

ROCKDALE MUNICIPAL DEVELOPMENT DISTRICT TARGET INDUSTRY ANALYSIS REPORT

Summary and Purpose

Economic development organizations will often conduct a target industry analysis which seeks to narrow the number of industries that will be successful in a community. Resources are better deployed and the probability of success increased when focusing on a small handful of matching industries. These industries can be selected based on local or regional assets, workforce specialization and availability, and larger industry trends.

The Rockdale MDD staff conducted a target industry analysis in March 2023; the results of the analysis identified 14 4-digit NAICS industry codes within seven broad industries. The intent behind this analysis is for the RMDD to better target candidate companies in marketing efforts, realize greater possibilities when responding to prospect leads, and identify those industries that have the greatest growth potential.

These industries were selected through a combination of qualitative and quantitative data.

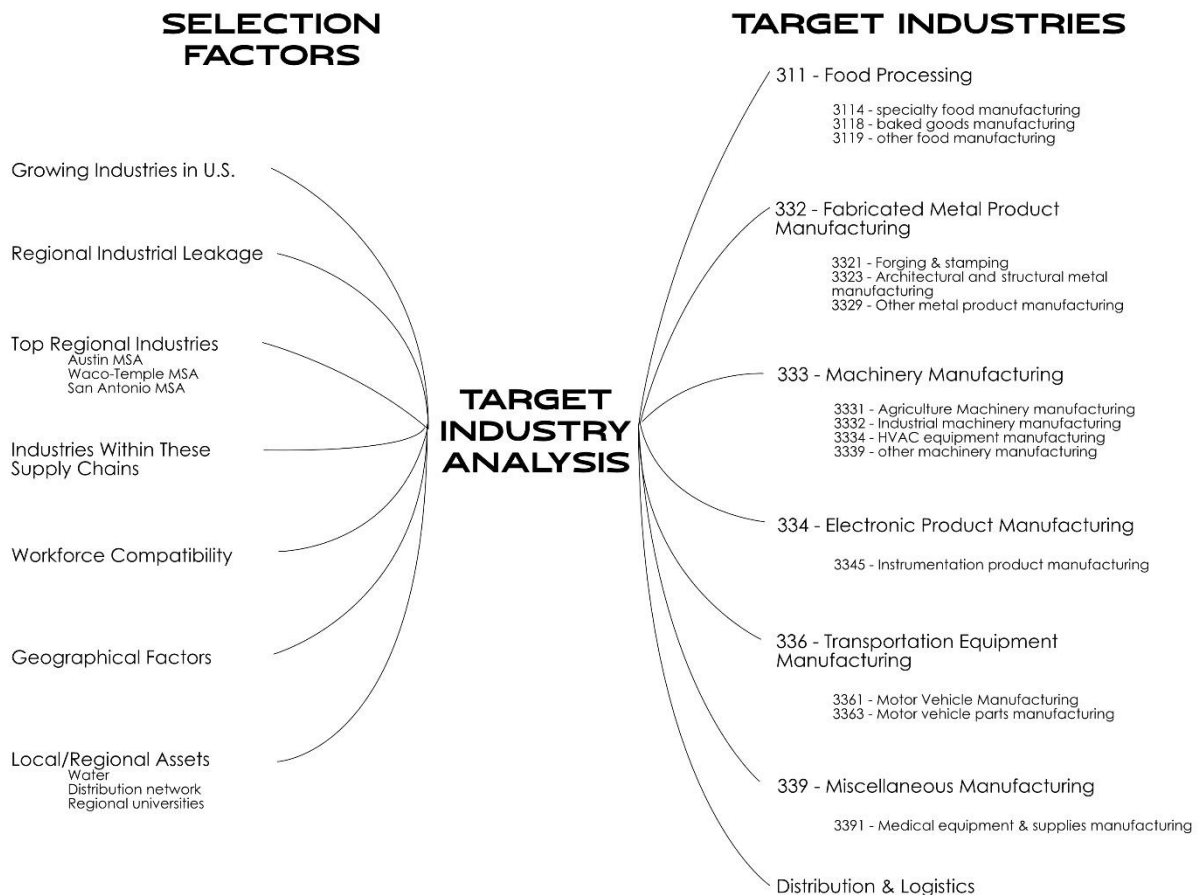
This report will document the identified target industries along with their broad definition, the key location factors for these industries, and how Rockdale's assets match these location factors along with a limited discussion on how to best take advantage of these assets.

Target Industries – By NAICS Code

311 – Food Processing	
	3114 Specialty food manufacturing
	3118 Baked goods manufacturing
	3119 Other food manufacturing
332 – Fabricated Metal Product Manufacturing	
	3321 Forging and stamping
	3323 Architectural and structural metal manufacturing
	3329 Other metal product manufacturing
333 – Machinery Manufacturing	
	3331 Agriculture machinery manufacturing
	3332 Industrial machinery manufacturing
	3334 HVAC equipment manufacturing
	3339 Other machinery manufacturing
334 – Electronic Product Manufacturing	
	3345 Instrumentation product manufacturing
336 – Transportation Equipment Manufacturing	
	3361 Motor vehicle manufacturing
	3363 Motor vehicle parts manufacturing
339 – Miscellaneous Manufacturing	

	3391 Medical equipment and supplies manufacturing
	Distribution and Logistics

The graph below shows which factors were used to select the target industries along with the selected target industries.



Industry Definitions

NAICS 3114 – Specialty Food Manufacturing

Refers to "Fruit and Vegetable Preserving and Specialty Food Manufacturing". This industry includes establishments primarily engaged in preserving fruits, vegetables, and specialty foods (such as pickles, jams, jellies, sauces, and condiments) by canning, freezing, dehydrating, and/or pickling. It also includes establishments manufacturing frozen specialties (such as frozen fruits, juices, vegetables, and meals) and manufacturing soups, pasta, and other prepared meals.

NAICS 3118 – Baked Goods Manufacturing

- Bakeries and Tortilla Manufacturing. This industry includes establishments primarily engaged in one or more of the following activities:
- Manufacturing fresh or frozen bread and other bakery products, such as rolls, croissants, bagels, and muffins.
- Manufacturing fresh or frozen cakes, pastries, pies, and doughnuts.
- Manufacturing tortillas, tamales, and other similar products made from cornmeal or flour dough.

The products manufactured by companies in this industry are typically sold through retail channels, such as supermarkets, grocery stores, and bakeries, as well as foodservice channels, such as restaurants and cafes.

NAICS 3119 – Other Food Manufacturing

Other Food Manufacturing industry, which includes establishments primarily engaged in manufacturing food products not classified elsewhere in the North American Industry Classification System (NAICS). This can include the manufacturing of a wide range of food products, such as soups, sauces, pickles, and other canned or bottled products, as well as snack foods, including potato chips, pretzels, and other savory snacks. This industry excludes establishments primarily engaged in dairy product manufacturing, animal slaughtering and processing, and grain and oilseed milling.

NAICS 3321 – Forging and Stamping

This industry comprises establishments primarily engaged in forging, stamping, or punching metal to shape it into a desired form. Examples of products produced by companies in this industry include automotive parts, hand tools, and aerospace components.

NAICS 3323 – Architectural and Structural Metal Manufacturing

Fabricated Metal Product Manufacturing, which includes the production of a wide range of metal products through cutting, bending, welding, and assembly processes. This industry comprises establishments primarily engaged in manufacturing metal products such as metal forgings, metal stampings, metal castings, and other fabricated metal products.

Examples of products manufactured in this industry include metal doors, windows, and frames; metal tanks, containers, and vessels; metal hardware such as hinges, locks, and keys; metal springs; metal forgings; metal stampings; and other fabricated metal products such as metal cutlery, silverware, and hand tools.

This industry includes a wide range of establishments, from small, specialized manufacturers producing custom metal products to large, diversified manufacturers producing a variety of metal products for a range of end markets, including construction, transportation, and industrial applications.

NAICS 3329 – Other Metal Product Manufacturing

This industry comprises establishments primarily engaged in manufacturing metal products (except forgings and stampings, cutlery and hand tools, architectural and structural metals, boilers, tanks, shipping containers, hardware, spring and wire products, machine shop products, turned products, screws, nuts and bolts, metal valves, hoses and fittings, metal forgings, metal stampings, and coated or plated products) by cutting, shaping and assembling metal pieces, or by manufacturing wire products from wire drawn in the same establishment.

Examples of products made by this industry include metal forgings, metal stampings, metal spinning, metal heat treating, metal coating and engraving, and metal crown closures.

NAICS 3331 – Agriculture Machinery Manufacturing

The North American Industry Classification System (NAICS) code 3331 is used to classify businesses primarily engaged in manufacturing and/or repairing commercial and service industry machinery, equipment, and related parts. This includes businesses that manufacture a wide variety of products such as food processing equipment, printing machinery, commercial laundry and dry cleaning equipment, photographic and photocopying equipment, and various other types of commercial and service industry machinery.

NAICS 3332 – Industrial Machinery Manufacturing

The North American Industry Classification System (NAICS) code 3332 is used to classify businesses primarily engaged in manufacturing and/or repairing industrial machinery, equipment, and related parts. This includes businesses that manufacture a wide variety of products such as engines, turbines, power transmission equipment, material handling equipment, welding and soldering equipment, packaging machinery, and various other types of industrial machinery. The NAICS code 3332 also includes businesses that provide specialized repair and maintenance services for this type of machinery and equipment.

NAICS 3339 – Other Machinery Manufacturing

The North American Industry Classification System (NAICS) code 3339 is used to classify businesses primarily engaged in manufacturing a variety of miscellaneous machinery, including special industry machinery, printing and binding machinery, food processing machinery, semiconductor machinery, and various other types of machinery. The NAICS code 3339 also includes businesses that provide specialized repair and maintenance services for this type of machinery and equipment.

NAICS 3345 Instrumentation Product Manufacturing

NAICS 3345 refers to the industry of Navigational, Measuring, Electromedical, and Control Instruments Manufacturing. This industry comprises establishments primarily engaged in manufacturing a variety of electronic instruments, including navigation and guidance instruments, measuring and controlling devices, and electromedical and electrotherapeutic apparatus. The products manufactured by this industry are used in a wide range of applications, such as aerospace and defense, healthcare, scientific research, and industrial automation. Examples of products manufactured by NAICS 3345 establishments include GPS systems, radar systems, medical imaging equipment, and process control instruments.

NAICS 3361 – Motor Vehicle Manufacturing

The industry defined by NAICS code 3361 is "Motor Vehicle Manufacturing". This industry comprises establishments primarily engaged in manufacturing complete automobiles, light-duty and heavy-duty trucks, buses, and other motor vehicles. This industry also includes establishments that manufacture chassis and assemble complete vehicles. However, establishments that primarily manufacture motor vehicle parts and accessories are classified under different NAICS codes, such as 3363 (Motor Vehicle Parts Manufacturing).

NAICS 3363 – Motor Vehicle Parts Manufacturing

The industry definition for NAICS 3363 is "Motor Vehicle Parts Manufacturing." This industry includes establishments primarily engaged in manufacturing parts and accessories for motor vehicles, such as engines, transmissions, brakes, steering mechanisms, seating and interior trim, and electrical and electronic systems. This industry also includes establishments that manufacture motor vehicle stampings, such as body panels and fenders.

Establishments in this industry may produce parts for passenger cars, trucks, buses, motorcycles, and other motor vehicles. They may sell their products to original equipment manufacturers (OEMs) or to the aftermarket for repair and replacement purposes. The industry also includes establishments that remanufacture motor vehicle parts and those that produce parts for specialty and custom-built vehicles.

NAICS 3391 – Medical Equipment and Supplies Manufacturing

NAICS 3391 refers to the Medical Equipment and Supplies Manufacturing industry. This industry comprises establishments primarily engaged in manufacturing medical equipment and supplies such as surgical and medical instruments, surgical appliances and supplies, dental equipment and supplies, orthodontic goods, dentures, and orthodontic appliances. It also includes manufacturing medical, dental, and ophthalmic optical instruments and lenses, as well as diagnostic imaging equipment such as MRI machines, X-ray machines, and ultrasound equipment. Companies in this industry may also provide repair and maintenance services for their products.

Distribution and Logistics Facilities

The industry definition for distribution and logistics facilities typically refers to the warehousing, transportation, and distribution of goods and products. This industry involves the management and movement of goods from the manufacturer or supplier to the end customer or retailer. Distribution and logistics facilities include warehouses, storage facilities, transportation hubs, and related infrastructure, such as transportation equipment, logistics software, and material handling systems. The industry plays a critical role in the global economy, facilitating the movement of goods and products across local, national, and international supply chains. Companies in this industry provide a range of services, including inventory management, order fulfillment, packaging, transportation, and supply chain consulting.

Target Industry Explanation by Selection Factor

Industry	Growth Industry	Regional Industry	Supply Chain	Workforce Match	Imported Purchases	Comments
311 – Food Processing	n/a	n/a	n/a	Yes	n/a	Food processing companies would be a good fit in Rockdale due to market proximity and workforce fit.
332 – Fabricated Metal Manufacturing	Yes	Yes	Yes	Modest	Large	Metal product manufacturing is a good fit with welding training programs.
333 – Machinery Manufacturing	Yes	Yes	Yes	High	Modest	Machinery manufacturing can be a good fit, especially for agricultural equipment.
334 – Electronics Product	Yes	Yes	Yes	Modest	High	Fewer industry products but higher value
336 – Transportation Products	Yes	Yes	Yes	High	Modest	Motor vehicle products are ambitious goals. Try to target Tesla suppliers. Possibly EV battery manufacturers.
339 – Miscellaneous Manufacturing	Yes	Yes	n/a	n/a	n/a	Medical device manufacturing is high value manufacturing that is a fit in the region.
Distribution & Logistics	n/a	Yes	Yes	Yes	n/a	Rockdale's geographic position is an asset for possible distribution and logistics expansions.

Location Factor Analysis

Qualitative data was gathered to list the top location factors for each of the 14 target industries. This data was distilled into the top 12 location factors. This data was coded and assembled to reveal the most in-demand location factors for these industries.

Location Factor Demand – in descending order	Local/Regional Asset – Action Steps	Influence
Skilled Labor Availability	Need to show that the Rockdale labor shed (a 45-minute drive radius) has over 1 million workers. Need to highlight the multiple talent producing colleges and universities. Deepen the relationship with Temple College and assist them in establishing a permanent presence in Rockdale for workforce training.	Very little. Can exert influence on establishing Temple College's presence and programs offered.
Market Proximity/Access to Customers	Need to show that Rockdale is proximate (within a 3-hour drive) to the major markets of Austin, San Antonio, Houston, Dallas-Fort Worth. The population in this 3-hour radius is nearly half of the Texas population and 5% of the US population.	None
Energy and Utility Availability and Cost	Need to show that companies locating in Rockdale can have abundant electricity (25 MW) at an affordable rate (de-regulated electricity market). The City of Rockdale has 700,000 gallons of water available to sell each day. Natural gas information is forthcoming.	Very little. Can influence water availability and quality with the City of Rockdale.
Transportation Network	Rockdale is at the intersection of two US highways. The future I-14 will be a key east-west corridor; future TxDOT highway extensions in the area will improve highway connectivity. Rail access is available but limited. Port service is accessed at multiple port facilities along the Texas coast, some as close as two hours away.	Moderate to Little. Be involved in regional transportation planning efforts.
Supplier Proximity/Access to Raw Materials	Can use data tools to map those companies which could be suppliers for candidate industries. Will be dependent upon the particular industry.	None
Regulatory Environment	This is a measure of the macro regulatory environment, established by the Federal and State governments.	Little. Legislative and regulatory advocacy. Partner with other interested organizations, e.g., TEDC, etc.
Incentives	Incentives are meant to be a tie breaking tool in a site selection process. Incentive policy was revised in 2022. Show that Rockdale and Milam County are prepared to offer a competitive incentive package to companies wishing to locate. State level incentives are available.	High. Customized incentive packages are created at a local level with some participation at the State level
Business Climate	This is the local regulatory environment and how 'developer friendly' the city and community are to new developers. City desires to be 'developer friendly' and not obstructionist like other communities.	MDD has very little. City has great amount.

Real Estate Costs	Need to show that Rockdale has available sites (the new Rockdale Enterprise District) at a competitive rate for the Central Texas industrial market.	Very little – established by property owner. Can provide limited assistance in development costs (e.g., infrastructure grants) which savings can be passed onto the end user.
Advanced R&D Institutions	Similar to access to talent above, highlight the university's R&D efforts and news.	None.
Environmental Factors	Rockdale's location allows businesses to enjoy a climate with few weather-related interruptions. Rockdale does not sit on a major fault line.	None
Quality of Life	A community's quality of life is a key determinant of attracting and retaining a talented workforce. Presently, much work is needed in this area. Work with the City on quality of life enhancement projects.	High

Data Sources

Data for this report was gathered from multiple sources. Lightcast is a data service platform which provided the regional industrial leakage and workforce data. Chat GPT was used to query industrial supply chains, growth industries, top regional industries, and the key locational factors.

Methodology

Industrial Leakage

The first step in the process was to run the Industry Purchases report from Lightcast for a 12-county region surrounding Milam County.

Industrial Leakage Analysis Counties
Bastrop
Bell
Brazos
Burleson
Falls
Fayette
Lee
Milam
Robertson
Travis
Washington
Williamson

The report data was then limited to only those industries in the 300 (Manufacturing) 6-digit NAICS industry codes.

The list was further refined by eliminating those industries that are clearly not a fit for Rockdale, e.g. wood products manufacturing, textiles, etc. This reduced the candidate industries to 269.

The candidate industries were sorted by the amount of imported purchases and a quartile ranking was created from 1 to 0.25.

Using Artificial Intelligence

Queries were made to Chat GPT to identify the “Top Growing Manufacturing Industries in the US by NAICS code”. The response was a list of approximately 20 4-digit NAICS codes. These were given a code of 1 – growing industry, or 0.

Similarly, queries were made to Chat GPT to identify the largest industries in regional MSA’s: Austin, San Antonio, and Waco. The Bryan-College Station MSA data was unavailable. This produced a list of 29 industries. These were also given a code of 1 – regional industry, or 0.

Then, queries were made to Chat GPT to identify the top industry suppliers for these 29 industries. A list of 35 supplying industries were identified after eliminating duplicates. These industries were also given a code of either 1 or 0.

Workforce Testing

A key component of this target industry analysis is to ensure a good fit with the regional workforce and a candidate industry. An Occupation report was run on Lightcast for a 45-minute radius from Rockdale by county.

Workforce Analysis Counties
Bastrop
Bell
Brazos
Burleson
Falls
Lee
Milam
Robertson
Williamson

Those occupations with insufficient data within the data set were eliminated. Data was retained by occupation, number of people working in the region by occupation, and Location Quotient. A percent occupation was calculated for each occupation by dividing the number of people employed in each occupation by total employees, e.g., percentage of welders employed in the region.

A Staffing Pattern report was run in Lightcast on each of the 46 remaining candidate industries. This report lists all the occupations employed within each particular industry. Of key concern was the percentage of employed by occupation, e.g., percentage of average office workers employed in the industry. Those occupations with less than 1% were categorically eliminated. These two data sets were then combined to create the following data table:

	% Employed in Industry	% Employed in Region	Location Quotient
Occupation			

A Location Quotient (LQ) is a measure of an area's employment specialization relative to a comparison area. A LQ greater than 1 reflects a specialization and a higher number shows a greater specialization. A formula was created to account for the demand weight each industry has for each occupation while accounting for the weight each industry will place on an occupational specialization to create an Occupation Index. The Occupational Index (OI) formula, where % Employed in Industry is (E_i), % Employed in Region is shown as E_r , Location Quotient is LQ, and N is the number of occupations in the candidate industry, is

$$OI = [(E_i * E_r) * (E_i * LQ)] / N$$

Each candidate industry has a different number of occupations greater than 1%. To adjust, each occupation's OI was added together and divided by the number of occupations with more than 1% employment. This creates an index which can easily be used to compare industries to see which ones have a better fit for the region.

A quartile system was created and points assigned in increments of 0.25 up to 1 for the appropriateness of fit between the candidate industry and regional workforce.

Industry Selection

The remaining 268 6-digit industries were placed in a spreadsheet. Columns were added for different data, which added together, would produce a ranking of best target industries. The columns and formula are described below

Growing Industry + Main Regional Industry + Supply Chain Industry + Workforce Match (quartile) + Imported Purchases (Percentage) + Imported Purchases (Quartile based on dollars).

The sum of these 6 columns were added together and sorted descending.

As this data is a 6-digit NAICS code, a list of the 4-digit NAICS codes had to be created. The result is the target industry list

Industry Outlook

To complete this analysis, questions were asked to Chat GPT to identify the top location factors and industry outlooks for each of the 14 targeted industries.