

**PLANNING STRATEGICALLY FOR REGIONAL
DEVELOPMENT IN THE PERMIAN BASIN:
ASSESSING THE REGION'S STRENGTHS, WEAKNESSES, AND
BUSINESS DEVELOPMENT OPPORTUNITIES**

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Introduction

Last year, the Survey Research Center and the Center for Economic Development at the University of North Texas were retained by the Permian Basin Regional Planning Commission to assist them in developing a strategic plan for the region. To that end, we conducted the following surveys and assessments:

1. *Executive Summary that includes an assessment of job creation opportunities and regional development strategies for the Permian Basin*
2. *Key informant interviews*
3. *Key informant surveys*
4. *Permian Basin workforce survey*
5. *Focus groups with business leaders, public officials, educators, and displaced workers*

Each of these analyses is submitted as a separate report. However, they all deal with the fundamental issues of economic opportunity and quality of life for residents of the Permian Basin. Over the past two decades, the region has been riding an economic roller coaster of boom and bust. Business and political leaders would like to ensure more stability in the regional economy by pursuing opportunities for industrial diversification. These reports may prove helpful in that regard by highlighting the region's strengths and weaknesses as well as identifying some of the most promising prospects for business growth.

At the outset, however, we want to emphasize that—according to our surveys and interviews—most Permian Basin residents do not consider the region to be suffering from undue economic stress. Job growth has been steady in recent years, the unemployment rate is low, and most workers are satisfied with their salaries and conditions of employment. Residents express a high degree of satisfaction with publicly provided services and infrastructure, and they feel the quality of life in the Permian Basin is quite high. What's more, since we began this project in the summer of 2000 oil and gas prices have risen smartly, providing an additional economic kick to the region. Even as the U.S. slips into a period of slower growth and/or recession, the Permian Basin economy should hold up quite well.

In the various surveys we conducted, we separated the responses of workers and key informants living in Midland and Odessa from those living elsewhere in the region. Not surprisingly, the residents of the area's non-metropolitan counties—which include all but Ector and Midland—are not quite as upbeat about the region's prospects. Still, they do not believe the Permian Basin is in the throes of a major economic crisis. Most of them would just like to see some more rain.

Though Texas is now largely urbanized, 3.3 million people still live in rural areas and produce \$24 billion in gross state product. Both Governor Rick Perry and Agriculture Commissioner Susan Combs have expressed concerns about the economic future of Texas' rural communities; and during the 2001 legislative session, Texas lawmakers will be taking a close look at rural economic development and may even create a new Office of Rural Community Affairs. Thus this is an ideal time for the Permian Basin Regional Planning Commission to be thinking strategically about the future and forging alliances with other rural areas. We hope the following reports and assessments will facilitate that process.

Executive Summary

Changing structure of the Permian Basin economy

As has been thoroughly documented, the Permian Basin went through a boom and bust cycle during the 1970s and 80s, driven largely by the vicissitudes of the energy industry. At the peak of the oil boom in 1984, the Midland and Odessa metropolitan areas boasted one of the lowest unemployment rates in the state, averaging 3.7 percent. When prices collapsed a few years later, the region lost thousands of jobs and saw its unemployment rate jump to 8.5 percent.

During the 1990s, the economy of the Permian Basin partially restructured itself, coming to more closely resemble the rest of Texas. However, much of that restructuring resulted from contraction of the traditional industries such as energy extraction and agriculture. Still, expansion in the service sectors helped to boost employment substantially. At the end of 2000, total non-agricultural employment in the 17-county region was 102,300 compared with 88,900 in 1990 and 105,550 in 1980. Most of the region's jobs lost during the energy debacle of the 1980s were recovered during the 1990s, though not necessarily at the same wage or skill levels.

By the late 1990s, the energy industry was picking up somewhat while the farm sector was suffering from low commodity prices and three years of drought. Still, average unemployment rates in 2000 for Midland County and Ector Counties were 3.8 and 5.2 percent respectively, somewhat above the Texas average of 4.5 percent. For the other 15 counties in the region, average unemployment rates ranged between 1.1 and 8.0 percent.

Going into 2001, the Permian Basin is the beneficiary of a new economic kick driven by higher prices of natural gas. From a low of \$2.00 per MCF in 1997-98, spot gas prices in January of 2001 were at \$9.00. What's more, gas prices are expected to remain above \$5.00 for the next several years. Consequently, drilling activity in the Permian Basin has increased dramatically over the past six months and should continue to rise in the months ahead. This revival of the energy sector will help insulate the region from the national and state economic slowdown that is already in evidence and could become a full-blown recession.

Additional current data on the Permian Basin economy are displayed in Tables ES-1 through ES-4.

**Table ES-1
Permian Basin Demographic Data, by County**

County	1999 Population	1990-1999 Population Change (%)	% Hispanic Population	% Black Population	High School Graduates (%)	College Graduates (%)	Median Household Income 1995	% of Population Below Poverty	Total Below Poverty	Land Area (square miles)	Persons Per Square Mile, 1999
Andrews	13,738	-4.2	37	2.3	61.2	9.8	\$32,098	16.2	2,225.556	1,501	9.2
Borden	769	-3.8	18.1	0.5	71.2	17.3	34,986	6.4	49.216	899	0.9
Crane	4,290	-7.8	38.9	4.1	71.5	9.4	35,168	14.4	617.76	786	5.5
Dawson	14,442	0.6	47.6	7.5	54	9	24,258	29.7	4,289.274	902	16
Ector	123,748	4	37	5.1	66.9	11.4	28,235	21.6	26,729.568	901	137.3
Gaines	14,767	4.6	38.8	3.1	53.2	9.9	26,815	23.8	3,514.546	1,502	9.8
Glasscock	1,443	-0.3	35.4	0.1	64.8	9.8	28,511	15.3	220.779	901	1.6
Howard	31,687	-2	31.7	4.4	65.2	11.8	27,351	20.3	6,432.461	903	35.1
Loving	113	5.6	14.9	0	56	4	27,552	7.7	8.701	673 Z	
Martin	4,988	0.6	45.9	2	54.3	6.7	25,747	22.1	1,102.348	915	5.5
Midland	118,490	11.1	25.9	8.4	76.8	26.4	37,355	15.4	18,247.46	900	131.6
Pecos	16,066	9.5	59.5	5.7	58	12.1	25,882	28	4,498.48	4,764	3.4
Reeves	14,020	-11.6	75.9	2.4	45.3	6.9	21,012	31.1	4,360.22	2,636	5.3
Terrell	1,202	-14.8	59.4	0.1	66.3	12	22815	24.2	290.884	2,358	0.5
Upton	3,552	-20.1	43.1	2.6	62.5	10.3	29,291	19	674.88	1,242	2.9
Ward	11,498	-12.3	42.9	3.7	63.2	10.4	26,493	20	2,299.6	836	13.8
Winkler	7,752	-10.1	42.7	2.3	57.5	10.1	28,540	18.4	1,426.368	841	9.2
Regional Totals	382,565							20.1241883	76,988	23,460	16.3071185
County Averages		-3	40.86470588	3.194117647	61.6411765	11.0176471	28,359.3529			1,380	24.225
Texas	20,044,141	18	29.7	12.3	72.1	20.3	31,448	18.5	151,084	261,914	76.5

NOTE: Figures for Hispanic and black population percentages are 1998 estimates.
Percentage figures for high school and college graduates are for persons in the population over the age of 25 and are based on 1990 data.
Z = less than 1 percent

SOURCE: U.S. Census Bureau, State and County *QuickFacts*, <http://quickfacts.census.gov>

**Table ES-2
Permian Basin Economic Data, by County**

County	Private Non-Farm Employment	1990-1997 Change in Non-Farm Employment (%)	Retail Sales 1997 (x 1,000)	Retail Sales per Capita
Andrews	2,860	-13.5	59,697	4,281
Borden	10	25.0	*	*
Crane	992	-18.1	21,692	4,868
Dawson	2,717	-0.3	95,776	6,511
Ector	37,429	-4.7	1,139,920	9,285
Gaines	2,548	9.5	88,893	6,041
Glasscock	100	10.5	*	*
Howard	9,465	0.1	248,636	7,746
Loving	10	50.0	0	0
Martin	619	-2.2	27,862	5,580
Midland	46,831	16.1	1,226,250	10,434
Pecos	3,027	-6.8	84,140	5,185
Reeves	2,219	-20.8	64,169	4,404
Terrell	65	-12.5	2,736	2,309
Upton	767	-16.5	14,731	3,875
Ward	2,504	-25.2	53,959	4,590
Winkler	1,203	-14.0	43,562	5,527
Regional Totals	113,366	--	3,172,023.0	8,291.46
County Averages	--	-1.38	211,468.2	5,375.73
Texas	7,250,925	14.1	182,516,112	9,430

NOTE: * indicates data not available.

Regional figure for per capita retail sales was calculated by dividing total retail sales for the region by the population of the region (\$3,172,023,000/382,565=\$8,292)

SOURCE: U.S. Census Bureau, State and County *QuickFacts*, <http://quickfacts.census.gov>

Table ES-3
U.S. Bureau of Economic Analysis Estimates of Texas per Capita Personal Income: Calendar Years 1969 to 1994
 (Page 1 of 2)

County	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Andrews	3,791	4,251	3,788	4,691	5,446	6,027	6,788	7,784	8,227	8,860	9,614	12,212	13,133
Borden	4,152	5,037	7,179	8,431	4,157	3,429	10,715	11,627	5,751	19,035	14,657	17,983	10,057
Crane	3,793	3,894	4,184	4,968	5,559	6,588	7,082	7,249	7,848	8,555	10,446	11,458	12,220
Dawson	3,664	3,285	3,442	4,625	4,331	3,920	6,165	6,574	6,367	8,335	7,471	11,396	11,455
Ector	3,561	3,783	4,136	4,697	5,463	6,312	7,502	8,372	9,356	10,032	11,492	14,108	13,869
Gaines	3,133	2,866	3,662	5,316	4,307	3,965	5,822	6,652	6,449	7,056	7,045	10,587	9,211
Glasscock	3,514	3,614	4,869	7,513	4,046	2,896	7,081	11,114	7,568	13,447	5,247	21,670	15,998
Howard	3,393	3,509	3,764	4,472	4,741	5,398	6,114	6,390	7,449	9,156	9,489	11,792	11,576
Loving	2,934	5,622	11,516	9,677	9,133	10,775	14,868	6,396	14,989	12,805	19,244	22,244	23,899
Martin	3,588	3,618	3,560	6,418	3,375	3,075	6,947	7,550	7,550	12,694	5,535	14,171	11,340
Midland	4,661	4,956	5,355	5,975	6,724	7,840	8,640	9,697	11,429	12,784	14,779	17,475	17,898
Pecos	3,306	3,192	3,592	3,538	3,776	4,491	4,928	5,531	6,192	6,445	6,934	8,774	8,703
Reeves	2,838	2,390	3,122	2,880	3,487	4,496	4,958	5,235	4,984	6,386	7,428	8,376	7,735
Terrell	4,006	4,426	3,409	4,283	4,217	4,662	5,515	5,965	5,781	7,589	7,664	9,223	12,177
Upton	3,007	3,356	3,669	4,006	4,774	4,997	5,407	6,279	7,276	8,059	8,781	10,972	10,658
Ward	3,153	3,259	3,795	4,141	4,779	5,488	5,916	6,571	7,537	8,698	9,528	11,553	11,221
Winkler	3,411	3,799	3,842	3,996	4,629	5,254	5,558	5,804	6,567	7,188	7,910	9,244	8,942
Regional Average	3,438	3,713	4,381	5,089	4,718	5,088	6,777	7,043	7,405	9,395	9,180	12,512	11,782
Texas	3,618	3,820	4,146	4,631	5,129	5,663	6,273	6,897	7,810	8,816	9,840	11,267	11,830

Table ES-3 (cont'd)
U.S. Bureau of Economic Analysis Estimates of Texas per Capita Personal Income: Calendar Years 1969 to 1994
 (Page 2 of 2)

County	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Andrews	12,983	13,655	13,281	11,728	12,157	12,266	12,874	13,763	13,713	14,461	15,227	15,523
Borden	13,530	11,095	10,579	10,059	17,252	16,153	15,514	20,834	17,599	22,467	24,618	21,293
Crane	11,499	12,582	12,836	11,261	11,415	11,810	12,455	13,006	13,287	13,476	14,148	14,604
Dawson	9,435	9,528	10,733	10,171	13,277	14,446	12,326	15,653	12,625	15,655	18,129	17,332
Ector	12,546	13,130	13,582	11,743	12,043	12,593	13,398	14,013	14,550	14,650	15,139	15,706
Gaines	9,598	10,786	8,734	7,551	11,542	11,733	11,165	13,840	11,647	13,435	15,625	15,469
Glasscock	13,099	14,645	15,958	13,615	17,717	15,603	17,318	18,505	16,274	20,604	17,117	18,535
Howard	11,130	11,317	12,187	11,631	12,415	12,932	13,448	15,030	15,217	15,723	16,765	17,067
Loving	23,106	23,344	24,648	22,288	23,373	23,649	23,330	26,840	30,683	25,536	29,992	27,708
Martin	8,888	7,526	9,949	10,245	15,084	14,839	12,160	15,762	12,663	13,672	17,224	15,474
Midland	16,050	17,263	18,594	16,781	17,120	18,818	19,055	20,827	22,292	23,011	23,752	24,212
Pecos	8,733	9,432	9,585	8,632	8,663	8,647	9,522	10,137	10,764	11,451	11,954	12,611
Reeves	8,143	9,034	8,828	8,026	8,677	8,744	9,433	10,399	10,727	11,769	12,142	12,096
Terrell	12,475	12,707	13,993	14,455	13,336	13,085	15,916	16,375	16,977	19,002	18,032	21,790
Upton	10,747	11,374	10,942	10,341	11,337	11,871	12,601	13,722	13,937	15,474	16,339	16,799
Ward	11,054	11,752	12,099	10,780	11,063	11,851	13,101	13,671	14,172	14,378	15,082	15,768
Winkler	8,611	9,460	9,883	8,811	9,050	9,654	10,948	12,172	12,639	13,694	14,420	14,645
Regional Average	11,312	11,701	12,133	11,117	12,639	12,816	13,142	14,808	14,542	15,581	16,539	16,590
Texas	12,125	13,025	13,740	13,586	13,952	14,765	15,695	16,749	17,450	18,409	19,023	19,716

Table ES-4
Gross Sales, All Sectors, by County, 1990-1999

County	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Andrews	221,447,548	234,011,635	219,879,064	275,962,963	329,648,816	211,239,358	204,565,056	214,473,362	186,006,539	170,795,618
Borden	261,147	388,624	676,951	459,713	538,267	487,871	269,102	280,724	1,223,575	10,084,039
Crane	54,004,967	58,847,319	56,572,512	58,604,897	58,278,746	60,498,713	70,935,840	68,025,189	54,283,237	43,980,224
Dawson	167,421,744	189,838,968	181,252,697	201,516,805	198,726,927	206,011,069	204,297,040	215,742,324	203,193,173	188,007,590
Ector	2,538,854,931	2,597,226,640	2,328,417,968	2,629,335,877	2,641,659,738	2,685,687,874	2,887,721,497	3,386,742,063	3,281,078,599	2,775,094,758
Gaines	151,532,653	168,682,562	164,295,402	183,863,276	182,966,762	191,317,221	201,423,315	274,356,199	242,137,295	211,467,234
Glasscock	5,880,954	5,858,295	9,535,310	8,086,499	8,263,370	8,043,543	7,632,917	10,460,246	10,475,689	11,053,781
Howard	530,366,945	514,105,163	499,569,688	516,363,888	552,443,818	570,418,618	590,794,503	654,857,166	653,288,454	648,559,157
Loving	502,909	42,139	57,411	64,265	106,524	138,734	52,385	47,450	12,269	7,138
Martin	117,519,624	170,238,507	238,768,679	170,286,402	172,275,013	146,045,773	105,855,926	117,154,570	116,220,091	111,638,093
Midland	1,913,204,373	1,997,823,109	1,992,259,748	2,057,467,542	2,167,943,373	2,751,213,061	4,244,419,491	4,914,516,150	4,548,241,503	4,172,320,225
Pecos	162,276,109	152,391,451	161,635,339	163,803,517	170,459,746	172,049,156	195,764,077	207,053,254	206,429,749	197,226,342
Reeves	119,201,215	120,372,902	123,286,022	123,237,731	133,571,241	126,481,719	122,432,671	124,128,033	127,150,498	121,330,060
Terrell	6,280,332	6,677,608	6,112,187	5,902,970	6,707,139	7,416,331	6,322,305	5,494,435	4,488,882	3,643,248
Upton	34,376,530	33,236,477	28,354,615	28,397,868	27,853,114	28,524,409	31,414,893	64,459,803	47,500,774	63,422,275
Ward	135,822,295	128,499,652	114,213,077	128,285,120	131,978,845	132,643,191	156,499,317	155,765,825	149,635,069	121,256,356
Winkler	107,386,456	107,984,613	107,388,593	102,105,352	107,533,917	119,737,091	131,122,487	138,275,699	115,168,251	217,031,937
Regional Totals	6,266,340,732	6,486,225,664	6,232,275,263	6,653,744,685	6,890,955,356	7,417,953,732	9,161,522,822	10,551,832,492	9,946,533,647	9,066,918,075

Note: The data in this table are taken from quarterly sales tax reports generated by the Texas Comptroller of Public Accounts. The Comptroller's sales tax report shows gross sales for all sectors of the economy, not simply retail sales. The period covered runs from the first calendar quarter of 1990 through the last quarter of 1999. The reports include data only from holders of sales tax permits. Businesses that sell only goods that are outside the sales tax base are not covered by these reports.

Source: Carole Keeton Rylander, Texas Comptroller of Public Accounts, Window on State Government, Sales Tax Reports, <http://www.window.state.tx.us/ecodata/stdb/qsalesabt.html>

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Ector	2,538,854,931	2,597,226,640	2,328,417,968	2,629,335,877	2,641,659,738	2,685,687,874	2,887,721,497	3,386,742,063	3,281,078,599	2,775,094,758
Midland	1,913,204,373	1,997,823,109	1,992,259,748	2,057,467,542	2,167,943,373	2,751,213,061	4,244,419,491	4,914,516,150	4,548,241,503	4,172,320,225
2-County Total	4,452,059,304	4,595,049,749	4,320,677,716	4,686,803,419	4,809,603,111	5,436,900,935	7,132,140,988	8,301,258,213	7,829,320,102	6,947,414,983
Regional Totals	6,266,340,732	6,486,225,664	6,232,275,263	6,653,744,685	6,890,955,356	7,417,953,732	9,161,522,822	10,551,832,492	9,946,533,647	9,066,918,075

Target industry analysis

As discussed above, employment growth in the Permian Basin has been sluggish for two decades, and bringing new jobs to the region is a high priority among local business and political leaders. Economic diversification is always a challenge, especially in a semi-rural region that has been historically associated with extractive industries. The Permian Basin's location far distant from major metropolitan centers makes the diversification challenge even more daunting. But rather than "shoot in the dark" for new business prospects, area leaders will be better served by targeting those industrial prospects that "make the most sense," either in terms of the region's comparative advantages or opportunities for "import substitution." By import substitution we simply mean producing goods or services locally that are currently imported from other regions.

One of the most useful tools in industrial targeting is "location quotient" analysis. The approach is fairly simple. We begin by looking at the employment distribution by industry in the Permian Basin and expressing this as a percentage for each of the industries examined. This percentage is called the "location quotient." We then do the same calculation for a reference area. That reference area could be the U.S. as a whole, the state of Texas, or another sub-state region of the U.S. Because the Permian Basin's per capita income is very close to that of Texas, we have chosen the state as the reference area. By comparing the location quotients of the Permian Basin with that of Texas, we can see how the Midland-Odessa region would be reconstituted, in terms of employment, if it resembled the state of Texas. More importantly, this analysis permits us to identify those industries where the region is "over-represented" as well as those that are "under-represented." Both can point to industries with growth potential.

For statistical purposes, we have utilized the newly released North American Industrial Classification System (NAICS) for industry definitions. In the future, all industrial data from the U.S. Department of Commerce will be based on this system, which differs significantly from the old Standard Industrial Classification (SIC) taxonomy. Table ES-5 displays total employment and location quotients for both the state of Texas and the 17-county Permian Basin region in 1998. We then divide the Permian Basin's percentage by the state's percentage in each industry to derive a "coefficient of specialization." It is this statistic that indicates the relative over- or under-representation of various industries in the Permian Basin.

For example, mining (NAICS 21) accounts for about 10.5 percent of the Permian Basin's employment but only about 1.5 percent of the state's employment. Dividing the region's percentage by the state's generates a coefficient of specialization of 7.23, which means that the region is "over-specialized" in mining by more than 700 percent. This result is not surprising considering the Permian Basin is the state's biggest energy extraction region. By contrast, transportation and warehousing (NAICS 48-49) have a coefficient of specialization of .74, indicating a 25 percent under-representation. So this is an industry where job growth potential may exist.

Table ES-5
Permian Region and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Permian Region	% of Total	Coefficient of Specialization	Potential Job Gain
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%	444	0.3800%	3.06	—
21	Mining	109,687	1.4488%	12,245	10.4799%	7.23	—
22	Utilities	56,098	0.7410%	1,376	1.1776%	1.59	—
23	Construction	457,076	6.0373%	7,671	6.5652%	1.09	—
31-33	Manufacturing	986,892	13.0355%	8,791	7.5238%	0.58	7,486
42	Wholesale Trade	436,035	5.7594%	7,934	6.7903%	1.18	—
44-45	Retail Trade	977,678	12.9138%	16,406	14.0411%	1.09	—
48-49	Transportation & Warehousing	282,438	3.7306%	3,227	2.7618%	0.74	1,134
51	Information	222,770	2.9425%	2,116	1.8110%	0.62	1,297
52	Finance & Insurance	360,254	4.7585%	3,720	3.1838%	0.67	1,832
53	Real estate, rental & leasing	136,991	1.8095%	2,086	1.7853%	0.99	21
54	Professional, scientific & technical services	413,798	5.4657%	4,231	3.6211%	0.66	2,180
55	Management of companies & enterprises	229,419	3.0303%	2,744	2.3485%	0.77	820
56	Administration, support, waste management, remediation services	678,374	8.9604%	5,633	4.8210%	0.54	4,798
61	Educational services	101,038	1.3346%	832	0.7121%	0.53	738
62	Health care and social services	911,042	12.0336%	15,841	13.5575%	1.13	—
71	Arts, entertainment & recreation	85,609	1.1308%	1,435	1.2281%	1.09	—
72	Accommodation & food services	661,430	8.7366%	11,444	9.7943%	1.12	—
81	Other services (except public administration)	373,791	4.9373%	7,908	6.7681%	1.37	—
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%	703	0.6017%	0.60	469
99	Unclassified establishments	5,578	0.0737%	56	0.0479%	0.65	30
Totals		7,570,820	—	116,843	—	—	20,805

We can also use the coefficients of specialization to calculate potential job gains for various under-represented industries. Table ES-5 also estimates the additional jobs that the region should be able to support if it were more representative of the state's employment distribution. The manufacturing sector shows the greatest potential in terms of job gains, though obviously not every manufacturing industry makes sense for the Permian Basin. However, those related to food processing, metal fabrication, and energy are the most promising because they can add value to the region's existing economic base. Transportation and warehousing is another underrepresented sector that should be targeted, in part because the Permian Basin sits astride one of the nation's busiest east-west thoroughfares. Future expansion of trade with Mexico may also offer new opportunities for the Midland-Odessa region (see discussion below).

A wide range of service industries is underrepresented in the Permian Basin, suggesting that local businesses and households are "buying" these services from outside the region. According to the coefficient of specialization, and given the region's size and income level, the Permian Basin should be able to support an additional 5,309 jobs in information, financial and professional services. Remediation services, NAICS 56, also appears to offer significant job growth potential and may be a natural for the region given the nation's and state's growing concern about environmental degradation. Educational services are also underrepresented, but this may simply reflect the absence of a large number of private educational institutions in the Midland-Odessa area.

As Table ES-5 reveals, several industries in the Permian Basin are heavily "over-represented." However, this should not be viewed as a negative. Rather, it reflects the current competitive strengths of the region. Agriculture and mining remain the bedrock industries of the region and should be nurtured to the greatest extent possible, despite the ups and downs of commodity prices. Though agricultural support services may be declining in employment, they—along with food growing—bring lots of income to the region that supports non-basic industries. The slight over-representation of construction indicates the region may be exporting some of its expertise to other regions.

Health care and social services, NAICS 62, is also over-represented in the region, suggesting that Midland-Odessa is currently exporting health services outside the region. This is one industry we urge the area's business and elected officials to promote vigorously. Midland-Odessa's medical facilities are the largest between Ft. Worth and El Paso. Given the aging of the general population, and a strategy of marketing the Permian Basin to retirees, these medical facilities can be a tremendous regional asset (see discussion below).

Industrial targeting for specific counties within the Permian Basin region is more problematic. Nonetheless, we have calculated coefficients of specialization for each of the 17 regional counties in Appendix A.

Retirees: a new target of opportunity

Nearly 40 million Americans are 65 or older, and given the rising median age of the U.S. population, this number will increase rapidly over the next three decades. Indeed, by the year 2025 the nation's elderly population is projected to grow by 78 percent and to account for 32 percent of the total U.S. population.

At present, the Sunbelt-South (including Texas) holds the greatest proportion of the nation's elderly population (35 percent) and accounts for the greatest share of the growth of the older population (43 percent). The southern states have also become a strong magnet for retirees. Recent data from the U.S. Bureau of the Census indicate that the southern U.S.—mainly because of its low cost of living, moderate climate, and abundant recreational amenities—has become the most popular retirement area in the country. And, contrary to popular myth, not all retirees are flocking to Florida and Arizona. In fact, Florida now has only the 15th fastest growth rate among older Americans.

The “retirement” industry is big business, and Texas is positioned to capture an even larger share in the future. A recent survey by the Gallup Organization found that 60 percent of prospective retirees expressed a preference for destinations with less development, more varied climates, and a Main Street USA appeal. The Permian Basin would seem to fit the bill.

Experience has shown that most communities benefit from an influx of older residents. An analysis prepared by the Appalachian Regional Commission nearly a decade ago found that retiree households contribute, on average, \$71,600 per year to the local economy. That figure is probably closer to \$80,000 today. Retirees frequently bring a considerable amount of disposable income, savings, investments, and net worth to their new destinations. Spin-off industries associated with a growing elderly population include medical facilities, financial institutions, recreational businesses, transportation services, telecommunications products and services, and congregate care facilities. Other community benefits derived from retirees include (a) increases in local retail sales, (b) enhancements to sales and property tax bases, (c) increases in construction activity, (d) additions to the pool of talented and committed service volunteers, and (e) increases in the local capital stock through the investments and savings of elderly immigrants.

The Permian Basin fulfills many of the prerequisites for becoming a desirable retirement area. First, it can boast a relatively low cost-of-living in an uncongested, semi-rural setting with easy access to recreational opportunities. Second, Midland-Odessa is home to the largest concentration of health care and medical facilities between Ft. Worth and El Paso, offering virtually every gerontological service. Third, the absence of a state income tax keeps overall state and local tax burdens on individuals extremely modest. Finally, when the lights of the big city beckon, both DFW and Houston are only an hour's flight away.

States and localities across the South have recognized the economic potential of retirees, and the competition is heating up. Still, we urge the leadership of the Permian Basin to work closely with state agencies in designing a comprehensive program to market the

region to the rapidly growing cohort of America's senior citizens who are increasingly healthy and wealthy. Direct contacts with developers of master-planned retirement communities, such as Del Webb and Robson, may also prove fruitful.

Health care

Health care and retirement often go hand-in-hand, which is to say that one attracts the other. Retirees are drawn to communities with good health and medical care facilities, while institutions and individuals involved in health care delivery often seek out locations with large numbers of elderly and retirees. The location quotient analysis indicates that the Permian Basin region has a comparative advantage in health care in that the proportionate share of employment is greater than the statewide average. What this suggests, of course, is that the medical facilities and professionals in Midland and Odessa are drawing business from outside the region. Given the prospects for marketing the region to retirees, the health care industry should be targeted for further development.

There are several reasons the Permian Basin should focus on developing its health/medical sector. The health services sector consistently records job growth well above that for goods-producing industries and other services activities. This growth is expected to continue for the next several decades in tandem with the aging of the population, the spread of third-party payment systems, and the introduction of new technologies and therapies that require more and more skilled personnel. The U.S. Department of Labor, in fact, projects eight health services occupations to rank among the twenty fastest-growing occupations for the next decade.

Health services occupations typically employ highly skilled and highly paid technical workers. Wages for most health services jobs are comparable to those paid by goods-producing and other skilled services industries. Apart from benefits to the region's retail and personal services businesses resulting from an increase in health services employment, the Permian Basin would also benefit from a significant upgrading of its labor force over the long term.

Another reason to pursue employment growth in health services is that healthcare is technology intensive and consequently has strong backward linkages to the goods producing and wholesaling sectors. In other words, rapid employment growth in the region's health services sector may eventually prompt the location in the area of manufacturers and distributors of healthcare products or the expansion of established firms.

Finally, there is accumulating evidence to suggest that small- to medium-sized communities are successfully carving out niches in the "export" of health services by attracting referral patients from outside the immediate area. These patients can generate a significant flow of income and tax revenue for the region since they are often accompanied by family members who stay in area hotels/motels and patronize local restaurants and retail establishments.

The development and marketing of health services can, of course, be problematic. Healthcare—especially against the backdrop of the ongoing debate of reform—is widely perceived to be a net drain on the economy. But however true that may be for the national economy, there should be no doubt that at the local level healthcare is an industry competing for market share. Communities across the U.S. are coming to recognize this economic fact and are initiating ambitious efforts to market their healthcare services and products. To this end, local chambers of commerce and economic development allies in the Permian Basin should consider adopting an education and awareness campaign to increase local and regional understanding of the positive contribution the health services sector can make to the region’s economic future.

Conventions and recreation

Midland-Odessa, the core of the Permian Basin, is the largest urbanized area between Ft. Worth and El Paso. It is also strategically located on Interstate 20, the principal east-west thoroughfare in the southwestern U.S., and is served by several airlines. So although the area is quite distant from Texas’ major metropolitan areas, it is by no means isolated.

Conventions, tourism, and sporting events are “regional exports” in the sense that out-of-towners bring money into the region, easily \$100 per person per visitor day. In fact, the Midland-Odessa area is already a sizable venue for conventions and sports events. According to the Midland Convention and Visitors Bureau, convention and tourism’s \$28 million annual payroll is second only to the local school district. Significantly, Midland Vision 2000 recognized the economic impact of conventions, tourism and sports events by recommending the construction of several new facilities that could enhance the region’s attractiveness for conventions, meetings, recreation, and sporting events. These include expansion of the Midland Center; a new football/baseball/soccer complex; and construction of the West Texas Expo Center consisting of indoor and outdoor arenas for livestock shows, equestrian events, concerts, and arts and crafts shows. Combined, these new facilities would bring a wider variety of events, and larger numbers of participants, to the Permian Basin. The beneficiaries will include hotels, restaurants, retail establishments, auto service centers, the regional airport, and many other local businesses.

Services and infrastructure

Based on the interviews, surveys and focus groups conducted by our team, it would appear that most residents of the Permian Basin are quite satisfied with the current level of public services. In fact, most public services are rated “good to excellent” by more than 80 percent of the respondents. Medical/health facilities in particular are considered to be first rate. Some residents have concerns about the public education system; namely that college prep is over-emphasized to the detriment of vocational and technical education.

Public transportation is the one area where service quality comes up short. In several of the focus groups the point was made that many of the region’s low-income residents are unable to afford private transportation and therefore have difficulty finding and holding jobs.

The quality of the region's infrastructure receives generally favorable reviews. Highways are thought to be in good repair and the cost of utilities is reasonable. The housing stock is perceived to be ample and the condition of available commercial buildings acceptable. However, there are some concerns about the region's future water supply, particularly among farmers and ranchers.

Though most residents of the Permian Basin appear to be satisfied with the region's infrastructure, from an economic development perspective we believe it's critical to improve the region's highway network, particularly along the north-south axis. As discussed above, the Permian Basin is well served in terms of east-west mobility because of Interstate 20. Indeed, this is one of the reasons manufacturing, warehousing, and distribution were identified as potential job gainers in the location quotient analysis. But the region is not well served in terms of quick and easy highway access to Mexico, which is Texas' major trading partner.

Since NAFTA was implemented in 1994, trade between the U.S. and Mexico has literally exploded. In 1993, two-way trade was approximately \$85 billion, but by 2000 it exceeded \$200 billion. Ninety percent of this commerce moves by truck, and a huge percentage passes through Texas. Texas is also a major exporter to Mexico in its own right. According to the Federal Reserve Bank of Dallas, exports from Texas to Mexican consumers reached \$41.4 billion in 1999, almost three times the value of California's exports to Mexico. More than 800,000 Texas jobs can be directly linked to exports to Mexico.

The Permian Basin should be able to capture a larger share of this business, either by selling regionally manufactured goods to Mexico or providing transportation, warehousing, and other logistical services. As the crow flies, Midland-Odessa is relatively close to the Mexican gateways of Ciudad Acuna, Piedras Negras, and Nuevo Laredo. The region's leadership should perhaps consider forming a coalition with Lubbock and Amarillo to lobby for additional state and federal funds to improve highway access to Mexico, similar to the efforts undertaken by the I-35 corridor coalition.

In addition to maintaining and improving the regions vehicular highways, attention should also be paid to the Permian Basin's information highways. At present, the cities of Midland and Odessa appear to have adequate bandwidth, switches and points-of-presence (POPs) for the anticipated growth in demand for communications services. However, this is not the case for many of the region's outlying communities. Concerted efforts must be undertaken by the region's leadership to ensure that residents, businesses, hospitals, schools, and other public facilities throughout the Permian Basin have access to high-speed communications links. In the future, the Permian Basin's telecommunications infrastructure will be just as important as its highway infrastructure in marketing itself to new residents and businesses.

Development Incentives

In recent years, state and local tax credits, rebates, and other fiscal incentives to attract industry have become an economic fact of life in many communities. The growing use, and the sheer magnitude, of these incentives has also spurred a debate among economists and public officials as to the efficacy and appropriateness of such incentives. Proponents of fiscal incentives argue they've become a competitive necessity because in the "real world" of economic development, any community not willing to offer incentives comparable to or greater than those of its neighbors will permanently lose new business opportunities. Industrial location consultants who play cities and states against one another to extract the largest possible concessions for their clients often perpetuate this view.

Those opposed to tax incentives argue that their costs far exceed measurable community benefits. What's more, the pursuit of such policies may create resentment among owners of existing businesses that, in effect, help subsidize the operations of new companies they may eventually face as competitors. To make matters worse, while taxes are being waived, or a new company is receiving rebates, this business may be placing new demands on local government for roads, water, police, education, and other public services. Perhaps the most regrettable aspect of the current mania for local tax breaks is that incentives have become the centerpiece of economic development policy in many communities, and even some states.

Texas is no exception. Over the past two decades the state has enacted a plethora of legislation that enables local governments to abate property taxes, to give sales tax rebates to qualifying businesses, to exempt certain types of real business property from ad valorem taxation (freeport exemption), and to allow some communities in suburban and rural areas to enact "economic development" sales taxes to fund development efforts. For some cities, the economic development sales tax has been a revenue bonanza.

The City of Odessa is the largest city in the Permian Basin to have adopted the economic development sales tax, and city officials claim these revenues have been instrumental in attracting new business to the city. By contrast, the City of Midland has twice voted down the economic development sales tax. Business and public leaders in Midland continue to push for enactment of this tax.

From a regional perspective, the economic development sales tax may benefit the largest cities in the Permian Basin at the expense of small towns and rural communities. This result comes about simply because Odessa or Midland, with a large retail base, can generate much more revenue from the ½ cent tax than probably all the other cities in the region combined. Similarly, with a larger ad valorem tax base, Odessa (Ector County) and Midland (Midland County) can "afford" to be more generous with abatements than smaller communities or counties in the region.

With so many counties, towns and cities within the Permian Basin region, it may be difficult to agree on a common policy for the use of tax abatements, economic development sales taxes, and the like as business incentives. Still, the Permian Basin Regional Planning

Commission may wish to articulate some general guidelines regarding the use of incentives. We would recommend that any tax break be limited both in terms of size and duration—e.g., 25 percent of the value of a new investment for a period not to exceed five years in the case of ad valorem abatements. In addition, any tax abatement agreement should have a performance clause that allows the local government to recapture the foregone revenues should the new business not create the jobs and investment promised. And in no case should school districts be pressured to offer abatements.

With abatements, as well as the 4A and 4B sales taxes, expenditures should be targeted to “export-oriented” companies—that is, to businesses selling products and services outside the region. This is the best way to ensure that development incentives help to diversify the regional economy while at the same time protecting existing local service businesses from new subsidized competitors.

Funding Development Efforts

As noted earlier, many Texas communities have elected to adopt the 4A, 4B, or both economic development sales taxes. Particularly in the case of 4B sales taxes, these revenues have been used to fund infrastructure development, offset local sales tax rebates, and other pecuniary incentives, fund operations at a local economic development corporation, and pay for community marketing. While some cities still partially fund economic development efforts through their general revenues, by and large revenues generated by targeted sales and use taxes fund business development efforts in smaller communities.

Unfortunately, most of the communities outside of Midland and Odessa simply would not generate sufficient 4A or 4B tax revenues to support an effective marketing campaign. A review of recent sales tax reports from the Texas Comptroller’s Office shows that total sales subject to local sales and use taxes in the 15 Permian Basin counties outside of Ector and Midland counties combined is only about 25 percent of those generated in the two central counties. In other words, Pecos, Fort Stockton, Big Spring, Lamesa, and the other communities in the Permian Basin cannot hope to effectively compete with Midland or Odessa in gaining market attention for business development, whether that development be from companies moving to the area or providing resources to encourage home-grown business development.

Much has been made over the years about regional cooperation in development efforts. In reality, there is little cooperation among cities when it comes to attracting new tax base and jobs. In the largest metropolitan areas it is common for a suburb to lure a business from the central city or from another suburb with generous incentive packages. The same is true in the Permian Basin. The battles between Midland and Odessa have become almost legendary. Politically, all development is local. One community’s gain is, by definition, another community’s loss. We do not expect the cities of Midland and Odessa to put aside decades of friendly, and sometimes not so friendly, competition in the immediate future. However, given overall rural development trends, we feel that the smaller communities outside the Midland and Odessa metropolitan areas must cooperate more in their economic development efforts.

Shakespeare once said: “Misery acquaints a man with strange bedfellows.”¹ To effectively compete for business locations and, more importantly, to provide resources to promote internal business development, the smaller communities in the Permian Basin would do well to pool their resources through strategic alliances. These alliances could focus on issues important to their common sub-region. For example, two or more communities may combine tax resources to help support local health clinics, provide housing, improve schools, and fund services needed by their residents addressing critical quality of life issues that are seriously challenging most rural communities.

Small communities in the Permian Basin should consider combining tax receipts to fund local economic development corporations and support related marketing efforts, including joint development of business infrastructure. Examples could include funding joint water resource development projects, supporting road development and maintenance, and developing agreements with infrastructure and service providers to speed the deployment of broadband telecommunications capabilities. Though many communities have experienced failure in supporting the speculative development of industrial parks and buildings, with careful pre-development market analysis, two or more smaller communities could find a risk/reward assessment more appealing if shared.

Though we urge extreme caution in their use, smaller Permian Basin communities could pool their resources to offer incentive packages to prospective businesses that they could not afford to offer individually. Of course, this also suggests the need for revenue/benefit sharing among the partners.

Odessa and Midland have managed to diversify their economic bases and enjoy apparently sustainable, if not tremendous, growth over the last decade. They have little incentive to enter cooperative agreements or share development with the smaller communities in the Permian Basin. Individually, these smaller communities cannot effectively compete on a consistent basis with Midland-Odessa for business attraction or retention. Pooling development resources may be the only means by which the smaller communities in the Permian Basin can improve their attractiveness for new residents and businesses.

Thinking Strategically about Regional Development

In the discussion above, we have suggested a number of initiatives the Permian Basin Regional Planning Commission, and all the region’s economic development organizations and allies, should consider to help stabilize and diversity the area’s economic base. These include: (a) the pooling of economic development resources; (b) regional marketing; (c) upgrading the area’s human capital through additional investments in education and training, including vocational and technical education; (d) developing new convention and entertainment venues; (e) enhancing the Permian Basin’s amenities for retirees; (f) expanding and marketing the region’s medical facilities; (g) lobbying for additional state and federal

¹ *The Tempest*, Act II.

funds to construct a four-lane road to a Mexican port-of-entry; (h) promoting and exploiting rural development initiatives during the 2001 state legislative session; and (i) working to ensure that all communities in the Permian Basin have access to an enhanced telecommunication infrastructure.

In addition, we have identified some specific industries that should be targeted for recruitment and expansion, either because the region is underrepresented in that industry or possesses a comparative advantage. These industries include light manufacturing, transportation and warehousing, financial services, waste management and remediation, and business and professional services. Health care, retirement, and convention/tourism are other industries we recommend for targeting.

The oil and gas industry will continue to play a major role in the economic health of the Permian Basin. Right now, the region is adding jobs and new investment because of the dramatic jump in oil and gas prices over the past year. Interestingly, most of this new investment is coming from the independents as opposed to the major energy companies, who are more focused on the Gulf of Mexico and foreign markets. Because the independents have maintained more stable workforces than the majors over the years, they are a great asset to the region, bringing new jobs and investment to the smaller communities of the Permian Basin as well as the cities of Odessa and Midland. Civic leaders should work closely with the independents and help promote their agendas in Austin and Washington.

Finally, the Commission and other economic development organizations must pay increased attention to the region's water needs. Obviously, an adequate supply of water at a reasonable cost is critical to the long-term viability of the Permian Basin's agricultural economy. But future water supplies will be an important factor in attracting new businesses and households to the region as well.

Section I

Key Informant Interviews

This section reports findings from personal interviews with key informants conducted on April 27 and 28, 2000, by Samantha Durst. The complete report follows the bulleted summary items.

Summary

A. Overall Findings

- Smaller communities may be willing to support an economic adjustment strategy that focuses on Midland/Odessa if the strategy at least indirectly benefits the smaller communities.
- Despite past differences, the importance of joint economic activity between Midland and Odessa is increasingly becoming apparent to community leaders.
- Leaders realize that the dominant oil and gas industries are fading.
- Most leaders view light manufacturing as the most feasible industry to promote the future.
- Greater diversification of the economic base is a universal goal.

B. Workforce

- Characterized workforce as largely untrained and unprepared for work in new or different industries.
- Although oilfield workers are highly skilled, those skills are not transferable to other industries.
- Younger and skilled workers either are leaving the rural portion of the region for the urban or are leaving the region entirely for larger metropolitan areas.

C. Education

- Many interviewees also noted that local high school and community college students are well educated but have few employable skills.
- School systems are good but could do more to emphasize skill development.

- Area high schools and community colleges are eager to work with the Workforce Commission and local employers to offer specific and/or tailor-made training for employees. Some interviewees noted enthusiasm over the “technology center” that is a joint effort with the schools and the Midland Chamber of Commerce.
- Community colleges need to continue receiving funds for training.

D. Other Concerns

- Goal for any economic adjustment strategy is to recruit or build light industry that might require some of the same skills that oil field employees already have.
- Language skills not a concern.
- Higher salaries not a concern.
- New employers will face the prospect that they will lose employees in the event of an oil or gas boom. (Workers used to cyclical nature of industry and leave it in bad times and return to it in good.)

E. Strengths and Weaknesses of the Region

- The area is a good place to do business. Government regulation is not a barrier to business.
- Favor light manufacturing businesses over others (especially prisons and hazardous waste disposal). However some smaller communities may pursue the “less desirable” forms.
- Transportation systems in Midland/Odessa viewed as helpful to local businesses.
- Land is inexpensive and available.
- Scarcity/availability of potable water is a problem.
- Cost of living is low.
- Mid-level housing is generally available.
- Medical services in Midland/Odessa are “first rate”; smaller community hospitals may be struggling.
- Region is viewed as a wonderful place to live and raise a family. However, geographic location, desert terrain, and limited options for recreational activities may be deterrents to outsiders.

F. Dominant Industries

- Oil and gas industries are now on decline.
- Most estimate the remaining life of oil industry to be 20 years. Major oil company headquarters have already left.
- Gas industry is stronger because of high demand. Longer life expectancy of 50 years or more.
- Farming and ranching are in danger because of water supply problems.
- Most believed that more is needed than simply the further development of existing businesses.
- Employment in public sector and medical industry is growing, but these areas are not considered dominant industries.
- Manufacturing is also growing and is viewed as an industry to be expanded and recruited.
- Some interviewees anticipate the growth of “value-added” businesses that receive goods, add value to them in a variety of ways, and then export the goods to domestic and international markets.

G. Current Activities

- MOTRAN: A joint transportation initiative between Midland and Odessa;
- Port to Plains initiative: A multi-county roads and highway program for better/faster ground transportation of goods;
- Technology Center in Midland: An education center providing computer and other technology based skills to area residents;
- Odessa’s Economic Development Fund: A sales tax generated fund supporting business development and recruitment incentives in Odessa;
- The Hispanic Chamber of Commerce: A nonprofit organization giving loans and business education to businesses in the Odessa area (not just Hispanic owned or operate businesses).

H. Promoting Business Expansion

- Economic expansion needs the ability to provide financial incentives to businesses. For example, the Odessa economic development fund has recruited several new businesses in a relatively short period.
- Midland has twice failed to pass a local sales tax to fund economic development.
- Representatives from smaller communities believe that tax abatements and other cash incentives will be necessary to promote economic growth in the area.
- Must have greater cooperation between Midland and Odessa to promote the area as one place to live and do business.
- Some of the smaller communities outside of Midland and Odessa do not see a need for significant economic adjustment. However, they may be willing to promote a strategy that focuses business placement in the larger communities as long as secondary benefits are possible.
- Leaders from smaller communities stressed need for greater cooperation between Midland and Odessa.

Background

Interviews were scheduled by the Permian Basin Regional Planning Commission staff, under the direction of the interviewer. Fifteen interviews were completed. Most of the interviews were conducted in the offices of the Permian Basin Regional Planning Commission at the Midland International Airport on April 27th and 28th. Interviews ranged from 45 minutes to one hour in duration. A copy of the interview schedule that was used for the interviews is attached as Appendix B. The views expressed in this report are those of the interviewees, not the interviewer, unless explicitly noted in the text.

Overall, the interviews suggest many of the smaller communities may be willing to support an economic adjustment strategy that focuses on the Midland/Odessa area if the strategy benefits the smaller communities at least indirectly. For example, could outlying communities be promoted as “bedroom communities” for workers/industries relocating to Midland or Odessa? Interviews also suggest that although there is a history of political and cultural conflict between the cities of Midland and Odessa, the importance of joint economic activity is increasingly apparent to community leaders. There is a clear sense that the oil and natural gas industries, the dominant industries in the region, are fading. However, how quickly the region must develop alternatives is less clear. Most community leaders interviewed view light manufacturing, either of oil and gas related products to be exported internationally or other products, as the most feasible industry to promote in the future. Greater diversification of the economic base of the Permian Basin is a universal goal.

Demographics

The workforce of the Permian Basin was characterized as largely untrained and unprepared for work in new or different industries. It was the predominant view that oil field workers are highly skilled, but most of those skills are not transferable to other jobs or industries. Younger and skilled workers are leaving outlying areas of the Basin for Midland/Odessa or larger metropolitan areas (Houston, Dallas/Ft. Worth, and Austin). A minority of the employable workforce is or has been employed in the headquarter offices of major oil or natural gas companies and have a higher level of skills.

A number of interviewees noted that the students are leaving local high schools and community colleges well educated but with few employable skills. That was attributed to parents and school counselors who emphasize the importance of a college education for all, even if many students would be better suited for high paying, skilled labor. Midland and Odessa youth were characterized as very “college oriented.”

The school systems themselves were universally characterized as good. In fact, the Midland/Odessa high schools and community colleges are apparently eager to work with the Workforce Commission and local employers to offer specific and/or tailor-made training for employees. Some noted with enthusiasm, for example, the soon to be completed Advanced Technology Center that is a joint effort with the schools and Midland College. Both the Midland and Odessa Chambers of Commerce have “education initiatives” designed to promote skill training for the labor force. The schools (high schools, community colleges, and the University of Texas-Permian Basin) could do more to emphasize skill development among students in the region. The community colleges need to continue to receive funding for training. One suggested, “perhaps the legislature could help by providing the community colleges with funding for training programs.”

Some suggested that many in the labor force have skills that have been used/developed in the oil fields. Their goal for any economic adjustment strategy is to recruit or build light industry (like manufacturing) that might require some of the same skills from employees.

Language skills or concern over the need for higher salaries was not a topic of concern for most. One interviewee noted the growing Hispanic population in the area and suggested that language might be an issue for employers in the future.

Workers have been hurt by the cyclical nature of the oil and gas industries. In boom times jobs and good wages are plentiful. In bad times, workers have to seek other employment and new skills, many times outside the region. New employers face the prospect that an oil or gas boom will mean employees will quit in order to return to higher paying jobs in the fields.

Strengths and Weaknesses of the Permian Basin

The Permian Basin was universally characterized as a good place to do business. Government regulation was not perceived to be a barrier to business. Some types of businesses were viewed as more desirable (light manufacturing) than others (prisons, hazardous waste disposal) by most. However, some of the smaller communities are pursuing the development of these “less desirable” forms of economic expansion because other options seemed unavailable.

The transportation systems available to businesses in the Midland/Odessa area were viewed as particularly helpful to local businesses. The local airports, especially Midland/Odessa International Airport, the rail system, and access to major highways make the regular shipment of goods (especially light goods) feasible. Land is inexpensive and available.

One potential weakness of the region to new businesses or the significant expansion of existing business is the availability of water. Potable water is limited in most counties in the Permian Basin. Some major initiatives have been taken to address this limitation, but it could be an issue for any proposed economic adjustment plan.

The cost of living in the Permian Basin is perceived as low, and mid-level housing is generally available. Medical services in Midland and Odessa were touted as “first rate” although many travel to the larger cities in Texas for specialty medical services. Community hospitals outside of Midland/Odessa may be struggling.

It was also viewed as a wonderful place to live and raise a family. However, all recognized that outsiders may perceive the geographic location and the desert terrain as a weakness. Some viewed the relatively limited options for recreational activities as a weakness, as well.

Dominant Industries

The oil and natural gas industries have dominated the Permian Basin for some time. It is understood that the oil industry is on the decline in the area. Most estimate the life span of that industry to be no longer than 20 years. The major oil company headquarters have already pulled out of the region, in part speeding economic volatility in the area. The natural gas industry appears stronger now because of high consumer demand and has more long-term sustainability in the region (fifty years or longer). However, expanded production of natural gas from the region will require significant capital investment, which may not be made for some time. Both of these industries are subject to dramatic expansions and contractions, and the economy of the region moves with them. This was viewed as the greatest short-term drawback to continuing to rely on these industries.

Traditional farming and ranching have long been important to the economy and the culture of the region. However, because of limited access to water it is unlikely that this industry will expand significantly. Some experiments are underway to change the nature of

farming in the region. For example, Pecos County is encouraging the development of a small number of shrimp farms, which can operate in spite of the relatively salty conditions of the Pecos River.

There was some sense that the region should target businesses with 15 to 75 employees for new development initiatives. A few believed it would be better to target a smaller number of larger businesses (over 75 employees). Most did not believe that the further development of existing businesses would be a sufficient development strategy.

Employment is growing in the public sector and in the medical industry in the region, but these fields were not considered dominant industries. Manufacturing is also a growing industry in the region and was widely viewed as an industry to be expanded and recruited. Some anticipate the growth of a number of “value-added” businesses, which receive goods, add value to them in a variety of ways, and then export the goods to domestic and international markets. One interviewee suggested the Permian Basin might find success through promoting “sports tourism.” Already Midland and Odessa successfully promote their cities as locations for baseball, soccer, softball, and swimming tournaments.

Current Activities

When prompted, interviewees listed a number of different actions to promote indigenous economic growth currently underway. These actions include:

- MOTRAN: A joint transportation initiative between Midland and Odessa;
- The Ports to Plains initiative: A multi-county roads and highway program facilitating better/faster ground transportation of goods;
- The Technology Center in Midland: An education center providing computer and other technology-based skills to area residents;
- Odessa’s Economic Development Fund: A sales tax generated fund supporting business development and recruitment incentives in Odessa;
- Midland is currently considering the establishment of a “Community Growth Fund,” similar in purpose to the Odessa Economic Development Fund, to promote business development and recruitment; and
- The Hispanic Chamber of Commerce: A nonprofit organization giving loans and business education to businesses in the Odessa area. The businesses do not need to be Hispanic-owned or operated.

Many of these initiatives are relatively new. There is a growing sense that change is needed and that cooperation between the communities of Midland and Odessa, as well as other communities in the Permian Basin, is needed for that change to be effective.

Promoting Business Expansion

The most frequently mentioned action needed for economic expansion was the ability to provide financial incentives to businesses. In particular, community leaders in Midland noted the success of the Odessa economic development fund for recruiting several new businesses in a relatively short period (three phone center operations and an electric power plant, among others). Midland has twice tried to pass a local sales tax to fund economic development (in 1992 and 1997), but the majority of voters have not supported the initiative. Even representatives from smaller communities believe that abatements and other cash incentives will be necessary to promote economic growth in the area. “We can’t compete because we don’t pay businesses to relocate here,” stated one.

Greater cooperation between Midland and Odessa to promote the communities as one place to live and do business was also mentioned as necessary for a successful economic development strategy for the region. Apparently there is long standing political and social antagonism between the two cities that may be slowly disappearing. Cooperative economic development efforts between the cities are less than eight years old. Changing political leadership may make this possible. Several times during the interviews, people noted the different social and political cultures of these two communities. Working together toward economic development may be a challenging undertaking for them. In fact, efforts are also being made to work with local/state governments in Mexico to promote highway traffic from Mexico to the United States through the Permian Basin.

The counties and communities outside Midland and Odessa have identities distinct from Midland and Odessa. A few of those communities, with economies based largely on oil, gas, and ranching, do not see the need for significant economic adjustment. However, these smaller communities, less likely to be able to recruit new business for a variety of reasons (including limited water, few available workers, and less desirable locations), may be willing to promote a strategy that focuses business placement in the larger communities as long as secondary benefits are possible. For example, promoting an Amtrak passenger route through Midland/Odessa was mentioned several times as a good thing for smaller communities, especially if passengers were encouraged to “stop over” and visit local historic and recreational attractions. Promoting the smaller towns as possible bedroom communities for Midland and Odessa was also mentioned as a strategy that might have broad appeal in the region. A general theme among leaders from communities outside Midland and Odessa was the need for greater cooperation between Midland and Odessa and between all of the communities of the Permian Basin. Leaders from Odessa and Midland were less concerned with cooperation. However, when asked directly about it, did respond positively to the idea of greater cooperation.

Section II

Key Informant Surveys

This section reports findings from surveys mailed to a group of community leaders by the Survey Research Center at the University of North Texas. Surveys were mailed to 60 individuals, and a total of 43 key informants responded. The complete report prepared by the Survey Research Center follows the summary.

Summary

Of those responding to the survey, a majority (83.3 percent) have worked in the Permian Basin region over 10 years and most work in the business sector, banking, education, and government. A majority of the key informants also maintain at least 1 membership in a business association.

Key informants view the local workforce very positively, agreeing that it has basic education needs, is competitive with other states and that it is willing to learn new skills needed for the next decade. However, a majority does not believe that the current workforce is computer literate or adequately trained to meet the demands for the next decade (although they do agree that the workforce is willing to learn as stated above). They also agree that the local area high schools and colleges/universities are producing capable employees. They believe that apprentice programs sponsored by colleges and industry would help train future employees and that technical/computer workshops would benefit current employees to develop new skills.

Key informants view the overall business climate in the region very positively. This includes local governments' receptivity to business, adequate commercial building space, and a reasonable cost of doing business in the area.

A majority of key informants (75 percent) stated that they would support a one-half cent sales tax increase specifically for economic development. (Note: According to personal interviews, Midland has twice failed to pass such a sales tax increase.) Key informants also favor strategies such as apprentice training programs between their companies and local colleges and locally funded business incentives to encourage new business development (including tax abatements). All stated that they would favor creating new streamlined processes of settling new businesses into the region.

When looking at the local physical infrastructure, key informants agree that the condition of available buildings is acceptable and that the cost of utilities is reasonable. Almost all (97.3 percent) believe that the highways in the region are in good repair, with only 15.4 percent of them commuting longer than 45 minutes to work. Internet usage is closely split, with only 57.9 percent agreeing that the Internet is widely used in the business community. A large majority of the key informants also agree that telecommunications in the region need both improvement (75.7 percent) and expansion (87.1 percent) to meet business needs. When asked about ample

quality housing stock, they were evenly split (50/50) on whether the region has an adequate supply.

This survey also sought to compare numerous public services provided by key informant's city to those provided to the region as a whole. Regarding fire, traffic, police, postal, and garbage collection, all rated both their individual cities and the region as a whole as average or above average. Less than 15 percent rated any of these services below average. And, the difference for these services for the city compared to the region in these categories was minimal. Of other services compared, there is slightly greater difference for the region as a whole when compared to a specific city. Street repair and maintenance, health care facilities, and zoning and land use, were rated average or above average by 65 percent of the key informants. They rated garbage recycling below average for cities (51.2 percent) and average or above average for the region as a whole (74.5 percent).

Regarding questions on the quality of life in the Permian Basin, key informants overwhelmingly agree that the region offers what is needed for a good life. Over 90 percent feel that children have safe places to play in his/her neighborhood, that public schools are safe, that the area libraries are good, that the public festivals hosted several times a year are fun to attend, and that newcomers will be able to find an appropriate place of worship for their specific religion. In addition, over 80 percent agree that his/her city has well-maintained parks and recreation services and that the region's residents have interesting and sufficient retail outlets to satisfy their needs and wants. The only area where key informants felt the region lacked was in offering a well-rounded cultural life with theatre, music, and sporting events to attend.

When asked about current regional development activities, all key informants agree that there is adequate available land to allow for new business development. A large majority also agree that there is adequate capital in the region to promote new business development, that the current transportation networks will allow for new business development, and that his/her city is willing to work with neighboring cities and counties to bring industries to the region. In addition, 91.2 percent stated that they are aware of the Permian Basin Regional Planning Commission's work to bring new industries to the region. When asked if his/her city has developed a plan to recruit new industries to the area and has made the public aware of the plan, only 59.4 percent agreed, while 40.5 percent disagreed. More importantly, when asked if there is a good mix of industries in the region, 41.7 percent agree and 58.4 percent disagree.

When asked about recruiting new businesses, key informants are most in favor of light manufacturing (51.2 percent) or heavy manufacturing (22.0 percent). They also believe that light manufacturing (42.9 percent) is the type of business best suited to create a new business center, while heavy manufacturing (21.4 percent) is also a good choice. Ironically, the types of businesses that they would least like to see are finance, insurance, and real estate (42.9 percent) and heavy manufacturing (25.6 percent).

Introduction

As part of its commitment to maintain a favorable business climate, the Permian Basin Regional Planning Commission (Planning Commission) retained the Center for Economic

Development and Research and the Survey Research Center at the University of North Texas to recommend economic development strategies in the Permian Basin. Data were collected through several methods for use in developing the recommendations. Methods included: focus groups and interviews of people who are knowledgeable about the business climate and needs of Permian Basin communities; a survey of key informants to gather opinions on business climate; workforce issues and development strategies; and a workforce population survey.

The key informant survey, the subject of this report, was conducted among a group of community leaders and was designed to assess:

- Workforce capabilities and training needs,
- Permian Basin as a place to do business,
- Job creation strategies and regional development,
- Local physical infrastructure and community services, and
- Quality of life in the Permian Basin.

Methodology

A. Sample

The conceptual population for the survey was business and community leaders in the Permian Basin region. These 69 individuals were identified by members of the Permian Basin Regional Planning Commission as leaders who would be knowledgeable about the economy and workforce strengths and challenges. The Planning Commission provided SRC with the addresses of these key informants.

B. Instrument

SRC provided Planning Commission staff with a draft of a survey instrument that was used as a starting point to develop the final survey instrument. The survey instrument was tailored to fit the project's objectives. Several conversations between SRC and Planning Commission staff were conducted to finalize the instrument. The final instrument was a four-page booklet that was mailed to the key informants identified by the Planning Commission.

C. Data Collection

The four-page survey instrument and a cover letter were mailed to 69 individuals identified as key informants. A business reply envelope was enclosed for convenience. Three weeks later a follow-up cover letter and survey were mailed to all key informants that had not yet responded.

A total of 43 key informants responded for a response rate of 62.3 percent. Responses were entered into a data file and analyzed using SPSS Windows software.

D. Report Format

The remainder of the report is arranged in three sub-sections beginning with “Sample Characteristics.” This section presents characteristics of urban and rural respondents. The next sub-section, “Findings” reports findings based on respondents’ answers to the substantive questions in the survey. And, the final sub-section presents the report’s Conclusions. The survey instrument is available in Appendix C.

Sample Characteristics

**Table II-1
Demographics**

Demographics	Count	Percent Responding
Years worked in Permian Basin		
Less than 1 year	2	4.8
1 to 5 years	2	4.8
6 to 10 years	3	7.1
Over 10 years	35	83.3
Worked in sector		
Business services	10	25.0
Banking	9	22.5
Education	7	17.5
Government	6	15.0
Health care	2	5.0
Wholesale trade	2	5.0
Law	1	2.5
Manufacturing	1	2.5
Insurance	1	2.5
Agriculture	1	2.5
Membership in business association*		
Chamber of Commerce	25	58.1
City Business Development Commission	13	30.2
Rotary Club	10	23.3
Neighborhood Association	8	18.6
None of the above	13	30.2

- As seen in Table II-1, 83.3 percent of key informants had worked in the Permian Basin for over 10 years.
- One quarter (25.0 percent) of key informants were employed in the business services sector and 22.5 percent worked in banking. Eighteen percent were in the education field and 15.0 percent worked in various levels of government.

* Percentages will not equal 100.0 percent because respondents could be members of more than one association.

- Fifty-eight percent of the respondents held membership in a Chamber of Commerce. Thirty percent were members of a city business development commission. Twenty-three percent were members of a Rotary Club and 18.6 percent reported being a member of their neighborhood association.

Findings

A. Workforce

Table II-2
Assessment of Current Workforce

Statement	Percentage Responding			
	Strongly agree (5)	Agree (4)	Disagree (2)	Strongly disagree (1)
There is available labor to meet the business community's needs. (n=41)	17.1	39.0	36.6	7.3
The workforce has basic education skills. (n=40)	10.0	65.0	22.5	2.5
The workforce is, in general, computer literate. (n=37)	0.0	32.4	56.8	10.8
The workforce is competitive with other regions in Texas. (n=34)	8.8	47.1	41.2	2.9
The workforce is competitive with other states. (n=28)	14.3	46.4	39.3	0.0
The workforce can compete globally. (n=30)	13.3	40.0	33.3	13.3
The workforce is adequately trained to meet demands for the next decade. (n=35)	2.9	28.6	51.4	17.1
The workforce is willing to learn new skills needed for the next decade. (n=36)	2.8	86.1	11.1	0.0

- Respondents were asked if they strongly agreed, agreed, disagreed, or strongly disagreed with eight statements concerning the current workforce in the Permian Basin. As shown in Table II-2, 56.1 percent of key informants either strongly agreed (17.1 percent) or agreed (39.0 percent) that there was available labor to meet the business community's needs.
- Seventy-five percent of the respondents strongly agreed (10.0 percent) or agreed (65.0 percent) that the workforce has basic education skills.

- Less than one-third (32.4 percent) of the respondents strongly agreed (0.0 percent) or agreed (32.4 percent) that the workforce is, in general, computer literate.
- A greater percentage of the respondents (55.9 percent) strongly agreed (8.8 percent) or agreed (47.1 percent) that the Permian Basin workforce is competitive with other regions of Texas.
- A majority of the respondents (60.7 percent) agreed (46.4 percent) or strongly agreed (14.3 percent) that the workforce is competitive with other states.
- Fifty-three percent agreed (40.0 percent) or strongly agreed (13.3 percent) that the Permian Basin workforce can compete globally.
- Two-thirds of key informants (68.5 percent) either disagreed (51.4 percent) or strongly disagreed (17.1 percent) that the Permian Basin workforce is adequately trained to meet demands for the next decade.
- Eighty-nine percent of key informants strongly agreed (2.8 percent) or agreed (86.1 percent) that the workforce is willing to learn new skills needed for the next decade.

**Table II-3
Skills Needed for Current Workforce**

Statement	Percentage Responding			
	Strongly agree (5)	Agree (4)	Disagree (2)	Strongly disagree (1)
The area secondary schools (through high school) are producing capable employees. (n=41)	17.1	48.8	34.1	0.0
The area colleges and universities are producing capable, skilled employees. (n=38)	18.4	81.6	0.0	0.0
Apprentice programs sponsored by colleges/ universities and industry would be helpful in training future employees. (n=42)	52.4	47.6	0.0	0.0
Technical/computer workshops would benefit current employees to develop new skills. (n=42)	54.8	45.2	0.0	0.0

- Respondents were asked to agree or disagree with 4 statements concerning the skills needed by the current workforce. As shown in Table II-3, 65.9 percent of key informants strongly agreed (17.1 percent) or agreed (48.8 percent) that the area secondary schools are producing capable employees.
- All respondents (100.0 percent) either strongly agreed (18.4 percent) or agreed (81.6 percent) that the area colleges and universities are producing capable, skilled employees.
- One hundred percent strongly agreed (52.4 percent) or agreed (47.6 percent) that apprentice programs sponsored by colleges/universities and industry would be helpful in training future employees.
- One-hundred percent of key informants strongly agreed (54.8 percent) or agreed (45.2 percent) that technical/computer workshops would benefit current employees to develop new skills.

B. Current Infrastructure and Services

**Table II-4
Assessment of Local Physical Infrastructure**

Statement	Percentage Responding			
	Strongly agree (5)	Agree (4)	Disagree (2)	Strongly disagree (1)
The condition of available buildings is acceptable. (n=34)	5.9	61.8	29.4	2.9
The cost of utilities is reasonable. (n=37)	2.7	67.6	18.9	10.8
The internet (all aspects) is widely used in the business community. (n=19)	21.1	36.8	36.8	5.3
My county has ample quality housing stock. (n=38)	10.5	39.5	44.7	5.3
My commute to work is longer than 45 minutes. (n=39)	7.7	7.7	38.5	46.2
The highways in the region are in good repair. (n=38)	36.8	60.5	2.6	0.0
Telecommunications in the region need improvement to meet business needs. (n=33)	21.2	54.5	21.2	3.0
Telecommunications in the region need expansion to meet business needs. (n=31)	22.6	64.5	9.7	3.2

- Respondents were asked to assess the local physical infrastructure in the Permian Basin. As shown in Table II-4, 67.7 percent of key informants strongly agreed (5.9 percent) or agreed (61.8 percent) that the condition of available buildings is acceptable.
- Seventy percent of the respondents strongly agreed (2.7 percent) or agreed (67.6 percent) that the cost of utilities is reasonable.
- Fifty-eight percent either strongly agreed (21.1 percent) or agreed (36.8 percent) that the Internet is widely used in the business community.
- Respondents were divided in their opinions regarding the quality of housing stock. Fifty percent strongly agreed (10.5 percent) or agreed (39.5 percent) that there was ample quality of housing stock in their county, while fifty percent either disagreed (44.7 percent) or strongly disagreed (5.3 percent).
- Fifteen percent of the respondents strongly agreed (7.7 percent) or agreed (7.7 percent) that their commute to work was longer than 45 minutes.
- Ninety-seven percent of the respondents strongly agreed (36.8 percent) or agreed (60.5 percent) that the highways in the region are in good repair.
- Three-quarters of the respondents strongly agreed (21.2 percent) or agreed (54.5 percent) that telecommunications in the Permian Basin needed improvement to meet business needs.
- An even greater percentage of the respondents also strongly agreed (22.6 percent) or agreed (64.5 percent) that telecommunications in the Permian Basin needed expansion to meet business needs.

**Table II-5
Comparison of Assessment of Services in Respondent’s City and Permian Basin**

City service	Percentage Responding				
	Excellent	Good	Average	Fair	Poor
Fire protection					
City (n=41)	34.1	43.9	17.1	4.9	0.0
Permian Basin (n=41)	26.8	51.2	19.5	2.4	0.0
Traffic					
City (n=41)	34.1	43.9	14.6	4.9	2.4
Permian Basin (n=40)	27.5	50.0	15.0	7.5	0.0
Police protection					
City (n=40)	27.5	45.0	22.5	2.5	2.5
Permian Basin (n=41)	12.2	65.9	19.5	2.4	0.0
Postal service					
City (n=41)	17.1	53.7	17.1	7.3	4.9
Permian Basin (n=41)	14.6	53.7	24.4	4.9	2.4

Table II-5 (cont'd)
Comparison of Assessment of Services in Respondent's City and Permian Basin

City service	Percentage Responding				
	Excellent	Good	Average	Fair	Poor
Garbage collection City (n=40)	15.0	52.5	20.0	10.0	2.5
Permian Basin (n=40)	12.5	52.5	27.5	7.5	0.0
Street maintenance and repair City (n=39)	23.1	35.9	17.9	15.4	7.7
Permian Basin (n=40)	10.0	55.0	22.5	10.0	2.5
Health care facilities City (n=40)	15.0	37.5	12.5	27.5	7.5
Permian Basin (n=41)	24.4	46.3	19.5	7.3	2.4
Zoning and land use activities City (n=39)	5.1	30.8	33.3	12.8	17.9
Permian Basin (n=39)	2.6	43.6	41.0	7.7	5.1
Garbage recycling City (n=39)	2.6	28.2	17.9	17.9	33.3
Permian Basin (n=40)	2.5	32.5	40.0	17.5	7.5

- Respondents were asked to assess the quality of selected services in their city and in the Permian Basin region. As shown in Table II-5, a greater percentage (34.1 percent) of respondents said that fire protection in their city was excellent compared to the Permian Basin as a whole (26.8 percent). However, 78.0 percent rated fire protection as excellent or good for both their city and the Permian Basin.
- Respondents were likely to rate the traffic in their city and the Permian Basin similarly. Seventy-eight percent of the respondents said that traffic in their city was either excellent (34.1 percent) or good (43.9 percent) compared to 77.5 percent who reported that traffic in the Permian Basin was excellent (27.5 percent) or good (50.0 percent).
- A greater percentage (78.1 percent) of respondents rated police protection in the Permian Basin as excellent (12.2 percent) or good (65.9 percent) than police protection in their city (27.5 percent-excellent, 45.0 percent-good, 72.5 percent combined).
- Seventy-one percent of key informants reported that the postal service in their city was excellent (17.1 percent) or good (53.7 percent). Sixty-eight percent said the postal service in the Permian Basin was excellent (14.6 percent) or good (53.7 percent).
- “Excellent” ratings of garbage collection in their city (15.0 percent) and in the Permian Basin (12.5 percent) were generally similar. An equal percentage rated garbage collection as good (52.5 percent each).

- Sixty-five percent of key informants rated street maintenance and repair in the Permian Basin as excellent (23.1 percent) or good (35.9 percent) compared to 59.0 percent who rated street repair in their city as excellent (23.1 percent) or good (35.9 percent).
- A greater percentage of key informants (70.7 percent) rated health care facilities in the Permian Basin as excellent (24.4 percent) or good (46.3 percent) than for facilities in their city (15.0 percent-excellent, 37.5 percent-good, and 52.5 percent combined).
- Zoning and land use activities had a higher percentage (46.2 percent) of combined excellent (2.6 percent) and good (43.6 percent) ratings in the Permian Basin than in the key informants' cities (35.9 combined percent; 5.1 percent-excellent; 30.8 percent-good).
- Thirty-five percent of key informants rated garbage recycling in the Permian Basin as excellent (2.5 percent) or good (32.5 percent) compared to 30.8 percent who rated recycling in their city as excellent (2.6 percent) or good (28.2 percent).

C. Business and Development Strategies

**Table II-6
Business Climate**

Statement	Percentage Responding			
	Strongly agree (5)	Agree (4)	Disagree (2)	Strongly disagree (1)
The Permian Basin is a good location to do business. (n=39)	43.6	53.8	2.6	0.0
There is adequate access to markets. (n=37)	24.3	64.9	10.8	0.0
My community is receptive to business. (n=39)	38.5	46.2	15.4	0.0
My local governments (city and county) are receptive to new business. (n=41)	39.0	43.9	17.1	0.0
There are adequate transportation networks. (n=34)	17.6	52.9	23.5	5.9
The municipal tax structure is reasonable. (n=38)	13.2	55.3	26.3	5.3
The cost of doing business (cost per sq ft) in the Permian Basin is reasonable. (n=38)	26.3	71.1	2.6	0.0

Table II-6 (cont'd)
Business Climate

Statement	Percentage Responding			
	Strongly agree (5)	Agree (4)	Disagree (2)	Strongly disagree (1)
There is a shortage of available commercial buildings. (n=32)	0.0	25.0	56.3	18.8
Suppliers of products used by regional companies are in proximity to the Permian Basin. (n=29)	0.0	79.3	20.7	0.0

- Respondents were asked their opinion regarding the business climate in the Permian Basin. Ninety-seven percent strongly agreed (43.6 percent) or agreed (53.8 percent) that the Permian Basin was a good location to do business (see Table II-6).
- Twenty-four percent of key informants strongly agreed and 64.9 percent agreed (89.2 percent combined) that there is adequate access to markets.
- Eighty-five percent of key informants either strongly agreed (38.5 percent) or agreed (46.2 percent) that their community is receptive to business.
- A majority (82.9 percent) of key informants strongly agreed (39.0 percent) or agreed (43.9 percent) that their local governments were receptive to new business.
- Seventy percent either strongly agreed (17.6 percent) or agreed (52.9 percent) that the Permian Basin has adequate transportation networks.
- Two-thirds (68.5 percent) of key informants strongly agreed (13.2 percent) or agreed (55.3 percent) that the municipal tax structure was reasonable.
- Ninety-seven percent strongly agreed (26.3 percent) or agreed (71.1 percent) that the cost of doing business in the Permian Basin was reasonable.
- Three-quarters (75.1 percent) of key informants strongly disagreed (18.8 percent) or disagreed (56.3 percent) that there is a shortage of available commercial buildings.
- Seventy-nine percent of key informants agreed that suppliers of products used by regional companies were in proximity to the Permian Basin.

**Table II-7
Job Creation Strategies**

Statement	Percentage Responding			
	Strongly agree (5)	Agree (4)	Disagree (2)	Strongly disagree (1)
My company/organization would be interested in working with colleges/universities to establish apprentice training programs specific to the needs of the Permian Basin. (n=30)	36.7	56.7	6.6	0.0
I would support a half-cent sales tax increase specifically for economic development in the Permian Basin region. (n=36)	30.6	44.4	19.4	5.6
I would favor locally-funded business incentives to encourage new business development (tax abatements, grants for training, below-market loans, gifts of land). (n=37)	45.9	45.9	5.4	2.7
I would favor creating new streamlined processes of settling new businesses in the Permian Basin. (n=33)	51.5	48.5	0.0	0.0

- Key informants were asked if they agreed or disagreed with several statements regarding job creation strategies. As shown in Table II-7, 93.4 percent either strongly agreed (36.7 percent) or agreed (56.7 percent) that their company/organization would be interested in establishing apprentice-training programs with colleges/universities specific to the needs of the Permian Basin.
- Three-quarters (75.0 percent) of key informants strongly agreed (30.6 percent) or agreed (44.4 percent) that they would support a half-cent sales tax increase specifically for economic development in the Permian Basin region.
- Ninety-two percent of key informants strongly agreed (45.9 percent) or agreed (45.9 percent) that they would favor locally-funded business incentives to encourage new business development.
- One-hundred percent strongly agreed (51.5 percent) or agreed (48.5 percent) that they would favor creating new streamlined processes of settling new businesses in the Permian Basin.

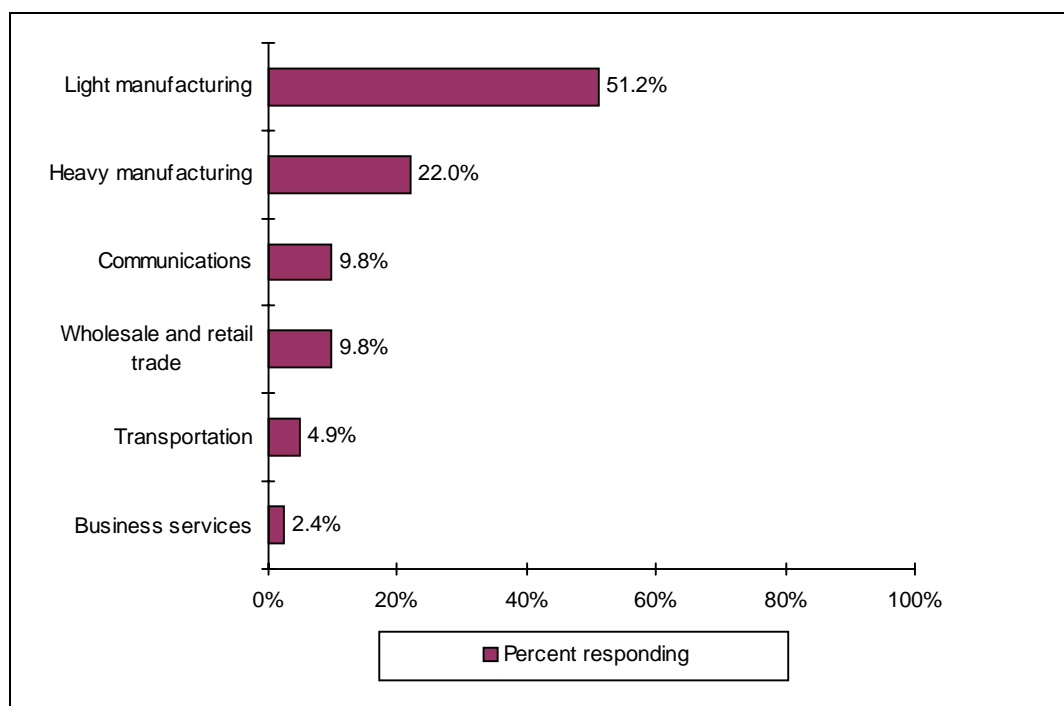
**Table II-8
Assessment of Current Regional Development Activities**

Statement	Percentage Responding			
	Strongly agree (5)	Agree (4)	Disagree (2)	Strongly disagree (1)
There is a good mix of industries in the Permian Basin now. (n=36)	2.8	38.9	55.6	2.8
There is adequate capital in the Permian Basin to promote new business development. (n=34)	14.7	64.7	17.6	2.9
There is adequate available land in the Permian Basin to allow for new business development. (n=41)	36.6	63.4	0.0	0.0
The current transportation networks in the Permian Basin will allow for new business development with its increase in traffic and shipping. (n=35)	17.1	68.6	14.3	0.0
The city where I live has developed a plan to recruit new industries to the area and has made the public aware of it. (n=37)	18.9	40.5	27.0	13.5
The city where I live is willing to work with the neighboring cities/counties to bring new industries to the Permian Basin region. (n=33)	30.3	57.6	6.1	6.1
I am aware of the Permian Basin Regional Planning Commission's work to bring new industries to the Permian Basin. (n=34)	17.6	73.6	2.9	5.9

- Respondents were asked to assess the current regional development activities in the Permian Basin. As shown in Table II-8, 41.7 percent of respondents strongly agreed (2.8 percent) or agreed (38.9 percent) that there was a good mix of industries in the Permian Basin now. Fifty-six percent disagreed.

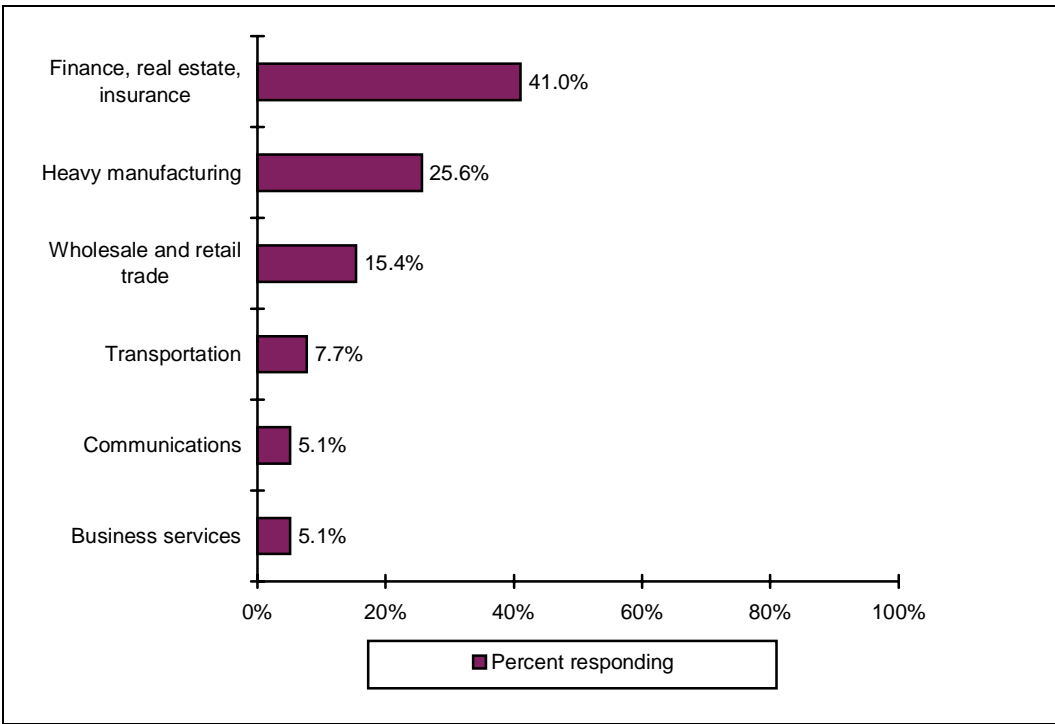
- Seventy-nine percent of key informants strongly agreed (14.7 percent) or agreed (64.7 percent) that there was adequate capital in the Permian Basin to promote new business development.
- One hundred percent strongly agreed (36.6 percent) or agreed (63.4 percent) that there was adequate available land in the Permian Basin to allow for new business development.
- Eighty-six percent of key informants strongly agreed (17.1 percent) or agreed (68.6 percent) that the current transportation networks in the Permian Basin will allow for new business development with its increase in traffic and shipping.
- Fifty-nine percent of key informants agreed (40.5 percent) or strongly agreed (18.9 percent) that their city has developed a plan to recruit new industries to the area and has made the public aware of it. Twenty-seven percent disagreed and 13.5 percent strongly disagreed.
- Eighty-eight percent of key informants strongly agreed (30.3 percent) or agreed (57.6 percent) that their city was willing to work with neighboring cities and counties to bring new industries to the Permian Basin region.
- A combined 91.2 percent of key informants strongly agreed (17.6 percent) or agreed (73.6 percent) that they were aware of the Permian Basin Regional Planning Commission’s work to bring new industries to the Permian Basin.

Figure II-1
Types of Business Respondents Would like to See Recruited
(n=41)



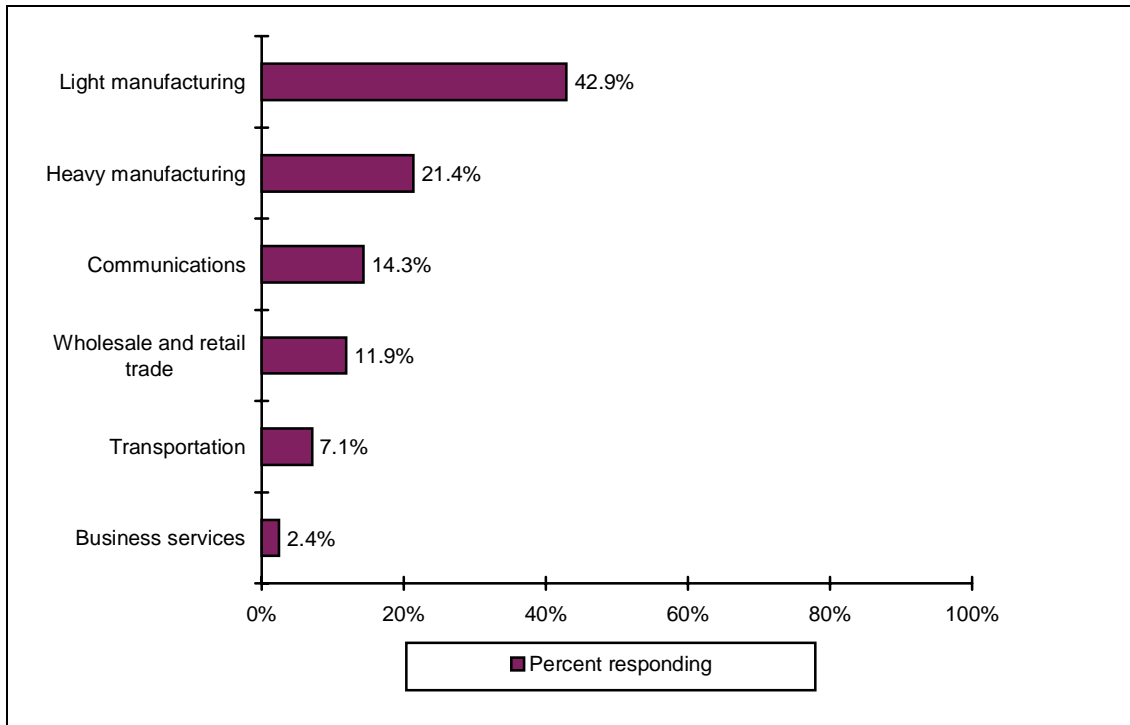
- Respondents were asked to identify which type of business they would most like to see recruited to the Permian Basin. As shown in Figure II-1, 51.2 percent reported that they would prefer to recruit light manufacturing businesses.
- Support for light manufacturing was followed by heavy manufacturing (22.0 percent), communications (9.8 percent), wholesale and retail trade (9.8 percent), transportation (4.9 percent), business services (2.4 percent), and finance/real estate/insurance (0.0 percent).

Figure II-2
Types of Business Respondents Would Least Like to See Recruited
(n=39)



- Respondents were then asked to identify the type of business they would least like to see recruited to the Permian Basin. Forty-one percent chose finance/real estate/insurance businesses (see Figure II-2).
- Other businesses included heavy manufacturing (25.6 percent), wholesale and retail trade (15.4 percent), transportation (7.7 percent), communications (5.1 percent), business services (5.1 percent), and light manufacturing (0.0 percent).

Figure II-3
Types of Business Best Suited to Create a Business Cluster
(n=42)



- Respondents were asked which industry would be best suited to create a business cluster. Light manufacturing was selected by 42.9 percent of key informants (see Figure II-3).
- Other industries included heavy manufacturing (21.4 percent), communications (14.3 percent), wholesale and retail trade (11.9 percent). Little support was demonstrated for transportation (7.1 percent), business services (2.4 percent), and finance/real estate/insurance (0.0 percent).

D. Quality of Life

**Table II-9
Assessment of Quality of Life in the Permian Basin**

Statement	Percentage Responding			
	Strongly agree (5)	Agree (4)	Disagree (2)	Strongly disagree (1)
My city has well-maintained parks and recreation services. (n=37)	27.0	56.8	16.2	0.0
Children have safe places to play in my neighborhood. (n=40)	40.0	52.5	7.5	0.0
The public schools are safe for children and adults. (n=39)	48.7	48.7	2.6	0.0
The libraries are user-friendly, well-stocked, and have competent, helpful staff. (n=38)	31.6	63.2	2.6	2.6
There are public festivals held several times a year in the Permian Basin that are fun to attend. (n=34)	26.5	70.6	2.9	0.0
My county has a well-rounded cultural life with theatre, music, and sporting events to attend. (n=38)	10.5	28.9	44.7	15.8
A newcomer to my city would be able to find a church/synagogue/temple in their faith to attend. (n=39)	33.3	59.0	5.1	2.6
Permian Basin residents have interesting and sufficient retail outlets to satisfy their needs and wants. (n=39)	20.5	61.5	12.8	5.1

- Respondents were asked to assess the quality of life in the Permian Basin by agreeing or disagreeing with several statements. As shown in Table II-9, 83.8 percent of respondents either strongly agreed (27.0 percent) or agreed (56.8 percent) that their city has well-maintained parks and recreation services.
- Ninety-three percent of respondents strongly agreed (40.0 percent) or agreed (52.5 percent) that children have safe places to play in their neighborhood.

- Ninety-seven percent of key informants strongly agreed or agreed (48.7 percent each) that the public schools are safe for children and adults.
- Ninety-five percent of key informants strongly agreed (31.6 percent) or agreed (63.2 percent) that the libraries are user-friendly, well-stocked, and have competent, helpful staff.
- Ninety-seven percent agreed (70.6 percent) or strongly agreed (26.5 percent) that the Permian Basin has public festivals held several times a year that are fun to attend.
- Thirty-nine percent of key informants strongly agreed (10.5 percent) or agreed (28.9 percent) that their county has a well-rounded cultural life with theatre, music, and sporting events to attend. Sixty-one percent disagreed (44.7 percent) or strongly disagreed (15.8 percent).
- Ninety-two percent of key informants strongly agreed (33.3 percent) or agreed (59.0 percent) that a newcomer to their city would find a church/synagogue/temple in their faith to attend.
- Eighty-two percent strongly agreed (20.5 percent) or agreed (61.5 percent) that residents of Permian Basin had interesting and sufficient retail outlets to satisfy their needs and wants.

Conclusion

As part of its commitment to maintain a favorable business climate, the Permian Basin Regional Planning Commission retained the Center for Economic Development and Research and the Survey Research Center at the University of North Texas to recommend economic development strategies in the Permian Basin. Data were collected through several methods for use in the strategy recommendations. This report detailed a survey of key informants that was designed to gather opinions on business climate, issues, and development strategies.

The key informant survey was conducted among a group of community leaders and was designed to assess workforce capabilities and training needs, the Permian Basin as a place to do business, job creation strategies and regional development, local physical infrastructure and community services, and the quality of life in the Permian Basin. The findings in this report can be used, in conjunction with the accompanying focus group and workforce survey reports, to understand the needs of the Permian Basin for use in developing economic development strategies.

Section III

Permian Basin Workforce Survey

This section reports findings from a telephone survey of Permian Basin residents conducted by the Survey Research Center at the University of North Texas. The complete report follows the summary.

Summary

In this section, some information is based on “urban” and “rural” residency. “Urban” is defined as living in Midland or Ector counties; “rural” are residents of all other counties.

A. Demographic profile

- There is no great difference between rural and urban employment status. Regarding education, more rural residents have only a high school education or less (38.3 percent) than their urban counterparts (27.8 percent). However, this gap lessens when looking at college education, with (41.3 percent rural resident having at least some college (including associates degrees) and 47.4 percent urban residents having some college. The gap closes further when looking at bachelors’ degrees and post-graduate degrees.
- There is no great gender or age difference between rural and urban residents. Regarding ethnicity, Caucasians are the majority in both areas (70.3 percent urban and 63.4 percent rural), but more Hispanics live in rural areas (32.3 percent) compared to urban areas (21.2 percent). However, urban areas have more African Americans, Asians, and other ethnicities (8.5 percent) than rural areas (4.2 percent).
- Household incomes of less than \$35,000 were reported by 48.7 percent urban residents and by 51.7 percent rural residents.

B. Occupations

- There are no significant differences in urban and rural respondents regarding most employment questions, including current employment status, hours worked, or permanence of job.
- 71.8 percent of all respondents view their job as permanent.
- 66.7 percent not currently employed and 45.4 percent employed part-time have had a non-temporary full-time job in the last 5 years.

- Personal choice (26.9 percent) was the most popular response when asked why resident was not currently employed, followed by lack of opportunity (15.9 percent), fired/terminated from previous job (14.5 percent), home duties (11 percent), and health (10.3 percent).
- Top occupations of the currently employed in urban areas are professional (21.8 percent), other (18.5 percent), and managerial (12.9 percent). From rural areas, top occupations are professional (17.2 percent), teacher (13.6 percent), managerial (12.7 percent), and oil and gas (11.1 percent).
- Top expected occupations of the not currently employed in urban areas are professional (23.9 percent), secretarial-clerical (13.4 percent), and teacher (11.9 percent). In rural areas, top expected occupations are teacher (17.7 percent), professional (16.1 percent), and sales-retail (14.5 percent).

C. Commuting Patterns

- Urban Residents: 96.9 percent of currently employed urban residents currently work in urban areas, while only 3.1 percent have rural employment. Of those not currently employed, 89.9 percent want urban employment and 10.1 percent want rural employment.
- Rural Residents: 92.1 percent of currently employed rural residents currently work in rural employment and 7.9 percent have urban employment. Of those not currently employed, 96.9 percent want rural employment and only 3.1 percent want urban employment.
- A large majority of the currently employed (85.7 percent urban and 83.4 percent rural) are employed within their county of residence. Of those not currently employed, 89.9 percent urban and 90.8 percent rural desire employment within their county of residence.

D. Industry Information

- Employment Industry of Urban Residents:
 - Currently employed: Oil and gas (16.4 percent), medical (12.7 percent), and education (11.1 percent).
 - Not currently employed: Oil and gas (15.5 percent), medical (12.7 percent), and education (9.9 percent).
- Employment Industry of Rural Residents:
 - Currently employed: Education (15.6 percent), oil and gas (13.8 percent), and medical (9.9 percent).
 - Not currently employed: Medical (14.7 percent), other (14.7 percent), retail trade (11.8 percent), and education (11.8 percent)

- Top industries of current occupation or last occupation are oil and gas, education, and medical.
- For employees who change industries, those employed 5 years or less were more likely to leave voluntarily (59.7 percent) and involuntarily (38.9 percent). However, if an employee was in the industry more than 5 years, only 40.3 percent voluntarily leave the industry compared to 61.1 percent who leave involuntarily.
- Employees who leave an industry involuntarily are more likely to lose health benefits (59.3 percent) or retirement/pension benefits (44.8 percent) than those leaving voluntarily (30.3 percent lose health benefits and 28.0 percent lose retirement/pension benefits).

E. Worker Satisfaction

- 65.4 percent of employees feel that their current job utilizes their skills, education, and experience.
- 30.1 percent of employees feel overqualified for current job.
- 90.9 percent of respondents are very satisfied (51.3 percent) or somewhat satisfied (39.6 percent) with their current job.
- 63.2 percent of respondents said that it is very unlikely (46.7 percent) or somewhat unlikely (16.5 percent) that they will seek a better job in the next year.
- 52.3 percent of respondents felt that they could find adequate employment in the Permian Basin.

F. Basic Employment Skills

- Currently employed residents most often have these skills: general basic computer (75.1 percent), clerical (70.0 percent), and executive professional (46.4 percent).
- Currently employed residents are most lacking in these skills: computer hardware interfacing and/or repair (91 percent), computer technical support (86 percent), metal working (81 percent), and advanced computer skills (80.7 percent).
- Computer Skills of Currently Employed Workers:
 - ✗ Word Processing 56.9 percent good or excellent
 - ✗ Spreadsheets 39.4 percent good or excellent
 - ✗ Database 31.3 percent good or excellent
 - ✗ WWW 52.9 percent good or excellent

- Computer Skills of Workers not Currently Employed:
 - ✗ Word Processing 51.8 percent good or excellent
 - ✗ Spreadsheets 36.2 percent good or excellent
 - ✗ Database 30.5 percent good or excellent
 - ✗ WWW 54.8 percent good or excellent
- Most respondents are not currently receiving any training for other skills but want to get additional training in the future.
- Of respondents with no computer skills, 69.6 percent of the not currently employed are interested in learning to use a computer compared to only 56.2 percent of those who are currently employed.
- A majority of both the currently employed (53.1 percent) and the not currently employed (65.6 percent) are very interested in learning other skills to get a better job.
- Most believe that on-the-job training or a classroom setting are the best environments for learning to use a computer.

G. Language Skills

- Most respondents speak only English. Of those who do speak another language, 90 percent speak Spanish. A majority of respondents are willing to learn another language
- Believe that classroom environment is best for learning another language.
- 62.6 percent of employers do not offer tuition assistance.

F. Quality of Life

- Public services are rated as good to excellent by well over 50 percent of respondents, although some services were rated lower in rural areas compared to urban areas:

Service	Excellent/Good Rating	
	Urban	Rural
Fire	91.6%	82.8%
EMS/ambulance	87.3%	76.8%
Garbage	82.6%	79.9%

- 71.8 percent rate neighborhood conditions as good or excellent.
- 81.6 percent rate condition of homes as good or excellent.
- Most believe that current household income is enough or more than enough to satisfy needs, with 37.7 percent saying that it is not enough.

- 54.1 percent say that they are better off financially than 5 years ago, and 29.2 percent say they are about the same financially as 5 years ago.
- 84.6 percent were very confident (39.3 percent) or somewhat confident (44.7 percent) that they will have enough money for future needs.
- Most respondents reported no problems in paying bills.

Introduction

As part of its commitment to maintain a favorable business climate, the Permian Basin Regional Planning Commission retained the Center for Economic Development and Research and the Survey Research Center at the University of North Texas to recommend economic development strategies in the Permian Basin. Data were collected through several methods for use in developing the recommendations. Methods included: focus groups and interviews of people who are knowledgeable about the business climate and needs of Permian Basin communities; a survey of key informants to gather opinions on business climate; workforce issues and development strategies; and a workforce population survey.

The workforce population survey, the subject of this report, was conducted among rural and urban residents. The survey was designed to gather information about the workforce in terms of:

- Occupations
- Industries of employment
- Employment history
- Skills inventory, and
- Quality of life in the Permian Basin.

Methodology

A. Sample

The conceptual population for the survey was all residents of the Permian Basin currently who were 18 years of age or older, in households with telephones and currently in the workforce or planned to be in the workforce within two years. The sample was stratified into two regions. The “urban” region was comprised of residents of Ector and Midland counties, and the “rural” region was comprised of residents of the remaining 15 counties of the Permian Basin area.

For both the urban and rural areas, approximately 400 telephone interviews were conducted with a random selection of the population. Random digit dialing (RDD) was used as the method of sample generation because it offers the best coverage of active telephone numbers, and it reduces sample bias. The RDD method ensures that:

- the conceptual frame and sampling frame match;
- unlisted telephone numbers will be included, and;
- the sampling frame will be as current as possible, thus maximizing the probability that new residents will be included.

To ensure that only residents of each target area were interviewed, outlying areas where telephone prefixes may cross county boundaries were identified. A screening question was also included in the survey instrument to classify the county of the respondents' residence. Anyone living outside of the targeted counties of the Permian Basin was excluded from the survey.

A total of 804 usable interviews were conducted and analyzed yielding a margin of error of ± 3.5 percent at the 95 percent confidence level. This means, for example, that if 40 percent of the respondents answered "yes" to a question, we can be 95 percent confident that the actual proportion of residents in the population who would answer "yes" to the same question is 3.5 percentage points higher or lower than 40 percent (36.5 percent to 43.5 percent). When analyzed individually, both the urban and rural regions yield a margin of error of ± 4.9 percent at the 95 percent confidence interval.

B. Instrument

SRC provided Permian Basin Regional Planning Commission staff with a draft of a survey instrument that was used as a starting point to develop the final survey instrument. The initial survey instrument included a few questions from a recent survey conducted by the Texas Workforce Commission in the Permian Basin. This initial instrument was supplemented with additional workforce and quality of life questions. Several conversations between SRC and Planning Commission staff were conducted to finalize the instrument. The survey instrument used is attached at Appendix D.

C. Data Collection

Trained telephone interviewers who had previous experience in telephone surveys were used to conduct the survey. Each interviewer completed an intensive general training session. The purposes of general training were to ensure that interviewers understood and practiced all of the basic skills needed to conduct interviews and that they were knowledgeable about standard interviewing conventions. The interviewers also attended a specific training session for the project. The project training session provided information on the background and goals of the study. Interviewers practiced administering the questionnaire to become familiar with the questions.

All interviewing was conducted from a centralized telephone bank in Denton, Texas. An experienced telephone supervisor was on duty at all times to supervise the administration

of the sample, monitor for quality control, and handle any other problems. Data for the survey were collected between September 5 and September 15, 2000.

D. Report Format

This report presents the findings for the workforce survey. Responses to questions are presented in a textual, graphic, or tabular format. Where appropriate, responses to single questions are examined by demographic groups. The primary demographic group used in the analysis was urban/rural regional residence. Other variables used for demographic analysis were presented where they provided findings relevant to the objectives of the project.

Whenever the responses to a single question are divided by demographic groups, the percentage distribution of responses within one group will rarely exactly match the percentage distribution of another group; there will often be some variation between groups. The most important consideration in interpreting these differences is to determine if the differences in the sample are representative of differences between the same groups within the general population. This consideration can be fulfilled with a test of statistical significance. The Survey Research Center reports those differences between groups that are found to be statistically significant.

The remainder of this report is arranged in seven sub-sections beginning with "Sample Characteristics." This sub-section presents characteristics of urban and rural respondents. "Occupations" reports findings based on respondents' occupations. "Industry" presents characteristics of the industries that employed respondents. "Career Fulfillment" details findings on job satisfaction and future career moves. The next sub-section presents findings on "Skills and Training." The findings on "Quality of Life and Economic Well-Being" are presented just before the final sub-section, which is this section's "Conclusion."

Sample characteristics

**Table III-1
Demographics**

Demographics	Urban (n=400)	Rural (n=404)
Employment status		
Employed	45.3	49.5
Underemployed	36.0	33.2
Not currently employed	18.8	17.3
Education		
High school diploma-GED or less	27.8	38.3
Some college	35.6	34.6
Associates degree	11.8	6.7
Bachelors degree	15.8	12.9
Post-graduate work-degree	9.0	7.5
Gender		
Female	58.5	61.6
Male	41.5	38.4
Age		
18 years	1.3	3.0
19 to 24 years	14.1	9.4
25 to 34 years	19.1	21.5
35 to 44 years	28.1	25.7
45 to 54 years	22.9	22.5
55 to 64 years	11.1	13.9
65 or older	3.5	4.0
Ethnicity		
Caucasian	70.3	63.4
Hispanic	21.2	32.3
African American	4.5	2.0
Asian	0.5	0.2
Other	3.5	2.0
Household annual income		
Less than \$15,000	11.9	14.5
\$15,000 to \$19,999	13.0	12.4
\$20,000 to \$24,999	9.4	9.5
\$25,000 to \$34,999	14.4	15.3
\$35,000 to \$49,999	15.5	15.3
\$50,000 to \$74,999	15.2	20.8
\$75,000 to \$99,999	11.1	7.1
\$100,000 or more	9.4	5.0

- As shown in Table III-1, 45.3 percent of the respondents from the urban region was employed. Thirty-six percent reported being underemployed and 18.8 percent was not

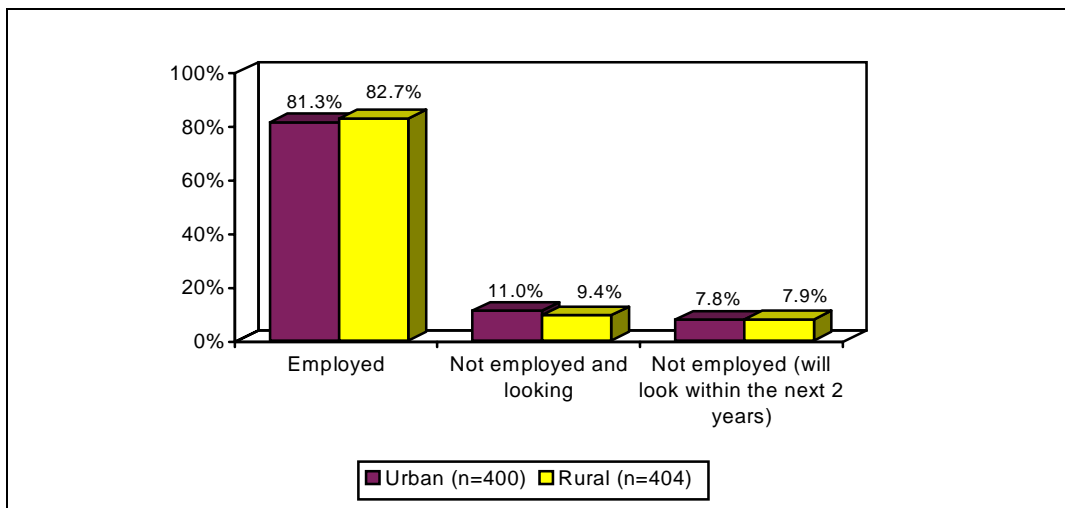
currently employed but planned to enter the workforce in the next two years. Similarly, 49.5 percent of the respondents from the rural region was employed, 33.2 percent was underemployed, and 17.3 percent was not currently employed.

- Respondents from the urban region (36.6 percent) were more likely to have earned an associate’s degree or higher than those who lived in the rural region (27.1 percent).
- Approximately 60 percent of each group of respondents were female and approximately 40 percent were male.
- Sixty-three percent of the respondents from the urban region was 18 to 44 years old compared to 59.6 percent of the respondents from the rural region.
- A greater percentage of urban respondents was Caucasian (70.3 percent) than respondents in the rural region (63.4 percent). However, there was a greater percentage of Hispanic respondents living in the rural region (32.3 percent) than in the urban region (21.2 percent).
- Approximately 50 percent of the respondents reported less than \$35,000 in annual household income (48.7 percent of urban respondents and 51.7 percent of rural respondents).

Occupations

A. Current Employment Status

Figure III-1
Respondent is Currently Employed
(n=804)



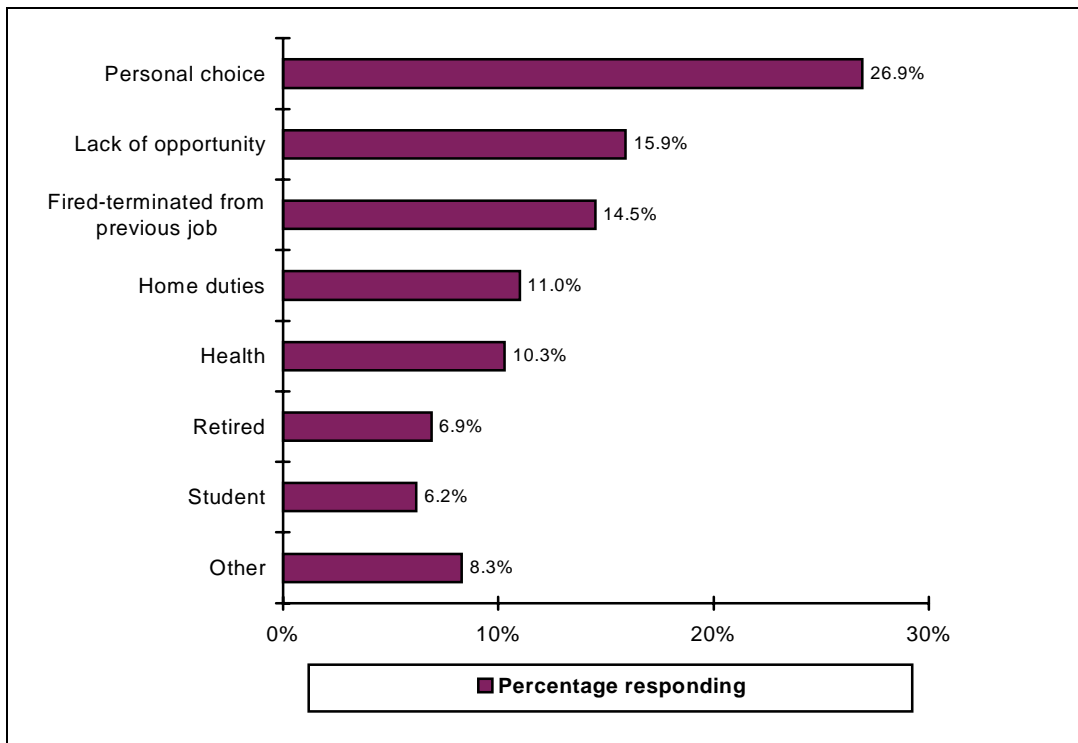
- Respondents were asked if they were currently employed. Eighty-one percent of the urban respondents and 82.7 percent of the rural respondents reported that they were currently employed (see Figure III-1).
- Eleven percent of the urban respondents and 9.4 percent of the rural respondents were not currently employed but were seeking employment. Less than 8 percent of the urban and rural respondents were currently not employed or looking for work but planned to within the next two years. Throughout the remainder of this report, these last two sets of respondents will be referred to as “not currently employed.”
- There were no significant differences in urban and rural respondents regarding current employment.

Table III-2
Current Occupation of Employed and Expected Occupation of Not Currently Employed

	Currently Employed (Current Occupation)		Not Currently Employed (Expected Occupation)	
	Urban	Rural	Urban	Rural
Professional	21.8	17.2	23.9	16.1
Technician	7.1	12.7	10.4	4.8
Managerial	12.9	11.1	7.5	8.1
Oil and gas	7.4	8.7	3.0	0.0
Secretarial-clerical	9.5	9.0	13.4	12.9
Farming-agriculture related	1.2	5.1	1.5	1.6
Manufacturing	1.8	3.9	1.5	0.0
Teacher	8.0	13.6	11.9	17.7
Student	0.6	0.6	0.0	1.6
Sales-retail	9.5	9.9	4.5	14.5
Retired	0.3	0.3	1.5	0.0
Homemaker	0.6	0.0	1.5	0.0
Other	18.5	1.8	7.5	8.1
Construction	0.0	2.1	1.5	1.6
Medical technician	0.3	1.8	10.4	12.9
Caretaker	0.3	2.1	0.0	0.0

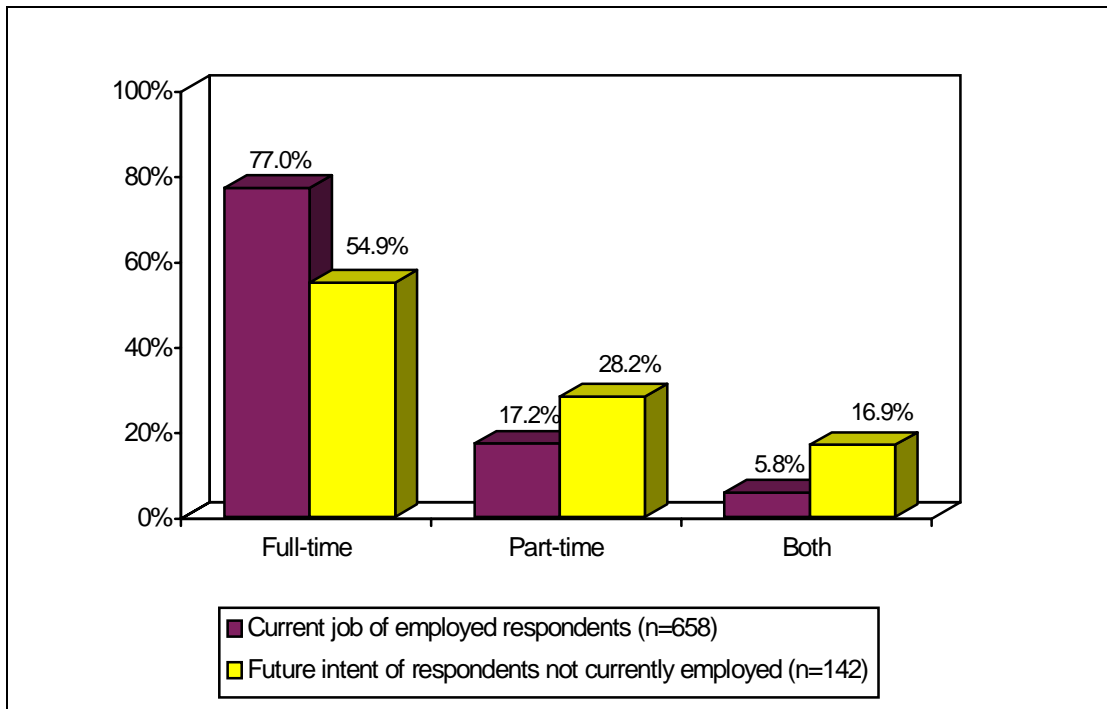
- Currently employed respondents were asked to identify their current occupation and respondents who were not currently employed were asked to identify the occupation that they thought they would have in the future.
- Among both currently employed and not currently employed respondents, the most common occupations in the urban region were professional, managerial, and secretarial. In the rural region, there was greater diversity in the range of respondent occupations.

Figure III-2
Reason Respondent Was Not Currently Employed



- Respondents who were not currently employed were asked why. As shown in Figure III-2, personal choice was the answer given most often (26.9 percent).
- Following personal choice were lack of opportunity (15.9 percent), terminated/fired or laid-off from previous job (14.5 percent), home duties (11.0 percent), health reasons (10.3 percent), retired (6.9 percent), in school (6.2 percent), and other reasons (9.7 percent).
- There were no significant differences in urban and rural respondents explaining the reasons why the respondent was not employed.
- Respondents who were not currently employed were asked if they had held a non-temporary full-time job in the last 5 years. Two-thirds (66.7 percent) of the respondents who were not currently employed reported that they had held a permanent full-time job in the last 5 years.

Figure III-3
Full-Time or Part-Time Employment
(n=658)



- Respondents who were currently employed were asked if they were employed full-time, part-time or both (see Figure III-3). Among respondents who were currently employed, 77.0 percent worked full-time and 17.2 percent worked part-time. There were no significant differences in urban and rural respondents regarding hours worked.
- Among respondents who were not currently employed, the future intent among 54.9 percent was to work full-time. Twenty-eight percent reported that they planned to work part-time and 16.9 percent expected to work both a full-time and part-time job.
- Respondents who worked part-time were asked several questions regarding their part time work. The findings are described below:
 - ✘ Among respondents who worked part-time: 27.2 percent worked less than 20 hours a week, 53.0 percent worked 20 to 40 hours a week; 19.9 percent worked more than 40 hours a week.
 - ✘ Part-time respondents were asked if they had held a non-temporary full-time job in the last 5 years. Forty-five percent of part-time respondents reported that they had held a permanent full-time job in the last 5 years.

- ✘ Respondents employed part-time were asked if their job(s) was temporary or permanent. A greater percentage of the respondents held permanent jobs (71.8 percent) than temporary jobs (24.3) or both (3.9 percent).
- ✘ Eighty-three percent of the part-time workers had one part-time job; 13.3 percent had two part-time jobs, 3.3 percent had three part-time jobs.
- ✘ Respondents who worked more than one part-time job were asked if they would prefer to work one full-time job instead. Fifty-four percent responded that they would prefer to work one full-time job.
- ✘ There were no significant differences between the urban region and rural region in these part-time employment findings.

B. Commuting Patterns

**Table III-3
Urban and Rural Commuting Patterns of Employed Respondents
and Expected Commuting Patterns of the Respondents Not Currently Employed**

PLACE OF CURRENT JOB OR DESIRED JOB	Employed	Not Currently Employed
Urban residents (n=322, 69)		
Urban employment	96.9	89.9
Rural employment	3.1	10.1
Rural residents (n=331, 65)		
Urban employment	7.9	3.1
Rural employment	92.1	96.9

- Respondents were asked to indicate the county where they lived and the county where they worked. From this data, patterns of urban/rural commuting were determined (see Table III-3).
- Among employed respondents, 96.9 percent of the urban residents worked in the urban region. Ninety-two percent of the rural residents worked in the rural region.
- Among respondents not currently employed, 89.9 percent of the urban residents expected to work in the urban region. This leaves 10.3 percent of the urban residents who expected to work in the rural region. This pattern is significantly different than the percentage distribution among employed respondents. Among the rural residents, a slightly larger percentage of the employed respondents worked in the urban region (7.9 percent) than the percentage of respondents not currently employed who expected to work in the urban region (3.1 percent).

Table III-4
County Commuting Patterns of Employed Respondents
and Expected Commuting Patterns of the Respondents Not Currently Employed

PLACE OF CURRENT JOB OR DESIRED JOB	Employed	Not Currently Employed
Urban residents (n=322, 69)		
Within county of residence	85.7	89.9
Outside county of residence	14.3	10.1
Rural residents (n=331, 65)		
Within county of residence	83.4	90.8
Outside county of residence	16.6	9.2

- Respondents were asked to indicate the county where they lived and the county where they worked. From this data, commuting patterns among counties were determined (see Table III-4).
- Approximately 15 percent of the employed respondents and 10 percent of the respondents not currently employed reported that they worked or expected to work outside of their county of residence. This does not represent a significant difference based on either employment status or region of residence.

Industry

Table III-5
Industry for Currently Employed and Expected Industry for Not Currently Employed

	Currently Employed		Not Currently Employed	
	Urban (n=323)	Rural (n=334)	Urban (n=71)	Rural (n=68)
Oil and gas	16.4	13.8	15.5	4.4
Medical	12.7	9.9	12.7	14.7
Education	11.1	15.6	9.9	11.8
Retail trade	9.3	9.0	8.5	11.8
Professional-related services	7.4	7.2	8.5	5.9
Business repair services	6.2	4.2	4.2	0.0
Construction	4.0	3.3	2.8	1.5
Public administration, govt.	4.0	8.4	1.4	4.4
Communications	3.7	3.3	5.6	4.4
Personal services	3.7	5.1	2.8	8.8
Transportation	3.4	1.8	5.6	2.9
Wholesale trade-distribution	3.1	3.3	7.0	1.5
Manufacturing	2.2	3.6	4.2	2.9
Home-based business	2.2	2.1	2.8	0.0
Agriculture	0.6	6.6	1.4	5.9
Entertainment-recreation services	0.6	0.9	1.4	4.4
Other public utilities	0.0	1.5	1.4	0.0
Other	9.3	0.6	4.2	14.7

- Employed respondents were asked to indicate the industry of their current occupation, and respondents who were not currently employed were asked to indicate their expected industry of occupation (see Table III-5). The largest employment sector was the oil and gas industry employing 16.4 percent of the urban and 13.8 percent of the rural respondents. The medical and education industries also employed 10 percent or more of the respondents in the urban and rural regions.
- Findings were similar among respondents who were not currently employed.

**Table III-6
Previous Industry for Currently Employed and Not Currently Employed**

	Currently Employed		Not Currently Employed	
	Urban (n=211)	Rural (n=216)	Urban (n=71)	Rural (n=68)
Oil and gas	19.4	4.7	15.5	4.4
Retail trade	12.8	12.5	8.5	11.8
Professional-related services	7.6	9.7	8.5	5.9
Business repair services	6.6	6.5	4.2	0.0
Medical	6.6	7.4	12.7	14.7
Education	6.2	5.6	9.9	11.8
Personal services	5.7	4.2	2.8	8.8
Construction	4.7	4.6	2.8	1.5
Manufacturing	4.7	8.3	4.2	2.9
Public administration, govt.	4.7	6.0	1.4	4.4
Agriculture	3.3	10.2	1.4	5.9
Communications	2.8	2.8	5.6	4.4
Entertainment-recreation services	2.4	1.9	1.4	4.4
Wholesale trade-distribution	1.4	0.9	7.0	1.5
Transportation	0.9	2.3	5.6	2.9
Other public utilities	0.9	0.9	1.4	0.0
Home-based business	0.5	1.9	2.8	0.0
Other	8.5	0.0	4.2	14.7

- Respondents were asked if they had worked previously in another industry. Among current employees, 64.9 percent had worked previously in another industry. Similarly, 57.2 percent of the respondents who were not currently employed had worked previously in another industry than the type of work they were seeking.
- As shown in Table III-6, the largest percentage observed among respondents from the urban region was in the oil and gas industry (19.4 percent of the currently employed respondents and 15.5 percent of the respondents who were not currently employed).
- Among rural respondents, the most common previous industry for currently employed respondents was the retail trade industry (12.5 percent). Among rural respondents who were not currently employed, the most common previous industry of employment was the medical industry (14.7 percent).

**Table III-7
Number of Years Worked in Previous Industry**

	Currently employed	Not currently employed
Less than 1 year	9.9	25.6
1 to 5 years	43.4	45.1
6 to 10 years	19.3	11.0
More than 10 years	27.4	18.3

- Respondents were asked how long they had worked in their previous industry of employment. As shown in Table III-7, respondents who were not currently employed spent less time in their previous industry of employment than currently employed respondents.

**Table III-8
Reason for Leaving Industry**

Reason for leaving industry	Number of Years in Industry	
	5 years or less	Over 5 years
Voluntary	59.7	40.3
Involuntary	38.9	61.1

- Respondents who had changed fields or industries were asked about their reasons for doing so. A variety of reasons were given such as pursuing other opportunities, laid off or fired, better pay, or changing jobs after receiving educational advancement. All of these reasons were coded into either voluntary reasons or employer initiated reasons. Respondents were also asked how long they had worked in their previous industry.
- As shown in Table III-8, a greater percentage of the respondents who left an industry voluntarily had been in that industry for 5 years or less (59.7 percent) than the percentage that had been in the industry for over 5 years (40.3 percent). For respondents that left an industry involuntarily, the opposite finding was observed; 38.9 percent had been in the industry for 5 years or less and 61.1 percent had been in the industry for more than 5 years.
- There were no significant differences in this observed relationship based on rural or urban residence or based on current employment status.

Table III-9
Impact of Changing Industries
(n=424)

Impact	Reason For Leaving Industry			
	Voluntary (n=353)		Involuntary (n=59)	
	Yes	No	Yes	No
Lost health benefits	30.3	69.7	59.3	40.7
Lost retirement or pension	28.0	72.0	44.8	55.2

- Respondents who were currently employed were asked if they had lost their health benefits or retirement/pension benefits when they changed industries. As shown in Table III-9, a greater percentage of the respondents who involuntarily left their industries reported that they lost health benefits (59.3 percent compared to 30.3 percent of those leaving voluntarily) or retirement/pension benefits (44.8 percent compared to 28.0 percent of those leaving voluntarily).
- There were no significant differences based on rural or urban residence.

Career Fulfillment

A. Underemployment

Table III-10
Measures of Underemployment

MEASURE	Percentage responding	
	Yes	No
Current job utilizes skills, education, and experience (n=624)	65.4	34.6
Felt overqualified for current job (n=644)	30.1	69.9
Education qualified respondent for better job (n=639)	56.8	43.2
Currently earning highest annual salary (n=643)	56.8	43.2

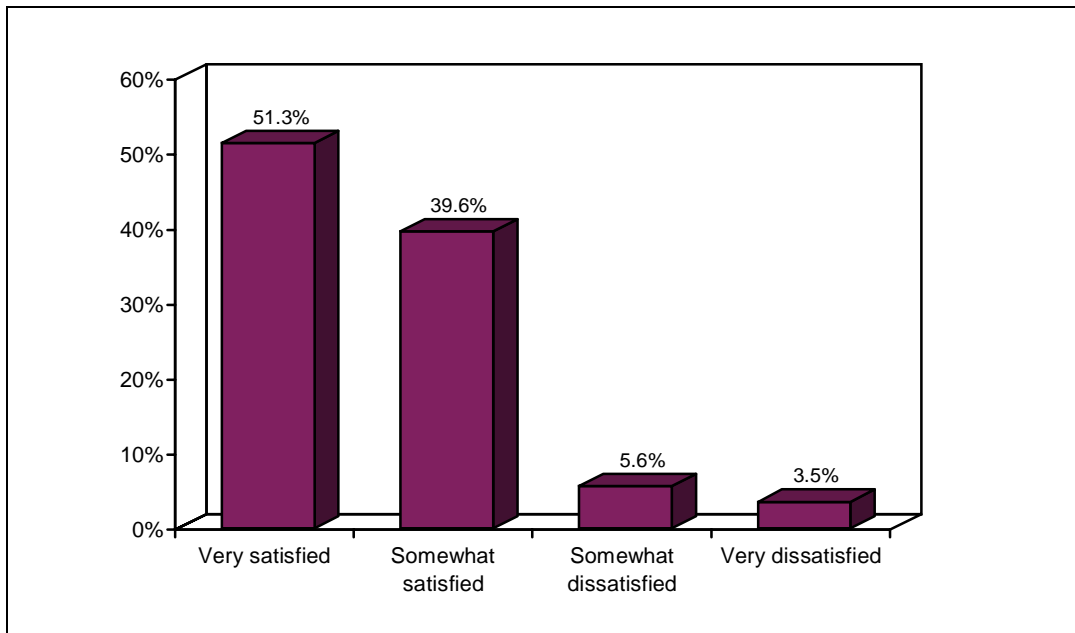
- Respondents were asked several questions designed to measure different components of underemployment. As shown in Table III-10, 34.6 percent indicated that their current job does not utilize their skills, education, and experience. This was used as the primary measure of underemployment. Additionally, 30.1 percent felt over qualified for their current job and 43.2 percent were not earning their highest career salary.
- The findings for the components of underemployment were contrasted between respondents who were currently working in the oil and gas industry to those in other industries. When examining these two groups, the findings are not significantly different except in one instance. A smaller percentage of the respondents currently working in the oil and gas industry believed that their education qualified them for a better job (42.1

percent of oil and gas industry workers compared to 59.4 percent of other industry workers).

- Different findings emerged when examining the findings among respondents who were previously employed in the oil and gas industry then left. Respondents who left the oil and gas industry were more likely than other respondents to report that their education qualifies them for a better job (67.6 percent compared to 55.5 percent). They were also less likely than other respondents to report that they were earning their highest salary (36.2 percent compared to 59.2 percent) or that their current job utilizes their skills, education and experience (55.1 percent compared to 66.7 percent).

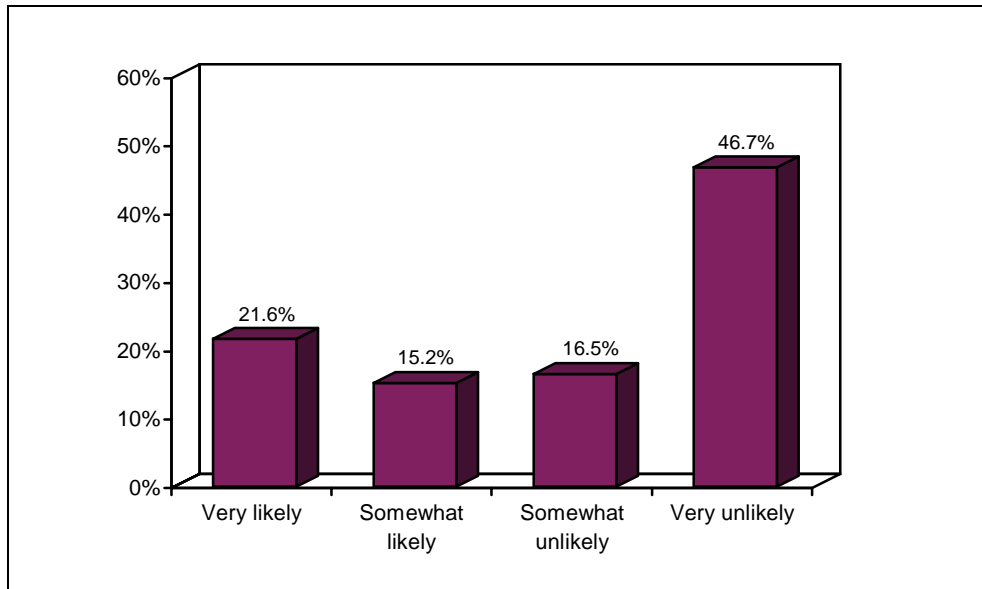
B. Job Satisfaction and Career Plans

Figure III-4
Satisfaction with Current Job
(n=657)



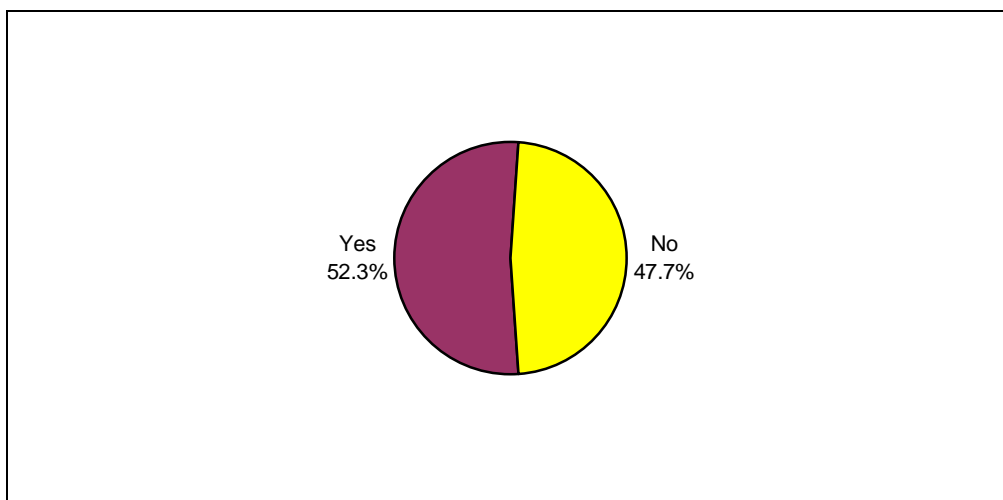
- Currently employed respondents were asked if they were satisfied with their current position. As shown in Figure III-4, 90.9 percent reported being very satisfied or somewhat satisfied (39.6 percent). Less than 10 percent were somewhat dissatisfied (5.6 percent) or very dissatisfied (3.5 percent). There were no significant differences by region.

Figure III-5
Likelihood Respondent Will Seek Better Job Next Year
(n=653)



- Currently employed respondents were asked if they were very likely, somewhat likely, somewhat unlikely, or very unlikely to seek a better job in the next year. As shown in Figure III-5, 21.6 percent of the respondents reported that they were very likely to seek a better job in the next year. Fifteen percent of the respondents reported that they were somewhat likely. Sixty-three percent of the respondents were either very unlikely (46.7 percent) or somewhat unlikely (16.5 percent) to seek a better job in the next year.

Figure III-6
Respondent Could Find Adequate Employment in the Permian Basin
(n=627)



- Currently employed respondents were asked if they were to look for a job in the same industry as their current employment, did they think that they could find adequate employment in the Permian Basin or would they have to make a lateral move or leave the Permian Basin. Fifty-two percent said that they could find adequate employment in the Permian Basin (see Figure III-6).

Skills and Training

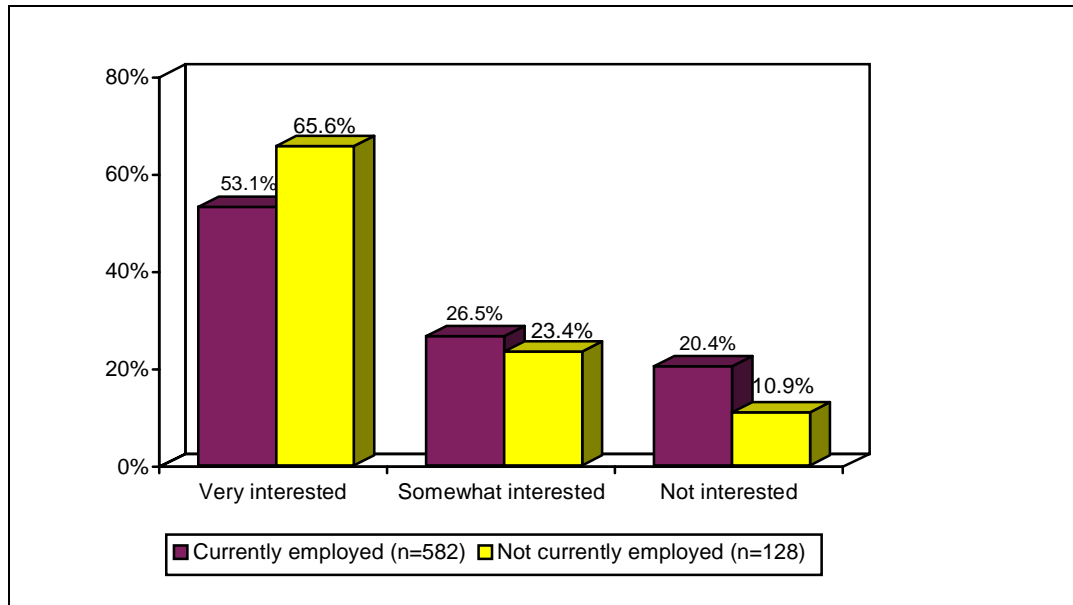
A. Overview of Workforce Skills and Training Intentions

Table III-11
Overview of Currently Employed Respondents' Current Skills

Skills	Possesses Skill	
	Yes	No
General basic computer (n=659)	75.1	24.9
Clerical (n=656)	70.0	30.0
Executive-professional (n=629)	46.4	53.6
Machine operation with computer skills (n=631)	44.8	55.2
Mechanical (n=633)	33.3	66.7
Marketing (n=632)	32.6	67.4
Carpentry (n=632)	30.2	69.8
Medical/health care (n=633)	26.1	73.9
Welding (n=633)	24.5	75.5
Electrical (n=633)	20.7	79.3
Advanced computer skills (n=633)	19.3	80.7
Metal working (n=633)	19.0	81.0
Computer technical support (n=630)	14.0	86.0
Computer hardware interfacing and/or repair (n=632)	9.0	91.0
Other (n=617)	17.3	82.7

- Respondents who were currently employed were asked if they possessed any of a range of skills (see Table III-11). Most of the respondents reported that they had general basic computer skills (75.1 percent) and clerical skills (70.0 percent).
- Nearly half had executive-professional (46.4 percent) skills or machine operation with computer skills (44.8 percent).
- Less than 20 percent had advanced computer skills (19.3 percent), metal working (19.0 percent), computer technical support (14.0 percent), or computer hardware repair (9.0 percent).

**Figure III-7
Interest in Learning Other Skills to Get a Better Job**



- Respondents were asked if they were very interested, somewhat interested, or not interested in additional skills that would increase their opportunities to get a better job. As shown in Figure III-7, 53.1 percent of currently employed respondents were very interested while 26.5 percent of the respondents were somewhat interested, and 20.4 percent were not interested.
- Nearly two-thirds of not currently employed respondents (65.6 percent) were very interested, 23.4 percent were somewhat interested, and 10.9 percent were not interested.

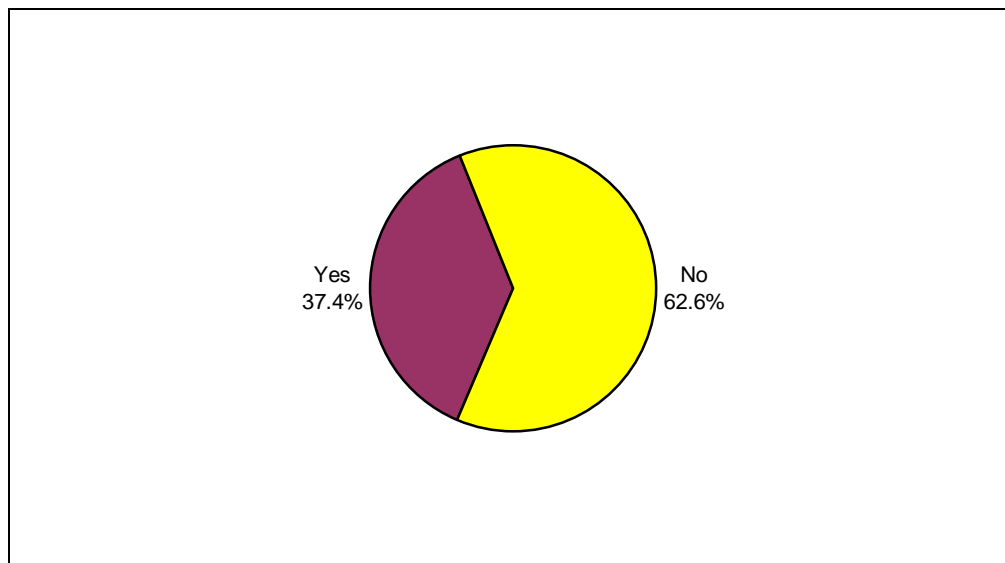
**Table III-12
Respondent is Currently Getting Training in Other Skills**

	Training in Other Skills			
	Currently Getting		Intend to Get	
	Yes	No	Yes	No
Employed respondents (n=659, 638)	24.6	75.4	58.9	41.1
Respondents not currently employed (n=145, 138)	12.4	87.6	74.6	25.4

- Respondents were asked if they were currently getting training in any additional skills or if they intended to get any additional training. As shown in Table III-12, 24.6 percent of currently employed respondents reported that they were getting training and 58.9 percent reported their intent to get training.

- Twelve percent of the respondents who were not currently employed reported that they were currently getting training in additional skills and 74.6 percent reported that they were planning to get training in additional skills.
- While a greater percentage of currently employed respondents were getting training, a greater percentage of respondents who were not currently employed intended to get training.

Figure III-8
Employer Offers Tuition Assistance
(n=634)



- Currently employed respondents were asked if their employer offered assistance with tuition so they could continue their education or training. Thirty-seven percent reported that their employer did offer tuition assistance (see Figure III-8).
- Respondents working in the urban region were more likely to report that their employer offers tuition assistance (44.1 percent) than respondents working in the rural region (30.4 percent).

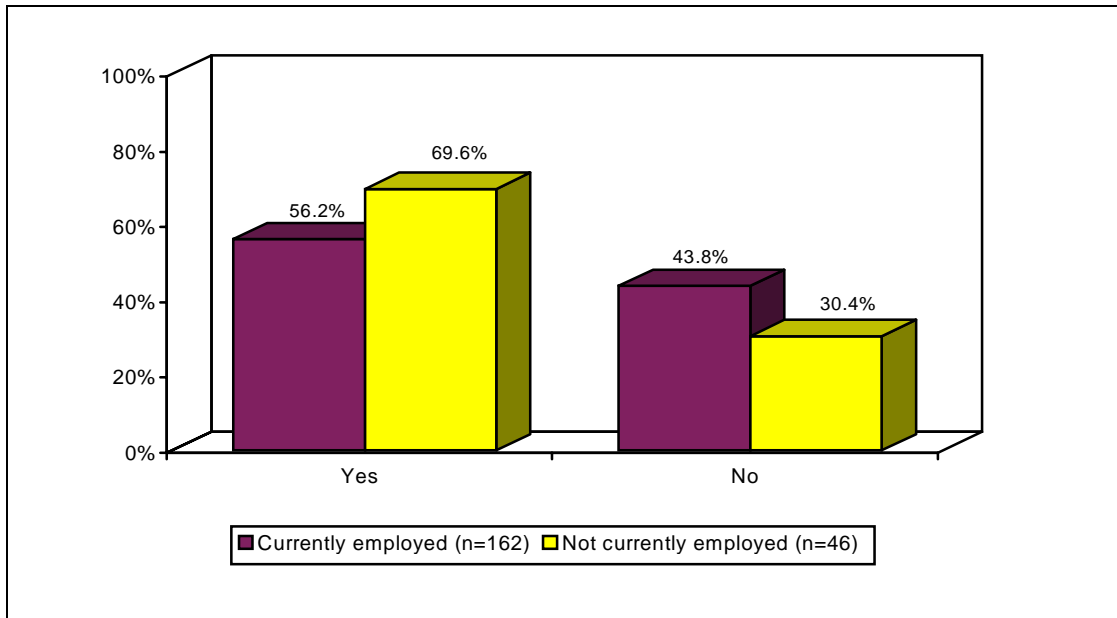
B. Computer Skills and Training Intentions

Table III-13
Assessment of Current Basic Computer Skills

Computer software	Percentage Responding			
	Excellent	Good	Fair	Poor
Word processing Employed (n=649)	19.6	37.3	23.0	20.2
Not currently employed (n=143)	16.1	35.7	28.7	19.6
Spreadsheet Employed (n=604)	12.7	26.7	24.8	35.8
Not currently employed (n=130)	10.0	26.2	23.8	40.0
Database Employed (n=612)	9.2	22.1	31.2	37.6
Not currently employed (n=131)	10.7	19.8	26.0	43.5
World Wide Web Employed (n=621)	20.0	32.9	25.3	21.9
Not currently employed (n=135)	23.7	31.1	23.0	22.2

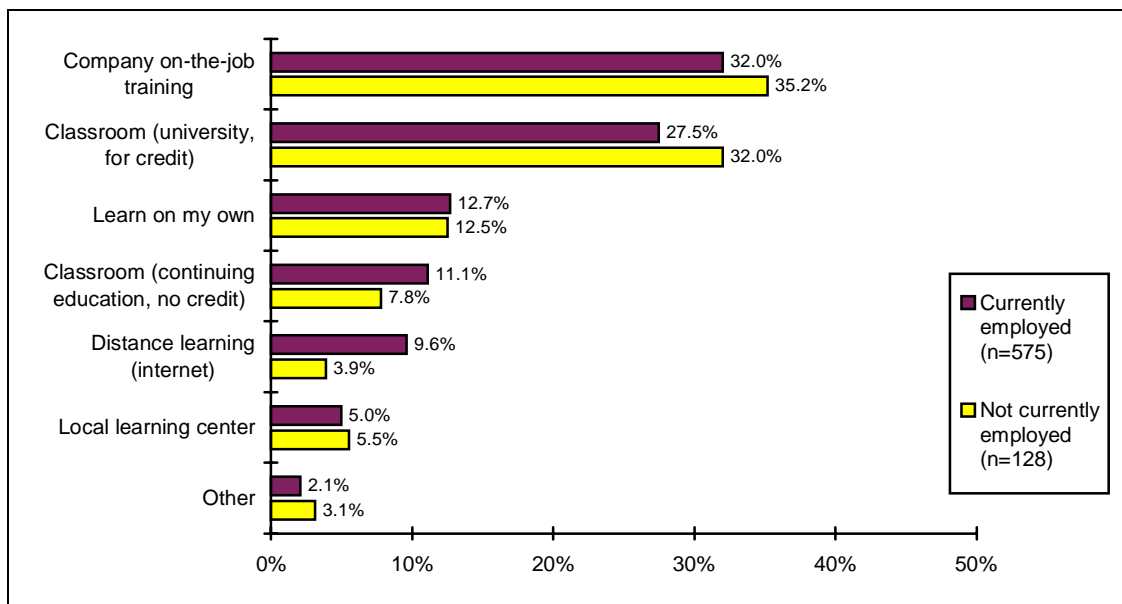
- Respondents were asked to rate their basic computer skills. As shown in Table III-13, ratings on the different skill sets were similar between currently employed respondents and respondents who were not currently employed. There were no statistically significant differences by region. Details on computer languages known are presented in Appendix E.
- The highest percentages of respondents rating their skills as “excellent” were for the worldwide web (20.0 percent of employed respondents and 23.7 percent of respondents who were not currently employed) and word processing (19.6 percent of employed respondents and 16.1 percent of respondents who were not currently employed). Smaller percentages rated their spreadsheet or database skills as excellent.

Figure III-9
Interest Among Non-Computer Users to Learn Computer Applications
for Business or Office Tasks



- Respondents who had no computer skills were asked if they any interest in learning to use a computer to perform office or business tasks. Fifty-six percent of currently employed respondents and 69.6 percent of respondents who were not currently employed reported that they were interested (see Figure III-9).

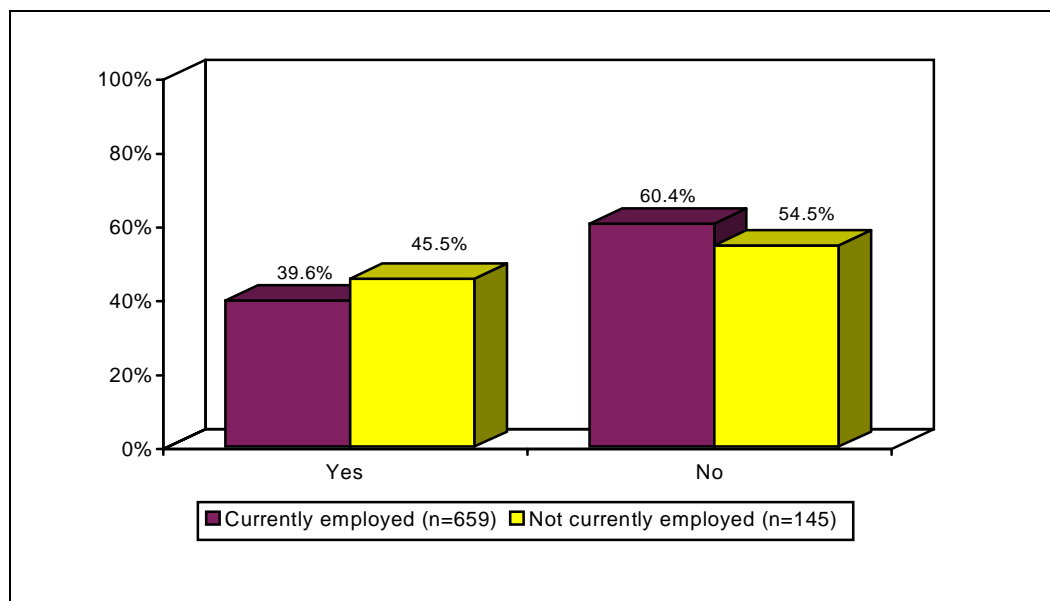
Figure III-10
Best Environment for Respondent to Learn to Use the Computer



- Respondents were asked which type of learning environment was best suited for them to learn to use the computer. As shown in Figure III-10, company on-the-job training was the best method for both employed respondents (32.0 percent) and respondents who were not currently employed (35.2 percent). University classroom was the second choice chosen by 27.5 percent of the currently employed respondents and 32.0 percent of the respondents who were not currently employed.

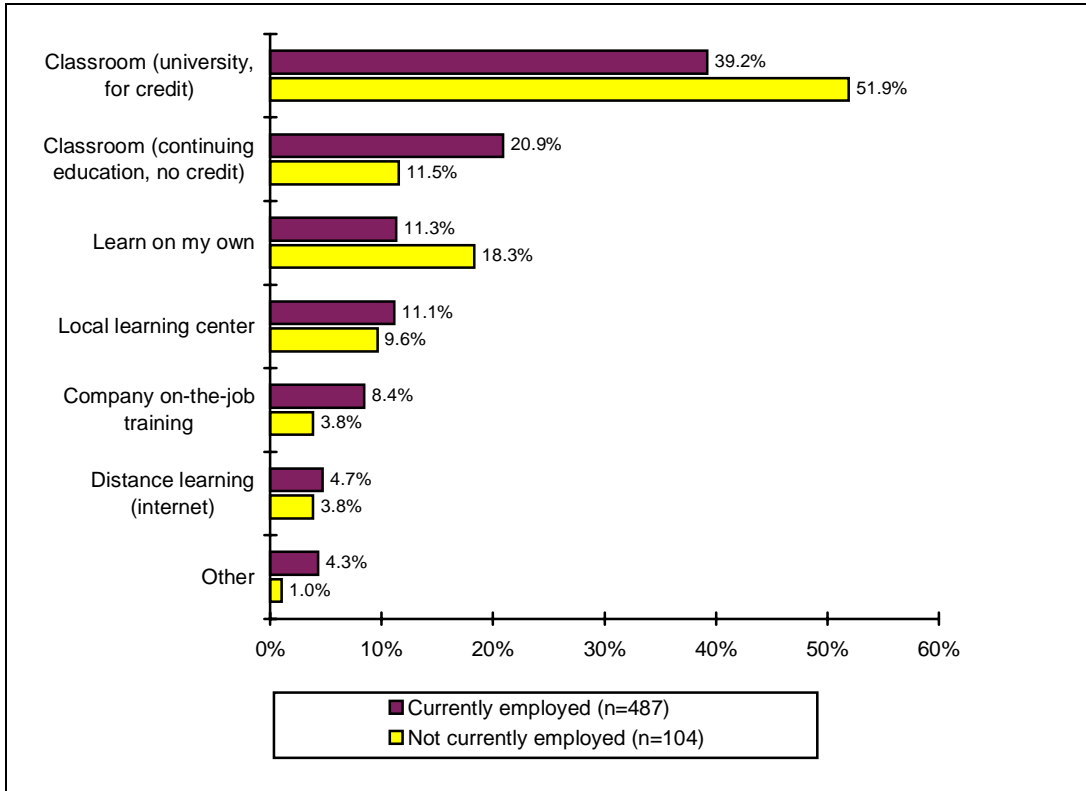
C. Foreign Language Skills and Training Intentions

Figure III-11
Respondent Speaks Language Other than English



- Respondents were asked if they spoke a language other than English. Forty percent of the currently employed respondents and 60.4 percent of the respondents who were not currently employed reported that they spoke another language (see Figure III-11).
- Among those who could speak another language, 90.5 percent of the respondents said that they spoke Spanish. Less than 5 percent spoke German (4.0 percent), French (1.8 percent), or another language (3.4 percent).
- When asked if they would be willing to learn another language, 65.0 percent of currently employed respondents and 72.9 percent of not currently employed respondents stated that they were interested.

Figure III-12
Best Environment for Respondent to Learn Another Language



- Respondents were asked which type of learning environment was best suited for them to learn another language. As shown in Figure III-12, classroom training for credit was the preferred method among 39.2 percent of the employed respondents and 51.9 percent of the respondents who were not currently working. Classroom training for no credit was the second choice for 20.9 percent of the employed respondents. Learning on their own was the second choice for 18.3 percent of the respondents who were not currently employed.

Quality of Life and Economic Well-Being

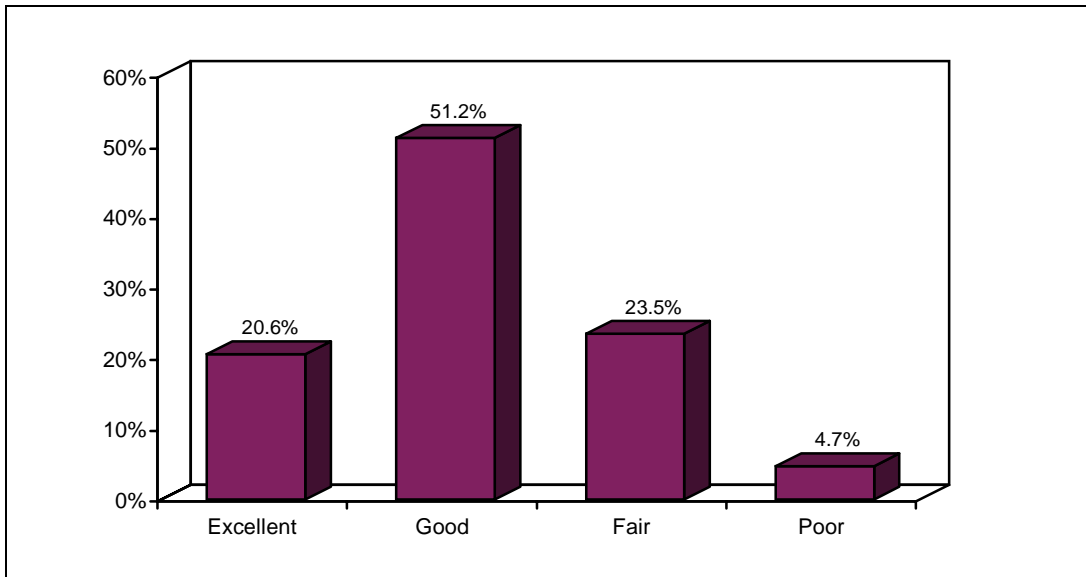
A. Quality of Life

Table III-14
Ratings of Public Services in the Area

Public services	Percentage responding				
	Excellent	Good	Fair	Poor	Not available
Law enforcement (n=790)	18.6	50.0	25.2	6.1	0.1
Fire department (n=793)	29.0	57.9	11.0	1.8	0.4
EMS/ambulance services (n=784)	29.6	52.0	14.9	2.9	0.5
Parks (n=794)	16.2	49.5	25.9	6.8	1.5
Garbage collection (n=799)	15.8	56.8	17.6	4.3	5.5
Street conditions (n=802)	12.0	47.0	29.2	11.3	0.5
Water service (n=799)	16.6	50.2	17.1	10.4	5.6
Sewer service (n=794)	16.6	56.2	14.5	2.9	9.8
Code enforcement (n=730)	12.2	54.8	20.3	7.1	5.6

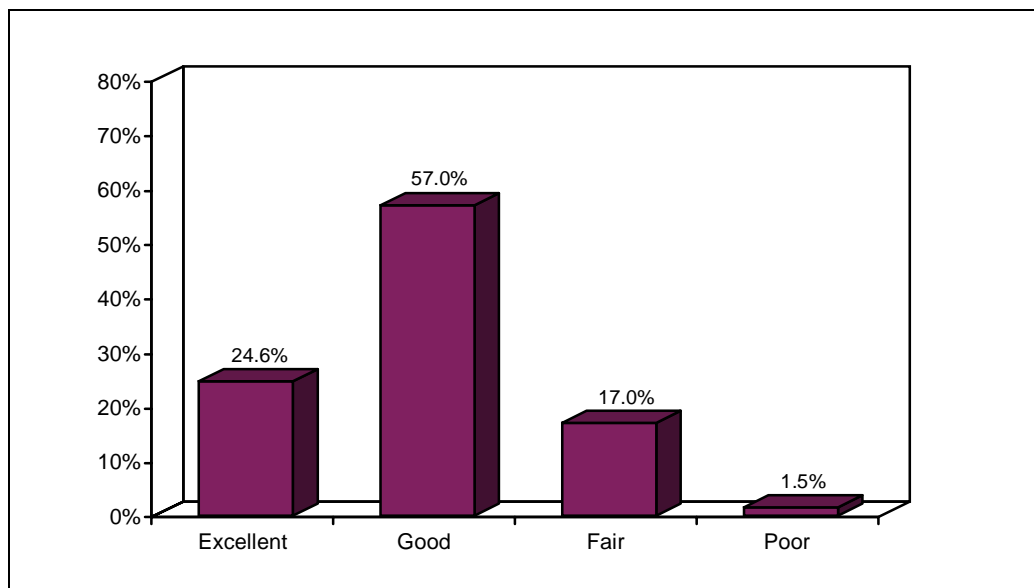
- Respondents were asked to rate a number of public services offered by their communities (see Table III-14). The services with largest percentage of combined excellent/good ratings were fire departments (86.9 percent) and EMS/ambulance services (81.6 percent). Garbage collection (72.6 percent) and sewer services (72.8 percent) were other services with large percentages of respondents giving excellent/good ratings.
- When examining responses among respondents from urban and rural areas that had a service available to them, there were several differences. Excellent/good ratings were generally lower among rural respondents regarding fire departments (82.8 percent compared to 91.6 percent of urban respondents), EMS/ambulance services (76.8 percent compared to 87.3 percent of urban respondents), and garbage collection (70.9 percent compared to 82.6 percent of urban respondents).

Figure III-13
Ratings of Neighborhood Condition
(n=800)



- Respondents were asked to rate the condition of their neighborhood. As shown in Figure III-13, 20.6 percent reported that their neighborhood was in excellent condition and 51.2 percent reported that their neighborhood was in good condition. There were no significant differences between urban and rural respondents.

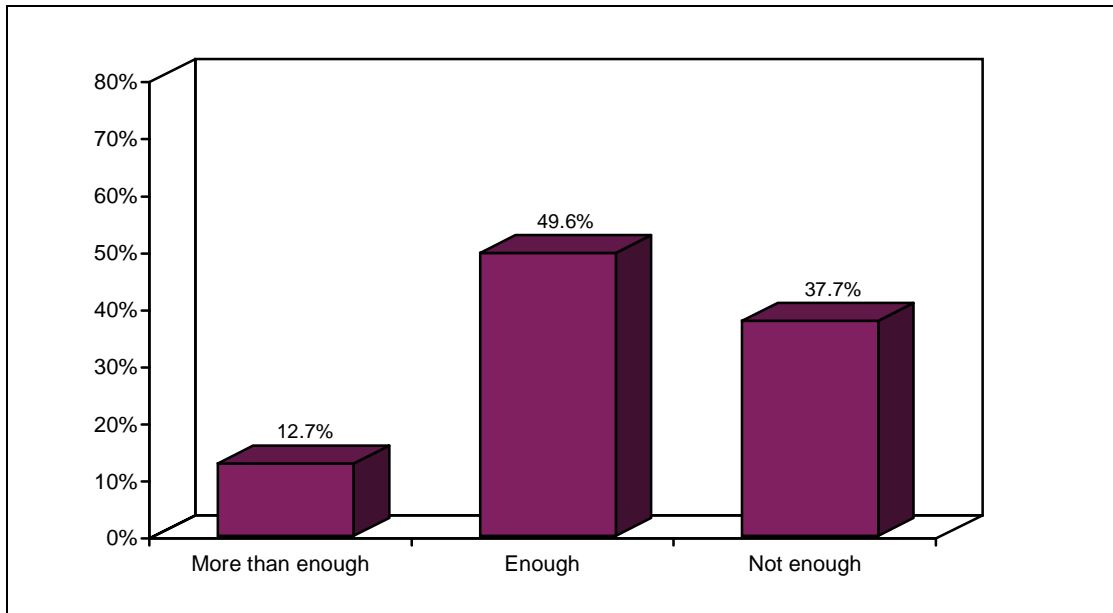
Figure III-14
Ratings of Condition of Home
(n=803)



- Respondents were asked to rate the condition of their homes. As shown in Figure III-14, 24.6 percent reported the condition of their homes was excellent and 57.0 percent reported that the condition of their homes was good. There were no significant differences between urban and rural respondents.

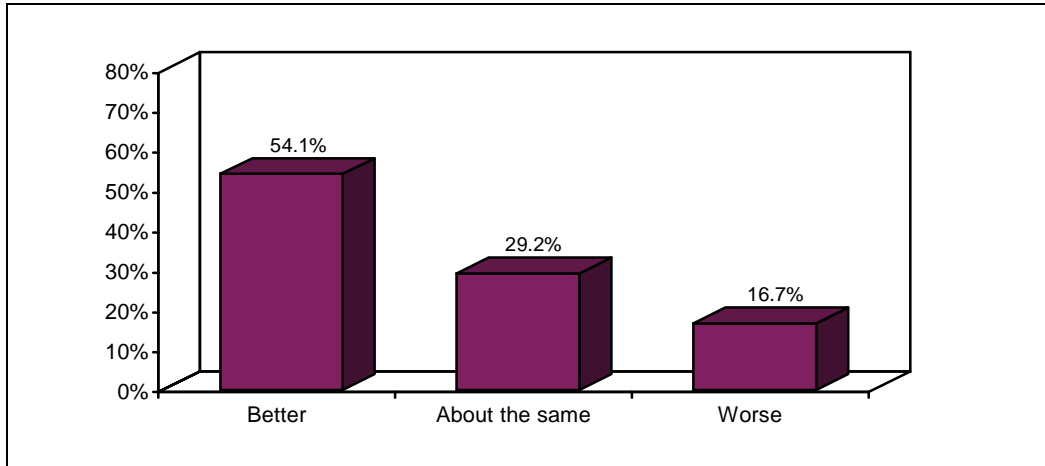
B. Economic Well-Being

Figure III-15
Household Income is Enough to Satisfy Needs
(n=798)



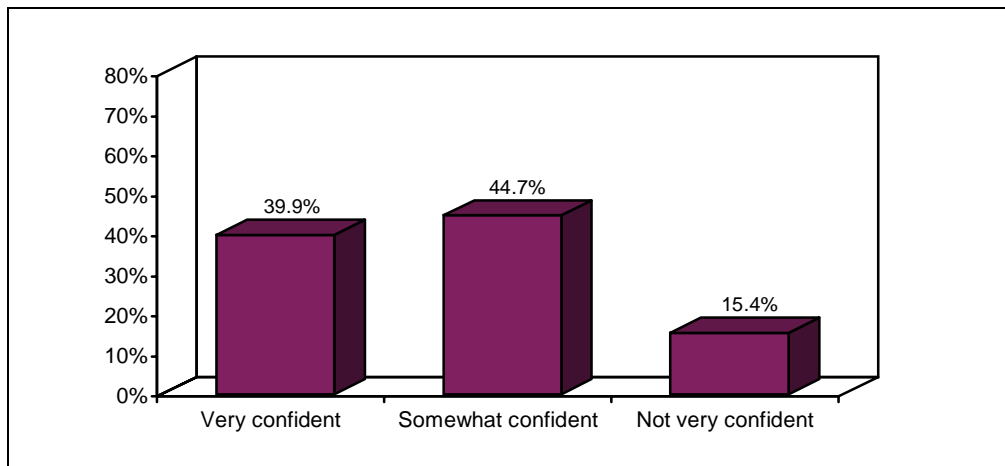
- Respondents were asked if their household income is enough to satisfy their needs. As shown in Figure III-15, 12.7 percent said their income was more than enough and 49.6 percent said their income was enough. Thirty-eight percent stated that their income was not enough.
- There were no significant differences between urban and rural respondents; however, a greater percentage of respondents who were not currently employed reported that their current household income was not enough to satisfy their needs (49.7 percent) than currently employed respondents (35.1 percent).

Figure III-16
Better Off Financially than 5 Years Ago
(n=803)



- Respondents were asked if they were better off financially than they were five years ago. As shown in Figure III-16, 54.1 percent said that they were better off financially than they were five years ago. Twenty-nine percent said they were about the same and 16.7 percent said that they were worse off than they were five years ago.
- Twenty-six percent of the respondents who were not currently employed reported that they were worse off now financially than they were five years ago compared to 14.6 percent of currently employed respondents.

Figure III-17
Confidence that Income will Meet Future Needs
(n=785)



- Respondents were also asked how confident they were that they would have enough money for future needs (see Figure III-17). Forty percent of the respondents said that they were very confident that they would have enough money and 44.7 percent said that they were somewhat confident. Fifteen percent said that they were not very confident.
- A smaller percentage of the respondents from the rural area were very confident (35.5 percent) that they would have enough money for their future needs when compared to urban respondents who were very confident (44.3 percent). However, there was no statistically significant difference in confidence between employed respondents and respondents who were not currently employed.

Table III-15
Respondent Was Unable to Pay Bills

Type of bill	Percentage Indicating Problems Paying	
	Yes	No
Rent or mortgage (n=793)	13.1	86.9
Utilities (n=799)	16.0	84.0
Large medical bill (n=793)	23.6	76.4
Credit card bill (n=785)	14.4	85.6
Other bills (n=795)	11.6	88.4

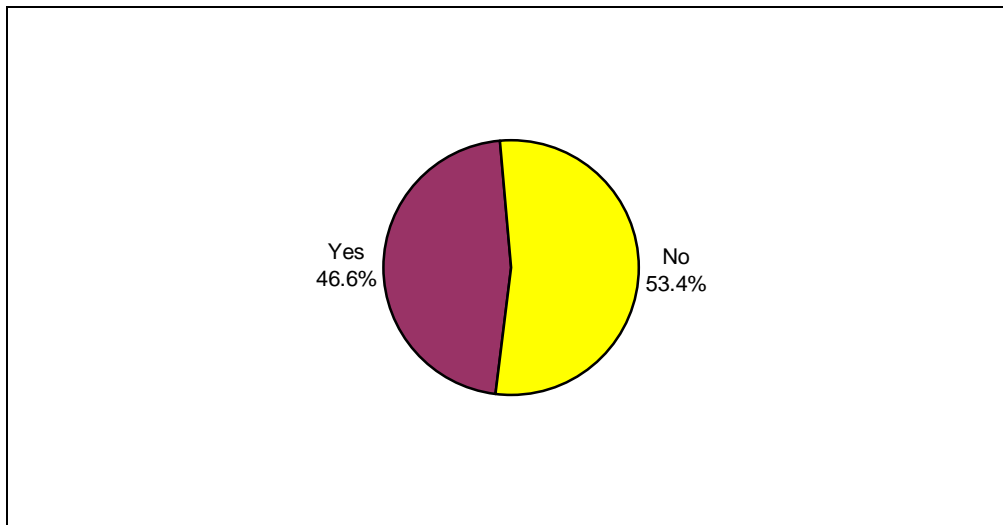
- Respondents were asked if they had problems paying any bills in the past year due to a lack of money (see Table III-15). Twenty-four percent reported having difficulty paying a large medical bill. Sixteen percent reported having difficulty paying a utility bill and 14.4 percent reported having difficulty paying a credit card bill.
- In all, 35.1 percent of the respondents reported having a problem paying at least one of the bills listed in Table III-15. There were no significant differences between urban and rural respondents; however, a greater percentage of respondents who were not currently employed reported having problems paying a bill (61.4 percent) than currently employed respondents (29.3 percent).

**Table III-16
Respondents With Problems Paying Bills
Received Help by Source**

Source of help	Percentage responding	
	Yes	No
Family or friend (n=283)	38.9	61.1
Loan from bank or loan institution (n=284)	29.9	70.1
Public welfare (n=283)	19.1	80.9
Church or faith-based organization (n=283)	14.1	85.9
Another public agency (n=282)	13.1	86.9
Employer (n=282)	11.7	88.3
Pawn shop (n=284)	11.6	88.4
Other source (n=278)	19.4	80.6

- Respondents with problems paying bills were asked if they had received help. As shown in Table III-16, the most common source for help was a family or friend (38.9 percent) or a loan from a bank or loan institution (29.9 percent).
- Public welfare was the source of help for 19.1 percent of the respondents. Respondents who were not currently employed were more likely to have used public welfare (26.7 percent) than employed respondents (15.5 percent).
- There were no differences by region for most of the sources of help. However, respondents from the rural area (37.6 percent) were more likely to get a loan from a bank than respondents from the urban area (22.4 percent).

**Figure III-18
Respondents with Problems Paying Bills Still Had Trouble Paying Bills
(n=283)**



- Respondents who had trouble paying bills in the past year were asked if they still had problems paying bills. As shown in Figure III-18, 46.6 percent of the respondents who had problems paying bills in the past year still had problems. Fifty-three percent no longer had problems paying bills.
- Respondents from the rural area (55.7 percent) were more likely to report that they still had problems paying bills than respondents from the urban area (37.8 percent). However, there was no statistically significant difference between employed respondents and respondents who were not currently employed regarding the persistence of their problem paying bills.

Conclusion

As part of its commitment to maintain a favorable business climate, the Permian Basin Regional Planning Commission retained the Center for Economic Development and Research and the Survey Research Center at the University of North Texas to recommend economic development strategies in the Permian Basin. Data were collected through several methods for use in the strategy recommendations. This report detailed a telephone survey of a sample of the workforce that was designed to gather information on work history, skills, and current employment. Other information was gathered on quality of life, financial security, and outlook for the future.

The findings in this report can be used, in conjunction with the accompanying focus group and key informant survey reports, to understand the needs of the Permian Basin for use in developing economic development strategies.

Section IV

Focus groups with business leaders, public officials, educators, and displaced workers

This section reports findings from personal interviews with focus groups conducted on November 14 and 15, 2000, by Samantha Durst and Terry Clower. The complete report follows the summary.

Summary

This summary is broken down based on the question listed on the “Focus Group Discussion Guide,” a copy of which is attached to the report. Other items that were discussed have been included under one of these questions as appropriate.

Group 1: Chamber and Business Leaders

Group 2: Unemployed Workers

Group 3: Displaced Workers and Underemployed Workers

Group 4: Business and Petroleum Leaders

Group 5: Education and Government Leaders

A. How would you describe the current economy of the Permian Basin? Do you see that condition changing over the next several years?

Group 1: In the future, the area may be challenged by teacher shortage.

Nature of workforce is changing because younger, skilled workers are moving away; older, less skilled workers stay.

Business climate is good; governments willing to work with businesses to strengthen economy; regulation not a problem.

Land is available.

New office space may be needed; nothing new built in Midland or Odessa since early 80s.

Group 2: Economic decline.

More job opportunities in the middle (between minimum wage and upper management) are needed.

Workforce centers are not offering specific job or skill-based training.

Group 3: Eight of nine workers in this group returned to school after being laid off.

Studying computer technology, para-legal, auto-cat technology, and environmental law.

Group 4: Economy is good now because of the price of oil and gas.
Optimistic about the future.
Cyclical nature of oil and gas industry will always be a part of the economy.

Group 5: Oil and gas cyclical nature affects whole economy.
Employment decline in 1995; some communities have not recovered.
Some workers returned to oil/gas industry; others went to other industries.

B. What is your impression of the Permian Basin in terms of . . . the current workforce? . . . the climate for conducting business? . . . the availability of adequate transportation networks?

Group 1: 60 percent-75 percent of current workforce is supported (directly or indirectly) by oil and gas.
Current education system overemphasizes importance of college degree for every student.
Transportation for low-income workers is an issue; MOTRAN and other efforts may help.
Workers need opportunity to develop skills; this is starting to be provided by Advanced Technology Center.

Group 2: Problem getting jobs because of language barrier and not knowing the “right” people.
Transportation is a problem because jobs don’t pay enough to maintain a car or to commute from one community to the next.
Transportation system from the 80s failed because it didn’t go anywhere; “MOTRAN won’t work because Midland and Odessa won’t put enough money into it to make it work.”

Group 3: Finding and holding a job is difficult: Age and gender discrimination; cyclical nature of oil and gas.
Starting new business is hard.
Transportation system is poor; need city bus or something.
Lack of good childcare.
Teachers are unhappy and have left teaching to work in prisons making more money.
High schools are not teaching “real work.”
Teachers at Midland College and Advanced Technology Center are helpful and knowledgeable.

Group 4: Smaller communities hurting because of lack of jobs.
Workers moving from rural areas into Midland and Odessa in search of jobs.
Transportation networks under-developed.
Loss of professional and younger workers because of withdrawal of majors.
Workforce is aging.
Lack of skilled laborers keeps some businesses from expanding.
Need to train workers in skills needed by businesses. Problems working with colleges developing training programs (time problem).
State legislature needs to send back dollars generated by university land system. This could support job training.
Lack of political clout (state and federal) is a weakness.

Group 5: High school dropout rate is higher in the area that it should be; many dropouts are Hispanics.
Students need technical training to keep them interested in school and help get better jobs after graduating.
Transportation system needs work.
Highway system is okay.
Local public transportation is really needed, especially in underemployed/unemployed areas.

C. Economic development strategies can take a variety of forms. What sort of economic development would you like to see take place in the Permian Basin? Which strategies are most likely to be successful?

Group 1: Odessa has 4A sales tax.
Private investors in Midland are beginning a venture capital fund to recruit new businesses.
Develop an enterprise zone at the airport.
Make strategic areas (such as airport) an “area of mutual interest” (AMI).
Cooperative leadership is essential.
Colleges and universities need to expand efforts to train communities.

Group 2: GATT, NAFTA, and government regulation make it hard to do business in area.
“Oil mentality” is a problem.
Manufacturing and high tech jobs could be developed and supported.
Most participants willing to attend class to learn skills.
Support existing businesses while recruiting new ones.

Group 3: New stadium being built could bring people to area, but it is over budget and cannot be paid for completely.

New industries need to be brought in.
Computer, small airplane, boat, or automobile manufacturing would be good for area.
Promote region as retirement community.
Support both new and existing businesses.
Connecting I-20 to a highway to Mexico will help businesses.
Emphasis should be on recruiting and strengthening businesses that create jobs. Businesses like waste disposal site do not produce many jobs after construction.
Idea of a theme park to both create jobs and offer recreation.

Group 4: Dislike idea of businesses changing product line during economic downturns.
Expanding markets (including foreign markets) for products.
Shipping costs are high and a barrier to some strategies.
Manufacturing would be good industry to pursue, but lack of good rail system and north-south interstate creates problem
Warehouse distribution centers might be good.
Promote development of small independent oil and gas producers into “majors” could help even out downturns. This should also help keep more money in the area.
Telemarketing businesses are good but need economic development funds to get them here.
Smaller towns need electronic and telecommunication upgrades.
Support education system with money and programs.
Local businesses should find way to take product into new markets.
More training for workforce.

Group 5: Promote local businesses with referrals.
Promote quality of life and space available for businesses.
Training through Advanced Technology Center is tremendous resource for new or relocating businesses.
University of Texas-Permian Basin has small business assistance fund.
Existing medical complex in Midland and Odessa is outstanding.
More people coming to area for medical care and to retire.
Midland needs economic development sales tax.
Market area as one – West Texas, not just Midland or Odessa, etc.
Promoting activities like Tomcat, Terra Co., and A&M Composites. A central Economic Development Corporation could promote.
Must work together for development efforts to succeed.
Some smaller communities need help targeting businesses that might be interested in their community; some even have economic development funds but aren't sure how to use them effectively.

D. Some communities use incentives as an economic development strategy. Which, if any, incentives, are likely to be successful in the Permian Basin?

Group 1: Cash for new businesses.

Creating a hospital district, expanding the airport, and using educational system to train workers.

Group 2: Opposed to incentives that would raise sales or property taxes. (Giving money to businesses is important, but supporting residents of the community was also important.)

Barriers to economic development strategies: water, lack of cooperation between communities, and limited funds for incentives.

Group 4: Midland needs economic development sales tax. The money generated would help companies come to the region.

Development of a hospital district.

Joint efforts between communities needed.

Attract retirees to the area.

Introduction

Five focus groups were held as part of this study of possible economic adjustment strategies for the Permian Basin. The focus groups were held in the conference room of the Permian Basin Region Planning Commission (PBRPC) on the grounds of the Midland International Airport on November 14-15, 2000. The discussion guide for the focus groups is attached as Appendix F. All of the participants participated freely and signed and returned informed consent forms. In total, 33 area residents participated; their names are attached as Appendix G. Participants from the business, petroleum, government, and educational communities were invited by the PBRPC. Participants representing unemployed, underemployed and displaced workers were selected by various local workforce offices.

In general, all of the groups believe that some form of economic adjustment strategy needs to be implemented and that developing a strategy for the entire Permian Basin is a worthwhile activity. All groups characterized the current economy as driven by the oil and gas industries and subject to “boom and bust” periods. Employers and employees uniformly point to the bust periods as harmful to all sectors of the local economy. Most participants believe the opportunity for cooperation between government institutions and community leaders in the 17 counties of the Permian Basin is greater now than it has been before. However, comments made by participants suggest that there are significant differences in the form participants would like any strategy to take and some skepticism about whether adjustment is possible.

The discussions reported below are from the perspective of the groups and do not reflect the views of the focus group facilitator. Comments are generally presented in the

order in which they were made. Material in quotation marks is reported exactly as stated by an individual participant. All other material is paraphrased from the comments of the participants.

Group 1: Chamber and Business Leaders

According to this group, 60-75 percent of the workforce is supported directly or indirectly by the oil and gas industries. The education system provides a solid education to area youth, but it may over emphasize the importance of every student seeking or receiving a four-year college degree. In the future the system may be challenged by a teacher shortage. The nature of the workforce is changing as younger, skilled workers move away and older, less skilled workers remain. Transportation for low-income workers is an issue. However, MOTRAN and other efforts, like the Bridges to Success vans, may help that. The workers need to have skill development opportunities like those starting to be provided by the Advanced Technology Center being run by the college and the school district.

The business climate in the Permian Basin is good. Governments have been willing to work with businesses to strengthen the economy. Regulation is not a problem. There is a great deal of available land. However, new office space may be needed. New office space has not been built in either Midland or Odessa since the early 1980s.

There are a number of actions being taken to strengthen the local economy. Odessa has a 4A sales tax, and that is very good for them. Some private investors in Midland are beginning a venture capital fund to be used to recruit new businesses, but it is just getting started. An area-wide economic development effort would be very beneficial. "Developing an enterprise zone at the airport has a great deal of promise," was the comment made by one participant. Some participants referred to the idea of making the airport and other strategic areas into an "area of mutual interest" (AMI). The idea was that in an AMI Odessa could use its sales tax money in a way that would also promote Midland and other areas.

"New businesses need cash; that's the incentive we have to have [in Midland], but it's not the only incentive. We need to sell the whole package." Midland, Odessa, and the Permian Basin have a great deal to offer: high quality of life, workers with skills, good people, low crime, clean air, beautiful sunsets, etc. Offering incentives to businesses or industries to move into the area is necessary. Creating a hospital district, expanding the airport for small plane refurbishing, and using the educational system to train workers are all ways that participants believed the local area could be promoted.

In order for economic adjustment to be successful, cooperative leadership is essential. In addition, the colleges and universities would have to expand their efforts in the area of training and the community would have to support them. Outlying communities could not be forgotten if this effort is going to work.

Group 2: Unemployed Workers

This group's view of the Permian Basin was one of an economy in decline. They called for efforts to diversify the economy away from the oil and gas industries.

More job opportunities are needed. "There are lots of \$5.15 jobs available and lots of upper management jobs, but nothing in the middle." "We need jobs that are not in fast food services," argued one person. Two participants were very concerned with the manner in which job applications asked for irrelevant information (age and degree requirements, for example, when it was not clear how that material was needed or essential) and the extent to which applicants did not receive a response from employers. Participants were taking advantage of the workforce center in their area but were not receiving specific training. Specific job or skill-based training was not being offered by the workforce centers.

The various communities of the Permian Basin were characterized as stratified by race and income. Language could be a barrier for some seeking work. The job market is still "who you know, not what you know." "I have skills, but I can't get a job because I'm new to this area and I don't know the right people." Transportation is an issue for some because the jobs that are available do not pay enough to make it possible to buy or keep a car or to commute from one community to the next. A transportation system was tried in the 1980s, but it didn't work because it didn't go everywhere. "MOTRAN won't work because Midland and Odessa won't put enough money into it to make it work."

GATT (the General Agreement on Tariffs and Trade), NAFTA (the North American Free Trade Agreement), and government regulations make it difficult for business to work in the U.S. and in this area. "It costs more to do business here," stated one. "An additional issue in this area is the 'oil mentality;' people here think that oil and oil prices are the answer to everything," was another comment.

Participants seem to believe that manufacturing jobs and technology-based jobs could be developed and supported in the region. Some of these participants were attending classes to learn computer skills and would like to be able to use them in their work. Some also liked the windmills that are being promoted locally as a mechanism to produce energy. Light manufacturing was mentioned as the kind of industry area workers would be well suited to staff. All of these participants expressed the need to support existing businesses in addition to recruiting others to move into the region.

This group was also generally opposed to economic development incentives that would have the effect of raising sales or property taxes. One participant noted that giving money to businesses might be important, but supporting the residents of the community was, too.

Barriers to economic development strategies mentioned by Group 2 included limited amounts of useable water, lack of cooperation between the communities, and limited funds for incentives. They were not sure any existing body or board would be able to bring

everyone together to work on economic development. “Leaders need to see the community as the Permian Basin, not Midland or Odessa or Big Spring...” noted one participant.

Group 3. Displaced Workers and Underemployed Workers

Eight of the nine workers in this group have returned to school after being laid off from jobs in the Permian Basin. The educational areas being pursued by the individuals were computer technology, para-legal, auto-cat technology, and environmental law.

Finding and holding a job in the Permian Basin is difficult. Age and gender discrimination takes place. Jobs related to oil and gas go through ups and downs. Starting your own business is tough here. The transportation system is poor. We need a city bus or something. “It’s hard to find good child care,” noted one young woman who had been looking for a new job for 3 months. “It would be helpful if unemployment benefits lasted as long as you are going to school,” stated one participant.

The schools are being challenged because the teachers are unhappy. Some of the teachers left their jobs with the schools and went to work for the prisons because the pay was so much better. The high schools are not helpful for getting a job because they are not teaching “real work.” Teachers at the colleges, like Midland College and the Advanced Technology Center, are helpful and knowledgeable. “The people here are hard working. They could be trained to do anything. But they have to be given the training,” stated one man who was laid-off from an oil company job.

There are a number of economic adjustment strategies this group would like to see developed. The new stadium being built would help bring people into the area, but it is already over budget and may not be completed. Some industries other than the existing ones need to be brought into the area. Computer, small airplane, boat, or automobile manufacturing would be good industries for this area. Some efforts are being made to promote the Permian Basin as a retirement community. The group saw that as a good idea. The group expressed a desire to support both new and existing businesses in the area. The changes to connect I-20 to a highway from Mexico will help businesses get access in and out of this area. Generally, the emphasis should be on recruiting and strengthening businesses that create jobs. Some businesses, like waste disposal sites, do not produce that many jobs once the construction of the facility is completed. Perhaps a theme park could be developed in the area to create jobs and to give people something to do with their free time.

The key to successful economic adjustment according to this group would be to develop a good marketing plan for the area. “Develop a plan that tells businesses why it is important to come here.” They noted that some people and towns don’t want some jobs. Some people don’t like the prisons or waste disposal. That may make getting businesses to relocate more difficult.

Group 4. Business and Petroleum Leaders

The economy in this area is good right now because of the price of oil and gas. Most of these participants were optimistic about the future of the oil and gas industries. Some businesses, however, hurt when the price of oil and gas are high. Some of the smaller towns are hurting, too, because there are fewer jobs available since “the majors” [major oil and gas producing companies] pulled out of the area. Many workers are moving into Midland and Odessa from outlying areas in search of jobs. The shift in presence and level of activity between the majors and the independent oil and gas producers is deeply affecting the Permian Basin. However, the ups and downs of the oil and gas industry will always be a part of this economy.

This group expressed concern over the idea that businesses could combat economic downturns by changing their product line. It was viewed as very difficult to accomplish. However, some local businesses have already had success at expanding the markets to which they distribute products. Seeking foreign markets was viewed as a good possibility for some businesses.

Shipping costs in the Permian Basin were viewed as high and a barrier to some economic adjustment strategies. Some transportation networks are not as developed as they should be. The loss of professional and younger workers that has taken place because of the withdrawal of the majors has also been a concern. The workforce in the Permian Basin is aging. There has to be a way to recruit those people to this area, especially young professional in fields where the work can be done virtually anywhere Internet connections are available. In the past, young professionals came to the area with one of the majors and then chose to remain. Without the majors to bring new people to the area, the workforce suffers. It’s not just professionals that are needed. Some businesses would like to expand, but can’t because they can’t find the skilled laborers, like machinists and machine operators, they need.

Manufacturing might be a good industry to pursue, but shipping goods to or from here is a problem. There’s no good rail system and no north-south interstate. I-27 is used to connect to I-20. Warehouses and distribution centers might be good. Promoting the development of “major” independent oil and gas producers could “even out” the down turns of the oil and gas industry because all of the jobs and wages being generated stay local. The majors always took the vast majority of their money out of the area. Independents don’t do that. Recruiting telemarketing businesses to the area seems to be working, but economic development funds are needed to get them here. The smaller towns would need electronic and telecommunication upgrades in order to participate in that, too.

Training workers in the skills needed by businesses and time to train them are problems, too. Two of the participants had tried to work with the junior college to develop a training program, but it took too long. Some companies train the workers on their own. There are some state training dollars available to businesses that do that, but small companies have a harder time accessing those dollars. The state legislature should be sending back to the Permian Basin more of the dollars generated by the university land system. Those dollars

could be used to support job training in the area. The lack of political clout (in the state and in Washington, D.C.) is a weakness.

There are many ways to support economic development in this area. The education system needs to be supported with money and programs. Local businesses should find a way to take their product into other markets. Tomcat has done this. More training of the workforce needs to be done. The colleges may not be able to get enough technical faculty to do all that is needed. The bureaucracy of the colleges is also difficult to overcome. Unstructured, self-paced training is best, but that doesn't work well in a structured college class.

An economic development sales tax is needed in Midland. "It's offensive to pay businesses to come here, but it's necessary" was one comment. The availability of economic development sales tax dollars would help companies consider this region. However, the sales tax initiative has not passed in Midland and a number of bond issues have also failed. This is one of the big differences between Midland and Odessa. "Merging the MSA was a great move; it is helping the communities work together." The development of a hospital district would be helpful, too. "Joint efforts between Midland, Odessa and the other communities of the Permian Basin are really needed," noted one participant.

More could be done to attract retirees to the area. This is the kind of place that they might like to live: low pollution, low crime, and easy access to hospitals and the airport. (MORE is trying to do this, but they have very limited funding.)

There are literacy and language barrier problems that must be overcome. The colleges and the university don't have enough people who are bi-lingual to help with these problems. More teachers are needed to help with these problems at the elementary and high school levels.

Group 5. Education and Government Leaders

The ebb and flow of the petro-chemical industry affects the whole economy. The real decline in employment was in 1995; some communities are recovering from that now. However, some are not. Midland and Odessa are recovering fast. The smaller, outlying communities are not. Some workers are back in the industries; others have found alternative jobs. "We need to develop a buffer as protection from the low oil times," observed one participant.

Sometimes we forget all the actions that can be taken to promote economic development in the Permian Basin. In addition to an economic development sales tax, the area can promote the practice of making referrals to local companies, so that more of the community benefits from business. The region also needs to promote the quality of life and the space available for businesses. The opening of the Advanced Technology Center, with its 700-800 computers and ready response area, is a tremendous resource for training workers for new or relocating businesses. UTPB (University of Texas- Permian Basin) has started a small business assistance fund and can serve as an incubator for new businesses. The

existing medical complex in Midland and Odessa is outstanding. More people are coming to the area for medical care and to retire.

Odessa already has an economic development sales tax and has been using it to recruit a variety of businesses. Midland has to get it. However, sometimes it seems that priorities here are confused.

The high school dropout rate is higher than it should be in this area. Many of those dropouts are Hispanic. What those students need is technical training to keep them interested in school and able to get a job when they graduate. “We send mixed signals to the educational system in this area. Football and a new stadium seem to come before new schools.”

“We need to market this area as one that gives workers training.” All of the economic development commissions in the Permian Basin should be marketing our strengths. “We should market ourselves as a region – as West Texas – not Midland or Odessa or whatever.” Once people get here, they really enjoy the quality of life and life style here.

Some of the businesses here have struggled along with the oil and gas industries. Others have not. Tomcat produces a product that is distributed all over the world. Terra Co. makes hotel room keys for hotels across the country. A&M Composites does the same. A central EDC (Economic Development Corporation) could become a focal point for promoting these kinds of activities for the region. Money or other development incentives throw any company’s relocation decision over the top.

“Can development efforts work? Only if we work together can such efforts succeed.” The political climate is such that cooperation is more likely now than in the past. A coalition of communities would be helpful to the region, especially to the smaller communities, which have fewer dollars to work with. “This region has a strong group of public officials, with a lot of capabilities. We have to get everyone working together.” However, it would probably be very difficult to convince the communities to pool their resources. “Maybe there needs to be one person who looks at West Texas and links businesses to the specific community that meets their needs. We should capitalize on the web to do this.” However, one participant noted that it is very difficult to keep things up to date on the web. That alone could be someone’s job. Most of the smaller communities need assistance targeting the businesses that might be interested in the kind of community they have. Some smaller communities have economic development funds available from sales taxes but aren’t sure how to use them effectively. An umbrella organization that could feed information down to various communities and be responsible for developing a region-wide marketing plan is what is really needed.

The transportation system needs work, but improvements are so expensive. The highway system is okay. Local public transportation is really needed, certainly in underemployed/unemployed areas. No public transportation system is cheap. But, people have to be able to get to work, health care and educational facilities. “Establishing a public transportation system is better than giving people food,” commented one.

Appendix A: Specialization Coefficients for Regional Counties

Andrews County and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Andrews	% of Total	Coefficient of Specialization
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%		0.0000%	0.00
21	Mining	109,687	1.4488%	520	16.3522%	11.29
22	Utilities	56,098	0.7410%	10	0.3145%	0.42
23	Construction	457,076	6.0373%	245	7.7044%	1.28
31-33	Manufacturing	986,892	13.0355%	451	14.1824%	1.09
42	Wholesale Trade	436,035	5.7594%	175	5.5031%	0.96
44-45	Retail Trade	977,678	12.9138%	377	11.8553%	0.92
48-49	Transportation & Warehousing	282,438	3.7306%	95	2.9874%	0.80
51	Information	222,770	2.9425%	60	1.8868%	0.64
52	Finance & Insurance	360,254	4.7585%	99	3.1132%	0.65
53	Real estate, rental & leasing	136,991	1.8095%	26	0.8176%	0.45
54	Professional, scientific & technical services	413,798	5.4657%	41	1.2893%	0.24
55	Management of companies & enterprises	229,419	3.0303%	10	0.3145%	0.10
56	Administration, support, waste management, remediation services	678,374	8.9604%	60	1.8868%	0.21
61	Educational services	101,038	1.3346%	18	0.5660%	0.42
62	Health care and social services	911,042	12.0336%	355	11.1635%	0.93
71	Arts, entertainment & recreation	85,609	1.1308%	10	0.3145%	0.28
72	Accommodation & food services	661,430	8.7366%	375	11.7925%	1.35
81	Other services (except public administration)	373,791	4.9373%	243	7.6415%	1.55
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%	10	0.3145%	0.32
99	Unclassified establishments	5,578	0.0737%		0.0000%	0.00
Totals		7,570,820	***	3,180	***	***

Borden County and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Borden	% of Total	Coefficient of Specialization
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%		0.0000%	0.00
21	Mining	109,687	1.4488%		0.0000%	0.00
22	Utilities	56,098	0.7410%		0.0000%	0.00
23	Construction	457,076	6.0373%		0.0000%	0.00
31-33	Manufacturing	986,892	13.0355%		0.0000%	0.00
42	Wholesale Trade	436,035	5.7594%	5	50.0000%	8.68
44-45	Retail Trade	977,678	12.9138%	5	50.0000%	3.87
48-49	Transportation & Warehousing	282,438	3.7306%		0.0000%	0.00
51	Information	222,770	2.9425%		0.0000%	0.00
52	Finance & Insurance	360,254	4.7585%		0.0000%	0.00
53	Real estate, rental & leasing	136,991	1.8095%		0.0000%	0.00
54	Professional, scientific & technical services	413,798	5.4657%		0.0000%	0.00
55	Management of companies & enterprises	229,419	3.0303%		0.0000%	0.00
56	Administration, support, waste management, remediation services	678,374	8.9604%		0.0000%	0.00
61	Educational services	101,038	1.3346%		0.0000%	0.00
62	Health care and social services	911,042	12.0336%		0.0000%	0.00
71	Arts, entertainment & recreation	85,609	1.1308%		0.0000%	0.00
72	Accommodation & food services	661,430	8.7366%		0.0000%	0.00
81	Other services (except public administration)	373,791	4.9373%		0.0000%	0.00
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%		0.0000%	0.00
99	Unclassified establishments	5,578	0.0737%		0.0000%	0.00
Totals		7,570,820	***	10	***	***

Crane County and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Crane	% of Total	Coefficient of Specialization
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%		0.0000%	0.00
21	Mining	109,687	1.4488%	343	28.6550%	19.78
22	Utilities	56,098	0.7410%	10	0.8354%	1.13
23	Construction	457,076	6.0373%	101	8.4378%	1.40
31-33	Manufacturing	986,892	13.0355%	60	5.0125%	0.38
42	Wholesale Trade	436,035	5.7594%	21	1.7544%	0.30
44-45	Retail Trade	977,678	12.9138%	135	11.2782%	0.87
48-49	Transportation & Warehousing	282,438	3.7306%	60	5.0125%	1.34
51	Information	222,770	2.9425%	10	0.8354%	0.28
52	Finance & Insurance	360,254	4.7585%	40	3.3417%	0.70
53	Real estate, rental & leasing	136,991	1.8095%	10	0.8354%	0.46
54	Professional, scientific & technical services	413,798	5.4657%	10	0.8354%	0.15
55	Management of companies & enterprises	229,419	3.0303%		0.0000%	0.00
56	Administration, support, waste management, remediation services	678,374	8.9604%	61	5.0961%	0.57
61	Educational services	101,038	1.3346%	10	0.8354%	0.63
62	Health care and social services	911,042	12.0336%	223	18.6299%	1.55
71	Arts, entertainment & recreation	85,609	1.1308%		0.0000%	0.00
72	Accommodation & food services	661,430	8.7366%	69	5.7644%	0.66
81	Other services (except public administration)	373,791	4.9373%	24	2.0050%	0.41
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%	10	0.8354%	0.84
99	Unclassified establishments	5,578	0.0737%		0.0000%	0.00
Totals		7,570,820	***	1,197	***	***

Dawson County and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Dawson	% of Total	Coefficient of Specialization
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%	92	3.2474%	26.19
21	Mining	109,687	1.4488%	37	1.3060%	0.90
22	Utilities	56,098	0.7410%	60	2.1179%	2.86
23	Construction	457,076	6.0373%	156	5.5065%	0.91
31-33	Manufacturing	986,892	13.0355%	240	8.4716%	0.65
42	Wholesale Trade	436,035	5.7594%	119	4.2005%	0.73
44-45	Retail Trade	977,678	12.9138%	567	20.0141%	1.55
48-49	Transportation & Warehousing	282,438	3.7306%	139	4.9065%	1.32
51	Information	222,770	2.9425%	50	1.7649%	0.60
52	Finance & Insurance	360,254	4.7585%	147	5.1888%	1.09
53	Real estate, rental & leasing	136,991	1.8095%	31	1.0942%	0.60
54	Professional, scientific & technical services	413,798	5.4657%	87	3.0709%	0.56
55	Management of companies & enterprises	229,419	3.0303%		0.0000%	0.00
56	Administration, support, waste management, remediation services	678,374	8.9604%	10	0.3530%	0.04
61	Educational services	101,038	1.3346%	60	2.1179%	1.59
62	Health care and social services	911,042	12.0336%	359	12.6721%	1.05
71	Arts, entertainment & recreation	85,609	1.1308%	12	0.4236%	0.37
72	Accommodation & food services	661,430	8.7366%	486	17.1550%	1.96
81	Other services (except public administration)	373,791	4.9373%	175	6.1772%	1.25
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%		0.0000%	0.00
99	Unclassified establishments	5,578	0.0737%	6	0.2118%	2.87
Totals		7,570,820	***	2,833	***	***

Ector County and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Ector	% of Total	Coefficient of Specialization
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%	10	0.0256%	0.21
21	Mining	109,687	1.4488%	1,394	3.5666%	2.46
22	Utilities	56,098	0.7410%	217	0.5552%	0.75
23	Construction	457,076	6.0373%	3,294	8.4278%	1.40
31-33	Manufacturing	986,892	13.0355%	3,810	9.7480%	0.75
42	Wholesale Trade	436,035	5.7594%	3,806	9.7378%	1.69
44-45	Retail Trade	977,678	12.9138%	6,239	15.9626%	1.24
48-49	Transportation & Warehousing	282,438	3.7306%	1,063	2.7197%	0.73
51	Information	222,770	2.9425%	648	1.6579%	0.56
52	Finance & Insurance	360,254	4.7585%	980	2.5074%	0.53
53	Real estate, rental & leasing	136,991	1.8095%	812	2.0775%	1.15
54	Professional, scientific & technical services	413,798	5.4657%	1,076	2.7530%	0.50
55	Management of companies & enterprises	229,419	3.0303%	564	1.4430%	0.48
56	Administration, support, waste management, remediation services	678,374	8.9604%	1,520	3.8890%	0.43
61	Educational services	101,038	1.3346%	231	0.5910%	0.44
62	Health care and social services	911,042	12.0336%	5,404	13.8263%	1.15
71	Arts, entertainment & recreation	85,609	1.1308%	457	1.1692%	1.03
72	Accommodation & food services	661,430	8.7366%	4,138	10.5872%	1.21
81	Other services (except public administration)	373,791	4.9373%	3,008	7.6960%	1.56
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%	404	1.0336%	1.04
99	Unclassified establishments	5,578	0.0737%	10	0.0256%	0.35
Totals		7,570,820	***	39,085	***	***

Gaines County and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Gaines	% of Total	Coefficient of Specialization
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%	67	2.6661%	21.50
21	Mining	109,687	1.4488%	288	11.4604%	7.91
22	Utilities	56,098	0.7410%	45	1.7907%	2.42
23	Construction	457,076	6.0373%	194	7.7199%	1.28
31-33	Manufacturing	986,892	13.0355%	56	2.2284%	0.17
42	Wholesale Trade	436,035	5.7594%	286	11.3808%	1.98
44-45	Retail Trade	977,678	12.9138%	445	17.7079%	1.37
48-49	Transportation & Warehousing	282,438	3.7306%	70	2.7855%	0.75
51	Information	222,770	2.9425%	47	1.8703%	0.64
52	Finance & Insurance	360,254	4.7585%	123	4.8945%	1.03
53	Real estate, rental & leasing	136,991	1.8095%	25	0.9948%	0.55
54	Professional, scientific & technical services	413,798	5.4657%	50	1.9897%	0.36
55	Management of companies & enterprises	229,419	3.0303%		0.0000%	0.00
56	Administration, support, waste management, remediation services	678,374	8.9604%	10	0.3979%	0.04
61	Educational services	101,038	1.3346%	10	0.3979%	0.30
62	Health care and social services	911,042	12.0336%	294	11.6992%	0.97
71	Arts, entertainment & recreation	85,609	1.1308%	10	0.3979%	0.35
72	Accommodation & food services	661,430	8.7366%	226	8.9932%	1.03
81	Other services (except public administration)	373,791	4.9373%	267	10.6248%	2.15
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%		0.0000%	0.00
99	Unclassified establishments	5,578	0.0737%		0.0000%	0.00
Totals		7,570,820	***	2,513	***	***

Glasscock County and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Glasscock	% of Total	Coefficient of Specialization
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%	10	5.1020%	41.15
21	Mining	109,687	1.4488%	60	30.6122%	21.13
22	Utilities	56,098	0.7410%		0.0000%	0.00
23	Construction	457,076	6.0373%	10	5.1020%	0.85
31-33	Manufacturing	986,892	13.0355%		0.0000%	0.00
42	Wholesale Trade	436,035	5.7594%	10	5.1020%	0.89
44-45	Retail Trade	977,678	12.9138%	60	30.6122%	2.37
48-49	Transportation & Warehousing	282,438	3.7306%		0.0000%	0.00
51	Information	222,770	2.9425%		0.0000%	0.00
52	Finance & Insurance	360,254	4.7585%	6	3.0612%	0.64
53	Real estate, rental & leasing	136,991	1.8095%		0.0000%	0.00
54	Professional, scientific & technical services	413,798	5.4657%	10	5.1020%	0.93
55	Management of companies & enterprises	229,419	3.0303%		0.0000%	0.00
56	Administration, support, waste management, remediation services	678,374	8.9604%		0.0000%	0.00
61	Educational services	101,038	1.3346%	10	5.1020%	3.82
62	Health care and social services	911,042	12.0336%		0.0000%	0.00
71	Arts, entertainment & recreation	85,609	1.1308%		0.0000%	0.00
72	Accommodation & food services	661,430	8.7366%	10	5.1020%	0.58
81	Other services (except public administration)	373,791	4.9373%	10	5.1020%	1.03
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%		0.0000%	0.00
99	Unclassified establishments	5,578	0.0737%		0.0000%	0.00
Totals		7,570,820	***	196	***	***

Howard County and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Howard	% of Total	Coefficient of Specialization
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%	10	0.1208%	0.97
21	Mining	109,687	1.4488%	679	8.1999%	5.66
22	Utilities	56,098	0.7410%	91	1.0990%	1.48
23	Construction	457,076	6.0373%	758	9.1540%	1.52
31-33	Manufacturing	986,892	13.0355%	1,151	13.9000%	1.07
42	Wholesale Trade	436,035	5.7594%	330	3.9852%	0.69
44-45	Retail Trade	977,678	12.9138%	1,554	0.0188%	0.00
48-49	Transportation & Warehousing	282,438	3.7306%	152	1.8356%	0.49
51	Information	222,770	2.9425%	177	2.1375%	0.73
52	Finance & Insurance	360,254	4.7585%	294	3.5505%	0.75
53	Real estate, rental & leasing	136,991	1.8095%	126	1.5216%	0.84
54	Professional, scientific & technical services	413,798	5.4657%	156	1.8839%	0.34
55	Management of companies & enterprises	229,419	3.0303%	60	0.7246%	0.24
56	Administration, support, waste management, remediation services	678,374	8.9604%	375	4.5287%	0.51
61	Educational services	101,038	1.3346%	10	0.1208%	0.09
62	Health care and social services	911,042	12.0336%	2,357	28.4643%	2.37
71	Arts, entertainment & recreation	85,609	1.1308%	61	0.7367%	0.65
72	Accommodation & food services	661,430	8.7366%	894	10.7964%	1.24
81	Other services (except public administration)	373,791	4.9373%	585	7.0647%	1.43
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%	10	0.1208%	0.12
99	Unclassified establishments	5,578	0.0737%	3	0.0362%	0.49
Totals		7,570,820	***	8,281	***	***

Loving County and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Loving	% of Total	Coefficient of Specialization
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%	10	100.0000%	806.52
21	Mining	109,687	1.4488%		0.0000%	0.00
22	Utilities	56,098	0.7410%		0.0000%	0.00
23	Construction	457,076	6.0373%		0.0000%	0.00
31-33	Manufacturing	986,892	13.0355%		0.0000%	0.00
42	Wholesale Trade	436,035	5.7594%		0.0000%	0.00
44-45	Retail Trade	977,678	12.9138%		0.0000%	0.00
48-49	Transportation & Warehousing	282,438	3.7306%		0.0000%	0.00
51	Information	222,770	2.9425%		0.0000%	0.00
52	Finance & Insurance	360,254	4.7585%		0.0000%	0.00
53	Real estate, rental & leasing	136,991	1.8095%		0.0000%	0.00
54	Professional, scientific & technical services	413,798	5.4657%		0.0000%	0.00
55	Management of companies & enterprises	229,419	3.0303%		0.0000%	0.00
56	Administration, support, waste management, remediation services	678,374	8.9604%		0.0000%	0.00
61	Educational services	101,038	1.3346%		0.0000%	0.00
62	Health care and social services	911,042	12.0336%		0.0000%	0.00
71	Arts, entertainment & recreation	85,609	1.1308%		0.0000%	0.00
72	Accommodation & food services	661,430	8.7366%		0.0000%	0.00
81	Other services (except public administration)	373,791	4.9373%		0.0000%	0.00
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%		0.0000%	0.00
99	Unclassified establishments	5,578	0.0737%		0.0000%	0.00
Totals		7,570,820	***	10	***	***

Martin County and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Martin	% of Total	Coefficient of Specialization
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%		0.0000%	0.00
21	Mining	109,687	1.4488%	60	9.7087%	6.70
22	Utilities	56,098	0.7410%	10	1.6181%	2.18
23	Construction	457,076	6.0373%	52	8.4142%	1.39
31-33	Manufacturing	986,892	13.0355%		0.0000%	0.00
42	Wholesale Trade	436,035	5.7594%	60	9.7087%	1.69
44-45	Retail Trade	977,678	12.9138%	128	20.7120%	1.60
48-49	Transportation & Warehousing	282,438	3.7306%	6	0.9709%	0.26
51	Information	222,770	2.9425%	10	1.6181%	0.55
52	Finance & Insurance	360,254	4.7585%	35	5.6634%	1.19
53	Real estate, rental & leasing	136,991	1.8095%	10	1.6181%	0.89
54	Professional, scientific & technical services	413,798	5.4657%	9	1.4563%	0.27
55	Management of companies & enterprises	229,419	3.0303%		0.0000%	0.00
56	Administration, support, waste management, remediation services	678,374	8.9604%	10	1.6181%	0.18
61	Educational services	101,038	1.3346%	10	1.6181%	1.21
62	Health care and social services	911,042	12.0336%	151	24.4337%	2.03
71	Arts, entertainment & recreation	85,609	1.1308%	10	1.6181%	1.43
72	Accommodation & food services	661,430	8.7366%	22	3.5599%	0.41
81	Other services (except public administration)	373,791	4.9373%	35	5.6634%	1.15
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%		0.0000%	0.00
99	Unclassified establishments	5,578	0.0737%		0.0000%	0.00
Totals		7,570,820	***	618	***	***

Midland County and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Midland	% of Total	Coefficient of Specialization
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%	10	0.0207%	0.17
21	Mining	109,687	1.4488%	7,003	14.5053%	10.01
22	Utilities	56,098	0.7410%	596	1.2345%	1.67
23	Construction	457,076	6.0373%	2,439	5.0519%	0.84
31-33	Manufacturing	986,892	13.0355%	2,506	5.1907%	0.40
42	Wholesale Trade	436,035	5.7594%	2,646	5.4806%	0.95
44-45	Retail Trade	977,678	12.9138%	6,700	13.8777%	1.07
48-49	Transportation & Warehousing	282,438	3.7306%	1,009	2.0899%	0.56
51	Information	222,770	2.9425%	999	2.0692%	0.70
52	Finance & Insurance	360,254	4.7585%	1,534	3.1774%	0.67
53	Real estate, rental & leasing	136,991	1.8095%	877	1.8165%	1.00
54	Professional, scientific & technical services	413,798	5.4657%	2,510	5.1989%	0.95
55	Management of companies & enterprises	229,419	3.0303%	2,100	4.3497%	1.44
56	Administration, support, waste management, remediation services	678,374	8.9604%	3,440	7.1253%	0.80
61	Educational services	101,038	1.3346%	453	0.9383%	0.70
62	Health care and social services	911,042	12.0336%	5,374	11.1311%	0.93
71	Arts, entertainment & recreation	85,609	1.1308%	785	1.6260%	1.44
72	Accommodation & food services	661,430	8.7366%	4,145	8.5855%	0.98
81	Other services (except public administration)	373,791	4.9373%	2,904	6.0150%	1.22
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%	239	0.4950%	0.50
99	Unclassified establishments	5,578	0.0737%	10	0.0207%	0.28
Totals		7,570,820	***	48,279	***	***

Pecos County and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Pecos	% of Total	Coefficient of Specialization
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%	175	5.5609%	44.85
21	Mining	109,687	1.4488%	322	10.2320%	7.06
22	Utilities	56,098	0.7410%	94	2.9870%	4.03
23	Construction	457,076	6.0373%	155	4.9253%	0.82
31-33	Manufacturing	986,892	13.0355%	94	2.9870%	0.23
42	Wholesale Trade	436,035	5.7594%	129	4.0991%	0.71
44-45	Retail Trade	977,678	12.9138%	584	18.5574%	1.44
48-49	Transportation & Warehousing	282,438	3.7306%	174	5.5291%	1.48
51	Information	222,770	2.9425%	22	0.6991%	0.24
52	Finance & Insurance	360,254	4.7585%	120	3.8132%	0.80
53	Real estate, rental & leasing	136,991	1.8095%	24	0.7626%	0.42
54	Professional, scientific & technical services	413,798	5.4657%	59	1.8748%	0.34
55	Management of companies & enterprises	229,419	3.0303%		0.0000%	0.00
56	Administration, support, waste management, remediation services	678,374	8.9604%	60	1.9066%	0.21
61	Educational services	101,038	1.3346%	10	0.3178%	0.24
62	Health care and social services	911,042	12.0336%	411	13.0601%	1.09
71	Arts, entertainment & recreation	85,609	1.1308%	10	0.3178%	0.28
72	Accommodation & food services	661,430	8.7366%	386	12.2656%	1.40
81	Other services (except public administration)	373,791	4.9373%	298	9.4693%	1.92
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%	10	0.3178%	0.32
99	Unclassified establishments	5,578	0.0737%	10	0.3178%	4.31
Totals		7,570,820	***	3,147	***	***

Reeves County and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Reeves	% of Total	Coefficient of Specialization
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%	60	2.1482%	17.33
21	Mining	109,687	1.4488%	324	11.6004%	8.01
22	Utilities	56,098	0.7410%	47	1.6828%	2.27
23	Construction	457,076	6.0373%	60	2.1482%	0.36
31-33	Manufacturing	986,892	13.0355%	375	13.4264%	1.03
42	Wholesale Trade	436,035	5.7594%	128	4.5829%	0.80
44-45	Retail Trade	977,678	12.9138%	458	16.3981%	1.27
48-49	Transportation & Warehousing	282,438	3.7306%	202	7.2324%	1.94
51	Information	222,770	2.9425%	44	1.5754%	0.54
52	Finance & Insurance	360,254	4.7585%	132	4.7261%	0.99
53	Real estate, rental & leasing	136,991	1.8095%	4	0.1432%	0.08
54	Professional, scientific & technical services	413,798	5.4657%	143	5.1199%	0.94
55	Management of companies & enterprises	229,419	3.0303%		0.0000%	0.00
56	Administration, support, waste management, remediation services	678,374	8.9604%	60	2.1482%	0.24
61	Educational services	101,038	1.3346%		0.0000%	0.00
62	Health care and social services	911,042	12.0336%	278	9.9535%	0.83
71	Arts, entertainment & recreation	85,609	1.1308%	60	2.1482%	1.90
72	Accommodation & food services	661,430	8.7366%	336	12.0301%	1.38
81	Other services (except public administration)	373,791	4.9373%	75	2.6853%	0.54
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%		0.0000%	0.00
99	Unclassified establishments	5,578	0.0737%	7	0.2506%	3.40
Totals		7,570,820	***	2,793	***	***

Terrell County and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Terrell	% of Total	Coefficient of Specialization
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%		0.0000%	0.00
21	Mining	109,687	1.4488%		0.0000%	0.00
22	Utilities	56,098	0.7410%	5	7.1429%	9.64
23	Construction	457,076	6.0373%	5	7.1429%	1.18
31-33	Manufacturing	986,892	13.0355%		0.0000%	0.00
42	Wholesale Trade	436,035	5.7594%		0.0000%	0.00
44-45	Retail Trade	977,678	12.9138%	20	28.5714%	2.21
48-49	Transportation & Warehousing	282,438	3.7306%	5	7.1429%	1.91
51	Information	222,770	2.9425%	5	7.1429%	2.43
52	Finance & Insurance	360,254	4.7585%	5	7.1429%	1.50
53	Real estate, rental & leasing	136,991	1.8095%	5	7.1429%	3.95
54	Professional, scientific & technical services	413,798	5.4657%	5	7.1429%	1.31
55	Management of companies & enterprises	229,419	3.0303%		0.0000%	0.00
56	Administration, support, waste management, remediation services	678,374	8.9604%	5	7.1429%	0.80
61	Educational services	101,038	1.3346%		0.0000%	0.00
62	Health care and social services	911,042	12.0336%		0.0000%	0.00
71	Arts, entertainment & recreation	85,609	1.1308%		0.0000%	0.00
72	Accommodation & food services	661,430	8.7366%	7	10.0000%	1.14
81	Other services (except public administration)	373,791	4.9373%	3	4.2857%	0.87
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%		0.0000%	0.00
99	Unclassified establishments	5,578	0.0737%		0.0000%	0.00
Totals		7,570,820	***	70	***	***

Upton County and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Upton	% of Total	Coefficient of Specialization
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%		0.0000%	0.00
21	Mining	109,687	1.4488%	190	22.3005%	15.39
22	Utilities	56,098	0.7410%	60	7.0423%	9.50
23	Construction	457,076	6.0373%	60	7.0423%	1.17
31-33	Manufacturing	986,892	13.0355%		0.0000%	0.00
42	Wholesale Trade	436,035	5.7594%	46	5.3991%	0.94
44-45	Retail Trade	977,678	12.9138%	89	10.4460%	0.81
48-49	Transportation & Warehousing	282,438	3.7306%	60	7.0423%	1.89
51	Information	222,770	2.9425%	10	1.1737%	0.40
52	Finance & Insurance	360,254	4.7585%	60	7.0423%	1.48
53	Real estate, rental & leasing	136,991	1.8095%	10	1.1737%	0.65
54	Professional, scientific & technical services	413,798	5.4657%	10	1.1737%	0.21
55	Management of companies & enterprises	229,419	3.0303%		0.0000%	0.00
56	Administration, support, waste management, remediation services	678,374	8.9604%	2	0.2347%	0.03
61	Educational services	101,038	1.3346%	10	1.1737%	0.88
62	Health care and social services	911,042	12.0336%	196	23.0047%	1.91
71	Arts, entertainment & recreation	85,609	1.1308%		0.0000%	0.00
72	Accommodation & food services	661,430	8.7366%	43	5.0469%	0.58
81	Other services (except public administration)	373,791	4.9373%	6	0.7042%	0.14
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%		0.0000%	0.00
99	Unclassified establishments	5,578	0.0737%		0.0000%	0.00
Totals		7,570,820	***	852	***	***

Ward County and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Ward	% of Total	Coefficient of Specialization
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%		0.0000%	0.00
21	Mining	109,687	1.4488%	779	29.9385%	20.66
22	Utilities	56,098	0.7410%	121	4.6503%	6.28
23	Construction	457,076	6.0373%	84	3.2283%	0.53
31-33	Manufacturing	986,892	13.0355%	38	1.4604%	0.11
42	Wholesale Trade	436,035	5.7594%	113	4.3428%	0.75
44-45	Retail Trade	977,678	12.9138%	370	14.2198%	1.10
48-49	Transportation & Warehousing	282,438	3.7306%	132	5.0730%	1.36
51	Information	222,770	2.9425%	24	0.9224%	0.31
52	Finance & Insurance	360,254	4.7585%	89	3.4204%	0.72
53	Real estate, rental & leasing	136,991	1.8095%	87	3.3436%	1.85
54	Professional, scientific & technical services	413,798	5.4657%	55	2.1138%	0.39
55	Management of companies & enterprises	229,419	3.0303%	10	0.3843%	0.13
56	Administration, support, waste management, remediation services	678,374	8.9604%	10	0.3843%	0.04
61	Educational services	101,038	1.3346%		0.0000%	0.00
62	Health care and social services	911,042	12.0336%	273	10.4919%	0.87
71	Arts, entertainment & recreation	85,609	1.1308%	10	0.3843%	0.34
72	Accommodation & food services	661,430	8.7366%	197	7.5711%	0.87
81	Other services (except public administration)	373,791	4.9373%	190	7.3021%	1.48
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%	10	0.3843%	0.39
99	Unclassified establishments	5,578	0.0737%	10	0.3843%	5.22
Totals		7,570,820	***	2,602	***	***

Winkler County and Texas Employment in NAICSs, 1998

NAICS Code	Description	Statewide	% of Total	Winkler	% of Total	Coefficient of Specialization
11	Forestry, fishing, hunting, and agricultural support	9,387	0.1240%		0.0000%	0.00
21	Mining	109,687	1.4488%	246	20.9006%	14.43
22	Utilities	56,098	0.7410%	10	0.8496%	1.15
23	Construction	457,076	6.0373%	58	4.9278%	0.82
31-33	Manufacturing	986,892	13.0355%	10	0.8496%	0.07
42	Wholesale Trade	436,035	5.7594%	60	5.0977%	0.89
44-45	Retail Trade	977,678	12.9138%	227	19.2863%	1.49
48-49	Transportation & Warehousing	282,438	3.7306%	60	5.0977%	1.37
51	Information	222,770	2.9425%	10	0.8496%	0.29
52	Finance & Insurance	360,254	4.7585%	56	4.7579%	1.00
53	Real estate, rental & leasing	136,991	1.8095%	39	3.3135%	1.83
54	Professional, scientific & technical services	413,798	5.4657%	10	0.8496%	0.16
55	Management of companies & enterprises	229,419	3.0303%		0.0000%	0.00
56	Administration, support, waste management, remediation services	678,374	8.9604%	10	0.8496%	0.09
61	Educational services	101,038	1.3346%		0.0000%	0.00
62	Health care and social services	911,042	12.0336%	166	14.1037%	1.17
71	Arts, entertainment & recreation	85,609	1.1308%	10	0.8496%	0.75
72	Accommodation & food services	661,430	8.7366%	110	9.3458%	1.07
81	Other services (except public administration)	373,791	4.9373%	85	7.2218%	1.46
95	Auxiliaries (exc corporate, subsidiary & regional)	75,435	0.9964%	10	0.8496%	0.85
99	Unclassified establishments	5,578	0.0737%		0.0000%	0.00
Totals		7,570,820	***	1,177	***	***

Appendix B: Key Informant Interview Schedule

List of Interviewees and Date/Time on Interview		
Interviewee	Title	Date/Time of Interview
Willie Taylor	Executive Director, Permian Basin Workforce Development Board	April 27/10:30 a.m.
Don Creager	Loving County Judge	April 27/11:30 a.m.
Ben Lockhart	Howard County Judge	April 27/1:00 p.m.
Delmon Hodges	Pecos County Judge	April 27/1:45 p.m.
Doug Henson	SBC Corporation	April 27/2:30 p.m.
Jim Smitherman	Security State Bank of Crane, Texas	April 27/ 3:45 p.m.
Iris Correa	Chair, Mexican American Network of Odessa (MANO)	April 27/4:30p.m.
Buddy Sipes	Chair, Midland Chamber of Commerce	April 28/8:30 a.m.
Dennis Clayton	Midland Chamber of Commerce	April 28/9:30 a.m.
Cathy Herzog	District Director, Senator Duncan's Office	April 28/ 10:30 a.m.
Bill Hext	City Council member, City of Odessa	April 28/11:30 a.m.
Sam Massey	Ward County Judge	April 28/12:30 p.m.
Neil McDonald	Odessa Chamber of Commerce	May 3/8:30 a.m.
Bonnie Leck	Winkler County Judge	May 3/1:30 p.m.
Rick Menchacca	City Manager of Midland	June 14/11 a.m.

Permian Basin Planning Council Interview Schedule

Interviewee: _____

Date/Time: _____

1) **Demographics:** aside from who they are and what area they represent.

What have been the employment/population trends in your area?
How would you characterize your available workforce? (Divide into blue/white collar as appropriate)

Education
Language
Special skills
Acceptable pay

Are there any of these characteristics that you would like to see change?
Which? In what way? How can this be accomplished?

2) What are the strengths and weaknesses of the 17-county /your specific area as:

- a business location?
- A place to live
- Infrastructure
- Housing
- Transportation
- Communications
- Social services
- Recreational amenities - describe
- Services (Medical, Education, Social, Protective -- fire, sheriff/police)
- Cost of living

- 3) How far away is your closest technical college/community college, 4-year college? Are there any business assistance/strategic alliances between businesses in your area and regional institutions of higher education?

Same question for high schools.

- 4) What is the dominant industry in your area? What are recent trends in this industry? (5 years) longer if they want to talk about it

Second most dominant?
Recent trends?

Third most dominant?
Recent trends?

- 5) How do you think the Permian Basin is perceived by those outside the region, especially site location consultants/specialists and executives?

- 6) What changes could be initiated locally that might improve the image or attractiveness of the Permian basin as a place:

- to do business
- to work
- to live

- 7) What types of businesses do you feel could be realistically attracted to your area?
- 8) What is your region doing at present to encourage indigenous (i.e., home grown) economic and business growth?
- 9) What might be done to encourage local start-ups and expansion of existing businesses? (prompt, if necessary, with local permitting, availability of capital, training for entrepreneurial skills (accounting, marketing, etc))

Other comments or suggestions?

Appendix C: Key Informant Survey Instrument

August 21, 2000

Dear Community Leader:

Communities in the Permian Basin Region have experienced the ups and downs of a turbulent economy. Attracting a variety of new industries and businesses into the Permian Basin Region is an important goal to reduce the vulnerability of this region to the turbulence in oil and agricultural markets. In order to develop strategies to assist area communities in creating new jobs, the Permian Basin Regional Planning Commission (PBRPC) is conducting a comprehensive assessment of the region and its communities and we need your help.

One very important part of the assessment is a survey of *key community leaders* in the Permian Basin Region, and you have been selected to participate. You and other community leaders will be able to provide information that is critical to the success of the project. We are asking you to participate in this survey by completing the enclosed questionnaire. We need responses from all those selected to participate in order to present a comprehensive view of the region.

The survey is designed to collect data about the strengths and weaknesses of work force education and local services. The primary purpose of the project is to provide the PBRPC with information to coordinate strategies and plan for economic development programs.

You may be assured that all your responses will be kept confidential. The Survey Research Center at the University of North Texas will receive and analyze your responses. These surveys will be retained by the center and will not be examined by task force members or staff. In the final report, individuals will not be identified and data will be reported only in summary form.

The results of this study, along with other elements of the assessment, will be beneficial to the decision-making of PBRPC and numerous institutions throughout the region. Copies of the report will be available for your review. If you have any questions, contact James J. Glass, Director, Survey Research Center (940-369-7351). Thank you for your assistance.

Sincerely,



James Glass, Director

**Permian Basin Regional Planning Commission
Key Informant Survey**

Please state your level of agreement with the following statements as they apply to the Permian Basin.

Assessment of the Current Workforce	Strongly Agree	Agree	No Opinion	Disagree	Strong Disagr
There is available labor to meet the business community's needs.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The workforce has basic education skills.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The workforce is, in general, computer literate.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The workforce is competitive with other regions in Texas.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The workforce is competitive with other states.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The workforce can compete globally.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The workforce is adequately trained to meet demands for the next decade.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The workforce is willing to learn new skills needed for the next decade.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Skills Needed	Strongly Agree	Agree	No Opinion	Disagree	Strong Disagr
The area secondary schools (through high school) are producing capable employees.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The area colleges and universities are producing capable, skilled employees.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Apprentice programs sponsored by colleges/universities and industry would be helpful in training future employees.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Technical/computer workshops would benefit current employees to develop new skills.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

Business Climate	Strongly Agree	Agree	No Opinion	Disagree	Strong Disagr
The Permian Basin is a good location to do business.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
There is adequate access to markets.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
My community is receptive to business.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
My local governments (city and county) are receptive to new business.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
There are adequate transportation networks.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The municipal tax structure is reasonable.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The cost of doing business (cost per sq ft) in the Permian Basin is reasonable.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
There is a shortage of available commercial buildings.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Suppliers of products used by regional companies are in proximity to the Permian Basin.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

Job Creation Strategies to Entice New Companies to the Region	Strongly Agree	Agree	No Opinion	Disagree	Strong Disagr
My company/organization would be interested in working with colleges/ universities to establish apprentice training programs specific to the needs of the Permian Basin.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
I would support a half-cent sales tax increase specifically for economic development in the Permian Basin region.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
I would favor locally-funded business incentives to encourage new business development. (Examples: tax abatements, grants for training, below-market loans, gifts of land.)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
I would favor creating new streamlined processes of settling new businesses in the Permian Basin.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

Assessment of Local Physical Infrastructure	Strongly Agree	Agree	No Opinion	Disagree	Strong Disagr
The condition of available buildings for business is acceptable.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The cost of utilities is reasonable.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The internet (all aspects) is widely used in the business community.					
My county has ample quality housing stock.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
My commute to work is longer than 45 minutes.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The highways in the region are in good repair.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Telecommunications in the region need improvement to meet business needs.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Telecommunications in the region need expansion to meet business needs.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

Please rate the following city services for the city where you live as excellent, good, average, fair, or poor.

Assessment of Local Services	<i>Excellent</i>	<i>Good</i>	<i>Average</i>	<i>Fair</i>	<i>Poor</i>
The postal service in my city	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The street maintenance and repair in my city	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Police protection in my city	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Fire protection in my city	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Garbage collection in my city	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Garbage recycling in my city	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Zoning and land use activities in my city	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Traffic in my city	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Health care facilities in my city	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

Please rate the following city services for *the entire Permian Basin region* as excellent, good, average, fair, or poor.

Assessment of Regional Services	Excellent	Good	Average	Fair	Poor
The postal service in the Permian Basin	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The street maintenance and repair in the Permian Basin	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Police protection in the Permian Basin	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Fire protection in the Permian Basin	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Garbage collection in the Permian Basin	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Garbage recycling in the Permian Basin	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Zoning and land use activities in the Permian Basin	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Traffic in the Permian Basin	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Health care facilities in the Permian Basin	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

Please state your level of agreement with the following statements.

Quality of Life	Strongly Agree	Agree	No Opinion	Disagree	Strong Disagree
My city has well-maintained parks and recreation services.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Children have safe places to play in my neighborhood.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The public schools are safe for children and adults.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The libraries are user-friendly, well-stocked and have competent, helpful staff.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
There are public festivals held several times a year in the Permian Basin that are fun to attend.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
My county has a well-rounded cultural life with theatre, music, and sporting events to attend.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
A newcomer to my city would be able to find a church/synagogue/temple in their faith to attend.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Permian Basin residents have interesting and sufficient retail outlets to satisfy their needs and wants.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

Assessment of Current Regional Development Activities	Strongly Agree	Agree	No Opinion	Disagree	Strong Disagree
There is a good mix of industries in the Permian Basin now.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
There is adequate capital in the Permian Basin to promote new business development.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
There is adequate available land in the Permian Basin to allow for new business development.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The current transportation networks in the Permian Basin will allow for new business development with its increase in traffic and shipping.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The city where I live has developed a plan to recruit new industries to the area and has made the public aware of it.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The city where I live is willing to work with the neighboring cities/counties to bring new industries to the Permian Basin region.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
I am aware of the Permian Basin Regional Planning Commission's work to bring new industries to the Permian Basin.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

Types of Business Development

The type of industry I would most like to see recruited to the Permian Basin is (choose only 1):

- | | |
|---|---|
| <input type="checkbox"/> ₁ Light manufacturing | <input type="checkbox"/> ₅ Wholesale and retail trade |
| <input type="checkbox"/> ₂ Heavy manufacturing | <input type="checkbox"/> ₆ Business services |
| <input type="checkbox"/> ₃ Transportation | <input type="checkbox"/> ₇ Finance, real estate, insurance |
| <input type="checkbox"/> ₄ Communications | |

The type of industry I would least like to see recruited to the Permian Basin is (choose only 1):

- | | |
|---|---|
| <input type="checkbox"/> ₁ Light manufacturing | <input type="checkbox"/> ₅ Wholesale and retail trade |
| <input type="checkbox"/> ₂ Heavy manufacturing | <input type="checkbox"/> ₆ Business services |
| <input type="checkbox"/> ₃ Transportation | <input type="checkbox"/> ₇ Finance, real estate, insurance |
| <input type="checkbox"/> ₄ Communications | |

The type of industry that I believe could create a cluster of businesses that would most benefit the Permian Basin is (choose only 1):

- | | |
|---|---|
| <input type="checkbox"/> ₁ Light manufacturing | <input type="checkbox"/> ₅ Wholesale and retail trade |
| <input type="checkbox"/> ₂ Heavy manufacturing | <input type="checkbox"/> ₆ Business services |
| <input type="checkbox"/> ₃ Transportation | <input type="checkbox"/> ₇ Finance, real estate, insurance |
| <input type="checkbox"/> ₄ Communications | |

Demographics

I have worked in the Permian Basin for:

- | | |
|--|---|
| <input type="checkbox"/> ₁ Less than 1 year | <input type="checkbox"/> ₃ 6 to 10 years |
| <input type="checkbox"/> ₂ 1 to 5 years | <input type="checkbox"/> ₄ Over 10 years |

I work in:

- | | |
|---|---|
| <input type="checkbox"/> ₁ health care | <input type="checkbox"/> ₇ education |
| <input type="checkbox"/> ₂ law | <input type="checkbox"/> ₈ banking |
| <input type="checkbox"/> ₃ manufacturing | <input type="checkbox"/> ₉ business services |
| <input type="checkbox"/> ₄ social services | <input type="checkbox"/> ₁₀ retail sales |
| <input type="checkbox"/> ₅ wholesale trade | <input type="checkbox"/> ₁₁ insurance |
| <input type="checkbox"/> ₆ government | <input type="checkbox"/> ₁₂ religion |

I am an active member of:

- | | |
|---|---|
| <input type="checkbox"/> ₁ Rotary club | <input type="checkbox"/> ₄ city business development commission. |
| <input type="checkbox"/> ₂ Chamber of Commerce | <input type="checkbox"/> ₅ neighborhood association |
| | <input type="checkbox"/> ₆ none of the above |

**Please return the survey using the enclosed business reply envelope
or mail completed survey to:**

**Survey Research Center
P.O. Box 310619
Denton TX 76203-9988**

Thank you for your participation!

Appendix D: Resident Telephone Survey Instrument

Permian Basin Resident Telephone Survey

Hello, my name is _____. The Survey Research Center at the University of North Texas is conducting a survey of residents of your county for the Permian Basin Regional Planning Commission which is interested in creating and retaining jobs for the region.

We are conducting a confidential labor and services study which will be utilized by the Commission as they attempt to attract new businesses and jobs into the region. In order to complete the survey, I need to speak to someone age 18 or older. Your phone number was selected at random and your responses will be kept confidential. The survey will only take a few minutes and your help with this research is greatly appreciated.

2. Just to make sure our records are correct, could you please tell me what county you live in?

1. Andrews
2. Borden
3. Crane
4. Dawson
5. Ector
6. Gaines
7. Glasscock
8. Howard
9. Loving
10. Martin
11. Midland
12. Pecos
13. Reeves
14. Terrell
15. Upton
16. Ward
17. Winkler

(Defined as part of the workforce: Questions 3, 4, 4B)

3. Are you currently employed?

1. Yes SKIP TO Q5
2. No CONTINUE

4. Are you currently trying to find work?

1. Yes SKIP TO Q4A
2. No CONTINUE

4A. Are you unemployed because of. . .READ LIST

1. Your personal choice
2. Health reasons
3. Lack of opportunity

4. Fired/Terminated from previous job
5. Retired
6. Home duties
7. Other, specify

4B. Do you anticipate entering the workforce within the next two years?

1. Yes SKIP TO Q5
2. No THANKS AND TERMINATE

(If NO to Q3, Q4 and Q4b, TERMINATE interview)

EMPLOYMENT

5. What county do you work in?

1. Andrews
2. Borden
3. Crane
4. Dawson
5. Ector ASK Do you work in the city of Odessa?
6. Gaines
7. Glasscock
8. Howard ASK Do you work in the city of Big Springs?
9. Loving
10. Martin
11. Midland ASK Do you work in the city of Midland?
12. Pecos
13. Reeves
14. Terrell
15. Upton
16. Ward
17. Winkler

6. Do you work full-time, part-time, or both?

1. Full-time SKIP TO Q12
2. Part-time
3. Both

7. (If Part-Time) How many part-time jobs do you currently have?

1. One
2. Two
3. Three
4. Four or more
9. DK/NR

8. (If Part-Time) Would you prefer to work full-time at one job?

1. Yes
2. No

9. (If Part-Time) During an average week, how many hours do you usually work, not counting the time you travel to and from work?

1. Less than 20
2. 20 to 30 hours
3. 31 to 40 hours
4. More than 40 hours
9. DK/NR

10. Are these (Is this a) temporary job(s) or permanent job(s)?

1. Temporary
2. Permanent
3. Both
9. DK/NR

11. (If Part-Time) Have you held a non-temporary full-time job in the last 5 years?

1. Yes
2. No
9. DK/NR

12. (All) Approximately how many people are employed where you work?

- 1st job ____
2nd job ____
3rd job ____
etc.

13. ASK ONLY IF EMPLOYED IN Q3: Which of the following best describes the industry that you work in? READ LIST

1. Agriculture (growing a product)
2. Oil & Gas
3. Construction
4. Manufacturing--textiles (like clothing)
5. Manufacturing--durable (long lasting)
6. Manufacturing--non-durable (short lived)
7. Manufacturing--agriculture-related processing (like milk)
8. Transportation
9. Communications
10. Other public utilities (not municipal--electric, gas, water)
11. Wholesale trade/ distribution
12. Retail trade
13. Business / repair services
14. Personal services
15. Entertainment / recreational services
16. Professional / related services

17. Public administration / government
18. Home-based business
19. Medical
20. Education
21. Other specify: ____
22. Refused

14. How long have you worked in this field? Has it been . . .READ LIST

1. Less than 1 year
2. 1-5 years
3. 6-10 years
4. More than 10 years

15. ASK ONLY IF EMPLOYED IN Q3: What is your current occupation? READ LIST IF NECESSARY

1. Professional
 - a. CPA/Accountant
 - b. Lawyer
 - c. Engineer
 - d. Real Estate Agent
 - e. Medical Doctor
 - f. Other, specify
2. Technician--identify type of technician:
 - a. Medical
 - b. Electrical
 - c. Mechanical
 - d. Other, specify
3. Managerial
 - a. Retail
 - b. Office
 - c. Manufacturing-related
 - d. Department head
 - e. Other, specify
4. Oil & Gas
 - a. Roustabout
 - b. Roughneck
 - c. Drilling team
 - d. Metal Fabricator
 - e. Welder
 - f. Worker
 - g. Other, specify
5. Secretarial/clerical
6. Farming/agriculture related (ranching)
7. Manufacturing--Precision production and crafts
8. Manufacturing--machine operator
9. Manufacturing--transportation and material moving

10. Manufacturing--laborer
11. Manufacturing--welder
12. Other Manufacturing
13. Teacher
 - a. High school or younger
 - b. Community college
 - c. University or college
14. Student
15. Sales/Retail
16. Retired
17. Homemaker
18. Other, specify:
19. DK
20. RF

16. How long have you been with your present employer? Has it been. . .READ LIST

1. Less than 1 year
2. 1-5 years
3. 6-10 years
4. More than 10 years

17. Have you ever worked in another industry?

1. Yes
2. No SKIP TO Q23
9. DK/NR

18. What industry/field did you work in previously?

1. Agriculture (growing a product)
2. Oil & Gas
3. Construction
4. Manufacturing--textiles (like clothing)
5. Manufacturing--durable (long lasting)
6. Manufacturing--non-durable (short lived)
7. Manufacturing--agriculture-related processing (like milk)
8. Transportation
9. Communications
10. Other public utilities (not municipal--electric, gas, water)
11. Wholesale trade/distribution
12. Retail trade
13. Business/repair services
14. Personal services
15. Entertainment/recreational services
16. Professional/related services
17. Public administration/government
18. Home-based business
19. Medical

- 20. Education
 - 21. Other specify:
 - 22. Refused
19. How long did you work in this other industry? Was it . . .READ LIST
- 1. Less than 1 year
 - 2. 1-5 years
 - 3. 6-10 years
 - 4. More than 10 years

UNDEREMPLOYED

20. Why did you change fields/industries?
- 1. No advancement opportunities
 - 2. Opportunity opened up so I took a chance
 - 3. My previous job was phased out (I was laid off)
 - 4. Wanted more stable work situation
 - 5. Moved to new location
 - 6. Learned new skills or earned a degree
 - 7. Other, specify____
21. Did changing industries result in a loss of health benefits?
- 1. Yes
 - 2. No
 - 9. DK/NR
22. Did changing industries result in a loss of pension or retirement benefits?
- 1. Yes
 - 2. No
 - 9. DK/NR
23. Which of the following categories does your annual income before taxes fall into? Is it . . .
.READ LIST
- 1. Less than \$15,000
 - 2. \$15,000 - \$19,999
 - 3. \$20,000 - \$24,999
 - 4. \$25,000 - \$34,999
 - 5. \$35,000 - \$49,999
 - 6. \$50,000 - \$74,999
 - 7. \$75,000 - \$99,999
 - 8. \$100,000 or more

(QUOTA VARIABLE-Q24 will be moved toward the front if the quota is not filled early).

24. Is your current salary the highest annual salary you have earned in your working career?

1. Yes (go to Q26)
2. No (continue)
9. DK/NR

25. Why did you leave the job where you earned your highest annual salary? Did you...

1. Change careers because you were laid off by your previous employer?
2. Change careers to work in a more interesting/challenging field?
3. Change careers to work in more financially stable industry?
4. Change careers due to change in your health or family situation?
5. Other, specify

26. Would you say that you are currently employed at a job for which you are overqualified?

1. Yes
2. No
9. DK/NR

27. Would you say you are very satisfied, somewhat satisfied, somewhat dissatisfied or very dissatisfied with your current job?

1. VERY SATISFIED
2. SOMEWHAT SATISFIED
3. SOMEWHAT DISSATISFIED
4. VERY DISSATISFIED
9. DK/NR

28. How likely is it that you will seek in the next year a better job than the one you have now? Would you say. . .

1. Very likely
2. Somewhat likely
3. Somewhat unlikely
4. Very unlikely
9. DK/NR

29. Does your education qualify you for a better job?

1. Yes
2. No
9. DK/NR

30. If you decided to look for a new position within the same industry, could you find adequate employment opportunities in the Permian Basin or would you have to leave the area in order to make a lateral move or advance in your current field?

1. Adequate opportunities
2. Would have to leave the Permian Basin
9. DK/NR

TRAINING

31. How many years of experience do you have in your current primary job area?
1. less than 1 year
 2. 1-3 years
 3. 4-5 years
 4. 5-10 years
 5. more than 10 years
32. Do you possess any of the following skills (READ LIST, CODE "YES" OR "NO")
1. Clerical
 2. General basic computer skills (such as word processing) (SKIP TO Q33)
 3. Machine operation with computer skills
 4. Advanced computer skills (such as advanced computer programming) (SKIP TO Q34)
 5. Computer hardware interfacing and/or repair
 6. Computer technical support
 7. Welding
 8. Carpentry
 9. Mechanical
 10. Metal Working
 11. Medical/healthcare
 12. Electrical
 13. Executive/professional
 14. Marketing
 15. Other, specify
- 32A. Do you think that your current job fully utilizes your skills, education and experience?
1. Yes
 2. No
 9. DK/NR
33. Would you rate your skill in each of the following areas as excellent, good, fair or poor?
- | | <u>Excellent</u> | <u>Good</u> | <u>Fair</u> | <u>Poor</u> | <u>DK/NR</u> |
|--------------------------|------------------|-------------|-------------|-------------|--------------|
| Word processing | 4 | 3 | 2 | 1 | 9 |
| SPREADSHEETS | 4 | 3 | 2 | 1 | 9 |
| Databases | 4 | 3 | 2 | 1 | 9 |
| Using the World Wide Web | 4 | 3 | 2 | 1 | 9 |

34. What computer programming languages or development tools do you use in your work?
(check all that apply)

Access
Assembler
C
C++
CNE
COBOL
Device Drivers
Digital Video
DOS
E-mail/Messaging Systems
Electronic Publishing
Embedded Systems
GUI
HDTV
HTML
Hubs/Routers/Bridges
Internet / WWW
ISO Standard/OSI Model
JAVA
LAN / WAN
MFC
MPEG
MS Windows
NOVELL
NT Server
OLE
OOD/OOA
OODBMS
OS/2
Perl
Powerbuilder
RDBMS
Remote Access Communications
SDK
SQL Server
SVD (Simultaneous Voice & Data)
TCP/IP
Telephony
UNIX
Visual Basic
X Windows/Motif
Other, specify _____

34A. Are you currently getting training in any additional skills?

1. Yes
2. No

34B. Do you intend to in the future? If so, what kind of skills?

1. Yes (list them)
2. No
9. DK/NR

35A (IF DID NOT SAY THEY HAD COMPUTER SKILLS) Would you be interested in learning to use a computer to perform office or business tasks?

1. Yes CONTINUE
2. No SKIP TO Q37
9. DK/NR

35B Are you very interested, somewhat interested, or not interested in learning other skills that will increase your opportunities to get a better job?

1. Very interested
2. Somewhat interested
3. Not interested
9. DK/NR

36. Which type of learning environment is best suited for you to learn new skills?

1. Classroom (for credit/university setting)
2. Classroom (continuing education, no credit)
3. Company on-the-job training
4. A local learning center
5. Distance learning (using the Internet)
6. Would prefer to learn on my own
7. Other, specify _____

37. Do you speak a language other than English?

1. Yes CONTINUE
2. No SKIP TO Q39

38. What other language do you speak? DO NOT READ LIST

1. Spanish
2. French
3. Italian
4. German
5. Chinese
6. Vietnamese
7. Korean
8. Japanese
9. Other, specify

39. Would you be willing to learn an other language?

1. Yes
2. No
9. DK/NR

40. Which type of learning environment is best suited for you to learn a foreign language?

1. Classroom (for credit)
2. Classroom (continuing education, no credit)
3. Company on-the-job training
4. A local learning center
5. Distance learning (using the Internet)
6. Would prefer to learn on my own
7. Other, specify _____

41. Does your current employer offer tuition assistance for you to continue your education or training?

1. Yes
2. No
9. DK/NR

QUALITY OF LIFE

42. Next, I'm going to ask you a series of questions about the facilities and services available in your area. On a scale of excellent, good, fair or poor, how would you rate (*for each service there will be a "none available" option*):

Law enforcement service in your area?

Fire department in your area?

Emergency medical services (ambulance)?

Parks?

Garbage collection?

Street conditions?

Condition of your neighborhood?

Condition of the home that you live in?

Water service?

Sewer service?

Code enforcement?

ECONOMICS

43. Considering your own economic situation, how well does the amount of income you and your household members receive satisfy your needs? Would you say . . .

1. Not enough
2. Enough
3. More than enough
9. DK/NR

44. Would you say that you are better off financially than you were five years ago, about the same or worse?

1. Better
2. About the same
3. Worse
9. NR/DK

45. Thinking about 5 years from now, how confident are you that you will have enough money to meet your needs in the future? Would you say . . .

1. Very confident
2. Somewhat confident
3. Not very confident
9. DK/NR

46. During the past year, has your household been unable to pay all or some of the following bills because you did not have enough money?

	Yes	No	DK/NR
Rent or mortgage	1	2	9
Utilities	1	2	9
A large medical bill	1	2	9
Credit card	1	2	9
Other bills	1	2	9

IF NO TO ALL OF 46 (SKIP TO Q47).

46A. What did you do to resolve the problem? Did you take any of the following actions?

	YES	NO	DK/NR
Get financial help from a family member or friend	1	2	9
Get help from public welfare	1	2	9
Get help from another public agency	1	2	9
Speak to someone at your church or other faith-based organization	1	2	9
Get help from your employer	1	2	9
Get a loan from a bank or other loan institution	1	2	9
Go to a pawn shop	1	2	9
Other _____			

46B. Are you still having problems paying your bills?

1. Yes
2. No
9. NR/DK

47. What is your primary means of transportation? PROMPT WITH LIST IF NEEDED

1. Automobile (car or truck)
2. Cab
3. Bus
4. Walk
5. Ride with a friend or relative
6. Bicycle
7. Volunteer organization
8. Other, specify: _____
9. NR/DK

48. Do you or members of your household have trouble getting transportation to go to (ROTATE AND READ EACH ITEM)?

	<u>Yes</u>	<u>No</u>	<u>DK</u>
The grocery store	1	2	9
Shopping	1	2	9
A doctor or clinic	1	2	9
School	1	2	9
Work	1	2	9

DEMOGRAPHICS

49. Which of the following best describes the highest level of education you have completed? READ LIST

1. Elementary
2. Jr. High School
3. High School diploma/GED
4. Some college
5. Associate degree
6. Bachelor's degree
7. Masters
8. Ph.D.

50. Which of the following categories does your age fall into? Are you. . .READ LIST

1. 16-18 years
2. 19-24 years
3. 25-34 years
4. 35-44 years
5. 45-54 years
6. 55-64 years
7. 65 or older

51. Do you consider yourself to be. . .READ LIST

1. Caucasian
2. African-American
3. Asian
4. Hispanic
5. Other

52. Which of the following categories does your total, annual household income before taxes fall into? Is it. . .READ LIST

1. Less than \$15,000
2. \$15,000 - \$19,999
3. \$20,000 - \$24,999
4. \$25,000 - \$34,999
5. \$35,000 - \$49,999
6. \$50,000 - \$74,999
7. \$75,000 - \$99,999
8. \$100,000 or more

Thank you for your time and cooperation. This concludes our survey. We would like to record your name and telephone number because my supervisor re-contacts 10 percent of the interviews I complete for quality control purposes.

53. RECORD GENDER BY OBSERVATION

1. MALE
2. FEMALE

Appendix E: Computer Skills Table

Respondents' Computer Programming Skills

Computer Programming Software	Employed (n=155)	Not currently employed (n=145)
Access	15.5	4.1
Assembler	5.2	1.4
C	7.1	2.8
C++	7.7	4.8
CNE	3.9	1.4
COBOL	5.8	2.8
Device drivers	9.0	2.1
Digital video	9.0	3.4
DOS	25.2	15.9
E-mail/messaging systems	28.4	13.8
Electronic publishing	9.7	3.4
Embedded systems	5.2	0.7
GUI	4.5	1.4
HDTV	2.6	2.8
HTML	9.0	4.8
Hubs/routers/bridges	6.5	0.7
Internet/World Wide Web	31.0	20.0
ISO standard/OSI model	5.8	1.4
Java	9.7	4.8
LAN/WAN	9.0	1.4
MFC	3.2	1.4
MPEG	5.8	2.1
MS Windows	44.5	24.8
Novell	11.0	4.8
NT Server	9.7	1.4
OLE	3.2	2.1
OOD/OOA	3.2	1.4
OODBMS	3.2	0.7
OS-2	5.2	2.1
PERL	2.6	2.1
Powerbuilder	5.8	2.1
RDBMS	2.6	0.7
Remote access communications	7.1	2.1
SDK	1.9	0.7
SQL Server	5.2	1.4
SVD Simultaneous voice-data	2.6	0.7
TCP/IP	7.1	0.7
Telephony	12.9	3.4
UNIX	7.7	2.8
Visual Basic	11.6	3.4
X Windows-Motif	16.8	7.6
Other	14.8	2.1

Appendix F: Focus Group Discussion Guide

Focus Group Discussion Guide

Purpose: The purpose of this focus group is to gather information about the local economy and about economic development strategies that might be successful in the Permian Basin. I would like your honest assessment of the topics discussed. The information collected in the focus groups will be used by the Permian Basin Regional Planning Commission to evaluate and improve their services and to guide future activities.

Discussion Items: We can discuss any topic you believe would help us identify and assess economic development strategies for the Permian Basin, so don't let this list of questions prevent you from making an important point. However, we should attempt to address each of these items:

How would you describe the current economy of the Permian Basin? Do you see that condition changing over the next several years?

What is your impression of the Permian Basin in terms of:
the current workforce?
the climate for conducting business?
the availability of adequate transportation networks?

Economic development strategies can take a variety of forms. What sort of economic development would you like to see take place in the Permian Basin? Which strategies are most likely to be successful?

Some communities use incentives as an economic development strategy. Which, if any, incentives, are likely to be successful in the Permian Basin?

What do you know, if anything, about the Permian Basin Regional Planning Commission (PBRPC) and its mission?

Appendix G: Focus Group Participants

Focus Group Participants

Group 1. Chamber of Commerce and Business Leaders

Wesley Burnett
Willie Taylor
L.D. Sipes, Jr.
James Butler
Joan Baskin
Bill Hext
Lester Baker
Betsy Triplett- Hurt

Group 2. Unemployed Workers

John E. Crosby, Jr.
Terah Lee Harris
Betty Krager
Patti Bertran

Group 3. Displaced Workers and Underemployed Workers

Ruban Granados
Tex Clark
Jana Kay Walker
Wende Perry
Susan Macias
Krisha Marker
Edna B. Vega
David Blain
Becky Giacobbe

Group 4. Business Leaders and Petroleum Leaders

Dick Sivalls
Carolyn Tripp
Steve Castle
Don Bennett
Jerry Hayes
Wanda Jones
Iris Correa

Group 5. Education and Government Leaders

Joel Michaelis
Troy D. Williamson
David Daniel
Bill Morrow
Jesse "Chuy" Garcia