

Unprecedented oil and gas production growth in the Permian Basin has tested the local economy throughout southeastern New Mexico. Lawmakers, constituents, and the Permian Strategic Partnership – a coalition of leading Permian Basin energy companies – are assessing critical needs as the industry appears poised for further expansion. The purpose of this report is to provide context on the hurdles to growth and to illustrate the interconnected nature of those hurdles that necessitate comprehensive and cooperative regional planning.

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PURPOSE OF HEARING:
Challenges Facing
Southeastern New Mexico

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Challenges in Southeastern New Mexico

The Permian Basin has become the world’s fastest growing oil producing region with industry expectations that production could more than double by 2025. With vast amounts of oil in place, lower average costs, expanding supply chains, and sustained innovations in drilling, activity levels may continue to grow even if prices were to soften. Yet, shortfalls in workforce supply, infrastructure, housing, and educational capacity threatens to hamper development in the region, illuminating the need for a regional, cooperative investment strategy.

Workforce

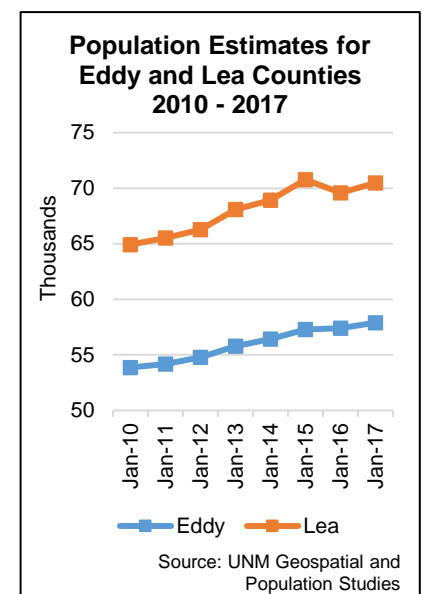
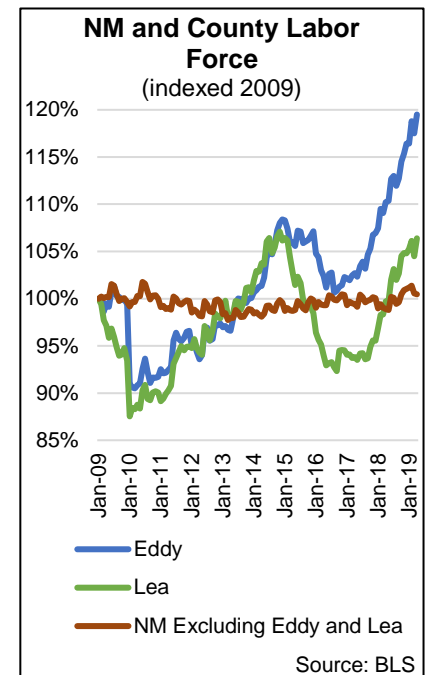
The state’s unemployment rate reached a low of 4.3 percent in April 2019 and the state reached a new employment peak that finally exceeds prerecession levels. From May 2018 to May 2019, New Mexico’s total nonagricultural employment increased by 15,900 jobs, or 1.9 percent. The mining sector, including oil and gas, was a significant driver of this employment growth, with mining and construction reporting the largest increase of 5,500 jobs, or 7.6 percent. Within mining and construction, mining was up 2,800 jobs, while construction was up 2,700 jobs.

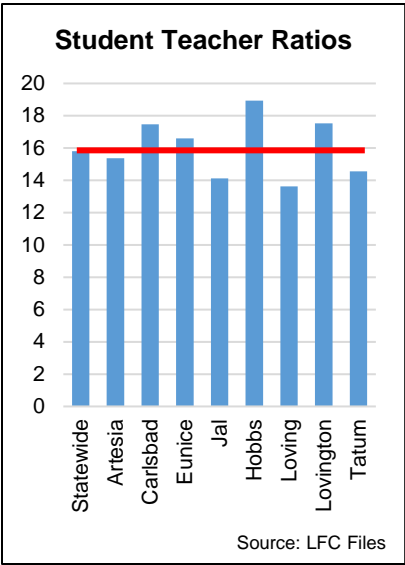
With New Mexico, Eddy, and Lea counties surpassing pre-recession levels of employment, the southeast region’s growth faces labor supply constraints. At 2.7 and 3.2 percent respectively, Eddy and Lea Counties’ unemployment rates reflect a tight job market that has driven labor force growth in the region significantly faster than the rest of the state. Industry reports an additional 15 thousand oil and gas industry workers are necessary to meet current needs in the Permian Basin and estimates that robust growth can increase the need to 60 thousand by 2030.

The extraction industry’s labor needs currently rely on commuters; however, this approach is costly to individuals, the industry, and local governments. Growth in the extraction industry relies on attracting professionals to the region to provide a stable, sustainable workforce. Critical to this goal is ensuring appropriate levels of available housing, providing quality public education to attract workers with families, and bolstering local vocational training opportunities.

Public Education

A growing population and labor force triggered 5 percent enrollment growth in public schools in Eddy and Lea County from 2017 to 2018. Student teacher ratios are rising in southeast New Mexico school districts with half surpassing the



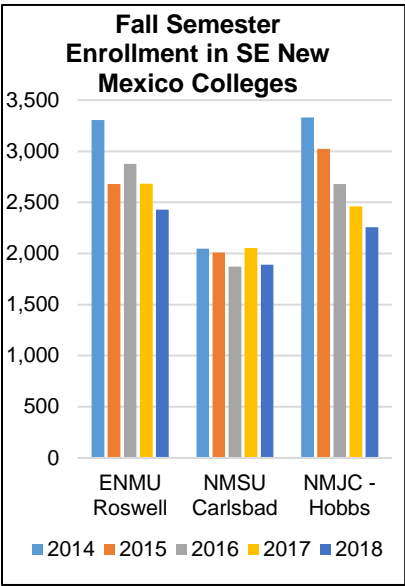


average state ratio. Districts report difficulties in recruiting and retaining teachers to keep up with growing classroom sizes. Additionally, facilities are reaching capacity with Hobbs and Artesia School Districts reporting 102.6 percent and 94.6 percent of facility design capacity, respectively.

According to the Permian Strategic Partnership (PSP), industry professionals with children rate public education as the single greatest factor in evaluating a location change. Ensuring quality public education in the region and sufficient supply of teachers is an important factor in alleviating workforce shortages and unlocking regional growth potential.

Higher Education

Labor force demands in southeastern New Mexico are outpacing the higher education systems' capacity to produce a sufficient quantity of skilled workforce amidst the rapid expansion in the oil and gas sector. Workforce issues include critical ancillary professions such as teaching and healthcare. For example, UNM Health Sciences Center's 2018 Healthcare Workforce Annual Report shows Eddy and Lea County lag the national benchmark for Primary Care Physicians and Physician Assistants by 40 positions.



Meanwhile, enrollment at local colleges declined precipitously – down 25.4 percent from 2014 to 2018 – as students postponed their postsecondary educational plans for work. Fewer than 1,000 students graduated with an associate's degree or a certificate in May 2019.

Ramping up in the regional workforce will require a coordinated effort of higher education institutions statewide, employing career and technical education programs or apprenticeships. An important pipeline for talent may be the substantial New Mexico population of students who have some college experience (23.5 percent) but have not earned a degree. Key to success will be bringing those individuals back into college to complete certificate or degree programs that will provide them with marketable skills for these industries. The federal government recently awarded \$183 million for apprenticeship programs to 23 states to meet workforce demands for regional industries, but New Mexico schools did not receive a grant under this program.

MFA Programs Available for Use

- NM Housing Trust Fund – supplement funding for single and multi-family housing
- Down Payment Assistance – provide down payment, closing cost assistance, and competitive interest rate loans
 - Targeted populations including public safety and teachers
- Rehabilitation Program – ability to refurbish existing housing stock for eligible population

Note: MFA has the ability to partner with outside entities to provide grant funding for rental and family housing

Housing

New Mexico's southeast region has struggled to provide sufficient housing to accommodate the growing labor force. Housing shortages across the Permian Basin hinder recruitment and retention of employees across industries. According to an analysis by the New Mexico Mortgage Finance Authority (MFA), existing apartments in Eddy and Lea County fall short of current need by 3,949 units. Similarly, existing housing conditions are overcrowded at a rate 60 percent higher than the state average.

Currently, many workers live in mobile homes or "man camps" – temporary, dormitory-like compounds typical on remote oil fields. However, additional permanent housing units are necessary for the region to sustain a stable labor force increase. MFA programs could support the construction of additional housing units through the NM Housing Trust Fund that supplements funding for housing projects or the rehabilitation program, which refurbishes existing housing stock.

Roads

Road conditions across the state deteriorated in recent years due to inadequate funding for routine maintenance activities. The percent of national highway system miles in good condition fell from 93 percent to 88 percent between FY14 and FY17. The New Mexico Department of Transportation (DOT) estimates the cost to maintain the current condition of the highway system to be an additional \$130 million per year.

The problem has become especially acute in southeastern New Mexico where dramatic increases in heavy truck traffic related to oil production take a toll on infrastructure. Last year, PSP identified \$235 million in road funding needs across Eddy and Lea counties. Additionally, safety has become a concern in certain areas. For example, accidents on U.S. 285 between the Texas state line and Loving, New Mexico increased from 6 in 2012 to 49 in 2018.

In an effort to address mounting statewide transportation and infrastructure needs, the Legislature included an additional \$389 million in non-recurring appropriations for state and local road projects. Additionally, the motor vehicle excise tax (MVEX) was increased from 3 percent to 4 percent, with the additional revenue directed to the state road fund.

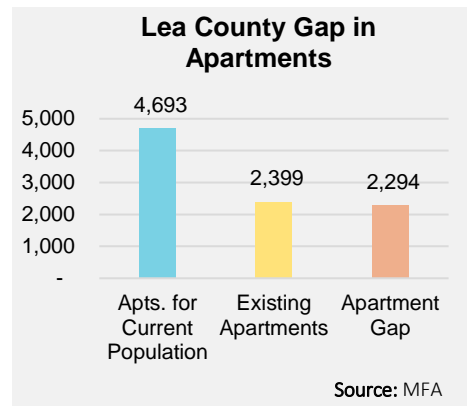
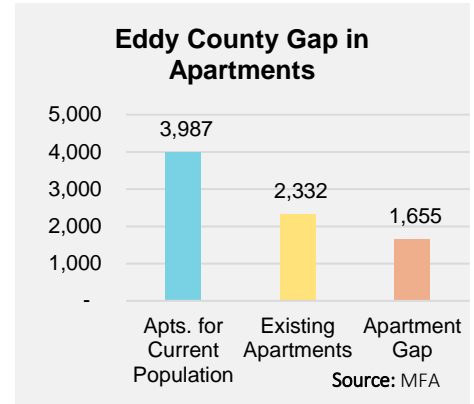
For the next two fiscal years, the entirety of the new MVEX funding, approximately \$52 million per year, will be dedicated to road improvement projects in transportation district 2, the southeast portion of the state. DOT allocated \$26 million for reconstruction and addition of passing lanes to U.S. 285 from the Texas state line to Loving New Mexico and is planning projects for an additional \$105 million over the next two years.

District	Lane Miles	Deficient Miles	Percent Deficient
District 1	5,405.42	496.12	9.2%
District 2	8,644.01	1,072.00	12.4%
District 3	3,770.67	357.76	9.5%
District 4	5,609.08	714.13	12.7%
District 5	5,336.97	761.82	14.3%
District 6	3,439.31	184.29	5.4%
Statewide	32,205.46	3,586.12	11.1%

PSP has not and does not intend to directly fund roadway infrastructure projects in New Mexico. However, the group has maintained their willingness to partner with public entities to capitalize on funding opportunities that may otherwise be unattainable. For example, PSP provided an \$80 thousand grant to hire a private consultancy to produce an application for a federal BUILD grant. The application will allow New Mexico to compete for a portion of \$1.5 billion in available BUILD grant funds to be used for roads, rail, and transit projects.

Environmental

A growing workforce in the Permian Basin combined with the region's lack of permanent housing and wastewater infrastructure has created a domestic waste problem. Due to the proliferation of mobile homes and "man camps," the New Mexico Environment Department (NMED), which has regulatory authority over wastewater, reports that individuals are not taking septic waste to the proper



disposal facilities. There have been instances of waste being illegally dumped in the desert, mixed with produced water, or stored in aboveground tanks with no lids. Some individuals have been discharging wastewater without permits from NMED's Ground Water Quality Bureau, which are required for systems with design flow greater than 5 thousand gallons per day. NMED does not currently fine violators of wastewater discharge rules, and strongly prefers voluntary compliance to enforcement. Industry leadership on infrastructure development and public awareness of discharge permit requirements would help alleviate the current wastewater management problems.

NMED and the Energy, Minerals, and Natural Resources Department (EMNRD) are also monitoring natural gas venting and flaring and produced water in the region, both of which have increased significantly since 2016. Statewide in 2018, venting increased by 63 percent and flaring increased by 120 percent compared to 2017. NMED is concerned that the region's oil activity has increased rapidly without the infrastructure in place to prevent large quantities of emissions from being released. NMED can impose financial penalties on companies that exceed their permit limits for emissions, and sometimes the agency allows infrastructure development that reduces pollution to offset penalties.

Nearly 900 million barrels of produced water were generated from oil wells in southeastern New Mexico in 2018, an increase of more than 100 million barrels since just last year. Legislation this year clarified the roles of NMED and EMNRD in regulating produced water; EMNRD has jurisdiction over produced water that will be recycled and reused within the oil and gas industry, while NMED can regulate produced water that exits oil patch areas and is treated and used for other purposes, such as irrigation. Reusing produced water for other purposes will help to partially offset the high usage of freshwater for exploration and production currently occurring in the Permian Basin.

Need for Regional Master Planning

The Southeast region faces many interconnected challenges associated with the recent oil and gas boom. Labor shortages are exacerbated by a lack of adequate housing and strained local public and higher educational systems that struggle to meet growing demands, all of which hinder the ability to attract and retain industry professionals in the region. Highway infrastructure investments in the last legislative session will go a long way toward unlocking the region's growth potential, but additional growth will inevitably bring additional needs. The Legislature, along with state agencies, local governments, higher educational institutions, should work with PSP and industry to develop a coordinated master plan for the Southeast region to meet the growing needs in ways that prevent overlap and maximize efficiency of investments.

Outstanding Issues for Follow Up:

- List of the New Mexico roads PSP sent to the White House for funding consideration
- List of grants for which PSP applied (or for which PSP commissioned a grant-writer to apply) and the split between Texas and New Mexico projects
- What types of jobs make up the 15,000 unfilled positions across the Permian basin, and what are the skillsets needed to supply a workforce able to fill those jobs?
- Of the 15,000 unfilled positions in the Permian identified by PSP, how many of these are in New Mexico?