD implemented the University of Texas Permian Basin's First 5 initiative that offers a variety of classes for parents of children up to age three focused on teaching basic literacy and math skills. By taking classes through the First 5 program, parents with low literacy skills can feel less isolated and help their children be more likely to be kindergarten ready; long-term, their children are more likely to have strong literacy skills as adults if they begin school with foundational literacy skills.

“They learn how to be their child’s first teacher and advocate for literacy and numeracy... even if they didn’t go to school. It’s providing their child the real foundation that they need to be kindergarten ready.”

- K-12 Provider
Challenges in Ector and Midland Counties

Re-engaging in services after dropping out due to work, childcare, or other factors takes courage. Adult education staff also welcome back students who cannot consistently commit to attending classes, understanding that many adult learners have changing work and family situations and need flexibility. Staff also recognize it takes time for adult learners to develop the trust and courage to engage with school staff; therefore, they do not pressure anyone to participate in programs even if they see the need.

Learner Challenges

Continuing education is devalued.

Many individuals and families do not see the value of education based on the job opportunities in the oil and gas industry.

"With the oil and gas industry, you don’t have to have a high educational attainment to make a living. ... Many [adult learners] do not see the need of a college degree because of the opportunities working in the oil field without having to go to the expense or the struggles of college."

— K-12 Administrator

Childcare is not available or affordable.

Learners do not have adequate time to manage childcare, take care of their families, and attend adult education. Worker transience also leads to a shortage of childcare providers.

"Sometimes it was a little difficult [managing adult education and kids]. I said, ‘No, I’m getting too stressed and I’m going to get sick, I’m not going to get one thing or the other.’"

— Adult Learner

Education and job schedules are misaligned.

Learners without childcare responsibilities also cannot attend adult education when classes do not align with their work schedules, especially for those working long hours or multiple jobs to survive.

"Now I am working, and it’s not possible for me to go to the classes."

— Adult Learner

"I think there are a lot of people in Midland, especially men who would like to take English classes, but don’t have the luxury of being able to adjust both their work schedule and their class schedule. I think there are people who cannot have that kind of flexibility to be able to fill that need they have of being able to take English classes and work at the same time because they work 12 hours, or more... So, even if they wanted to take English classes, they can’t take them because many times the schedules can’t be adjusted to them."

— Adult Learner (translated from Spanish)
There are multiple barriers to accessing classes.

The limited public transportation options in the area either take too much time (e.g., multiple-hour bus rides) or are not reliable (e.g., broken-down buses), nor is it safe to walk to services given the layout of roads in the community. Libraries offer free internet in cities, but rural communities lack reliable internet service. Learners like online learning options (a strength) but cannot consistently or reliably access them.

“"You are in the comfort of your home. When class time comes, you sit down and take your class, get up and continue doing what you are going to do. When you come here you have to comb your hair to come and then the road and then, well, it’s a little more laborious and I like it online.”
– Adult Learner (translated from Spanish)

“Sometimes you would have some kind of problem in terms of data because there are times when your cell phone data runs out and there are times when the signal from my apartment would go out, so I had to improvise a bit to find a place to be available for classes on Zoom.”
– Adult Learner (translated from Spanish)

Provider Challenges

There is a lack of Spanish-speaking staff.

Providers do not have enough staff who are biliterate and can teach in English and Spanish.

“When I say, ‘No hablo...’ they feel like they’ve hit a dead end, but if I get a staff member who can speak Spanish, all of a sudden things just start falling into line. They’ve got hope.”
– Social Service Provider

Spreading awareness of available programs is a challenge.

Many providers use radio ads, flyers, and other mass communications strategies but still have challenges reaching those who need services most. Individuals and families who are not actively engaged in the community (e.g., attending community events, going to the library) are incredibly difficult to reach.

“No one reads the newspaper anymore. You can advertise on the local radio stations, but a lot of people don't listen to that either. You can have your Facebook page, but this is computer literacy 101 and they probably don't have a Facebook page. Getting the word out in a rural community is difficult.”
– Librarian

Students feel the stigma of asking for help.

Accessing services can feel intimidating for adult learners because they feel uncomfortable asking for help, feel that they do not belong in an educational setting, or do not have the mental or emotional bandwidth to seek supports.

“They do not feel comfortable walking onto a college campus. They’re very, very intimidated by that.”
– Adult Literacy Provider
Service providers are faced with challenging funding constraints.

Most service providers spend most of their budget on payroll, as the main cost of delivering services is staffing; however, many grants do not allow the majority of funding to be used for staffing which limits both the number and quality of staff they are able to hire.

“It’s expected of us to have less of our budget going towards salary than it is towards programs and deliverables, but what people don’t realize is that all of that is driven by people.”
— Librarian

“The number one thing is staffing. I do not have staff. I don’t have the number of people and the people I do have really don’t have the skills to teach these classes”
— Librarian

Service provider staff are stretched thin when trying to accommodate adult learner schedules.

Staff often face burnout because they end up working overtime because adult learners need classes or support outside of typical business hours. Other programs simply do not have staff available to teach classes in the evenings when adult learners are available.

“[Adult learners] can only do the visits if it’s like at 9:00 p.m. (due to childcare and work). We, we can’t make staff do visits at 9:00 p.m. every day.”
— Social Service Provider

Employers face challenges where staff do not have the necessary literacy skills.

This holds true even for jobs that are not categorized as high-skilled or when staff hold advanced degrees.

“Many of our nurses come out of highly technical training with difficult degrees, but have an inability to write well, use data, and understand [step-by-step directions]. That’s a big gap for promoting those people into leadership positions and building a strong succession model.”
— Employer
West Texas has a relatively high percentage of adults without a high school education, and 36% of adults are at the low proficiency level in literacy. Meanwhile, just about 3% of estimated low-literate adults are being served in the subregion. Performance at Grade 3 and Grade 9 are below state average, while Grade 6 performance is even more lagging behind. The region is expected to grow rapidly in the next 20 years: both school-age and working-age populations are forecasted to increase by about a third each decade.
Strengths and Assets

Students overwhelmingly reported having positive relationships with adult education staff.

In addition to teaching practices, adult education staff focus on encouraging adult learners toward their goals and building their confidence to help keep them engaged and motivated.

Providers are developing innovative approaches to enrollment to minimize learning disruptions.

It is important for both adult learners and providers to have intake processes for new learners that do not create additional challenges. Some funders require open enrollment, as it benefits adult learners; however, open enrollment can create disruptions and make teaching more challenging for instructors. Small changes, such as staggering open enrollment and conducting testing outside of the class period, can reduce disruptions.

"For a long time we had to have open enrollment, where we were stopping class to test somebody or get them enrolled. But now once a month, at the beginning of the month, I make new students come in the week prior to do the testing and enrollment before I send them to class."

- Adult Education Provider

Successful Engagement Strategies

- Free bus passes
- Free refurbished computers from Comp-U-Dopt

Notable Partnerships

Odessa College and Big Spring College have partnerships with local hospitals and healthcare providers to pair students with clinical placements and jobs in places where they are most needed.
School districts are expanding access to credit-bearing courses and relevant job training.

Students are motivated to take dual credit classes because they help students build practical skills and allow students to earn college credit for free. These classes are now designed to specifically address the required skills (e.g., literacy, safety) that students will need when they move into jobs in the oil and gas industry.

Some employers are providing flexibility and support for their employees to pursue continuing education.

While not all employers are able or willing to give their employees flexible schedules or time off to attend adult education, some employers are supportive and work with adult learners to help them balance both work and learning.

“I was working a lot more so I was struggling a little bit in the program. But [my bosses] were so helpful with helping me with my days and my hours just so I could have more time to focus on my school. They do still have their tendencies to like call me in while I’m at school. But I tell them, ‘I’m in school. I can’t,’ and they respect it. I’m grateful because most jobs probably wouldn’t do that.”

- Learner
Challenges in the West Texas Counties

Learner Challenges

Youth feel the pressure to stop learning and start earning.

Many youth feel pressure to get a job to make money immediately rather than seeking higher education; however, those who leave the industry following injuries then do not have the education needed to qualify for other jobs. The “boom and bust” of the oil and gas industry also creates ripple effects of financial instability in the broader community, which creates further financial challenges that prevent individuals from seeking further education.

“They’re going to pick supporting their family rather than continuing their education.”

– Adult Education Provider

The lack of childcare is a barrier for mothers who might otherwise pursue their education.

Most women seeking or in need of adult education struggle to find time to attend consistently given childcare and work constraints. For women from Mexico or Central America, there is often a cultural barrier to continuing education that leads to women’s partners actively discouraging them from seeking education to ensure they remain at home as the primary caregiver for children.

“One of our biggest barriers is childcare, transportation, time away from family. They have jobs. They have kids that have sports. They stop [adult education] for a while and then come back when they have some time. And then they get another job, and they stop again.”

– Adult education Provider

“Financially I can’t afford to put my kids in daycare…. If [my family] can’t watch them, I have no choice but to call in to work, because I don’t have anybody else that can take care of them.”

– Adult Learner and Mother

Some students struggle with different aspects of the digital divide.

Individuals and families in rural areas have limited or no internet access. Further, those who do have internet access sometimes cannot adequately access online classes (e.g., phone screens are too small) or are reluctant to engage in online courses in general (especially ESL learners). Many students are embarrassed to admit that they do not have the technology to access online learning, which prevents providers from understanding why adult learners drop out or do not engage.

“They simply do not have the technology at home. They don’t have the devices.”

– Adult Education Provider

“As I get older, that hands-on learning really came into play because I still do struggle a little bit because if it’s not well explained to me or explained in a way I can understand, I won’t really get it. With the Zoom, it’s more visual learning than it is actual hands-on.”

– Adult Learner
Required processes don’t accommodate non-traditional adult learners.

Learners who have been homeschooled in insular communities (e.g., German religious communities) often do not have the necessary paperwork (e.g., IDs, school records) to enroll in adult education classes. Other adult learners are dissuaded from participating because they do not have access to the scanned and printed copies of key documents required to enroll.

"Those enrollment forms have a lot of questions asked, documents needed, and testing. Those are barriers to getting into classes."  
— Adult education Provider

Provider Challenges

Outreach activities are not reaching their intended audience.

Providers use radio ads, flyers, and other mass communications strategies but cannot reach those who need services most. Some providers suspect that language is a barrier in outreach, as they do not use ads in Spanish. One adult education provider noted that their grant funding does not cover advertising:

“We’ve tried putting ads in the newspaper. We’ve tried running ads on the local radio. But those things don’t seem to work to get people to come in.”  
— Adult Literacy Provider

Staff struggle with large classes and reaching all learners.

Continuous enrollment and inconsistent attendance mean that staff have to teach large groups of adult learners with a wide range of literacy levels at the same time. Staff also struggle to motivate adult learners who do not have concrete learning goals. In some cases, staff themselves do not have the digital literacy skills necessary to teach. These conditions lead to challenges finding and retaining staff.

“These students are coming [into the program] at different times so everybody is at a different level, or a different place in the class... [our funder] says we have to have orientation at least every other week, so then we always have new students filtering into the classes, which again is another interruption into the class.”
— Adult Education Provider

“My ABE class is already everything from straight out of ESL to right before I move them to GED. I have 5th and 6th grade reading levels, I have 1st grade reading level, I have like everything in between.”
— Adult Education Provider

“Our students write down things like, ‘I want to read to my grandchildren. I want to help my child with their homework.’ They don’t even recognize these as being a goal.”
— Postsecondary Administrator
Funding limitations also lead to challenges with program quality.

Adult education programs only have enough funding for the bare minimum staff and not for necessary technology. While WIOA [Workforce Innovation and Opportunity Act] offers some funding, the funding is inconsistent because students prioritize work over adult education programs. Inconsistent adult learner attendance negatively affects program outcome data, which dissuades funders from continuing or increasing grants.

“When you think about the need in the communities that we serve, we do not have enough funding for it.”
— Adult Education Provider

Limited funding for salaries also leads to fewer qualified applicants.

In adult education, staff sometimes do not have the necessary digital literacy skills themselves. In CTE, qualified individuals do not transition from industry to teaching due to higher industry salaries.

“Everybody’s looking for employees and you just can’t find them.”
— County Official
Trans-Pecos has a particularly sparse adult education landscape. While the need for adult upskilling is relatively high, the number of adult education participants constitutes about half of a percent of the estimate for low-literate adults. Forty-seven percent of adults in Trans-Pecos are at the low level of literacy, and a third of adult population has less than a high school education. In K-12 education, while Grade 3 and Grade 6 are below state average, less than a quarter of the Grade 9 cohort achieve proficiency at the Grade 9 level. Meanwhile, the school population sees only slight increase in the next 10 years and no change between 2030 and 2040.
Strengths and Assets

Fort Stockton Independent School District (ISD) is a strong collaborative partner.

Fort Stockton ISD has successfully built relationships with adult education providers to strengthen and streamline services. Fort Stockton ISD has been offering dual credit courses for over 50 years through partnerships with local colleges; today, Fort Stockton ISD staff maintain close working relationships with adult education provider staff on how to best support individual students and overall procedures. These ongoing collaborations have helped develop a culture of encouragement for adolescents and young adults, no matter their life situations or education history. Fort Stockton ISD also helps provide accessible internet access for the community by sending out buses with internet hotspots to locations in need. By offering scholarships for online ESL classes and covering associated testing costs, Fort Stockton ISD encourages students to persist and complete these classes.

Midland College is serving as a bridge to postsecondary degrees and certifications.

As a public junior college, Midland College offers a variety of two-year degrees and certifications (e.g., Certified Nurse Assistant) as well as a variety of adult education programs (e.g., GED). Midland College has served as a hub for adult learners in the community, helping them build basic skills, earn certifications for jobs, or earn credit hours toward higher degrees.

"I see more adults coming back and taking classes through Midland College to get the basics out of the way, and then going somewhere else to get a Bachelor’s degree—mainly adults in their 20s, 30s, and even up in their 40s.... They never had the opportunity to go to college or never took the opportunity, and now they’re going back to school and getting jobs.”
- Local Official

Challenges in the Trans-Pecos Counties

Learner Challenges

Childcare continues to be a challenge.

Learners do not have time to travel to adult education classes or the energy to devote to learning given their work and childcare responsibilities.

"Things in the morning, things in the afternoon, another excuse in the evening. By the time they get home, they just don’t have time [for adult education] ... They may be able to carve out of their schedule for that time period that they’re with us, and then just think to themselves, it’s just not worth it.”
- Adult Education Provider

“It can be a long bus ride on our public transit system. Getting to and from places is a difficult thing.”
- Social Service Provider
Learners do not always have access to the classes they need, when and how they need them. Learners do not consistently have access to all types of classes online or during times they can attend in-person (e.g., ESL, GED).

“Programs will have classes available but they may not necessarily correlate when a student can get to those classes. That’s a huge barrier if you’re working a full-time job (or a couple of different jobs) and have a family. Or they have an issue with technology and are not able to participate in remote learning.”
— Adult Education Provider

Classes struggle to create a high-performing culture.

Learners need to feel comfortable in the classroom to engage in learning, which is dependent on trusting and feeling connected to other students. Inconsistent attendance and open enrollment policies negatively impact adult learners’ ability to create trust and connection. Learners also have limited time to form connections and build trust because there is little cultural value in furthering education beyond basic skills.

“If you don’t have that group of networking and friendship, they might not be comfortable [reading aloud in English].”
— Adult Education Provider

Provider Challenges

Grant administration and implementation can be disruptive.

The grant funding streams that many providers rely on often have changing requirements for compliance and funding, which require significant administrative time and take away from staff capacity to support adult learners.

“We’re always working [on] some grant or initiative that involves a heavy amount of reporting, a massive restructuring of the way you do your operations. Then you have to retrain your whole workforce. I think that sometimes adds to turnover.”
— Social Service Provider

Service providers struggle to recruit and retain staff.

Adult education providers and social service providers struggle to recruit and retain qualified staff due to high costs of living in the region and limited incentives (i.e., low salaries, no regional attractions). Adult education providers often lose staff to local independent school districts because they can offer higher salaries.

“A lot of what hampers our ability to recruit and sustain staff is the local cost of living. They just cannot afford to be here.”
— Social Service Provider

“We turn over faster than we can train [new staff].”
— Social Service Provider
Subregion 4: Southeast New Mexico

**Literacy proficiency levels**

percent of adult population, ages 16-74)

<table>
<thead>
<tr>
<th>Subregion 4: Southeast New Mexico</th>
<th>Literacy proficient levels</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>35</td>
<td>32</td>
</tr>
<tr>
<td>Middle</td>
<td>35</td>
<td>32</td>
</tr>
<tr>
<td>High</td>
<td>30*</td>
<td>39</td>
</tr>
</tbody>
</table>

**Education Attainment**

percent of adult population, ages 25+)

<table>
<thead>
<tr>
<th>Less than High School</th>
<th>High School</th>
<th>Some College</th>
<th>Associate’s</th>
<th>Bachelor’s</th>
<th>Graduate</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>32</td>
<td>23</td>
<td>8</td>
<td>10</td>
<td>6</td>
</tr>
</tbody>
</table>

NOTE: *High/lower than state average (p < .05)

Low: Level 1 or below on the PIACC literacy scale

Middle: Level 2 on the PIACC literacy scale

High: Level 3 or above on the PIACC literacy scale

1,300 adult education participants

46,400 low-literate adults

NOTE: Low-literate adults are those at Level 1 or below on the PIACC literacy scale. Numbers of adult education participants and low-literate adults are rounded.

**K-12 Performance in Language Arts**

At Meets Grade Level or Above (percent)

<table>
<thead>
<tr>
<th>Subregion</th>
<th>Grade 3</th>
<th>Grade 6</th>
<th>Grade 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>32%</td>
<td>29%</td>
<td>26%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subregion</th>
<th>Grade 3</th>
<th>Grade 6</th>
<th>Grade 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>30%</td>
<td>31%</td>
<td>30%</td>
</tr>
</tbody>
</table>

NOTE: Subregional data is a weighted average for all schools in the subregion.

Unrounded percent is below state average.

Unrounded percent is below state average and below 25 percent.

**Forecast of Population Changes**

<table>
<thead>
<tr>
<th>Overall (age 0-99+)</th>
<th>Population Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020-2030</td>
<td>2030-2040</td>
</tr>
<tr>
<td>Overall (age 0-99+)</td>
<td>6%</td>
</tr>
<tr>
<td>School-age (5-17)</td>
<td>--</td>
</tr>
<tr>
<td>Working-age (25-64)</td>
<td>--</td>
</tr>
</tbody>
</table>

NOTE: Population projections by age are not available.

Southeast New Mexico has room to expand adult education participation, with less than 3% of the estimated low-literate adults served. Although almost 80% of the adult population has a high school degree or above, a third of the population is at low literacy proficiency. K-12 performance is above state average at Grade 3, just below the state average in Grade 6 and dips at Grade 9. The population is expected to grow at a low pace in the subregion.
Strengths and Assets

Key partners are invested in collaborating and improving adult education in the region.

As we began the fieldwork for this project, it was striking how engaged and invested key actors, such as the four largest school district superintendents, librarians, adult education providers, community and state officials, and a local foundation, were in the process. This suggests that as regional coordination and improvement efforts take shape, the southeastern counties in New Mexico will be ready to mobilize.

New Mexico State University models a student-centered approach.

New Mexico State University offers a range of supports to “meet students where they are.” These supports range from technology support (e.g., rented computers, digital literacy training) to flexible class formats (e.g., virtual options, daytime and evening options) to address common barriers to attendance. New Mexico State University has connections with local services, such as women’s shelters and transitional housing supports, to ensure that those in need are aware of adult education opportunities. In addition, adult education staff consider a wide range of motivating factors to prevent dropout; for example, when women attending adult education classes feel discouraged by the level of effort needed to get their GED, staff may encourage them to continue attending so that they can be an educational role model for their children.

Challenges in the Southeast New Mexico Counties

Learner Challenges

Fluctuations in the local economy make starting and finishing a program a challenge.

The high cost of living based on oil and gas industry salaries creates economic challenges for other individuals and families in the community. Learners do not have time to attend adult education classes when working long hours or multiple jobs to survive; likewise, learners cannot prioritize adult education when they are dealing with other challenges, such as unstable housing.

“To take English, I have to stop working and I don’t want to stop working, because times are different.”
—Adult Learner (translated from Spanish)

“The oil field pays so much money, but the other jobs don’t, and then the prices are geared towards that group, but only a certain amount of people fit that rate. And then everyone else is just left out.”
—Adult Education Provider
Immediate needs take priority over long-term growth.

Economic challenges leave families unable to afford childcare, which leaves adult learners without time to attend adult education. In addition, cultural norms tend to prioritize immediate work, family, and childcare over continuing education.

“Two things are very striking that we hear a lot: affordable housing and childcare. Everything is so expensive.”

– Postsecondary Administrator

“It’s a generational narrative out here that post-secondary education or college isn’t necessary to succeed in our community. True or not, that’s the narrative. You hear this over and over, ‘Why do I need to stay in school? Why do I need to get an associate [degree]? Why do I need to go to college?’”

– Adult Education Provider

In-person and virtual options are inaccessible.

There are extremely limited internet options in rural areas, which prevent learners from accessing virtual adult education options. In-person adult education options are also not accessible for adult learners living in rural areas that are several hours’ drive away from other towns.

“We didn’t have a lot of issues with our students attending virtual classes; the problem is the internet broadband [reliability] is awful in the Permian Basin. Most of them logged in through their smartphone.”

– Adult Education Provider

Provider Challenges

Adult learners are not aware of all of the available learning options.

Adult education providers struggle to reach those who need services most.

“There aren’t a lot of resources, but those that are here, people don’t necessarily know about them.”

– County Official

Operational constraints limit what adult education programs can accomplish.

Adult education services are completely separate from traditional college services at local colleges, which limits the resources that adult education students can access. Adult education services are funded and structured to only have part-time staff, which leads to higher staff turnover and lower staff engagement.

“You have more turnover rate with part-time. A lot of them have other jobs like this isn’t their full focus. With full-time staff you get better professional development, more buy-in, less turnover rates.”

– Adult Education Provider

“We’re having difficulty sustainably recruiting volunteers… We have a lot of turnover with volunteers, which makes it really hard to provide consistency within our program for students. We invest a lot of time onboarding a volunteer and showing them the ropes. When we have to do it again and again, every semester, it can be a strain on growing the program.”

– Adult Education Provider
SECTION 4. RECOMMENDATIONS

Perhaps the most important takeaway from this needs assessment is that adult learners, service providers, educators, foundations, and public officials all share a vision of individuals and families having the knowledge, skills, and resources that they need to thrive now and in the future. By working together and building on one another’s strengths, the members of the Literacy Coalition of the Permian Basin are well positioned to help make this shared vision a reality.

This regional needs assessment revealed several areas of focus that feel actionable, attainable, and ripe for collective action.

1. **Develop the infrastructure for a shared vision, goals, measurement, and action.** In order to improve adult literacy at a regional and systemic scale, it will be important to have data and performance measures that are regional in scale, valued by the key stakeholders in the system, and reviewed regularly in order to inform mid-course corrections. The Literacy Coalition is well positioned to convene the necessary stakeholders in order to (a) agree on a vision for adult literacy in the Permian Basin; (b) prioritize key measures from the K–12 system, service providers, postsecondary education, and the workforce that will be collected regularly and made available through a centralized location; (c) gather as a collective to review the data on a regular basis; and (d) develop mutually reinforcing action plans focused on a common goal.

Consider engaging Texas 2036 ([https://texas2036.org/](https://texas2036.org/)) as a thought partner during efforts to move to braid data from multiple sectors.

2. **Lead a regional awareness and advocacy campaign.** Adults in the Permian Basin need to know more about the full menu of options they have available to them to develop their knowledge and skills (e.g., where programs are, how they are offered, when they are offered). Concurrently, state and local officials need to know more about the operational and policy barriers that make expanding adult education options a challenge (e.g., broadband deserts, limitations on how state and federal dollars can be used, availability of childcare). The Literacy Coalition can leverage its role as a convener and the relationships developed through this needs assessment to elevate these issues and initiate conversations about innovative ways the region can increase enrollment (e.g., incentives, loaner laptops).

This recommendation is aligned with one of the core objectives of the [Barbara Bush Foundation for Family Literacy’s National Action Plan for Adult Literacy 2021](https://www.barbarabush.org/reports/). Consider engaging the foundation as a partner to help amplify the Permian Basin awareness campaign.

3. **Collaborate with K–12 school districts, adult literacy providers, public libraries, and postsecondary partners to expand adult education options and supports into specific communities.** A main theme from our conversations with adult learners is that face-to-face learning is preferable and more effective but is not always physically accessible. Many of the librarians and
school district administrators stated that they would like to offer adult education courses but do not have the resources, staff, or expertise. Several of the adult education providers in the region have proven experience developing satellite campuses across the Permian Basin and beyond. Given these synergies, the Literacy Coalition should convene a team of educators and providers to collaboratively design a program expansion plan that could be presented to local foundations and used in state and federal grant applications. For adult learners who prefer online or hybrid learning, the Literacy Coalition should explore options for funding and expanding internet access, especially for adult learners in rural areas.

4. **Convene collaborations between employers and adult education providers to improve access to adult education opportunities.** Employers and adult literacy providers have a shared interest in ongoing adult education and skill development. However, based on our conversations with learners, employers, and providers, their operational schedules are not coordinated, there are no accelerated pathways for degree-English learners to enter high-skilled work, and the lack of affordable childcare poses a barrier to growth in both work and school. The Literacy Coalition can support coordination among employers and providers by convening and facilitating design sessions to develop differentiated learning strategies for the specific needs of learners in different communities.

5. **Consider adopting and expanding access to programs that braid adult education and workforce development.** In most cases, the arenas of adult learning and literacy are separate from the world of work. Research-based models, such as Integrated Education and Training, have a proven track record and provide a more direct pathway from skill building to career advancement.

6. **Partner with the region’s school districts to develop additional literacy supports for students in the middle grades (5th through 8th) and graduates transitioning to postsecondary education or work.** The Permian Basin has a number of organizations that are leading the charge to improve early literacy and family literacy (e.g., POWER, First 5 Permian Basin). Based on student performance on state reading assessments and the low percentages of adults with postsecondary degrees or credentials, it is clear that additional supports can and should be implemented to support students in the middle grades and graduates who are transitioning to life after high school. Again, the Literacy Coalition is well positioned to serve as a convener for this important collaborative work.
In addition to the region-wide recommendations above, we offer several more recommendations that are specific to programmatic improvements that providers and students feel would make a positive difference.

1. Offer childcare at adult education centers.

2. Incentivize adult education, social services, and other non-profit staff to learn Spanish.

3. Hold classes in familiar places (like libraries) or have trusted community members help adult learners feel comfortable navigating college campuses.

4. Increase salaries for teachers who demonstrate that they build close relationships and trust with students.

5. Create stable funding for providers to reduce time spent on grant management.

6. Create intake systems that allow frequent enrollment without disrupting classes with new students.

7. Allow students to move in and out of programs when they are available rather than requiring consistent attendance.

8. Offer short-term certificates to give adult learners smaller, more manageable goals and reduce the fear of higher education.

9. Use paper-based distance learning as a supplement when internet access is limited.

16. Leverage the region’s strong preschool programs (e.g., First 5) to share resources with parents about adult literacy and other social services.

Conclusion

The data in this assessment spans generations and so too will efforts to improve adult literacy rates in the Permian Basin. Our overwhelming impression from our conversations across the region is that leaders and the funding community have the will to embark on such an epic journey. Our hope is that this assessment will spark dialogue between stakeholders and guide your first steps as a unified coalition.
Appendix A. Program for the International Assessment of Adult Competencies (PIAAC) Literacy Levels

The U.S. PIAAC state- and county-level estimates are reported for literacy for the percentage of the population in a county or a state at or below Level 1 (low proficiency), at Level 2 (medium proficiency), and at or above Level 3 (high proficiency; Figure A-1).

<table>
<thead>
<tr>
<th>U.S. PIAAC Proficiency Measures</th>
<th>Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>At or below Level 1 (0–225 points)</td>
<td>Adults at this level can be considered at risk for difficulties using or comprehending print material. Adults at the upper end of this level can read short texts, in print or online, and understand the meaning well enough to perform simple tasks such as filling out a short form, but drawing inferences or combining multiple sources of text may be too difficult. Adults who are below Level 1 may only be able to understand very basic vocabulary or find very specific information on a familiar topic. Some adults below Level 1 may struggle even to do this and may be functionally illiterate.</td>
</tr>
<tr>
<td>Level 2 (226–275 points)</td>
<td>Adults at this level can be considered nearing proficiency but still struggling to perform tasks with text-based information. Such adults may be able to read print and digital texts, relate multiple pieces of information within or across a couple of documents, compare and contrast, and draw simple inferences. They can navigate in a digital environment to access key information, such as finding two main benefits of one product over another. However, more complex inferencing and evaluation may be too difficult.</td>
</tr>
<tr>
<td>At or above Level 3 (276 points or more)</td>
<td>Adults at this level can be considered proficient at working with information and ideas in texts. Their higher literacy skills range from the ability to understand, interpret, and synthesize information across multiple, complex texts to the ability to evaluate the reliability of sources and infer sophisticated meanings and complex ideas from written sources.</td>
</tr>
</tbody>
</table>

Source: National Center for Education Statistics (NCES), U.S. PIAAC Skills Map: State and County Indicators of Adult Literacy and Numeracy.
Appendix B. Data Sources

Economic Impact Analysis
See the full description of The Perryman Group’s economic impact analysis in Appendix A of the full report, which is available here: https://literacypto.org/

PIAAC 2017 5-year estimates
U.S. PIAAC state and county estimates are model based, using a statistical technique called small area estimation (SAE) to provide valid estimates for U.S. states and counties. The models used the combined 2012/2014/2017 U.S. PIAAC data in conjunction with data from the U.S. Census Bureau’s 2013–2017 American Community Survey (ACS) to produce reliable estimates of the skill proficiencies of the 16- to 74-year-old population. This study used estimates of percentage of adults at or below Level 1, at Level 2, and at or above Level 3 in PIAAC literacy. More details are available at https://nces.ed.gov/surveys/piaac/state-county-estimates.asp

Adult Education Data from the National Reporting System, 2019–2020
The National Reporting System for Adult Education (NRS) is the accountability system for the federally funded adult education program. It includes data on the enrollment in and performance of adult education programs, financial details, and student characteristics. This study used NRS data from the Texas Workforce Commission and New Mexico state adult education administrative data.

American Community Survey 2019 5-year estimates
The American Community Survey (ACS) 2019 5-year estimates provide information on the social, economic, demographic, and housing characteristics of the population, and represent data collected over the 2015–2019 time period. Detailed data are available at the census tract level and for less populated areas. This study used a range of ACS variables on a range of topics, including demographics, education, and language and immigration status. More details on ACS 2019 5-year estimates are available at https://www.census.gov/data/developers/data-sets/acs-5year2019.html

K–12 State Assessment Data, 2018–2019
For New Mexico, this study used reading proficiency data from Grades 3, 5, and 9 from the New Mexico Public Education Department. New Mexico achievement data are available here: https://rgtsyr1.tea.texas.gov/perfreport/tapr/2019/index.html

Digital Distress Index 2019 (Texas)
The Digital Distress Index uses variables that can help quantify areas in digital distress or that have a harder time using and leveraging the internet, such as the percentage of homes without a computing device or without internet access. It consists of both infrastructure and adoption and socioeconomic components. More details are available here: https://storymaps.arcgis.com/stories/8ad45c48ba5c43d8ad36240f0ea0dc7.