



TARGET INDUSTRY ANALYSIS

A. INTRODUCTION

The identification of existing and potential industry clusters is an essential element of any industrial recruitment strategy. Industry “clusters” are strategic groupings of businesses and industries that locate within close proximity of each other, or near a strategic resource, to gain economic benefits. One of the most famous industry clusters in the United States is Silicon Valley in California where technology-related businesses benefit from being located near each other. Most notably, this cluster of businesses attracts job seekers interested in the technology field, increasing the labor pool and thereby providing a wide range of labor skill sets and intellectual capacity.

In order to identify the industry clusters for the North East Texas region, the consultants first identified the strengths and weaknesses of the greater region and the state, including business climate and quality of life factors, and compared them against other competitive regions. Using a detailed screening process, the consultants then identified particular industry groups that either already exist or would benefit from the competitive advantages of the region. In addition, the consultants analyzed the region’s labor skills and job training capacity.

The result of this research is a target industry list containing specific industrial segments that are compatible with the resource, labor, and locational offerings of the Texarkana and North East Texas region. This list is intended to be used for comprehensive recruitment efforts by the Red River Redevelopment Authority as they redevelop the former Red River/Lone Star facilities. However, it is important to note that this target industry list is not intended to preclude any industries from being recruited or welcomed into the area. Rather, this list identifies those industries that may have the greatest interest or attracted to the region based on local and regional competitive advantages.

B. SUMMARY OF MAJOR FINDINGS AND CONCLUSIONS

- The Texarkana MSA’s strength is its relatively low cost of living. The MSA has the lowest cost of living of the six comparable MSAs included in this analysis.
- Companies that provide export and import products, as well as other similar companies, may consider a Texarkana location due to the potential transportation access to the Port of Lazaro Cardenas, in the Mexican State of Michoacan. Kansas City Southern railway provides seamless transportation connections to the port.

- A new Interstate 69 has been proposed along the existing Highway 59 corridor through Houston and east Texas. This highway may traverse through Texarkana; providing direct access to the Houston market and the Port of Lazaro Cardenas in southern Mexico.
- The competitive advantages of the Lone Star/Red River facilities potentially meet the needs of several industry clusters. Most notably, the facilities have the potential to develop into a regional multi-modal transportation hub due to strategic infrastructure and location assets. The region benefits from existing rail and highway infrastructure that places Lone Star and Red River ideally located between several key markets involved in distribution, especially from NAFTA trade routes.
- The abundant timber and natural resources in and around the Lone Star/Red River facilities make resource production and administration a strong candidate for future employment growth. With more than 15,000 acres of raw timber, Lone Star/ Red River becomes a logical location for additional wood-related processing and production.
- The Northeast Texas region is home to several key non-resource related production industries as well. Truck/trailer body manufacturing, valve & pipe fitting manufacturing and munitions production are all prevalent in the regional economy. Continued development of these industries on LS/RR site would further enhance their individual industry cluster advantages.
- There is a potential to attract some type of power generation facility to the Lone Star/Red River site. Construction of coal-fired energy production facilities is strong due to the increasing power needs of the nation's growing economy. In addition, the Lone Star/Red River facilities could be marketed to the emerging ethanol, biodiesel production, and biorefinery industry.

**LSAAP/RRAD-WEP
Top Industry Targets**

- **Energy Production**
 - Ethanol
 - Biodiesel
 - Coal-fired Energy Prod.
- **Logistics & Distribution**
 - Long Haul Trucking
 - Warehousing & Storage
 - Logistics
 - Transportation Support
- **Natural Resource Industries**
 - Food Manufacturing
 - Furniture Manufacturing
 - Forestry & Logging
- **Waste Management**

C. COMPETITIVE ASSETS AND CONSTRAINTS

1. Strengths

- On-site infrastructure and rail service
- Water capacity of up to 30 MGD
- More than 19,000 acres of competitively-priced land (assuming environmental clean-up by Army)
- Facilities offer opportunities for large end users or those requiring separation from other uses
- Quality of Life
 - Outdoor recreational opportunities
 - Affordably-priced housing
 - Regional healthcare and retail center
- Regionally competitive utility pricing
- Steady employment growth between 1998 and 2004
- Regional proximity and access

- Located within 300 miles of four major MSAs with populations greater than 1 million (Dallas/Fort Worth, Houston, and Memphis, TN)
- Located ¼ mile from Exit 206 off Interstate 30 which connects the Dallas/Fort Worth MSA to the Little Rock, AR and Memphis, TN MSAs
- US 59 is within 10 miles and provides a direct route to Houston and Mexico
- New Interstate 69 proposed to follow US 59 corridor and come through Bowie County in future
- Two primary rail providers serving the region
 - Union Pacific Railroad
 - Kansas City Southern Railway
- Kansas City Southern Railway provides direct ship to rail service from the Port of Lazaro Cardenas, a rapidly expanding deepwater port on the Pacific Coast of Mexico
- Affordable labor rates
- Labor force availability due to recent lay-offs
- Future Foreign Trade Zone status
- Predictable revenue source from timber sales
- Red River Redevelopment Authority is financially stable and capable of implementing redevelopment
- Regional trucking, warehousing, and distribution presence

2. Constraints

- Small size of regional labor pool
- Limited air transportation services
- Site location is considered remote for many because it's not located in a major MSA
- On-site infrastructure and rail systems need substantial investment to support a major redevelopment of the facilities
- Site is environmentally contaminated and must be cleaned up before major redevelopment can occur
- Regional economy is too small to absorb substantial acreage on an annual basis
- Conservative state incentive policies make Texas less competitive than other more aggressive southern states in industry recruitment
- Lack of institutions and programs dedicated to workforce (re) training, preparation and post-secondary education

D. BUSINESS CLIMATE FACTORS

To assess the business climate factors that impact Bowie County and the greater Texarkana region, the consultant collected state rankings from the Corporation for Enterprise Development (CFED) in Washington, DC. CFED is a non-profit organization that promotes economic vitality through increased economic competitiveness. It also gathers economic, financial and other relevant data on all fifty states. CFED issues an annual Development Report Card for the States, which ranks each state in 84 separate categories. These categories fall under the sub-headings of: (1) Economic Performance, (2) Business Vitality and (3) Development Capacity.

While rankings are, by nature, subjective and do not provide the complete picture of the business climate in Texas or the Texarkana region, they are useful in measuring the State's performance relative to other states. This comparison provides a practical and adequate method for gauging the relative performance of Texas in a number of important economic indicators. CFED has provided a synopsis of Texas' economic performance as part of a "report card," grading each state in the three comprehensive headings. The adjacent box includes excerpts from the CFED report for Texas.

Table 10-1 shows how Texas compares to its immediate competitors in CFED's 84 economic measures. The data is sorted by Texas' ranking amongst all 50 states (second column). The ranking system goes from 1 (the best state in a particular category) to 50 (the worst in a particular category). The table also compares Texas with its border states of Arkansas, Louisiana and Oklahoma. These states have been included in this analysis to provide a comparison for how Texas "stacks up" against states that are considered to be regional competitors and have a varied level of success in industry recruitment. The following narrative summarizes the findings in the CFED report card for Texas.

Texas Economic Overview

According to the *2007 Development Report Card for the States (DRC)*, the Texas economy can be described a hospitable environment for businesses but one that poses serious challenges for residents. Over the 20 years that the DRC has been produced, the investments made to lay the foundations for growth have become less successful.

Economic Performance - As a place to live and work, Texas can be challenging. However, employment prospects are strong. Despite few layoffs, unemployment is higher than in many other states. Securing a job, though, does not necessarily lead to financial security. Despite average annual pay being higher than most states', many workers do not earn enough to move out of poverty, enjoy employer-provided health insurance, or have full-time employment. With a high poverty rate and a markedly inequitable distribution of income, Texas' wealth is not widely shared. Poor stewardship of the state's resources and a low Quality of Life are symptomatic of a state that is not taking care of its residents.

Grade: F

Business Vitality - A leader in Business Vitality, Texas enjoys both competitive existing businesses and strong entrepreneurial activity. Existing businesses are making investments in their future capacity. Though other states may form new companies at higher rates, Texas' new ventures are contributing more to overall employment than most other states.

Grade: A

Development Capacity - Below average marks for most of the investment areas in Texas are behind this year's "D" grade for Development Capacity. While the state continues to provide and maintain excellent Infrastructure, those resources are not sufficient to support future growth. Also needed are skilled workers, creative and innovative scientists and engineers to develop and commercialize ideas, adequate capital, and amenities. In these areas, Texas' investments are putting it behind most states. Over time, inadequate investments can create larger, systemic problems.

Grade: D

**Table 10-1
Economic Development Report Card
Texas and Competitive States
2007**

	Texas	Arkansas	Louisiana	Oklahoma
EMPLOYMENT	B	A	F	B
Long-Term Employment Growth	10	26	40	23
Short-Term Employment Growth	12	2	50	16
Unemployment Rate	34	25	49	18
Mass Layoffs	12	7	35	8
EARNINGS AND JOB QUALITY	D	F	F	D
Average Annual Pay	17	45	38	43
Average Annual Pay Growth	19	10	37	39
Employer Health Coverage	48	47	46	42
Working Poor	49	44	44	36
Involuntary Part-Time Employment	47	46	48	29
EQUITY	D	F	F	A
Poverty Rate	47	46	48	28
Income Distribution	48	41	50	19
Income Distribution Change	34	48	40	14
Rural/Urban Disparity	26	27	36	1
QUALITY OF LIFE	F	D	F	F
Net Migration	19	11	38	28
Infant Mortality	22	45	48	38
Uninsured Low Income Children	50	5	30	43
Teen Pregnancy	50	46	45	44
Heart Disease	34	42	43	49
Homeownership Rate	44	37	19	17
Charitable Giving	29	11	32	6
Voting Rate	48	41	18	32
Crime Rate	45	36	47	39
RESOURCE EFFICIENCY	D	C	D	D
Per Capita Energy Consumption	46	41	48	39
Renewable Energy	49	11	27	35
Toxic Release Inventory	27	28	42	18
Vehicles Miles Traveled	21	37	14	48
Solid Waste Recycled	26	27	37	48
Greenhouse Gas Emissions	42	33	46	39
COMPETITIVENESS OF EXISTING BUSINESSES	B	C	A	A
Traded Sector Strength	15	24	37	26
Change in Traded Sector Strength	n/a	n/a	n/a	n/a
Business Closings	39	14	3	2
Sector Competitiveness	n/a	n/a	n/a	n/a
Manufacturing Capital Investment	10	38	4	13
STRUCTURAL DIVERSITY				
Sectoral Diversity	19	26	33	37
Dynamic Diversity				
ENTREPRENEURIAL ENERGY	A	F	D	D
New Companies	35	30	43	36
Change in New Companies	26	42	43	46
New Business Job Growth	4	30	3	29
Technology Companies	16	39	48	37
Initial Public Offerings	19	38	34	32

Source: Corporation for Enterprise Development and RKG Associates, 2007

	Texas	Arkansas	Louisiana	Oklahoma
HUMAN RESOURCES	D	D	F	D
Basic Educational Skills Proficiency				
Reading	36	32	49	42
Math	16	33	47	39
Average Teacher Salary	50	21	46	48
K-12 Education Expenditures	44	32	31	42
High School Graduation	48	30	45	35
High School Attainment	50	45	49	26
College Attainment	34	48	49	40
FINANCIAL RESOURCES	D	F	D	F
Commercial Bank Deposits	n/a	n/a	n/a	n/a
Loans to Deposits	n/a	n/a	n/a	n/a
Loans to Equity	n/a	n/a	n/a	n/a
Comm. & Ind. Loans	n/a	n/a	n/a	n/a
Comm. & Ind. Loans to Total Loans	n/a	n/a	n/a	n/a
Income from Dividends, Interest, and Rent	44	46	47	38
Venture Capital Investments	19	40	37	39
SBIC Financing	26	44	25	35
Private Lending to Small Businesses	42	11	17	33
INFRASTRUCTURE RESOURCES	A	C	D	F
Highway Deficiency	9	31	33	20
Bridge Deficiency	15	21	37	43
Urban Mass Transit Availability	19	46	27	40
Sewage Treatment Needs	n/a	n/a	n/a	n/a
Digital Infrastructure	18	11	46	44
AMENITY RESOURCES	D	A	F	B
Energy Costs	39	12	35	22
Urban Housing Costs	33	12	43	15
Health Professional Shortage Areas	31	22	50	37
Tourism Spending	n/a	n/a	n/a	n/a
Conversion of Cropland	14	23	37	22
Air Quality	31	15	21	1
INNOVATION ASSETS	C	F	D	D
Ph.D. Scientists & Engineers	30	47	40	37
Science & Engineering Grad Students	27	47	25	35
Households with Computers	28	44	34	31
University R & D	29	49	31	44
Federal R&D	20	50	42	46
Private R&D	23	45	47	39
SBIR Grants	26	38	48	30
Royalties and Licenses	19	37	14	29
Patents Issued	20	46	45	37
University Spinouts	24	4	27	13
COMPOSITE GRADES				
Performance	F	D	F	D
Business Vitality	A	D	C	C
Development Capacity	D	D	F	F

1. Economic Performance

Compared to its regional competitors, Texas does not distinguish itself from the states of Oklahoma, Louisiana, and Arkansas relative to economic performance. Outside of strong employment growth, the state receives a D or F grade in earnings, equity, and quality of life. Trend data indicate that the state has made a concerted effort to ensure employment growth remained strong in the state. As a result, the disparity in income levels between urban and rural jobs as declined. However, this focused approach has allowed quality of life issues to worsen, with the state's rank in 10 of the 13 indicators falling between 2000 and 2007.

2. Business Vitality

Despite the relatively strong business climate in Texas, conditions in 2000 were slightly worse. The state gained ground in almost as many indicators than it lost ground. The success in attracting large employers to the state resulted in a positive shift in the change in new companies as well as new business job growth. In other words, business recruitment has improved in recent years.

3. Development Capacity

The trend data suggest that the lack of investment in education has resulted in the deterioration of student achievement. Texas lost ground in each of the education-related indicators between 2000 and 2007. The availability of financial resources has also relatively declined in the state. However, investment in digital infrastructure (+22 spots) and protection of cropland (+28 spots) indicate not all changes have been negative.

The data indicate that economic development resources have been concentrated in a few key areas. As a result, business vitality has thrived while economic performance and development capacity have languished. This is most evident in employment-related indicators. Employment growth has been steady and layoffs have substantially declined because of the recruitment of large employers into the state. However, the quality of these new jobs has not changed living conditions for state residents. Most of the quality of life factors related to employment are unchanged or slightly worse than in 2000.

As such, investments need to be made on human capital financial resources. Improving education opportunities will help mitigate some of the issues facing Texans today, particularly low-income residents. Business recruitment efforts need to be refined to concentrate on better-paying jobs that provide medical and retirement benefits for employees. An improved financial support system for small businesses would also mitigate some of these issues, as locally owned small businesses tend to think more community-minded.

E. QUALITY OF LIFE FACTORS

Cities Ranked and Rated, a Frommer's publication, ranks 376 U.S. metropolitan statistical areas (MSA) in ten different categories that affect quality of life and livability. The ten categories are (1) economy & jobs, (2) cost of living, (3) climate, (4) education, (5) health care, (6) crime rates, (7) transportation, (8) leisure activities, (9) fine arts and (10) livability. Each of these categories has a range of indicators for which to compare different metropolitan regions. The subject property is located within the Texarkana TX metropolitan area.

For this analysis, the consultants selected five MSAs for comparison to the Texarkana, TX MSA, and included the U.S. average as a standard benchmark. These metropolitan areas, which were selected based on their similarity to the Texarkana MSA and the regional proximity, included: Longview/Marshall TX, Tyler TX, Fort Smith AR, Pine Bluff AR and Shreveport/Bossier City LA. The

Texarkana MSA is ranked in comparison with these competitive regions on 38 quality of life indicators, with “1” representing the highest rank and “6” representing the lowest rank.

1. Quality of Life Strengths

The Texarkana MSA’s strength is its relatively low cost of living. The MSA has the lowest cost of living of the six study areas and the nation as a whole. A further breakdown of this data (Table 10-2) indicates the Texarkana MSA ranks among the most affordable places to live in all categories except the cost of transportation costs (i.e., car ownership and operation). However, goods and services purchases in the region are relatively affordable. Each of the MSAs has a cost of living between 19 percent and 27 percent below the national average. Despite having one of the highest transportation costs in the region, these costs in Texarkana are still below the national average.

Relative to competitive strengths for job recruitment, income levels are much lower in the region than the U.S. as a whole. Texarkana MSA has a per capita income level lower than its competitive MSAs at \$18,590, and is less than 80% of the national per capita of \$23,420. The lower wage rates are attractive to potential employers looking to reduce labor costs, providing an opportunity for employers to offer wage rates that are competitive locally but relatively low on a national scale.

The region also compares favorably in unemployment rate and recent job growth. Texarkana has a lower unemployment rate (5.2 percent) and a higher recent job growth rate (1.2 percent) than the U.S. as a whole (6.1 percent and 0.9 percent, respectively). Recent job growth is higher for each study MSA than the U.S. average except for Shreveport/Bossier City (0.8 percent).

2. Quality of Life Competitive Weaknesses

Despite these strengths, the data indicate that the region has several competitive weaknesses to overcome. Most notably, the Texarkana MSA has a comparatively high crime rate, as the MSA averages nearly 31 percent more violent crimes per 1,000 people than the rest of the country. The MSA also lags behind in education attainment including the percentage of high school graduates and the number persons with 2- or 4-year college degrees. Education attainment levels in Texarkana are lower than the competitive MSAs and well below the national averages.

In terms of business recruitment, the Texarkana MSA has a relatively small population base and lower population growth rates. Both conditions could potentially impact business recruitment, as companies prefer areas with larger and growing labor forces. Combined with the relatively low unemployment rate, the data suggest there are comparatively fewer potential employees available to fill new jobs immediately. What is not known by the consultants is the rate of “under-employed” workers in the regional economy. Typically, under-employed workers are employed in jobs that underutilize their work skill and educational level

Quality of Life Strengths and Weaknesses

Strengths

- *Low Cost of Living*
- *Housing Affordability*
- *Lower Income Levels Attractive to Cost Sensitive Industries*
- *Low Unemployment Rate*

Weaknesses

- *Relatively High Crime Rate*
- *Lower Education Attainment*
- *Slow Population Growth Rates*
- *Small Labor Force*

Table 10-2
Quality of Life Indicators
Cities Ranked and Rated
Texarkana and Competitive MSAs

	Rank	Texarkana, TX	Longview/ Marshall, TX	Tyler, TX	Fort Smith, AR	Pine Bluff, AR	Shreveport/ Bossier City, LA	US Average
DEMOGRAPHICS								
Population	5	131,027	212,288	181,437	212,045	83,374	393,390	212,045
Population Density/Square Mile	6	86.7	120.6	195.4	117.4	94.2	169.8	117.4
Population Growth (1990-2003)	4	9.1%	9.5%	19.9%	20.5%	(-2.5%)	4.5%	20.5%
INCOME								
Per Capita Income	6	\$18,590	\$18,931	\$23,084	\$20,116	\$23,420	\$20,652	\$23,420
Household Income	5	\$35,017	\$36,536	\$43,361	\$37,488	\$33,714	\$38,129	\$46,060
Household Income Growth (1990-2003)	5	52.0%	51.7%	68.1%	67.2%	57.5%	66.8%	57.3%
EMPLOYMENT								
Unemployment Rate	3	5.2%	6.7%	4.8%	4.5%	8.2%	7.8%	6.1%
Recent Job Growth (2002-2003)	4	1.2%	2.6%	1.6%	2.8%	1.1%	0.8%	0.9%
Projected Future Job Growth (Through 2010)	4	11.1%	15.7%	14.5%	18.0%	9.3%	10.2%	15.1%
White Collar	3	50.0%	47.7%	54.9%	45.4%	47.7%	52.7%	54.5%
Blue Collar	4	50.0%	52.3%	45.1%	54.6%	52.3%	47.3%	45.5%
INDEXES AND TAXES								
Cost of Living Index*	1	73.4	76.0	80.8	76.4	79.1	78.5	100
Income Tax Rate	-	0.00%	0.00%	0.00%	7.00%	7.00%	4.00%	4.625%
Sales Tax Rate	-	8.250%	8.250%	8.250%	8.375%	7.125%	8.250%	6.474%
Property Tax Rate**	-	\$22.3	\$17.7	\$19.8	\$12.0	\$10.2	\$11.0	\$15.6
HOUSING								
Median Home Price	2	\$75,530	\$80,680	\$97,430	\$78,900	\$62,880	\$89,000	\$160,100
Median Rent	3	\$495	\$474	\$514	\$479	\$486	\$524	\$670
Homes Owned	3	65.8%	66.8%	66.1%	70.1%	54.3%	60.6%	63.9%
Homes Rented	4	21.0%	20.6%	21.9%	19.2%	22.2%	23.1%	25.3%
Housing Affordability***	6	56.0%	63.0%	63.0%	61.0%	57.0%	58.0%	54.5%
NECESSITIES****								
Food Index	1	86.9	89.1	90.0	90.2	101.6	88.4	100.0
Housing Index	2	46.9	50.1	60.5	49.0	39.1	55.3	100.0
Utilities Index	2	84.0	79.4	89.4	85.8	113.5	87.8	100.0
Transportation Index	5	95.2	87.9	88.8	94.3	99.2	94.7	100.0
Healthcare Index	2	91.7	94.2	92.0	87.7	100.2	91.9	100.0
Miscellaneous Cost Index	1	86.7	96.2	96.9	94.9	98.9	93.6	100.0
INTERCITY SERVICES								
Miles to Nearest Major Airport	2	3	55.0	87	103	38	1	46
HEALTHCARE								
Physicians/100,000 Residents	4	229.0	163.5	335.7	213.6	181.1	399.1	261.1
Hospital Beds/100,000 Residents	1	704.4	383.7	516.3	538.4	563.6	664.5	432.2
CRIME								
Violent Crime Rate/100,000 Residents	4	599.0	445.9	492.9	569.1	1,473.2	707.7	456.0
ACHIEVEMENT								
High School Degree	4	76.4%	78.4%	78.8%	75.7%	73.3%	79.0%	80.2%
2-Year College Degree	4	5.4%	6.4%	6.7%	6.6%	3.0%	3.7%	6.2%
4-Year College Degree	5	9.6%	11.5%	15.3%	8.9%	10.8%	12.6%	15.8%
Graduate/Professional Degree	3	5.4%	5.3%	7.2%	4.9%	4.9%	6.5%	9.6%
PUBLIC SCHOOLS								
Expenditures/Pupil	3	\$5,022	\$5,097	\$4,946	\$4,841	\$4,981	\$5,118	\$5,894
State SAT Score	3	993	993	993	1118	1118	1122	1020
COMMUTE								
Average Commute Time (minutes)	6	20.3	21.9	22.2	21.8	21.6	21.9	22.6
AUTOMOTIVE								
Gas (Cost/Gallon)	3	\$1.41	\$1.40	\$1.44	\$1.39	\$1.42	\$1.44	\$1.50

*Composite of all cost factors, including housing and other necessities, expressed as an index against a national average of 100.

**Average dollar amount paid/\$1,000 property valuation in an area.

***The percentage of local population that can afford the average purchased or rented residence.

****(Necessities) statistics calculate the following components of the overall Cost of Living Index Data and compare it against the national average (100):

1. Food Index: standard price of "basket" of food purchased in the area
2. Housing Index: measures the cost of acquiring (purchasing or renting) and maintaining a home
3. Utilities Index: includes the average cost (price times usage) of major utilities, mainly electricity and heating fuels
4. Transportation Index: includes most costs of driving an automobile, including the vehicle itself, fuel, repairs, insurance, licensing, parking, and public transit
5. Healthcare Index: includes the cost of physicians, clinical, and hospital services, as well as medications and supplies
6. Miscellaneous Cost Index: includes a variety of items needed to support daily living, including clothing, durable goods, and an assortment of services, such as personal care and financial services

F. TOP SITE SELECTION FACTORS

Each year, *Area Development* magazine¹ surveys a sample of corporate executives to identify the site top selection criteria that are most important in making corporate relocation/expansion decisions. The report is released annually via the magazine’s website, providing a score-based ranking of the top site selection factors. The score represents the percentage of respondents who noted the criterion as ‘very important’ or ‘important.’ The data show the results of the most recent survey (December 2006) along with the previous two years for comparative purposes.

Based on the survey results, Bowie County, TX would seem to be well represented in some of the more important site selection criteria. Most notably, the region has competitive labor costs (1st) and good highway accessibility (2nd) (Table 10-3). In addition, highway accessibility could improve in the future if a new north/south connector road is constructed through the Red River/Lone Star facility as proposed and if the proposed Interstate 69 is constructed through the Red River/Lone Star property. The region also has low occupancy and construction costs and competitive utility rates.

However, the region is less competitive in some criteria. The region does not have an abundance of available skilled labor (8th) and Texas is less competitive than other states in providing state and local incentives to corporations.

The Texarkana region is competitive in some of the quality of life issues as well. For example, housing is very affordable in the MSA (3rd), and the region has relatively high concentration of health care practitioners (4th). However, quality of life issues are becoming less important to site selection executives, with each of the top nine factors falling from 2004 levels, in terms of relative importance. The highest-ranking issue, low crime rate, has a net decrease of 9.4 points between 2004 and 2006. The top quality of life factor would only rank 15th amongst the site selection criteria.

**Table 10-3
Top Site Selection and Quality of Life Criteria**

Rank	Criterion	2004	2005	2006	'04-'05 Change	'05-'06 Change
SITE SELECTION						
1	Labor Costs	96.4	87.9	95.0	(8.5)	7.1
2	Highway Accessibility	90.2	91.4	90.9	1.2	(0.5)
3	Corporate Tax Rate	84.4	85.0	90.8	0.6	5.8
4	State and Local Incentives	87.5	86.0	88.6	(1.5)	2.6
5	Availability of Telecommunications Services	82.3	79.8	88.3	(2.5)	8.5
6	Tax Exemptions	83.3	83.6	86.7	0.3	3.1
7	Occupancy or Construction Costs	83.6	83.7	85.5	0.1	1.8
8	Availability of Skilled Labor	89.1	87.2	85.1	(1.9)	(2.1)
9	Energy Availability and Costs	85.8	82.8	82.4	(3.0)	(0.4)
10	Availability of High-Speed Internet Access	80.7	85.7	82.1	5.0	(3.6)
11	Cost of Land	76.6	79.1	79.2	2.5	0.1
12	Low Union Profile	75.5	77.0	78.4	1.5	1.4
13	Proximity to Major Markets	72.7	83.2	76.9	10.5	(6.3)
14	Availability of Land	75.7	75.0	73.3	(0.7)	(1.7)
15	Environmental Regulations	80.7	71.1	68.9	(9.6)	(2.2)
16	Right-To-Work State	69.5	69.7	67.1	0.2	(2.6)
17	Availability of Unskilled Labor	59.4	50.6	65.3	(8.8)	14.7
18T	Raw Materials Availability	64.9	62.3	64.1	(2.6)	1.8
18T	Availability of Long-Term Financing	63.0	56.5	64.1	(6.5)	7.6
20	Accessibility to Major Airport	53.8	50.0	61.4	(3.8)	11.4
21	Training Programs	50.4	59.6	56.0	9.2	(3.6)
22	Proximity to Suppliers	62.4	66.7	49.3	4.3	(17.4)
23	Proximity to Technical University	32.4	30.2	30.0	(2.2)	(0.2)
24	Railroad Service	26.9	28.9	20.8	2.0	(8.1)
25	Waterway or Oceanport Accessibility	21.1	20.2	17.0	(0.9)	(3.2)
QUALITY OF LIFE						
1	Low Crime Rate	80.2	67.8	70.8	(12.4)	3.0
2	Ratings of Public Schools	66.7	56.8	64.4	(9.9)	7.6
3	Housing Costs	64.5	60.0	63.9	(4.5)	3.9
4	Health Facilities	72.2	62.1	60.8	(10.1)	(1.3)
5	Housing Availability	65.8	59.3	54.4	(6.5)	(4.9)
6	Climate	50.5	46.5	48.6	(4.0)	2.1
7	Colleges and Universities in Area	58.1	46.0	44.6	(12.1)	(1.4)
8	Recreational Opportunities	50.5	44.8	43.7	(5.7)	(1.1)
9	Cultural Opportunities	51.9	48.8	41.4	(3.1)	(7.4)

Source: Area Development Magazine, December 2006

¹ Area Development magazine is a site and facilities planning publication designed to report regional and national trends in site selection and job creation.

G. NAFTA IMPACTS ON ECONOMIC OPPORTUNITIES

1. Rail Commerce Impacts

The North American Free Trade Agreement (NAFTA) was implemented on January 1, 1994. Since that time, trade among NAFTA nations has grown dramatically. From 1994 to 2005, trade among and between the NAFTA nations climbed 173%, from \$297 billion to \$810 billion. Each day, the NAFTA countries conduct nearly \$2.2 billion in trade with each other, according to the office of the United States Trade Representative. Since 1993, U.S. merchandise exports to NAFTA partners grew twice as fast (133%) than U.S. exports to the rest of the world, which grew by 77%.

Canada and Mexico are the first and second largest export markets for U.S. goods, accounting for 36% of U.S. exports. For agriculture, Canada and Mexico alone account for 55% of the increase in U.S. agricultural exports to the world since the NAFTA since 1994. NAFTA has reportedly been good for Mexican agriculture, as trade growth has been balanced with the U.S. Since 1993, U.S. agricultural exports to Mexico have increased by \$5.7 billion, while U.S. agricultural imports from Mexico have increased \$5.6 billion.

NAFTA has been particularly significant for Texas. Given the State's 1,200-mile long border with Mexico, and a well-established transportation network between Texas and Mexico, the State was in prime position to be helped or hurt by the implementation of NAFTA. According to data from the Federal Reserve Bank of Dallas², the State was both helped and hurt as a result of NAFTA. The Federal Reserve report indicates that industries such as rubber and miscellaneous plastic products, printing and publishing, textile mill products, petroleum and coal products, leather and leather products and electronic equipment experienced increases in exports to Mexico of 50% to 80%. In contrast, significant declines in lumber and wood products, and furniture and fixtures each saw exports to Mexico decline by 75% or more. Texas now ranks as the state with the largest export volume, accounting for 14% of U.S. exports.

Numerous studies have indicated that rail transportation is experiencing a renaissance. Cushman & Wakefield, one of the nation's leading commercial real estate firms, recently issued a White Paper on the "new age of trade", which illustrates how changing global business priorities are impacting real estate across the nation. Among the findings of that study are:

The increased use of rail has led to strong growth in the warehouse markets surrounding some of the nation's largest interior hubs, such as Chicago, Memphis, Atlanta and Dallas. Once the cargo is delivered to port, it can be placed directly onto rail cars for fast shipment to the nation's interior. Rail is more cost-effective than trucks for many types of goods, especially for large shipments that can be transported from ports to holding destinations, such as super-sized distribution centers.

Chicago, Memphis and Dallas-Fort Worth all stand to gain the most from rail's resurgence. These regions have the ability to serve large markets and are located at the intersection of multiple rail lines and interstates. These areas also have major players such as local government, railroads and developers, who are willing to make investments that will keep the rails and the real estate surrounding them growing.

The Journal of Commerce identified a market trend of distribution centers of between 200,000 and 500,000 square feet in size as being most attractive to the marketplace, with larger, "big box" retailers requiring centers of 800,000 to 1.2 million square feet.

Freight volumes into and out of Texas have continued to increase on both rail routes and over-the-road. Data from the Federal Highway Administration indicates that by 2020, major Texas trade

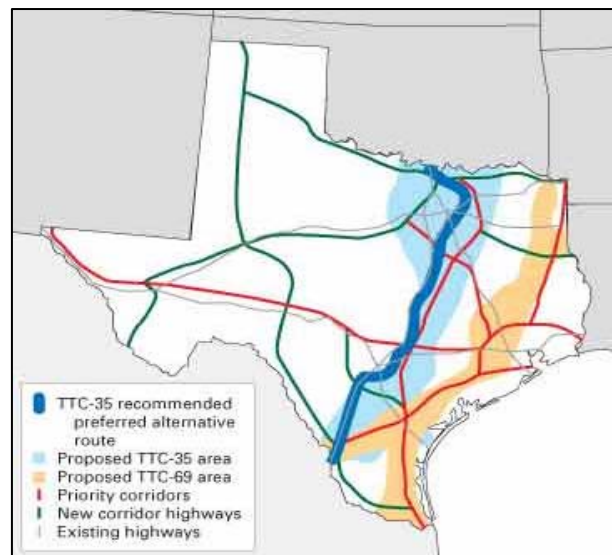
² "Did NAFTA Spur Texas Exports?", Federal Reserve Bank of Dallas, March/April 2006

corridors, particularly between major metropolitan areas and international gateways, will carry more than 10,000 trucks each day. The Texas Transportation Institute (TTI) evaluated a variety of alternatives for reducing the number of trucks on highways. Expansion of rail usage is one alternative. In particular, TTI reviewed the expansion of inter-modal shipping operations to improve shipping while reducing truck traffic. TTI evaluated three options for reducing overall truck traffic, including:

- Improving Existing Rail Lines – TTI evaluated investment options for capacity improvements along the existing rail route between Dallas and Laredo, which is owned by Union Pacific Railroad (UP). This line, which services the Interstate 35 corridor, is considered the most significant in terms of rail movements between the U.S. and Mexico.
- Utilize What's Out There – TTI also evaluated Burlington Northern Santa Fe Railway (BNSF) proposal for trailer-on-flat-car intermodal service for one of its underutilized rail lines, which runs between Dallas and Houston. This line runs somewhat parallel to I-45, and BNSF projects that almost 100,000 truckload could be shipped by rail rather than over-the-road on an annual basis.
- Evaluate Non-Traditional Methods – TTI also spent some time “thinking outside the box”. The concept involved transporting the truck, trailer and driver by rail from El Paso to Dallas. This concept, referred to as a “ferry service”, would reduce wear and tear on the highways as well as the equipment, and allow the driver to gain additional rest while in transit on the rail trip.

More recently, the Texas Department of Transportation (TxDOT) has proposed Trans-Texas Corridor 35 (TTC-35). Conceptually, this would be a new toll roadway running parallel to I-35. TTC-35 would be funded by the private sector, and tolls would be used to repay construction costs and maintain the roadway. In addition, Cintra-Zachry, the state’s planning partner for TTC-35, proposed building a 600-mile freight rail line from Dallas/Fort Worth to Mexico. One of the expected benefits of this approach is that the new rail line could reduce truck traffic on I-35 by more than one million trucks annually, helping to reduce congestion and reduce maintenance costs. Exhibit 10-1 provides a graphic representation of TTC-35, as well as the I-69/TTC corridor, which has the potential to pass through Bowie County in proximity to the Lone Star Army Ammunition Plant. According to TxDOT, environmental impact studies for both the Oklahoma to Mexico/Gulf Coast (TTC-35) element and Northeast Texas to Mexico (I-69/TTC) began in early 2004. These studies will cover broad expanses of land within which each route might be built.

**Exhibit 10-1
Trans-Texas Corridor
2007**



TxDOT’s Texas Rail System Plan Summary for 2006 provides an overview of significant issues and concerns relative to rail transportation with Texas. According to the report, the concerns identified

below have a significant effect on the efficient movement of rail freight through the state, including:³

- Poor Track Conditions - Track conditions that do not allow train speeds of 40 miles per hour or better. Some lines will also need increased track capacity and switching tracks to handle projected tonnages for 2025.
- Storage Yards - The Class I railroads are evaluating investments in several urban areas to reduce bottlenecks around terminals and switching facilities impacting trains and vehicle/pedestrian traffic.
- Rail Bridges - Evaluations of capacity needs should be performed on the six international rail bridges between Texas and Mexico. In addition, there are numerous aging rail bridges within the state that are structurally obsolete based on the increased carload standard of 286,000 pounds.
- Regional and Shortline Infrastructure - Shortline railroads face significant challenges in maintaining and upgrading their infrastructure. Many were formed as the result of Class I railroads divesting themselves of marginally profitable lines, or operate on deteriorated lines saved from abandonment. Short line owners and operators invest most of their capital to acquire their facilities and have very limited resources available for line maintenance. Major rehabilitation or upgrades are generally not financially possible for these operators.
- Ports - Rail access to most ports has also become difficult due to infrastructure and capacity constraints. Additionally, rail-highway traffic conflicts on and near port boundaries are increasing as development occurs.
- Rail/Highway Grade Crossings - Non-signalized warning systems at crossings reduce train speeds. Train/vehicle traffic conflicts in urban areas also increase congestion. Community and transportation planners should consider the location of rail lines to eliminate grade crossings and avoid constructing additional crossings.
- Freight Rail Bottlenecks - Increasing freight rail volumes are straining the capacity of existing infrastructure and causing bottlenecks where freight flows are heaviest. Delays, congestion, and air quality problems can be caused by the inefficient operations and capacity constraints of these locations.
- Directional Traffic - Single-track operational constraints reduce train handling capabilities. Double tracking and lengthening sections of track next to the mainline that allow trains traveling in opposite directions to pass each other (passing sidings), greatly increases line capacity.

2. Port of Lazaro Cardenas

a.) Background

The Port of Lazaro Cardenas is the smaller of two deep-water ports located on the Pacific Coast of Mexico⁴ in the Mexican State of Michoacan. However, changes are occurring that could allow the Port of Lazaro Cardenas to play a larger role in international trade. In 1995, Mexican seaport operations were decentralized and partially privatized. This change

³ Texas Rail System Summary Plan, 2006, pages 13 and 14

⁴ The Port of Manzanillo is the larger port located to the north of Lazaro Cardenas.

created the possibility for 100-percent foreign investment in terminal ownership and up to 49% foreign investment in each port’s Integrated Port Authority. In fact, Hutchinson’s Port Holdings, a Hong-Kong based company and the largest port management company in the world, now owns and operates the Port of Lazaro Cardenas.

Though the ports were partially privatized in 1995, it was not until 1997 that the first of the government owned Ferrocarriles Nacionales de Mexico (FNM) regional railroads was privatized. Kansas City Southern partnered with Grupo Transportacion Maritima Mexicana, SA (TMM) and created the Transportacion Ferroviaria Mexicana (TFM) railway. On April 1, 2005, Kansas City Southern (KCS) purchased the controlling interest in the TFM railway from TMM. The purchase of the controlling interest in the Mexican railway created a ship-to-rail transportation system connecting the North American interior to the Pacific Rim, thereby establishing an alternative trade route for shippers seeking to avoid the congestion at the Los Angeles and Long Beach, CA ports.

Historically, moving containers through Mexico has not been a competitive option for shippers, as Mexican customs charged a “through bond” of up to \$100,000 per-container for shipments passing through Mexican territory. The new rules allow shippers to move as many containers as they like for a single \$55,000 bond. It is estimated that these savings could make shipping containers through Lazaro Cardenas up to 15 percent less expensive than shipping them through Long Beach or Los Angeles.

b.) Deepwater Port Expansion

Spurred by the lower bond requirements and railway improvements, in 2005 Hutchinson Port Holdings decided to begin a three-phase \$290 million redevelopment project. When completed, the Port of Lazaro Cardenas will contain an 18-meter channel that will be able to accommodate four ultra large container vessels simultaneously. Other improvements include increasing the area from 3.75 acres to 255 acres and increasing the

Twenty-Foot Equivalent Unit (TEU) capacity (the international standard measure of containers) of the port from 180,000 TEUS to over 2,000,000 TEUS per year (Table 10-4).

**Table 10-4
Port of Lazaro Cardenas
Current and Future Facility Comparison
2004 & 2008**

	Current (2004)	Upon Completion (Scheduled for 2008)
Total Area (acres)	3.75	255
Total Berth Length (meters)	286	1,481
Quay Cranes	2	2
Reefer Plugs	432	432
Twenty-Foot Equivalent Unit (TEU) Capacity	180,000	2,000,000

Source: Port of Lazaro Cardenas and RKG Associates Inc., 2007

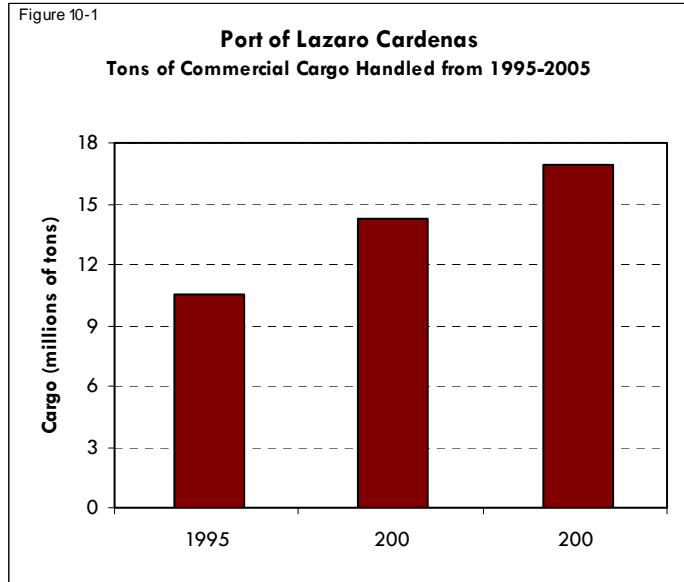
c.) Import & Export Trends

The Port of Lazaro Cardenas historically has been considered an “under-utilized” port. The Los Angeles and Long Beach ports account for 41% of all the cargo shipped into the US and 80% of US imports from Asia (The CalTrade Report, Jan. 2007). While the ports in California capture a large share of the trade, there is evidence that Lazaro Cardenas is growing and could provide a less congested alternate trade route to the interior of the U.S.

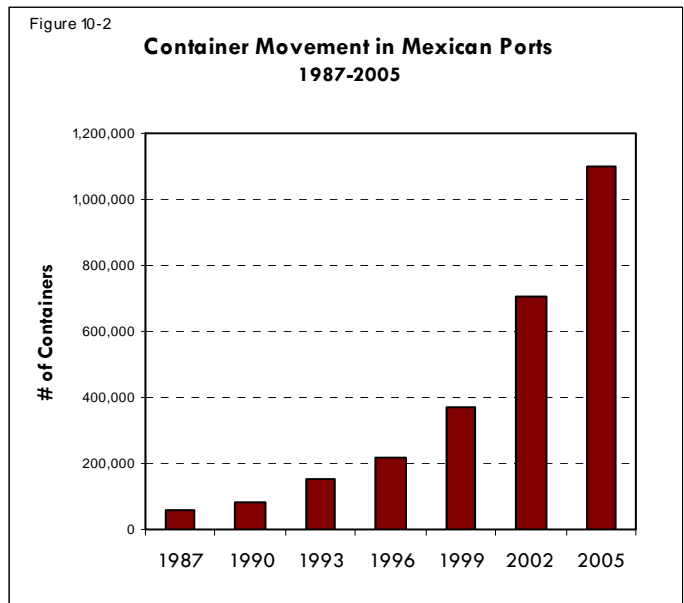
From 1995-2000, the amount of commercial cargo the port handled increased 61.0% from 10.5 million tons in 1995 to 16.9 million tons in 2005 (Figure 10-1). In addition, the amount of container movement has been growing. Though Figure 10-2 includes container data from all Pacific Mexican ports, it is reasonable to assume that Lazaro Cardenas has helped contribute to the nearly 17 fold increase of container movement from 1987-2005 (61,208 containers in 1987 to 1,101,802 containers in 2005).

The volume of trade in and out of Mexico has been increasing and shows no indication of slowing. Since 1997, American exports to Mexico have increased by 55.2% to \$110.8 billion dollars and imports increased 44.8% to \$155.8 billion dollars (Smart Port, 2006).

The majority of containerized cargo being shipped out of Mexican ports is heading to Asia. In 2006, Japan and China were the destination for 72% of all export containerized cargo leaving Mexico (Figure 10-3). Asia also accounts for the largest share of products being imported into Mexico. China and Korea account for 54% of all containerized cargo coming into Mexico (Figure 10-4).



Source: Port of Lazaro Cardenas and RKG Associates, Inc., 2007



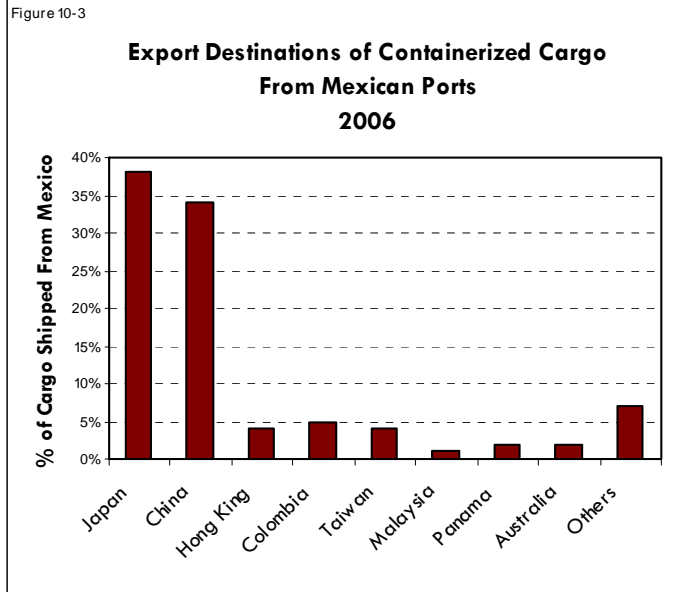
Source: Port of Lazaro Cardenas and RKG Associates, Inc., 2007

The consultant has also analyzed commodities that were transported by rail and truck from the 4-state region comprised of Texas, Arkansas, Louisiana and Oklahoma. These four states most closely influence the Texarkana region and could potentially be served by a regional shipping and distribution center located at the Red River/Lone Star facility.

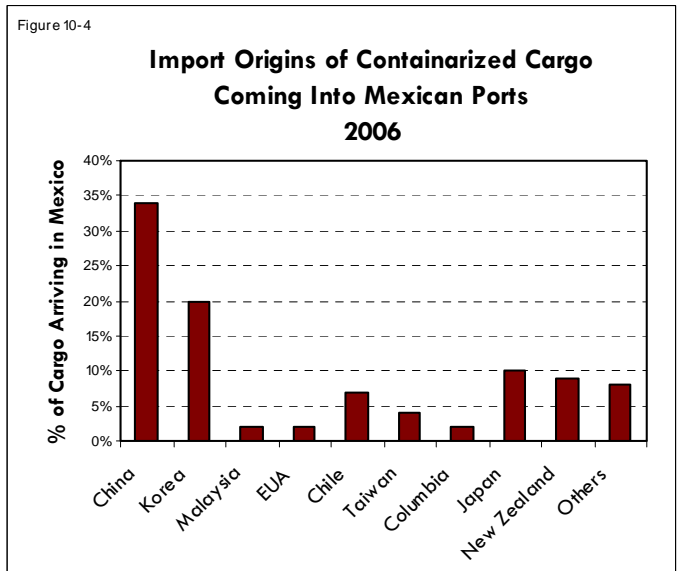
The types of commodities being exported to Mexico range from wood and glass, to nuclear reactors and electrical machinery. Exports by truck (\$34.8 billion) into Mexico account for four times the value of commodities exported by rail (\$6.6 billion). However, new rail improvements and the purchase of the Mexican railway TFM by Kansas City Southern should increase rail exports to Mexico in the coming years.

The top three exports by truck into Mexico are electrical machinery (\$11.0 billion), nuclear reactors, boilers, and machinery (\$8.1 billion), and plastics (\$3.5 billion). Other notable high value products include vehicles (\$2.0 billion), paper and paperboard (\$791.9 million), and cotton (\$540.5 million).

Two of the top three commodities exported to Mexico by rail are the same as those exported by truck. These commodities include plastics (\$951.6 million), and nuclear reactors, boilers and machinery (\$526.1 million). However, the highest valued commodity exported by rail is vehicles (\$2.7 billion), as opposed to electronic machinery, which is the top commodity exported by truck. Other notable exports by rail include cereals (\$182.6 million), paper and paperboard (\$96.8 million), and wood (\$24.8 million).



Source: Port of Lazaro Cardenas and RKG Associates, Inc., 2007



Source: Port of Lazaro Cardenas and RKG Associates, Inc., 2007

Imports from Mexico account for a smaller value of trade (\$34.1 billion) than products being exported into Mexico (\$41.4 billion). However, similar to exports, imports from Mexico that travel by truck account for a larger share of the value of products. Of the products coming into the four state region of Texas, Arkansas, Louisiana, and Oklahoma, the top three imports include electrical machinery (\$11.5 billion), nuclear reactors, boilers, and machinery (\$5.1 billion), and vehicles (\$3.3 billion).

Though there are not as many imports traveling by rail then trucks into the four-state region, products traveling by rail still account for over \$3.3 billion in trade. Vehicles (\$2.1 billion) account for the largest share of imports. Beverages and spirits (\$549.2 million) and iron and steel (\$259.7 million) are also top imports.

Top Truck and Rail Exports to Mexico by Commodity
(From TX, AR, OK and LA)

Truck

- Electrical Machinery
- Nuclear Reactors, Boilers and Machinery
- Plastics

Rail

- Vehicles
- Plastics
- Nuclear Reactors, Boilers and Machinery

d.) Regional Transportation Access

Companies that provide the top 25-export products, as well as other similar companies, may consider a Texarkana location due to the potential transportation access to the Port of Lazaro Cardenas. As mentioned previously, Kansas City Southern railway provides seamless transportation connections to the port. In addition to the railway, road improvements are planned to expedite the transport of materials from Mexico into the United States. A new Interstate 69, which has been proposed along the existing Highway 59 corridor through Houston and east Texas may locate within Texarkana.

e.) Conclusions

Though the Port of Lazaro Cardenas currently handles smaller amounts of cargo than the Los Angeles and Long Beach, CA ports, there are indications that the Mexican port will start to capture a larger share of the international trade market. Many shipping companies are looking for less congested ways of accessing the United States market, and transportation and policy changes (such as reduced bond prices) make the Port of Lazaro Cardenas a more attractive shipping facility. This is further exemplified by the fact that the operator and developer of the port, Hutchinson's Holding Company, Ltd., is in the midst of a \$290 million expansion operation.

Industries may want to consider moving to the LSAAP/RRAD area because they would be closer to their goal markets. Warehousing and assembly industries could start to cluster in this area, as products that are shipped in their raw form could easily be assembled in the Texarkana region before being moved to their destination markets. For example, wood is a top-25 value commodity being transported to Mexico. Not only could timber companies capitalize on the large quantities of timber in the Texarkana region, but wood mills, furniture assembly companies and paper companies would benefit from the exporting of wood products. The various industries not only would have access to each other's resources, but also to large markets such as Houston, New Orleans, and Atlanta.

There is great potential for Texarkana to become a secondary shipping facility, capitalizing on the benefits of a larger and more established shipping hub (Kansas City). Texarkana can benefit from the transport of materials already going through Texarkana up to Kansas City and the Midwest. Potential companies could use Texarkana as a stop-off point to reach markets that are further south, such as Houston and Atlanta. The multi-modal transportation access to Lazaro Cardenas provides an easy way for shippers to get their products into the U.S., as well as a way for U.S. companies to reach Asian markets. If Texarkana organizations worked strategically with Kansas City Southern and other transportation entities and for

transportation improvements such as Interstate 69, Texarkana could have the real potential to become a transportation and shipping hub.

H. TARGET INDUSTRY SCREENING AND SELECTION

1. Overview

The target industry analysis “casts a wide net” with regards to selecting potential target industries, taking a more aggressive approach to identifying possible business targets for the Lone Star/Red River Army Depots. In this context, aggressive means that the screening process was inclusive rather than exclusive relative to potential opportunities that may appear marginal in light of historical economic trends. The reason for being inclusive at this phase is because any potentially viable options should be test marketed before being eliminated.

The following section discusses the rationale used to describe how the above findings were incorporated into the industry screening process. Based on the assets and constraints summarized earlier, the consultants initiated a review of primary and secondary source materials in order to identify a broad range of potential industries that appear to be either compatible with the region’s location/labor assets or not negatively impacted by known constraints. This process, which is often described as a “target industry analysis,” has several purposes when undertaken as part of a redevelopment strategy for a former military installation. These purposes and objectives include:

- Establishing a framework for matching the facility’s available “product” (land, utilities, intangibles, etc.) to potential markets;
- Identifying a receptive “audience” for a focused marketing campaign;
- Understanding the characteristics, size and long-term growth potential of compatible markets;
- Establishing priorities for the allocation of marketing resources; and
- Identifying prospect industries for further consideration.

2. Industry Screening

During this phase of work, the screening process focused on industry groups defined at the North American Industrial Classification Standard (NAICS) level, rather than individual companies. Maintaining a broader level of analysis reinforces the concept that the RRLRA should be more inclusive rather than exclusive with their marketing and recruitment campaign. The following factors were considered in the initial screening:

- Identification of Regional Industry Clusters – The first step in the target process involved an analysis of existing regional industry clusters. In order to accomplish this analysis, the consulting team examined the mix of industries within a four state region consisting of Texas, Oklahoma, Louisiana, and Arkansas. The industry cluster analysis identified industries that are prominent within the region and hold some regional competitive advantages due to their clustering.
- Positive Market Growth Trends and Projections – The second level of screening attempted to identify industry groups that were either growing or reasonably stable in terms of recent trends in employment or output, as well as a positive or stable short-term economic outlook (1 to 5 years). Those industries showing strong regional presence and a positive/stable economic outlook were selected for additional evaluation.

- Regional Wage Competitiveness – Industries that require similar workforce skills will offer better compensation as they compete for the best labor. When selecting target industries, it is important to investigate the income benefits an industry will provide to local residents to ensure that the region is maximizing the earning potential of its workforce. This analysis compared the average weekly wages by industry in 2004 for the State of Texas.
- Compatible Presence and Fit in Bowie County – Market compatibility is important for an industry to succeed, especially if that industry improves output performance with clustering. If there is no existing presence of an industry, than businesses related to that industry would not be able to capitalize on cluster benefits. In addition, Bowie County and the surrounding region cannot benefit from the addition of an industry if that industry upsets the market balance or adversely impacts the residents and natural resources.

Additional screening methods were employed for industries that are considered more speculative. In other words, the consultants considered additional attributes and measures for industries that do not fit within the “standard” criteria for a target industry. A more detailed analysis is included in the next section.

3. Screening Results

The transition from production-based employment to service-based employment continues in Texas and the greater southern Midwest region. Production-based industries accounted for less than 28 percent of the State’s employment base in 2004, totaling 2.26 million jobs. In contrast, these industries totaled 2.34 million jobs in 1998, or approximately 31 percent of the Texas employment base. This trend is consistent in Oklahoma, Louisiana and Arkansas as well. The manufacturing sector experienced a net decline of nearly 160,000 jobs in Texas over the six-year study period. The entire region lost almost 240,000 manufacturing jobs.

Conversely, all service-based sectors experienced at least some employment gain between 1998 and 2004. The health care and social assistance sector experienced the largest net growth in employment during this study period, at nearly 160,000 new jobs. The accommodation & food services experienced the second-highest gain, at 112,000 new jobs.

The only production-based sectors to experience a noticeable gain in employment were the warehousing & transportation (48,000 jobs) and construction (33,000 jobs) sectors. The growth in warehousing and transportation is closely tied to the continued growth in trade between Mexico and the United States. The Texarkana region benefits directly from this activity, as it is located along the Highway 59 corridor, which runs north from the Mexico border through Houston and up to and beyond Texarkana. The region also benefits from the connectivity I-30 gives, tying Texarkana with Dallas (to the West) and Memphis (to the East).

The Texarkana region likely will continue to experience concentrated growth in service-related sectors. However, the competitive advantages of the Lone Star/Red River facilities and the continued growth of trade between the U.S. and Mexico will provide several additional opportunities for industry recruitment in production-related sectors. Most notably, the Texarkana region is poised to become a regional logistics and distribution hub. As mentioned, the LS/RR facilities are centrally located along two major highways that connect the trade route from Mexico to the rest of the U.S. In addition, there is potential to develop a resource allocation and administration cluster. The LS/RR facilities have an abundant supply of lumber. The available expanse of the Lone Star AAP makes it an ideal location for energy production and resource manufacturing.

The target industry list is broken down into the two target industry clusters (Table 10-5), logistics & distribution and resource allocation & administration. The industry clusters are sorted by use, not

by level of importance to the regional economy. It is important to note that the success of the RRLRA to attract certain industries in each cluster partly will be dependent upon attracting other users within the group. In addition to these clusters, the consultants also have identified several other industry clusters that could be successful, given the strengths and weaknesses of the region. Although these target groups are not as “strong” as the logistics & distribution and the resource allocation & administration, they present additional opportunities that should be pursued through a comprehensive and rigorous marketing and recruitment campaign. The following narrative provides greater detail about each cluster.

**Table 10-5
Target Industries, By Industry Cluster
Lone Star Army Ammunition Plant and Red River Army Depot**

NAICS	Industry	2004 Texas Employment	1998-2004 Emp. Change	2002-2012 Projected Growth Rate	2004 Texas Wage Rates	Local Fit
LOGISTICS AND DISTRIBUTION						
Local and Long Haul Transportation						
484	Truck Transportation	110,396	Growth	Growth	\$33,807	High
492	Couriers and Messengers	34,565	Slight Growth	Growth	\$29,105	Moderate
485	Transit and Ground Passenger Transportation	14,190	Growth	Growth	\$20,694	Low
Warehousing and Storage						
493	Warehousing and Storage	37,252	Strong Growth	Strong Growth	\$36,789	High
Logistics						
514	Information and Data Processing	44,570	Strong Growth	Growth	\$55,210	High
422	Wholesale Trade, Nondurable Goods	177,131	Growth	Growth	\$36,492	Moderate
561	Administrative and Support Services	666,240	Stable	Strong Growth	\$26,499	Moderate
Support Industries						
488	Support Activities for Transportation	54,666	Growth	Strong Growth	\$37,454	High
811	Vehicle and Equipment Repair and Maintenance	116,918	Growth	Growth	\$28,209	High
336	Transportation Equipment Manufacturing	71,392	Decline	Stable	\$55,847	Low
NATURAL RESOURCE PRODUCTION, WASTE MANAGEMENT & CONSTRUCTION						
Natural Resource Extraction						
113	Forestry and Logging	2,354	Decline	Slight Growth	\$28,946	High
213	Support Activities for Mining	79,814	Strong Growth	Growth	\$54,233	High
Resource Production						
311	Food Manufacturing	89,387	Slight Growth	Slight Growth	\$28,369	High
337	Furniture and Related Products Manufacturing	28,565	Growth	Growth	\$28,324	High
324	Petroleum and Coal Products Manufacturing	22,641	Slight Growth	Slight Decline	\$91,530	Moderate
Waste Management						
562	Waste Management and Remediation Services	22,318	Strong Growth	Strong Growth	\$36,480	High
Support Industries						
233	Building, Developing and General Contracting	95,393	Slight Growth	Growth	\$44,333	High
235	Special Trade Contractors	289,727	Growth	Growth	\$32,200	High
333	Machinery Manufacturing	72,089	Decline	Slight Growth	\$47,063	Low

Source: U.S. Department of Commerce, Texas Workforce Commission, and RKG Associates, Inc., 2007

a.) Logistics and Distribution

This industry cluster revolves around the competitive location advantages the Texarkana region currently enjoys in attracting warehouse and distribution businesses. The warehousing and distribution sector has long been a significant component of Texas’ industrial employment base. Data from the 2002 indicates that there were almost 14,500 establishments in the transportation and warehousing sector (NAICS 48 and 49). These companies employed almost 272,000 people in 2002, and had an annual payroll in excess of \$9 billion. More recent information from the Texas Workforce Center indicates that in 2006, there were more than 15,500 establishments in the transportation and warehousing sector. More importantly, employment in this sector was reported to be in excess of 420,000, an increase of more than 50% since 2002.

The old axiom that real estate is based on “location, location, location” certainly is applicable to the growth in Texas’s transportation and warehousing employment. The State’s proximity to Mexico has allowed it to capitalize on the trade between the U.S. and Mexico, which has increased substantially as a result of the 1994 implementation of the North American Free Trade Agreement (NAFTA), which will be discussed in a subsequent section of this report.

Market activity seems to back up the statistical data, which indicates substantial growth in the warehousing and transportation sectors. Among the large developments that are in process, include:

- The Port of Houston is just completing the first phase of the Bayport Container Terminal. The property includes some 1,000 acres of land, and will support both container ships and cruise ships. Container throughput volume at the Port of Houston has risen by more than 10% annually for the past 15 years.
- First Industrial Realty recently announced a 1.3 million square foot business park, adjacent to the Port of Houston project. The project will result in a \$55 million investment on the 88-acre property, with a resulting density of almost 14,800 square feet per acre (equivalent to a floor area ratio of 0.34).
- ProLogis is developing a 1.2 million square foot industrial and logistics center on a 68-acre site in North Houston. As part of this project, the company is building a 220,000 square foot spec facility.
- Railhead Fort Worth is a 633-acre industrial park located in North Fort Worth, Texas, and is reported to be the largest industrial center in Fort Worth offering dual rail service, with access to both the Union Pacific Railroad and the Burlington Northern Santa Fe (BNSF). At build-out, the property is expected to include 11 million square feet of office, industrial and warehouse space.
- AllianceTexas, the original “super industrial park”, includes some 17,000 acres in and around Fort Worth and Dallas. The park includes access to air and rail transportation systems. At the present time, the site is only 25% developed, but includes more than 130 companies occupying almost 25 million square feet of space.
- The Dallas Logistics Hub is a 6,000-acre project launched by San Diego-based developer The Allen Group, and features the newest intermodal yard in the nation. In addition to the existing yard, owned by Union Pacific, the developer is in talks with BNSF to open a second intermodal facility within the park. The Allen Group plans to develop the \$2.5 billion project over the next 20 years, delivering as much as 60 million square feet of commercial space.

The significant growth in this sector is due to a variety of influences. First, the relocation of manufacturing operations from the United States to overseas locations is reducing the cost of many goods including machinery, apparel, electronics and appliances. The lower costs are, in turn, driving record sales for many industries. The majority of these items come into the United States through a limited number of ports, and are then distributed to locations across the U.S. In fact, published reports indicate that the number of imported goods entering the U.S. is projected to increase by 10% annually for the foreseeable future.

This growth is expected to affect the real estate market, as the size of container ships increases to meet growing demand. In some cases, additional facilities will be developed to support these larger ships. In other cases, however, goods will be off-loaded onto rail

transports for shipment elsewhere, frequently to an inland port. The concept of an inland port allows goods to be moved away from busy (and expensive) seaports to larger, less expensive sites located inland. These inland ports can help to reduce the amount of time that goods spend at the port, and reduce the amount of time that is require for goods to reach their final destination. In fact, the Texas Department of Transportation published a *Guidebook for Inland Ports in 2002*, to assist potential developers of inland ports to understand better TxDOT's procedures and data requirements.

Ultimately, the majority of goods will be delivered to their final destinations by truck. Major import distribution centers of one million square feet or more are becoming increasingly common. While the large retailers such as Wal-Mart, Lowes and Home Depot are the predominant users, speculative construction is also occurring.

Major site selection criteria for a large-scale distribution center include proximity to a major population center, proximity to multiple interstate highways and location of the intersection of two major rail lines. The LSAAP/RRAD site could be considered a strong candidate for a project of this type, based on its locational attributes.

However, it is recommended to pursue a diversified cluster of industries that benefit from and support the warehousing and distribution industries. For example, locating a call center near a warehouse allows for interpersonal communication between order processing and delivery. While technology has made this proximity less important, Texarkana's competitive wage rate and available labor supply makes this a viable location for such a business. Clustering these uses can reduce cost in management and infrastructure for the company while generating a business opportunity for telecommunications and internet service providers. These businesses can build the networking infrastructure for the processing and distribution businesses.

As this cluster develops, there will be opportunities to attract companies that research methods to improve logistics and distribution. These companies would research methods to improve areas such as telecommunications, shipment and inventory tracking, quality control and efficiency management.

b.) Natural Resource Production

In recent years, many communities and regions have focused on identifying industry clusters as a way to capitalize on existing synergies within and between industries. Clusters are defined as a geographically concentrated group of industries, which have an inter-relationship through technology and/or skills, typically with close linkages among buyers and suppliers. They provide specialized knowledge and resources, which can allow companies to operate more efficiently to increase productivity and innovation. Clusters also frequently assist in attracting new businesses due to the competitive advantage that the cluster can provide.

In Texas, energy production is one of the state's strongest clusters. Specifically, Texas has been a major producer of natural resources for the mid-west and the entire United States. The State's wealth of fossil fuels is used to help power the nation's growing economy. The North East Texas region has no shortage of resources, either.

An analysis of the economic base of the North East Texas region provided valuable information on the flow of goods and services into and out of Texarkana. In order to understand which goods and services produced in the North East Texas region are most important to the regional economy, a Location Quotient can be used.

Location quotients (LQ) are a calculation of the concentration of employment in specific industries, compared to the national average concentration of employment in those same industries. A location quotient above 1.0 indicates that the concentration of jobs within the region is greater than the concentration at the national level. In other words, these industries

have increased local significance. Higher LQs indicate a greater level of importance to the regional economy.

As seen in Table 10-6 five resource production and management industries rank amongst the industries with the highest location quotients. Most notably, the logging industry has almost five-times the concentration of workers compared to the nation as a whole. The Northeast Texas region also has high concentrations in cattle ranching & farming, water & sewage systems, farm product wholesalers and petroleum wholesalers.

The Lone Star/Red River facilities are compatible with each of these uses. There is an estimated 15,000 acres of wooded property that is available for foresting. The Lone Star facility has operating landfills and a wastewater treatment plant, with sufficient capacity to accommodate additional facilities. As land is deforested, it becomes an attractive place for cattle ranching and/or farming.

Table 10-6
2005 Highest Location Quotients
Northeast Texas

NAICS	Description	Regional Employment	Regional Percentage	U.S. Percentage	2005 Location Quotient	Self Sufficiency Threshold	Export Jobs
RESOURCE PRODUCTION AND MANAGEMENT INDUSTRIES							
1133	Logging	240	0.23	0.05	4.59	52	188
1121	Cattle Ranching and Farming	351	0.33	0.09	3.69	95	256
2213	Water, Sewage and Other Systems	99	0.09	0.03	2.67	37	62
4245	Farm Product Merchant Wholesalers	153	0.14	0.06	2.60	59	94
4247	Petroleum Merchant Wholesalers	213	0.20	0.08	2.58	82	131
OTHER INDUSTRIES							
3362	Motor Vehicle Body and Trailer Mfg	1,481	1.39	0.13	10.74	138	1,343
3329	Other Fabricated Metal Product Mfg	1,343	1.26	0.22	5.82	231	1,112
6216	Home Health Care Services	3,784	3.56	0.63	5.69	665	3,119
3211	Sawmills and Wood Preservation	389	0.37	0.09	3.99	98	291
9199	Federal Government	4,329	4.07	1.51	2.70	1,604	2,725
3219	Other Wood Product Manufacturing	659	0.62	0.24	2.57	256	403
8122	Death Care Services	260	0.24	0.10	2.38	109	151
4442	Lawn & Garden Stores	235	0.22	0.10	2.29	103	132
4441	Building Material/Supplies Dealers	1,900	1.79	0.84	2.12	896	1,004
3111	Animal Food Manufacturing	84	0.08	0.04	2.11	40	44
2211	Power Generation & Supply	661	0.62	0.31	2.01	329	332

Source: Texas Workforce Commission, 2007

Additionally, the industries that support natural resource production and management have a strong presence in the Northeast Texas region. Sawmills and wood preservation facilities, wood product manufacturing and animal food manufacturing industries also rank amongst the highest location quotient industries. Resource allocation and administration clusters are common, as most production processes involving natural resources result in less output, in terms of weight, than input. As such, manufacturers such as chair makers prefer to locate closer to the supply (raw timber) rather than the demand (furniture stores) because shipping the completed chairs is cheaper than shipping the raw lumber used to make the chair.

The Texarkana region also is centrally located among other natural resource harvesting and development. For example, statewide production of coal and the abundance of wood make the Lone Star/Red River Plants strong candidates for a charcoal manufacturing facility.

c.) Manufacturing

Despite the general decline in employment for the entire manufacturing market sector within Texas and the greater region, there are opportunities to recruit certain manufacturing industries in addition to those identified in the resource allocation and administration section.

As seen in Table 10-6 above, the North East Texas region has strong location quotients in a number of goods producing and utility sectors. Most notably, the region is particularly strong in motor vehicle body production and fabricated metal production. In terms of vehicle body production, there are three sizeable truck body and trailer manufacturers in the region including Ledwell & Sons Enterprises. Fabricated metal product manufacturing is concentrated in munitions production at the Lone Star facility and valve & pipe fitting companies.

The Federal government employment is included in the “goods producing sectors” as well (Table 10-7). The 3,500 personnel Red River Army Depot is home to a substantial equipment repair and assembly operation. While most would classify these activities at the Red River Army Depot as manufacturing or goods-producing, the facility is owned and run by the Federal government (Army), and therefore is not typically included in the goods-producing sector. However, there is spin-off operation potential, particularly if retiring/separating personnel have opportunities if they remain in the region.

The data indicate that the industrial base in Northeast Texas is well established, and strong as compared to the U.S. as a whole. In addition to the significant timber resources available on the RRAD/LSAAP site needed by some of the region’s key goods producing sectors, other

Table 10-7
2005 Location Quotients for Select Goods-Producing Industries
Northeast Texas Region

NAICS	Description	Regional		U.S. %	2005 Location Quotient	Self Sufficiency	
		Employ.	Regional %			Threshold	Export Jobs
1121	Cattle Ranching and Farming	351	33%	9%	3.69	95	256
1133	Logging	240	23%	5%	4.59	52	188
2131	Support Activities for Mining	124	12%	16%	0.72	173	-
2361	Residential Building Construction	201	19%	69%	0.27	734	-
2362	Nonresidential Building Construction	746	70%	55%	1.28	584	162
2371	Utility System Construction	278	26%	28%	0.93	299	-
2373	Highway, Street, Bridge Construction	345	32%	21%	1.54	225	120
2381	Building Foundation/Exterior Contractors	469	44%	75%	0.58	802	-
2382	Building Equipment Contractors	914	86%	143%	0.60	1,515	-
2383	Building Finishing Contractors	284	27%	70%	0.38	749	-
2389	Other Specialty Trade Contractors	542	51%	44%	1.16	466	76
3111	Animal Food Manufacturing	84	8%	4%	2.11	40	44
3211	Sawmills and Wood Preservation	389	37%	9%	3.99	98	291
3219	Other Wood Product Manufacturing	659	62%	24%	2.57	256	403
3231	Printing and Related Support Activities	156	15%	50%	0.29	533	-
3261	Plastics Product Manufacturing	105	10%	49%	0.20	520	-
3273	Cement/Concrete Product Mfg	137	13%	17%	0.75	183	-
3323	Architectural and Structural Metals	560	53%	30%	1.75	320	240
3327	Machine Shops and Threaded Products	158	15%	26%	0.57	278	-
3329	Other Fabricated Metal Product Mfg	1,343	126%	22%	5.82	231	1,112
3362	Motor Vehicle Body and Trailer Mfg	1,481	139%	13%	10.74	138	1,343
3371	Household and Institutional Furniture	381	36%	30%	1.21	314	67
3399	Other Miscellaneous Manufacturing	209	2%	27%	0.73	285	-
9199	Federal Government	4,329	407%	151%	2.70	1,604	2,725
Totals		10,156	1346%	987%	1.14	8,890	4,302

Source: Texas Workforce Commission, 2007

goods-producing industries historically have succeeded in the Texarkana region. Given the existing industrial and employment base of the region, and the strong Location Quotients for several key sectors, the property at RR/LS likely will be attractive to a variety of potential industrial, manufacturing and warehousing uses. Marketing and recruitment efforts should include all production-related industries, with a particular focus on the industries detailed herein.

d.) Energy Production

The rise in the cost of natural gas, coupled with increasing population and demand for power, has spurred Texas-area energy companies to invest in building or expanding new coal-fired power plants. The private utility company TXU, which provides electricity and related services to residents primarily in Texas, plans on investing approximately \$10 billion in developing 11 new generation units in the state. The Southwestern Electric Power Company (SWEPCO), which serves 454,000 customers in Arkansas, Texas and Louisiana, plans to invest \$1.3 billion in a new facility to be located in Fulton, Arkansas, approximately 15 miles northeast of Texarkana.

1.) TXU - TXU plans to build 11 new coal-fired generation facilities in Texas, which will become operational by 2010 if all air regulation permits are approved. TXU chose to invest in new power plants because,

"The future growth of the now vibrant economy could be dampened by volatile and rising energy commodity prices. Texas has one of the fastest growing economies in the country and is projected to add nearly 6 million residents within a decade. At the same time, Texas electric power reserve margins are compressing rapidly and are expected to fall below levels deemed reliable by 2010." (TXU News Release, 2006)

The high cost of natural gas has also made coal-fired plants a more economical solution. The price of natural gas has quadrupled since the 1990s, and most experts believe that the low gas prices seen during that decade will not return.

The proposed power plant locations are primarily in rural areas. The Monticello 4 unit is being planned for Titus County, which is directly southwest of Bowie County. However, some units are in close proximity to the Dallas/Fort Worth metro area. Air regulation permits may be harder to attain in these areas, making the LSAAP and RRAD sites viable alternatives.

2.) SWEPCO - SWEPCO plans to build a coal-fired power plant on a 2,800-acre tract in Fulton, Arkansas that would be operational in 2011. The rapid growth throughout SWEPCO's service territory, especially in northwest Arkansas, and the need to increase generating capacity in a relatively short amount of time to meet that demand, are noted as reasons for the expansion. The construction of the facility alone is estimated to bring 1,400 temporary jobs to the area. Once built, the facility will employ about 110 people, with an annual payroll of approximately \$12 million.

3.) Conclusions - Growing population and rising costs of natural gas are motivating power companies in the Texas region to build coal-fired power plants. Typically, these types of plants are located in rural areas, away from main centers of population. The large amounts of land at the LSAAP and RRAD sites, rural character, and industrial nature of the sites may provide an ideal location for future power production facilities.

e.) Ethanol and Biodiesel Energy Production

The recent spikes in energy prices have resulted in increased interest in production of alternative fuels in the U.S. In particular, there has been a significant increase in the construction and development of alternative, renewable fuel plants, including biodiesel and ethanol.

New Development!

On February 25, 2007, it was announced that Kohlberg Kravis Roberts & Co. (KKR) and Texas Pacific Group have plans to buy TXU for approximately \$32 billion. If the merger goes through, it may include an agreement with the Natural Resource Defense Council to scrap plans to build eight of the eleven proposed power generation units at new site locations. Nevertheless, TXU has not wavered in its push to obtain permits to build new coal units at its existing power-plant sites.

Biodiesel plants rely upon renewable input sources such as vegetable oils and animal fats, to create a cleaner-burning form of diesel fuel. Typically, these products are blended with more traditional diesel fuels, to produce a “partially renewable” fuel. Older diesel engines can typically burn a blend with no more than 20% biodiesel, though newer engines (built since 1994) can reportedly burn up to 100% biodiesel.

Ethanol is an alcohol-based fuel, made from distilling/fermenting crops. A variety of input materials can be used, including corn, cheese whey, waste beer and milo, though corn is by far the most common source material.

1.) Facilities - According to the Renewable Fuels Association, there are currently 103 existing ethanol plants in the United States. These plants have a combined capacity 5,583 million gallons per year (Table 10-9). In addition, there are 7 plants under expansion and another 78 plants under construction. When these new facilities are completed, an additional 6,243 million gallons per year will be added, bringing the total capacity to almost 12 billion gallons annually.

**Table 10-9
Number of Plants by Capacity (Million Gallons/Year)**

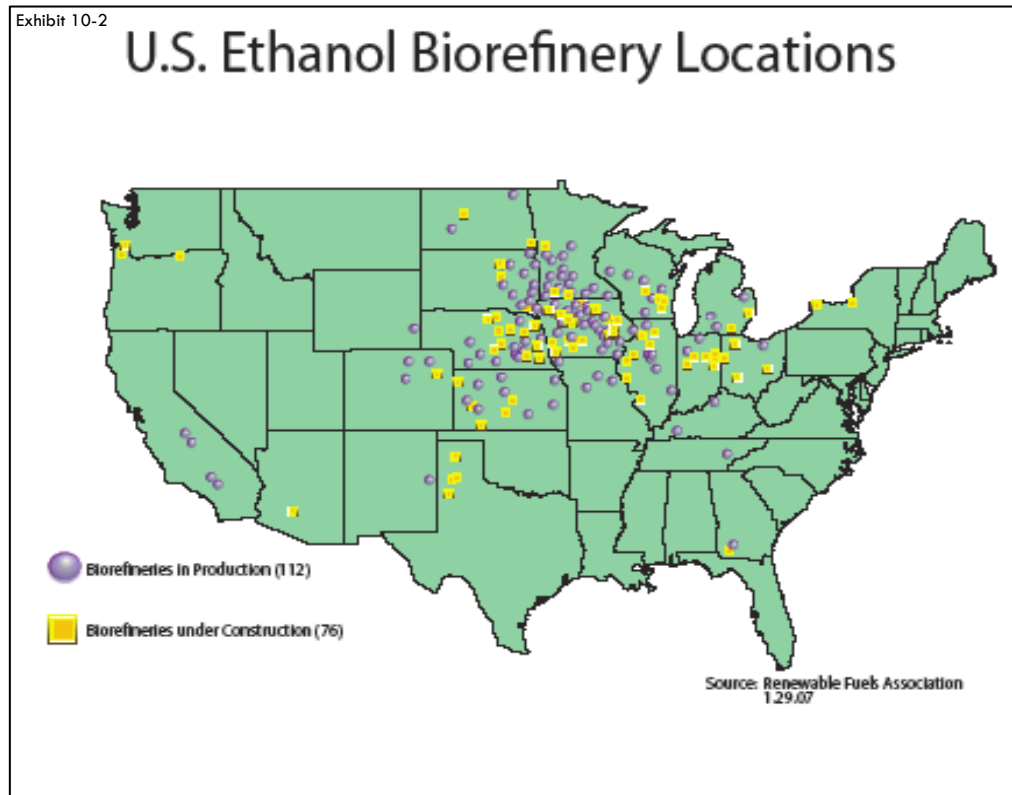
Capacity	# of Current Plants	# Under Construction/Expanding
0-10	11	2
11-20	9	4
21-30	10	2
31-40	18	10
41-50	27	18
51-60	13	15
60-100	9	20
100-250	5	12
250+	1	2
Total	103	85

Source: Renewable Fuels Association, Texas State Energy Conservation Office, and RKG Associates, Inc., 2007

The majority of ethanol plants (27) produce 41-50 million gallons of ethanol per year. However, according to the Renewable Fuels Association, the 85 new plants and expansions will have an average capacity of more than 73 million gallons per year, an increase of almost 50% in the average plant size. The increasing demand for ethanol appears to be encouraging larger production facilities.

2.) Location - As shown in Exhibit 10-2, the majority of existing plants are located in the Midwestern United States. This is driven primarily by proximity to supplies of raw materials, primarily corn, in these locations. In addition, many of these refineries are located in proximity to end users of the product, in order to minimize transportation costs for the finished product.

However, there are seven refineries under construction in the state of Texas, including five in the northern panhandle, and two in Central Texas (Three facilities in Texas were announced after completion of the biorefinery location map). Local farmers and other local business people are the primary developers of new ethanol facilities, which employ approximately 30-40 people each.



3.) By-Products - It should be noted that the process of creating these alternative fuels has ancillary benefits as well. For example, after corn has been processed to produce ethanol, the remaining by-product, “distillers grain”, can be used as feed for cattle. Based on current and potential ethanol production, the United States could produce nearly 14 million tons of distillers grains in 2008 or as much as 17 million tons by 2012. This could be beneficial to local cattle operations if an ethanol refinery were built at the LS/RR site.

4.) Conclusion - The RRAD/LSAAP property is considered a potential good fit for alternative energy production, given the availability of rail access to the property for bringing in raw materials and shipping out finished products. In addition, the property is located in proximity to the Dallas-Forth Worth MSA, providing a potential source of end-users. Finally, the region has an established cattle farming industry, which could make use of byproducts created during production.

I. CONCLUSIONS

The uniqueness of the LSAAP/RRAD-WEP facilities may ultimately determine their long-term economic development potential. With nearly 20,000 combined acres, the two properties are too large to simply meet the growth needs of regional companies. As such, the properties should be marketed to a larger number of companies throughout the United States, perhaps those seeking a strategic location from which to serve the southwestern United States, Mexico, and Asia. Likewise, with the establishment of a foreign trade zone (FTZ) at LSAAP, the potential exists for foreign-based companies to establish a “beach-head” in Texas in order to serve the largest consumer market in the world.

Other companies may be attracted to LSAAP-RRAD-WEP for very different reasons. The site's remote location and its historic use as an ammunition plant might attract uses that are difficult to permit, such as energy generation plants. The Texarkana region is not listed as a "non-attainment" area by the U.S. Environmental Protection Agency under the Clean Air Act. Other major metropolitan areas in Texas (e.g., Dallas-Fort Worth, San Antonio, Houston-Galveston, Barzoria, and Beaumont-Port Arthur) will likely restrict uses that will contribute regional air quality.

FACTORS INFLUENCING THE ACHIEVEMENT OF BASE REUSE GOALS

- **Job Creation & Economic Development** - The redevelopment of the LSAAP/RRAD-WEP properties is the best opportunity for the region to create new jobs and diversity the economic base. The target industries capitalize on the site's competitive assets of: (1) regional location, (2) site access, (3) site remoteness, (4) natural resources, and (5) rail access.
- **Supports Military Mission** – Focusing reinvestment at LSAAP will allow the RRRRA to target its economic development activities. As new private users occupy LSAAP, utility systems will be replaced and expanded, so of which could be shared with the Depot.
- **Retains Existing Job Base** – The redevelopment of LSAAP will incorporate existing companies, allowing them to continue operation at LSAAP.