McKinley County Inland Port Market Analysis

Final Report

May 27, 2020

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1. Introduction

Martin Associates was retained by McKinley County to conduct a market analysis to determine the feasibility of an inland port/intermodal terminal within McKinley County. This market study includes an assessment of current waterborne flows from the Ports of Los Angeles/Long Beach and Houston, rail and truck cargo flows to/from the Four Corners Region, as well as competitive market assessment of McKinley County in relation to other competing inland ports/intermodal facilities to identify the competitive hinterland and ultimately the feasibility of a McKinley County inland port, and identify potential cargo opportunities and high-priority industries that should be pursued. The market assessment also identifies constraints and challenges for developing a potential inland port within McKinley County.

The analysis assesses three distinct markets: **1) Intermodal activity** which consists of containerized imports/exports to/from the Ports of Los Angeles/Long Beach (LA/LB) and would focus on the development of an Intermodal Container Transfer Facility (ICTF) and distribution center (DC) development with value-added warehousing operations. This market is highly discretionary - meaning it is subject to competition, specifically price and transit time, from other existing intermodal facilities; **2) Over-the-road-truck** which is implicated by the USDOT Federal Motor Carrier Safety Administration Hours of Service (11-hour Rule), where Gallup is essentially halfway between LA/LB and Dallas, the largest market in the Southwest. With trucks moving between these markets, a stop in Gallup would maximize the driver's time on the road. This would work in concert with the proposed Truck Super Center; **3) Carload rail activity** would play on captive markets such as oil/gas, energy, agriculture, biomass, manufacturing and other bulk opportunities. It is of importance to note, that while potentially synergistic, these three markets are not mutually exclusive.

Also, at the time of this report the U.S. is in the midst of dealing with the COVID-19 crisis and future market trends for all sectors including wholesale, retail as well as commodity-driven sectors may remain uncertain as recovery commences.

2. Cargo Flow Analysis

The initial task of the McKinley County Inland Port Market Analysis is to develop regional cargo flows for waterborne, rail and truck commodities. For waterborne flows, U.S Census data is used to identify the historical waterborne import and export markets for the Ports of LA/LB and Houston. For rail, both intermodal and carload, and truck cargo moving between the ports and the Four Corners Region – New Mexico, Colorado, Utah and Arizona are identified. Rail and truck flows from ports to BEA Economic Area (BEA) origins and destinations by commodity. sector. The source of rail and truck flow data is IHS Markit Transearch, and was purchased for this study. The Transearch data base details a 12-month period (Calendar Year 2017). A summary of the cargo flow analysis and findings follows.

2.1 Waterborne Import/Export Cargo Flows

Containerized Import Market

Overall historical growth of international containerized cargo in the U.S. has averaged a 4.3% compound annual growth rate between 2003 and 2018, the latest date that U.S. international containerized cargo data is available from the U.S. Bureau of the Census, USA Trade OnLine. Export growth has averaged 5.9% compared to a 3.1% growth of imported containerized cargo over the 15-year period.

Exhibit 2-1
Historical Growth in U.S. International Containerized Cargo

Source: USA Trade OnLine

The West Coast port range consists of the Pacific Southwest (PSW) ports of Los Angeles and Long Beach; the Pacific Northwest (PNW) ports consist of Seattle, Tacoma and Portland; and the Northern California (NOCAL) port range consists primarily of Oakland. The North Atlantic (N. ATL) ports consist of ports from Boston to Baltimore; the South Atlantic (S. ATL) ports consist of ports from Norfolk to Miami; and the Gulf (GULF) coasts ports include the ports from Port Manatee

(FL) to Brownsville (TX). As shown in Exhibit 2-2, the West Coast port range has gradually lost market share to the other regions, as its share of imported containerized cargo has fallen from nearly 47% in 2007 to about 40% in 2018. This reflects the long-term impact of the West Coast port shutdown that occurred in September, 2002 during the contract negotiations with the International Longshore and Warehouse Union (ILWU) and the Pacific Maritime Association (PMA), the management group representing the ocean carriers and terminal operators along the West Coast. In contrast, the imported containerized cargo market share of the Atlantic and Gulf Coast ports has grown from about 53% in 2003 to nearly 60% in 2018. Exhibit 2-2 presents the historical share of international containerized cargo that is imported into the U.S. by port range.

Exhibit 2-2
Historical Imported Containerized Cargo
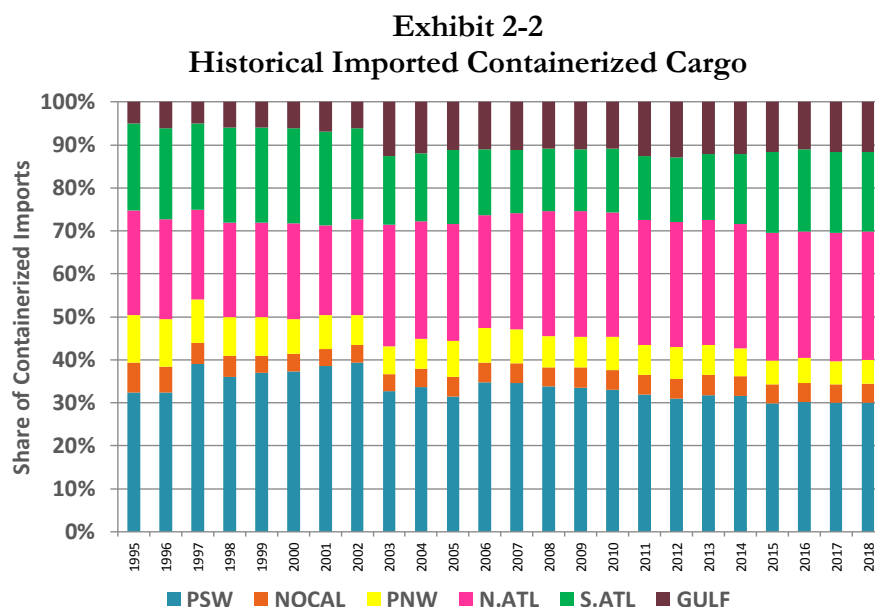
Source: USA Trade OnLine

The loss of containerized import market share on the West Coast reflects the fact that beneficial cargo owners (BCOs) have increased the use of other port ranges to handle imported containers moving from the Pacific Rim into the U.S. This diversification strategy is evident when the share of imported cargo from Asia moving via the various port ranges is reviewed. As shown in Exhibit 2-3, the share of Asian imported containerized tonnage moving via the West Coast ports has fallen from about 72% in 2003 to about 54% in 2018, while the share of the Atlantic and Gulf ports have grown from 28% in 2003 to 46% in 2018. The Atlantic Coast port range has driven this growth in market share of the Trans-Pacific containerized cargo imports and the Gulf Coast ports, led by the Port of Houston, have shown strong market share growth since 2015, which again reflects the congestion and work slowdowns that occurred during contract negotiations at West Coast ports in 2014 and 2015 and the decisions of BCOs to increase the use of Gulf Coast and Atlantic Coast ports. The strong growth in Asian imports via the Gulf Coast ports was driven by import activity at the Port of Houston.

Exhibit 2-3
Share of Asian Imported Containerized Cargo by Port Range
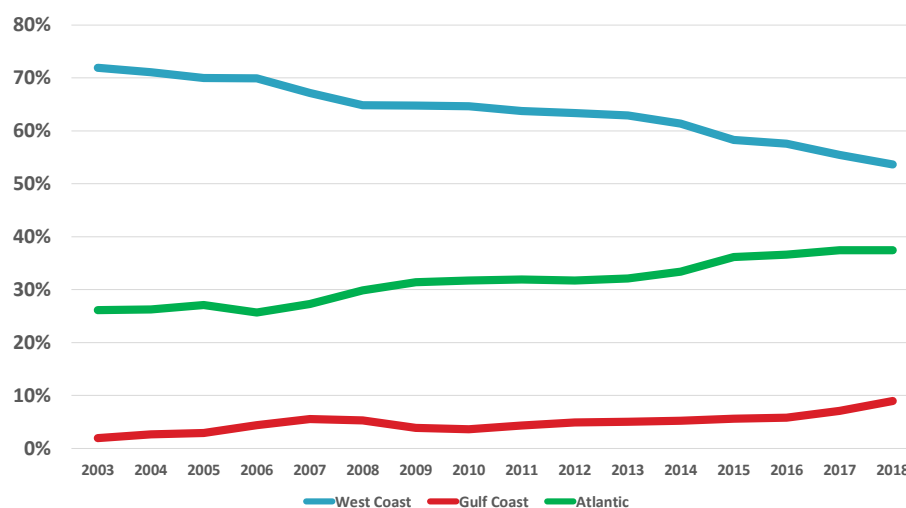
Source: USA Trade OnLine

Exhibit 2-4 demonstrates LA/LB is the largest and Port of Houston ranks fourth largest in the U.S. in terms of imported containerized cargo and have posted a 2.3% and 4.2% growth rate in imports since 2003, compared to 3.1% growth in containerized cargo handled at all U.S. ports.

Exhibit 2-4
Imported Containerized Tonnage Handled by Key Ports (Metric Tons)

	2003	2006	2009	2012	2015	2017	2018	CAGR 03-18
LA/Long Beach	34,916,936	48,283,193	35,232,198	42,357,005	46,609,045	48,898,825	48,880,603	2.3%
New York/NJ	17,120,118	20,976,470	19,451,660	24,542,930	28,253,709	28,178,325	29,482,335	3.7%
Savannah, GA	4,864,068	6,515,686	6,007,022	8,052,694	11,364,206	12,803,124	14,146,626	7.4%
Houston, TX	6,299,348	7,792,393	5,419,957	8,790,889	9,499,687	10,865,401	11,721,471	4.2%
Norfolk/Newport News	6,438,530	7,341,425	5,171,847	6,596,781	8,300,014	9,541,278	9,725,908	2.8%
Charleston, SC	5,708,897	6,634,146	3,932,562	5,360,036	7,129,474	8,288,967	7,967,574	2.2%
Oakland, CA	3,778,956	5,854,515	4,606,610	5,626,495	6,260,787	6,598,488	6,680,089	3.9%
Baltimore, MD	2,627,924	3,468,951	2,614,751	3,843,282	4,536,160	5,131,414	5,424,148	4.9%
Tacoma, WA	3,308,250	4,405,514	2,667,008	3,811,861	5,347,007	4,653,063	4,608,479	2.2%
Seattle, WA	3,123,635	5,132,582	4,091,397	5,358,058	3,363,154	4,252,352	4,920,260	3.1%
Miami, FL	3,326,244	3,710,028	2,154,958	2,426,719	3,244,348	3,351,148	3,488,655	0.3%
Port Everglades, FL	1,845,681	2,542,251	1,477,171	2,031,144	2,998,419	3,259,928	3,241,547	3.8%
Philadelphia, PA	1,848,069	2,487,123	1,723,281	2,163,099	2,901,182	3,127,573	3,213,856	3.8%
New Orleans, LA	1,625,734	2,253,286	2,236,126	2,663,720	3,398,060	2,669,022	2,671,889	3.4%
Jacksonville, FL	694,294	1,120,964	647,168	1,339,945	1,604,390	1,772,201	1,996,372	7.3%
Wilmington, DE	516,786	837,414	1,077,425	1,701,886	1,255,788	1,455,092	1,490,573	7.3%
Mobile, AL	826,127	801,596	844,652	1,236,458	1,314,740	1,167,159	1,217,541	2.6%
Boston, MA	852,613	805,585	834,924	1,471,508	1,111,561	1,060,734	1,125,806	1.9%
Gulfport, MS	964,906	751,397	767,280	814,001	919,069	890,694	824,511	-1.0%

Source: USA Trade OnLine

With respect to the growing trade lanes for imported international containerized cargo, the Asian trade lanes have demonstrated the strongest growth and also represent the larger market sources for containerized imports into the U.S., as shown in Exhibit 2-5. Southwest Asia, which consists of countries from Vietnam to Pakistan, has shown the strongest growth in sources of import containers

into the U.S. In addition, imported containers from the Middle East have also shown a significant growth over the period, although volumes remain small, relative to the trade with Asia.

Exhibit 2-5
Imported Containerized Cargo by Trade Lane for the U.S. (metric tons)

	2003	2006	2009	2012	2015	2017	2018	CAGR 03-18
China	33,860,810	56,557,694	43,263,014	52,525,484	61,444,236	65,339,903	69,956,210	4.96%
North Europe	15,430,894	17,544,696	13,659,326	19,174,137	19,187,200	20,936,405	21,052,561	2.09%
SE Asia	8,804,905	11,014,595	9,819,172	12,142,064	14,773,052	16,949,640	17,787,217	4.80%
Mediterranean	9,623,688	11,406,509	7,360,431	9,739,164	12,640,892	13,336,633	14,461,862	2.75%
Japan/Korea	7,945,623	9,906,486	6,517,658	10,667,608	9,837,975	10,127,962	10,223,641	1.69%
SW Asia	3,440,553	4,973,582	4,030,501	5,796,797	7,223,368	8,461,313	9,161,889	6.75%
South America EC	9,035,601	11,329,607	6,823,880	6,989,297	8,328,190	8,602,472	8,506,215	-0.40%
Central America	7,493,652	6,664,426	5,515,141	6,757,754	8,495,987	7,607,378	8,176,000	0.58%
South America WC	3,493,496	4,370,673	4,234,635	4,526,170	5,717,599	5,028,694	5,276,901	2.79%
Australia/NZ	2,429,756	2,772,853	2,135,003	2,438,933	2,968,525	2,327,991	2,272,076	-0.45%
Africa	2,253,236	1,590,960	1,482,756	2,606,860	1,759,178	2,113,045	2,051,569	-0.62%
Middle East	671,194	645,052	376,772	1,247,417	2,277,082	1,880,271	1,994,053	7.53%
Caribbean	1,558,073	1,443,802	1,654,877	2,947,545	1,527,575	1,065,241	1,437,056	-0.54%
All Other	98,441	163,751	138,656	206,654	281,430	373,604	420,326	10.16%
Canada	3,336,699	1,397,856	1,112,930	1,691,397	886,104	1,359,352	401,598	-13.16%
Grand Total	109,476,622	141,782,541	108,124,752	139,457,279	157,348,393	165,509,905	173,179,175	3.10%

Source: USA Trade OnLine

These trade lanes are well served by the Ports of LA/LB and Houston. The Trans-Pacific trade with China, Southeast and Southwest Asia, has driven the growth in containerized imports.

Containerized Export Market

Since 2003, international containerized export tonnage has grown by 5.9% annually throughout all U.S. ports, with the North Atlantic ports showing the strongest growth, at 7.1% annually, followed by a 6.8% annual growth of exported containerized tonnage from the Gulf Coast ports. The West Coast ports export share fell from 44% in 2003 to 40% in 2017, while Atlantic Coast ports' share of international containerized exports grew from 40% in 2013 to 42% in 2017.

Exhibit 2-6
Share of Historical Exported International Containerized Cargo by Port Range
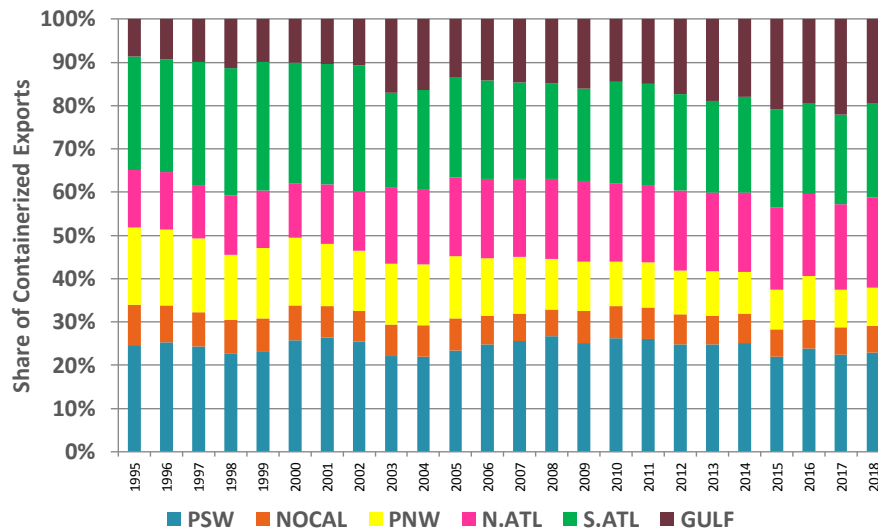
Source: USA Trade OnLine

The loss of market share for the West Coast ports in terms of total international containerized exports from the U.S. ports reflects the growing all-water services between Asia and the U.S. East and Gulf Coast ports that have been put in place since the West Coast port shut down in 2002 and the expansion of the Panama Canal in 2016 to handle the growing size of container ships now being deployed on this all-water Asian routing. Exhibit 2-6 presents the market share changes by port range with respect to U.S. exports to Asian destinations. As this exhibit points out, the share of West Coast port exports to Asia declined from nearly 70% in 2003 to about 52% in 2018. In contrast the share of Trans-Pacific containerized exports at Gulf Coast ports grew from less than 5% in 2003 to about 10% in 2018.

Exhibit 2-7
Port Range Share of Exported International Containerized Cargo to Asia
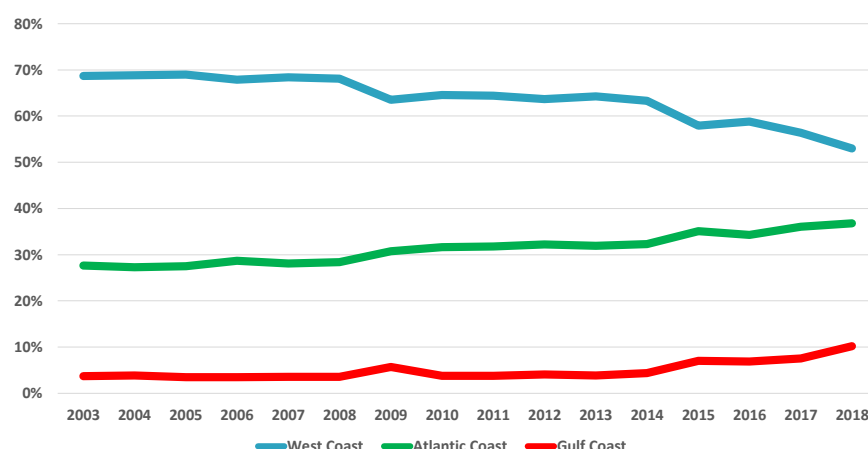
Source: USA Trade OnLine

The Ports of LA/LB and Houston rank first and second in the U.S. in terms of export containerized tonnage and recorded a 6.2% and 6.8% annual growth rate in exports of international containerized cargo respectively between 2003 and 2018, compared to an overall growth rate of U.S. exports at 5.9% annually over the same period.

Exhibit 2-8
International Containerized Exports by U.S. Port (metric tons)

Trade Lanes	2003	2006	2009	2012	2015	2017	2018	03-18 CAG
LA/Long Beach	12,459,590	17,874,384	21,730,803	24,547,817	21,476,083	28,110,718	30,515,237	6.15%
Houston, TX	5,695,197	6,886,223	9,579,654	10,929,537	11,248,212	12,460,448	15,329,543	6.82%
Savannah, GA	5,403,611	7,772,245	9,636,729	11,357,003	10,678,479	12,346,012	13,967,345	6.54%
Norfolk/Newport News	3,196,217	4,090,928	5,207,116	6,098,090	7,213,266	8,545,432	10,743,276	8.42%
New York/NJ	4,266,946	5,853,691	6,980,631	7,852,544	7,151,924	8,688,520	10,384,044	6.11%
Oakland, CA	4,031,751	4,665,149	6,223,051	6,603,202	5,933,709	7,421,290	7,802,451	4.50%
Charleston, SC	3,973,948	4,550,658	3,729,841	4,672,121	5,455,849	6,597,729	7,295,638	4.13%
Tacoma, WA	2,886,032	3,965,825	4,063,893	4,308,368	4,957,845	5,995,024	6,476,970	5.54%
Seattle, WA	3,178,839	3,977,606	4,454,521	4,886,521	3,645,178	4,599,858	4,770,296	2.74%
New Orleans, LA	1,671,626	1,539,425	1,903,297	2,583,827	3,284,215	3,742,802	4,193,494	6.32%
Baltimore, MD	860,543	1,056,461	1,390,976	1,437,824	1,439,326	2,278,793	2,459,362	7.25%
Miami, FL	1,379,671	1,436,373	1,869,302	2,071,192	1,791,576	2,248,838	2,302,144	3.47%
Newark, NJ	613,394	954,957	1,386,303	1,500,302	1,411,179	1,910,382	2,091,310	8.52%
Port Everglades, FL	680,870	1,081,996	1,318,556	1,609,321	2,048,046	1,943,539	2,085,145	7.75%
Mobile, AL	446,712	367,488	655,880	1,061,300	1,271,124	1,593,271	1,653,433	9.12%
Freeport, TX	334,088	218,122	181,622	234,631	1,026,486	1,277,604	1,452,771	10.29%
Wilmington, NC	185,676	363,908	839,769	793,066	887,983	1,112,741	1,416,186	14.50%
Jacksonville, FL	422,213	583,979	746,062	1,126,619	875,610	1,082,477	1,065,037	6.36%
Boston, MA	218,026	316,635	414,688	422,188	488,089	840,711	829,725	9.32%
Gulfport, MS	439,018	395,448	340,846	423,603	348,909	678,581	681,261	2.97%
Beaumont, TX	135,936	73,930	97,050	114,623	24,552	10,397	615,182	10.59%

Source: USA Trade OnLine

The major and growing trade lanes for U.S. containerized exports are the Southeast and Southwest Asian trade lanes, the Middle East, West Coast of South America and Africa.

Exhibit 2-9
International Containerized Export Tonnage by Trade Lane (metric tons)

Trade Lanes	2003	2006	2009	2012	2015	2017	2018	03-18 CAGR
China	14,175,869.83	22,050,462.08	27,796,380.39	30,049,693.56	28,183,816.28	36,828,998.71	33,741,726.67	5.95%
SE Asia	4,706,957.85	5,634,903.79	9,150,003.42	9,478,418.66	10,326,126.61	14,568,443.82	21,184,393.87	10.55%
Japan/Korea	11,876,319.01	13,698,908.91	12,747,303.46	13,721,974.21	12,620,728.04	14,211,184.15	16,271,995.79	2.12%
North Europe	8,178,397.39	9,341,360.88	8,494,257.52	10,626,707.01	11,072,920.97	12,364,741.60	13,905,003.17	3.60%
SW Asia	1,342,350.03	1,705,968.95	4,012,492.98	4,441,802.78	4,480,431.93	7,330,960.54	9,592,234.15	14.01%
Mediterranean	4,622,126.38	4,982,323.75	5,714,614.72	6,172,406.19	5,643,925.60	6,613,061.84	8,343,207.67	4.02%
South America EC	2,941,020.53	4,063,198.70	4,554,670.10	6,740,225.77	7,166,568.63	5,876,829.21	6,769,152.64	5.71%
Central America	2,925,668.25	3,160,286.32	3,132,483.08	4,799,870.67	5,021,123.24	5,445,115.08	6,315,407.48	5.26%
Middle East	1,083,212.97	1,334,568.20	2,631,189.31	2,984,968.47	3,334,734.97	4,086,282.67	4,195,608.50	9.45%
South America WC	1,044,362.38	1,344,485.98	2,140,947.03	3,219,081.52	3,261,984.45	3,404,966.81	3,738,713.42	8.87%
Caribbean	1,748,807.93	2,160,500.61	2,370,187.16	2,482,594.54	2,696,476.32	3,035,929.16	3,398,481.78	4.53%
Africa	793,618.10	1,048,166.10	2,462,256.76	2,179,880.85	2,317,716.42	2,847,765.25	3,166,309.61	9.66%
Australia/NZ	1,204,173.05	1,432,516.02	1,574,631.17	2,207,543.58	2,044,617.73	2,332,386.62	2,514,268.53	5.03%
All Other	97,205.69	98,048.34	106,999.24	118,372.65	108,466.75	119,158.57	150,474.31	2.96%
Canada	66.24	226.24	160.12	93.79	193.39	130.90	151.49	5.67%
Grand Total	56,740,155.61	72,055,924.86	86,888,576.44	99,223,634.26	98,279,831.33	119,065,954.92	133,287,129.07	5.86%

Source: USA Trade OnLine

The international export containerized growth has also been driven by the growth in exports to Asia (China, Southwest and Southeast Asia, as well as Africa. The fact that the Asia trade has been the fastest growing export trade lane via the Port of Houston again underscores the importance of increasing the Port of Houston's participation in the Trans-Pacific market.

2.2 Rail and Truck Cargo Flows in Four Corners Region

With the prospect of developing a Truck Super Center as well as potential intermodal activity, it is necessary to examine rail and truck flows from the Ports of LA/LB and Houston destinations in the Four Corners Region and Texas, specifically Dallas. Rail and truck cargo flows presented in this section were developed from a specific run of IHS Global Insight's Transearch Database (CY2017). Transearch data illustrates rail flows at the BEA Economic Areas (BEA) level from the Los Angeles and Houston to all portions of BEAs within the Four Corners Region – New Mexico, Arizona, Utah and Colorado - and Texas. Exhibit 2-10 illustrates the BEAs included in the study. For BEAs that cross state lines, the appropriate portion of cargo within the study area is captured for that respective state. As a note, McKinley County falls in the Albuquerque BEA.

Exhibit 2-10
Map of Transearch BEA Economic Areas and Study Region

121	North Platte, NE-CO
122	Wichita, KS-OK
123	Topeka, KS
124	Tulsa, OK-KS
125	Oklahoma City, OK
126	Western Oklahoma, OK
127	Dallas-Fort Worth, TX-AR-OK
128	Abilene, TX
129	San Angelo, TX
130	Austin-San Marcos, TX
131	Houston-Galveston-Brazoria, TX
132	Corpus Christi, TX
133	McAllen-Edinburg-Mission, TX
134	San Antonio, TX
135	Odessa-Midland, TX
136	Hobbs, NM-TX
137	Lubbock, TX
138	Amarillo, TX-NM
139	Santa Fe, NM
140	Pueblo, CO-NM
141	Denver-Boulder-Greeley, CO-KS-NE
142	Scottsbluff, NE-WY
143	Casper, WY-ID-UT
144	Billings, MT-WY
145	Great Falls, MT
146	Missoula, MT
147	Spokane, WA-ID
148	Idaho Falls, ID-WY
149	Twin Falls, ID
150	Boise City, ID-OR
151	Reno, NV-CA
152	Salt Lake City-Ogden, UT-ID
153	Las Vegas, NV-AZ-UT
154	Flagstaff, AZ-UT
155	Farmington, NM-CO
156	Albuquerque, NM-AZ
157	El Paso, TX-NM
158	Phoenix-Mesa, AZ-NM
159	Tucson, AZ
160	Los Angeles-Riverside-Orange County, CA-AZ

Source: IHS Global Insight

Transearch data breaks out eastbound and westbound tonnage by mode – intermodal, carload, truck and LTL. Also, the data identifies key commodity by mode into/out of the Four Corners Region. Specific flows are as follows:

Los Angeles BEA Origin Flows

A total of 25.6 million tons of cargo originated in the Los Angeles (LA) BEA destined for all BEAs in the Four Corners and Texas. Exhibit 2-11 illustrates the composition of tons by mode. Nearly 31% of the cargo is classified as intermodal, 6.6% as carload rail and 62.2% truck.

Exhibit 2-11
LA BEA Origin by Mode to All BEAs (25.6 Million Tons)
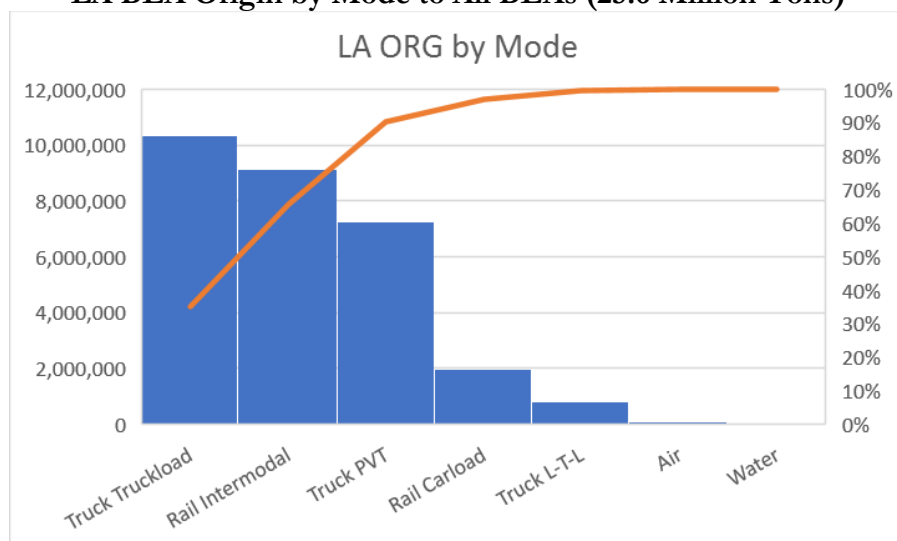
Source: IHS Global Insight, Transearch

Furthermore, the top destination BEAs from LA are depicted in Exhibit 2-12. As shown, Phoenix is the largest and completely dominated by truck, 95.8% truck. Conversely, Dallas, the second largest market at 6.6 million tons is primarily intermodal (81.3%), underscoring the importance of Alliance Texas' distribution and logistics network. Only 13.7% of the Dallas-bound cargo is trucked. Combined, Phoenix and Dallas account for 45% of the total LA cargo.

Exhibit 2-12
LA BEA Tonnage to All BEAs by Mode

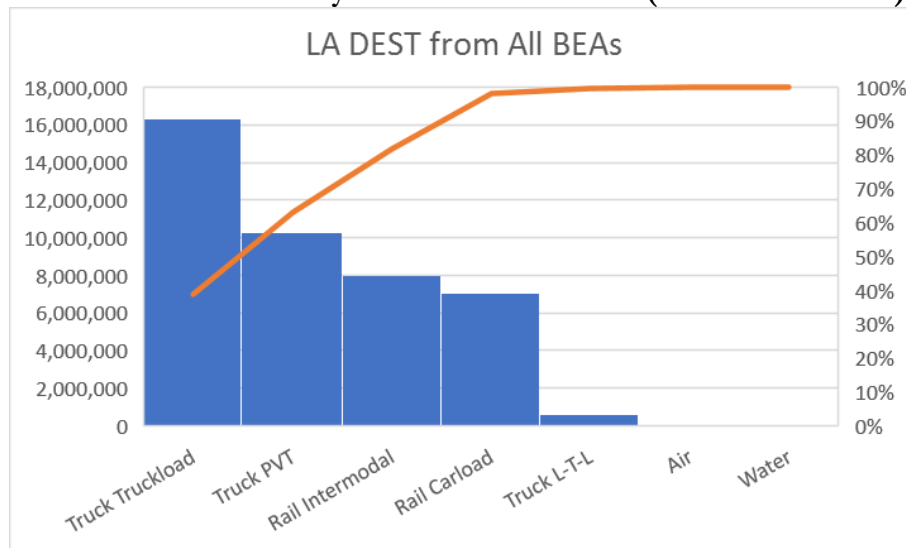|	Origin BEA Name	Los Angeles, CA							
		Air	Rail Carload	Rail Intermodal	Truck L-T-L	Truck PVT	Truck Truckload	Water	Grand Total
	Grand Total	**91,955**	**1,951,131**	**9,117,928**	**810,706**	**7,268,218**	**10,341,233**	**14,618**	**29,595,789**
1	Phoenix, AZ	10,450	268,355		205,390	2,994,988	3,304,823		6,784,006
2	Dallas, TX	22,845	306,738	5,403,588	88,287	254,735	567,010		6,643,203
3	Los Angeles, CA	2	18,932		23,790	1,360,130	2,068,409		3,471,264
4	Houston, TX	10,127	295,414	1,452,301	37,179	250,125	484,266	10,127	2,539,540
5	Denver, CO	11,323	115,623	823,851	160,431	361,666	895,805		2,368,700
6	Salt Lake City, UT	7,415	234,054	330,798	108,184	467,142	956,915		2,104,508
7	San Antonio, TX	12,835	80,687	543,669	25,901	174,222	249,316		1,086,630
8	Tucson, AZ	1,165	66,511	505	39,874	452,011	482,402		1,042,468
9	El Paso, TX	3,456	45,941	482,773	14,369	73,845	134,264		754,647
10	Las Vegas, NV	171	19,634		20,587	252,323	319,739		612,454
11	Flagstaff, AZ	212	28,485		20,274	270,003	287,381		606,354
12	Albuquerque, NM	3,694	53,607	66,326	11,802	91,710	108,856		335,994
13	Austin, TX	4,169	24,267		15,949	102,862	164,154		311,402
14	Corpus Christi, TX	2	252,851		2,377	15,278	29,547	314	300,369
15	McAllen, TX	1,192	25,714	995	5,083	20,808	43,966	1	97,758
16	Beaumont, TX		57,651		1,475	9,540	19,475	4,176	92,317
17	Odessa, TX	245	6,011		4,969	26,252	51,622		89,099
18	Lubbock, TX	2,630	11,620	13,121	3,809	8,274	22,520		61,973
19	Amarillo, TX	19	4,261		4,792	14,750	32,399		56,221
20	Abilene, TX		13,188		2,510	15,232	19,258		50,188
21	Hobbs, NM	4	13,931		2,269	10,455	20,829		47,488
22	Farmington, NM				4,591	11,758	24,098		40,446
23	Pueblo, CO		2,123		2,234	11,060	18,690		34,107
24	Santa Fe, NM		3,208		2,455	8,531	17,699		31,893
25	San Angelo, TX	0			1,928	8,016	15,517		25,461
26	North Platte, NE		2,325		136	2,395	1,860		6,715
27	Casper, WY				63	108	412		583

Source: Transearch

In the previous exhibit (as well as the balance of this section), Dallas is highlighted as it is of key importance since McKinley County (Gallup) is located essentially at the midpoint point along I-40 from LA/LB. Under the Federal Motor Carrier Safety Administration Hours of Service Rules (11-hour rule), the 21+ hour drive to reach Dallas would require the driver to rest, and therefore presents a logical case for a Truck Super Center or logistics services in Gallup.

Los Angeles BEA Destination Flows

Of the 42.3 million tons destined for the LA BEA, 27.2 million tons (64.3%) is truck cargo and intermodal and carload rail account for 18.8% and 16.6% respectively. Houston is the largest market serving LA with approximately 4.3 million tons (54%) moving by truck and 2.1 million of intermodal and 1.3 million tons of carload rail shipments. The majority of the tonnage shipped from Dallas BEA are intermodal (61%). Exhibits 2-13 and 2-14 illustrate the tonnage by mode and by key origin BEA.

Exhibit 2-13
LA BEA Destination by Mode from All BEAs (42.3 Million Tons)

Source: Transearch

Exhibit 2-14
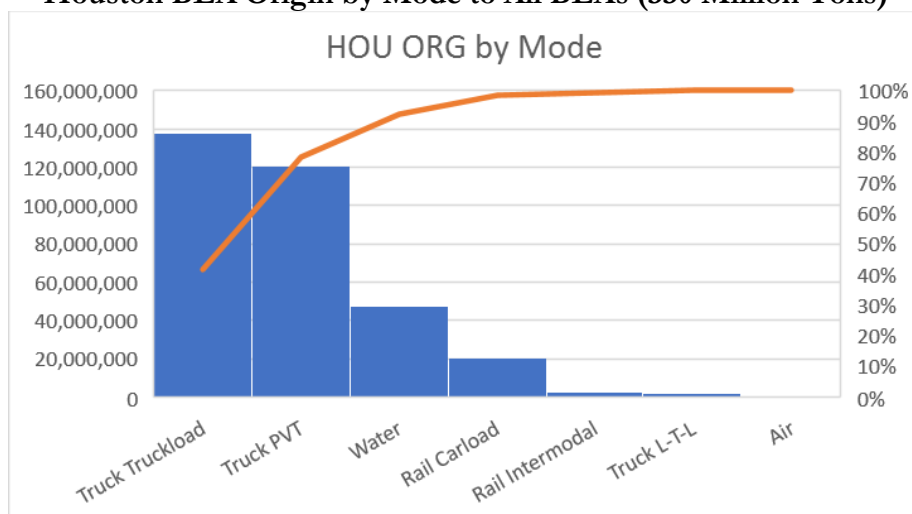**LA BEA Tonnage from All BEAs by Mode**

Destination BEA	Los Angeles, CA							
	Air	Rail Carload	Rail Intermodal	Truck L-T-L	Truck PVT	Truck Truckload	Water	Grand Total
Grand Total	**55,615**	**7,034,836**	**7,974,115**	**612,862**	**10,264,810**	**16,350,934**	**26,431**	**42,319,604**
1 Houston, TX	5,970	1,300,357	2,108,775	66,789	1,290,615	2,673,150	13,605	7,459,260
2 Dallas, TX	17,954	317,397	4,152,641	108,714	842,106	1,362,383		6,801,196
3 Phoenix, AZ	8,309	240,537	8,642	115,898	1,868,461	3,236,461		5,478,309
4 Salt Lake City, UT	4,721	1,658,788	293,297	78,773	1,299,840	1,543,524		4,878,943
5 Denver, CO	5,602	1,723,438	246,988	33,766	899,618	992,098		3,901,509
6 Los Angeles, CA	2	18,932		23,790	1,360,130	2,068,409		3,471,264
7 San Antonio, TX	5,989	97,876	437,485	46,216	278,663	435,304		1,301,532
8 Amarillo, TX	2	661,784		11,389	120,649	335,970		1,129,795
9 Las Vegas, NV	87	47,843		12,327	547,049	470,433		1,077,739
10 El Paso, TX	1,166	92,930	234,071	13,552	226,053	308,144		875,917
11 Tucson, AZ	560	36,458	35,129	15,487	298,606	442,471		828,710
12 Lubbock, TX	759	135,082	408,498	6,433	48,186	129,584		728,542
13 Albuquerque, NM	1,268	181,234	46,299	5,906	168,047	312,065		714,819
14 Austin, TX	1,927	1,170		11,393	183,191	346,726		544,407
15 Beaumont, TX		243,203		16,110	95,520	174,337	9,878	539,048
16 Flagstaff, AZ	128			13,330	172,407	306,480		492,345
17 Hobbs, NM		90,944		590	139,901	220,711		452,146
18 Corpus Christi, TX	1	72,819		3,111	82,732	173,027	2,886	334,575
19 McAllen, TX	1,164	16,442	2,291	16,198	90,381	193,051	62	319,591
20 Abilene, TX		32,158		1,694	22,285	206,145		262,282
21 Odessa, TX	5	10,874		4,640	56,315	182,054		253,889
22 Pueblo, CO		11,026		751	70,905	90,196		172,877
23 San Angelo, TX	0	10,121		4,470	44,656	85,568		144,815
24 Farmington, NM				1,198	35,922	45,516		82,636
25 North Platte, NE		29,909		27	1,466	2,121		33,524
26 Santa Fe, NM		3,514		307	12,410	14,804		31,036
27 Casper, WY				1	8,697	202		8,899

Source: Transearch

Houston BEA Origin Flows

The Houston BEA shipped a total of 330 million tons of cargo, however 72% of the cargo is intra-BEA cargo that is destined for other areas of the Houston BEA. This reflects regional intra-BEA movements of the oil and petrochemical logistics network. The next top five destination BEA markets are also located in Texas. Approximately 79% of the total 330 million tons is truck-related cargo. Intermodal and carload rail account for only 0.8% and 6.1% respectively. Nearly 86% of the total 2.5 million tons of intermodal cargo is destined for LA. Exhibits 2-15 and 2-16 detail the key modes and BEA tonnages.

Exhibit 2-15
Houston BEA Origin by Mode to All BEAs (330 Million Tons)

Source: Transearch

Exhibit 2-16
Houston BEA Tonnage to All BEAs by Mode

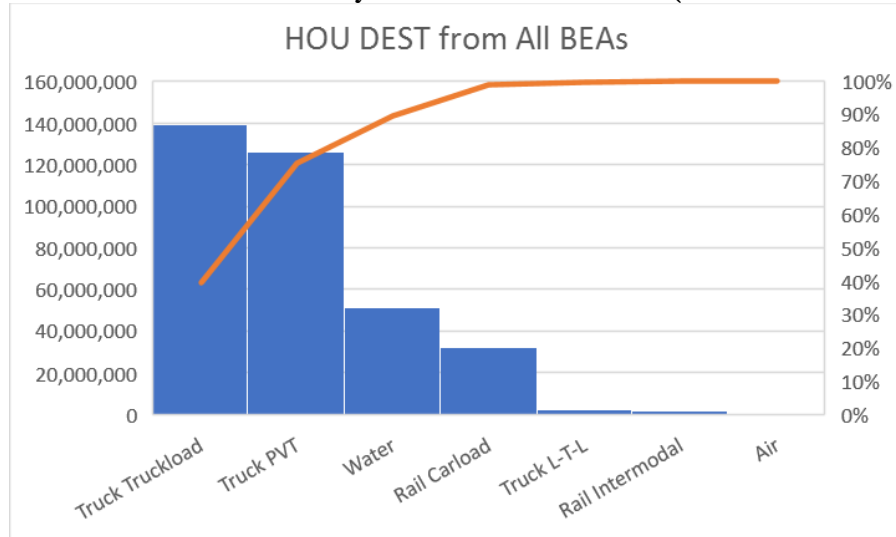|	Origin BEA Name	Houston, TX							
		Air	Rail Carload	Rail Intermoda	Truck L-T-L	Truck PVT	Truck Truckload	Water	Grand Total
	Grand Total	**24,408**	**20,355,748**	**2,539,859**	**2,135,964**	**120,296,535**	**138,000,071**	**47,234,745**	**330,587,330**
1	Houston, TX		13,419,040	1,190	1,353,022	88,369,612	99,974,461	35,956,889	239,074,214
2	Dallas, TX	5,116	1,768,671	182,325	277,549	11,609,543	10,262,981		24,106,184
3	Beaumont, TX		1,310,505		26,701	5,169,730	9,147,637	7,286,756	22,941,329
4	Austin, TX	2,835	38,576		89,510	4,930,281	5,239,927		10,301,129
5	San Antonio, TX	1,880	359,406	101	99,618	4,188,092	4,804,940		9,454,038
6	Corpus Christi, TX		229,442		26,274	1,801,920	2,998,099	2,721,356	7,777,091
7	Los Angeles, CA	5,970	1,300,357	2,108,775	66,789	1,290,615	2,673,150	13,605	7,459,260
8	McAllen, TX	736	84,979		17,887	656,297	549,799	1,256,138	2,565,836
9	Phoenix, AZ	973	306,406	39,717	30,934	298,585	461,146		1,137,761
10	El Paso, TX	613	136,138	27,215	14,710	408,586	515,060		1,102,321
11	Odessa, TX	45	443,906		14,040	392,163	217,982		1,068,135
12	Denver, CO	3,495	205,268	161,463	50,171	129,901	199,590		749,888
13	Amarillo, TX	0	94,481		8,580	240,321	161,311		504,693
14	Lubbock, TX	585	105,276	943	7,658	226,514	137,240		478,216
15	Abilene, TX		95,663		5,366	168,411	113,952		383,392
16	Salt Lake City, UT	1,407	196,972	16,246	11,446	45,278	85,607		356,957
17	San Angelo, TX		73,097		3,870	143,801	128,059		348,827
18	Albuquerque, NM	536	28,229	1,884	6,833	58,315	78,942		174,738
19	Tucson, AZ	217	17,259		6,159	57,928	85,593		167,155
20	Las Vegas, NV		103,477		1,690	6,531	13,134		124,831
21	Hobbs, NM	1	208		3,425	45,620	59,610		108,864
22	Pueblo, CO		37,159		5,856	15,444	23,889		82,349
23	Flagstaff, AZ				3,645	18,839	30,319		52,803
24	Santa Fe, NM				1,682	13,094	18,048		32,824
25	Farmington, NM				2,322	10,958	19,220		32,501
26	NULL		1,236						1,236
27	North Platte, NE				72	148	198		418
28	Casper, WY				153	11	177		341

Source: Transearch

Houston BEA Destination Flows

Similarly, intra-BEA movements account for 68% of the total tons destined for the Houston BEA. About 267.6 million of the total 352.5 million tons (75%) destined for the Houston BEA are

trucked. The remainder includes 32.1 million tons of carload rail and only 1.7 million tons of intermodal activity.

Exhibit 2-17
Houston BEA Destination by Mode from All BEAs (352.5 Million Tons)

Source: Transearch

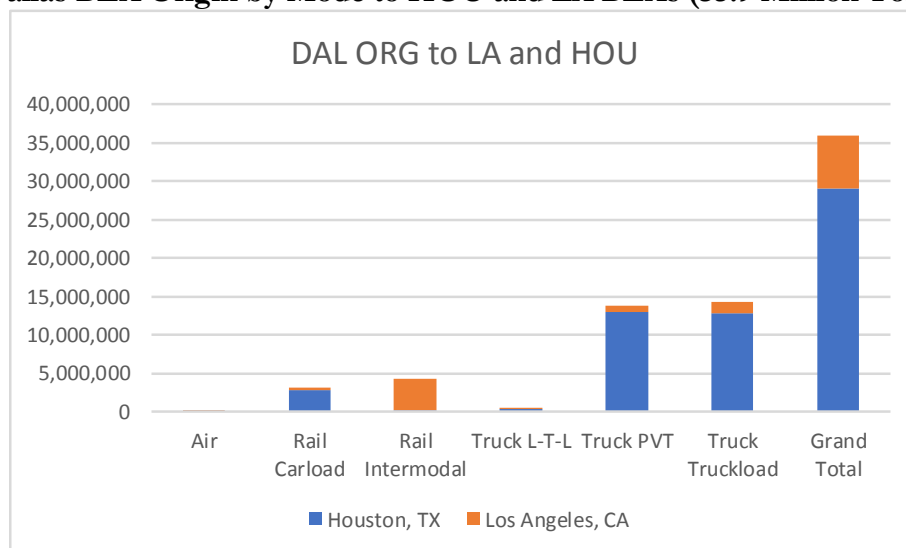**Exhibit 2-18**
Houston BEA Tonnage from All BEAs by Mode

	Destination BEA	Houston, TX							
		Air	Rail Carload	Rail Intermod	Truck L-T-L	Truck PVT	Truck Truckload	Water	Grand Total
	Grand Total	24,305	32,149,504	1,710,219	2,165,521	125,727,448	139,450,495	51,267,994	352,495,488
1	Houston, TX		13,419,040	1,190	1,353,022	88,369,612	99,974,461	35,956,889	239,074,214
2	Dallas, TX	3,091	2,737,401	127,688	405,087	12,997,618	12,845,063		29,115,948
3	San Antonio, TX	1,261	9,173,525	24,746	90,409	7,900,081	8,086,578		25,276,601
4	Beaumont, TX		1,085,021		57,496	3,304,035	4,562,536	9,572,514	18,581,602
5	Austin, TX	1,963	1,712,261		59,336	5,387,793	5,254,816		12,416,169
6	Corpus Christi, TX	1	116,304		25,467	3,012,813	3,447,410	5,644,044	12,246,040
7	San Angelo, TX	0	21,453		6,128	1,662,817	1,709,016		3,399,415
8	Los Angeles, CA	10,127	295,414	1,452,301	37,179	250,125	484,266	10,127	2,539,540
9	McAllen, TX	409	75,525		34,932	1,018,773	824,853	84,420	2,038,911
10	Amarillo, TX	0	621,067		18,182	363,048	722,435		1,724,731
11	Denver, CO	2,661	952,630	32,121	15,703	188,862	157,664		1,349,641
12	El Paso, TX	548	506,790	34,727	10,554	210,981	167,047		930,646
13	Lubbock, TX	251	101,706		17,526	420,142	373,410		913,035
14	Hobbs, NM		391,328		753	84,779	153,760		630,620
15	Odessa, TX	1	216,630		5,504	146,700	166,644		535,479
16	Abilene, TX		57,867		6,645	208,543	162,932		435,988
17	Salt Lake City, UT	1,262	249,792	31,257	3,260	52,244	72,643		410,459
18	Phoenix, AZ	1,988	96,706	6,188	11,671	60,372	177,453		354,378
19	Pueblo, CO		243,223		1,143	29,991	29,803		304,160
20	Albuquerque, NM	427	37,083		1,672	20,401	35,036		94,618
21	Santa Fe, NM		37,984		223	5,297	4,920		48,423
22	Tucson, AZ	315	536		2,260	18,548	21,881		43,540
23	Las Vegas, NV		132		532	5,118	6,087		11,869
24	Flagstaff, AZ		88		615	5,197	5,721		11,621
25	Farmington, NM	0			214	3,178	3,736		7,129
26	Casper, WY					172	249		421
27	North Platte, NE				8	208	73		289

Source: Transearch

Dallas BEA Origin Flows

Exhibit 2-19 and 2-20 illustrate the split of the 35.9 million tons of cargo originating in the Dallas BEA. Nearly 30 million tons is destined for Houston, of which 90% is trucked. However, of the 6.8 million tons destined for LA, 4.2 (61%) is intermodal.

Exhibit 2-19
Dallas BEA Origin by Mode to HOU and LA BEAs (35.9 Million Tons)

Source: Transearch

Exhibit 2-20
Dallas BEA to Houston and LA BEAs by Mode

Origin BEA Name	Dallas, TX						
	Air	Rail Carload	Rail Intermodal	Truck L-T-L	Truck PVT	Truck Truckload	Grand Total
Grand Total	**21,045**	**3,054,798**	**4,280,329**	**513,801**	**13,839,724**	**14,207,446**	**35,917,143**
1 Houston, TX	3,091	2,737,401	127,688	405,087	12,997,618	12,845,063	29,115,948
2 Los Angeles, CA	17,954	317,397	4,152,641	108,714	842,106	1,362,383	6,801,196

Source: Transearch

The top 20 commodities for each mode between LA and Dallas are shown below. Of the 5.4 million tons of intermodal cargo moving from LA to Dallas, 4.7 million tons (87%) is Freight All Kinds "FAK" which is typically import distribution cargo. The remaining 13% also reflects import cargoes such as textiles, freight forwarder traffic, household items, etc. Nearly 40% of the carload traffic is motor vehicles, followed by commodity-driven cargoes such as chemicals, steel and waste products. The LA-to-Dallas truck market is led by warehouse/DC cargo (175,000 tons) as well as a mix of consumer goods, manufacturing components as well non-consumer commodities.

Exhibit 2-21
LA/LB to Dallas BEA – Top Commodities by Mode

	Mode Name	Rail Intermodal	Mode Name	Rail Carload	Mode Name	All Truck
	Origin BEA Name	Los Angeles, CA	Origin BEA Name	Los Angeles, CA	Origin BEA Name	Los Angeles, CA
	Destination BEA Name	Dallas, TX	Destination BEA Name	Dallas, TX	Destination BEA Name	Dallas, TX
		Sum of Tons	Row Labels	Sum of Tons		Sum of Tons
	Grand Total	5,403,588	Grand Total	306,738	Grand Total	910,032
1	Fak Shipments	4,708,836	Motor Vehicles	119,278	Warehouse & Distribution Center	175,758
2	Misc Fabricated Textile Products	141,654	Potassium or Sodium Compound	70,667	Asphalt Coatings or Felt	67,479
3	Small Packaged Freight Shipments	79,673	Primary Iron or Steel Products	46,307	Misc Waste or Scrap	52,135
4	Misc Plastic Products	56,597	Asphalt Coatings or Felt	18,014	Leafy Fresh Vegetables	44,276
5	Freight Forwarder Traffic	45,000	Paper Waste or Scrap	15,824	Soft Drinks or Mineral Water	35,862
6	Chemical Preparations, Nec	29,095	Plastic Mater or Synth Fibres	11,237	Benches,chairs, Stools	32,538
7	Wood Lockers,partitions, Etc.	27,530	Misc Food Preparations, Nec	9,716	Misc Food Preparations, Nec	21,817
8	Mens or Boys Clothing	26,215	Misc Glassware,blown or Pressed	5,678	Household Cooking Equipment	21,292
9	Motor Vehicle Parts or Accessories	20,799	Paper	5,576	Accounting or Calculating Equipment	21,005
10	Transportation Equipment, Nec	19,221	Railroad Cars	830	Solid State Semiconducts	20,534
11	Misc Food Preparations, Nec	18,304	Fiber, Paper or Pulpboard	730	Bread or Other Bakery Prod	18,713
12	Misc Hardware	18,193	Structural Wood Prod, Nec	580	Cosmetics,perfumes, Etc.	18,689
13	Womens or Childrens Clothing	16,348	Animal By-prod,inedible	434	Womens or Childrens Clothing	17,714
14	Frozen Specialties	14,562	Misc Freight Shipments	394	Leather Footwear	17,621
15	Electric Housewares or Fans	14,341	Gypsum Products	382	Misc Fresh Vegetables	16,407
16	Household Cooking Equipment	14,310	Frozen Fruit, Veg or Juice	366	Electronic Data Proc Equipment	16,121
17	Games or Toys	13,376	Manufactured Prod, Nec	197	Misc Nonmetallic Minerals	15,120
18	Tires or Inner Tubes	9,772	Nonmetal Minerals, Processed	190	Bulbs,roots or Tubers	14,536
19	Potassium or Sodium Compound	8,150	Sugar, Refined, Cane or Beet	181	Dairy Farm Products	11,766
20	Industrial Gases	7,125	Grain	157	Beds,dressers,chests, Etc.	11,266

Source: Transearch

In terms of Dallas-to-LA cargo, again FAK shipments dominate the intermodal sector followed by empty containers. Key carload commodities include paper products, motor vehicles, and other commodities such as steel, petroleum, and chemicals. The truck market is heavily diversified by commodity-driven cargoes such as concrete, stone, plastics, steel, paper and agricultural products.

Exhibit 2-22
Dallas to LA BEA – Top Commodities by Mode

	Mode Name	Rail Intermodal	Mode Name	Rail Carload	Mode Name	All Truck
	Origin BEA Name	Dallas, TX	Origin BEA Name	Dallas, TX	Origin BEA Name	Dallas, TX
	Destination BEA Name	Los Angeles, CA	Destination BEA Name	Los Angeles, CA	Destination BEA Name	Los Angeles, CA
		Sum of Tons		Sum of Tons		Sum of Tons
	Grand Total	4,152,641	Grand Total	317,397	Grand Total	2,313,203
1	Fak Shipments	2,575,666	Fiber, Paper or Pulpboard	93,490	Concrete Products	257,599
2	Semi-trailers Returned Empty	548,188	Motor Vehicles	53,026	Misc Plastic Products	199,964
3	Paper	183,131	Primary Iron or Steel Products	34,733	Cut Stone or Stone Products	94,616
4	Misc Fabricated Textile Products	131,117	Petroleum Refining Products	20,736	Metal Scrap or Tailings	76,293
5	Metal Scrap or Tailings	103,950	Flour or Other Grain Mill Products	17,040	Misc. Field Crops	71,661
6	Freight Forwarder Traffic	62,720	Misc Industrial Organic Chemicals	16,883	Misc Coal or Petroleum Products	68,328
7	Roasted or Instant Coffee	42,768	Grain	16,312	Fiber, Paper or Pulpboard	67,083
8	Misc Wood Products	38,757	Plastic Mater or Synth Fibres	15,187	Primary Iron or Steel Products	64,341
9	Misc Food Preparations, Nec	38,071	Liquefied Gases, Coal or Petroleum	8,801	Portland Cement	61,725
10	Small Packaged Freight Shipments	36,460	Meat, Fresh Frozen	6,720	Flour or Other Grain Mill Products	52,544
11	Chemical Preparations, Nec	32,923	Gypsum Products	5,823	Industrial Gases	51,993
12	Tires or Inner Tubes	32,075	Misc Freight Shipments	5,112	Warehouse & Distribution Center	45,035
13	Soap or Other Detergents	29,948	Meat Products	5,104	Fabricated Structural Metal Products	44,603
14	Frozen Specialties	28,731	Paints, Lacquers, Etc.	3,748	Meat Products	43,525
15	Misc Plastic Products	25,510	Pulp or Pulp Mill Products	2,723	Dressed Poultry, Fresh	39,640
16	Animal By-prod,inedible	25,429	Misc Wood Products	2,569	Misc Metal Work	36,581
17	Glass Containers	12,865	Concrete Products	2,134	Sheet Metal Products	35,717
18	Beds,dressers,chests, Etc.	12,846	Railroad Cars	2,079	Processed Poultry or Eggs	34,887
19	Sanitary Food Containers	12,742	Lumber or Dimension Stock	1,858	Dressed Poultry, Frozen	31,223
20	Pickled Fruits or Vegetables	12,299	Adhesives	974	Clay Brick or Tile	30,882

Source: Transearch

New Mexico Origin and Destination Flows

In order to identify key markets served specifically in New Mexico, the following Exhibits 2-23 through 2-26 summarize the flows by mode and commodity to and from New Mexico from both LALB and Houston BEAs.

Key commodities originating in New Mexico destined for LA, in a truck-heavy market, include commodity-driven cargoes such as chemicals and grain, food and agribusiness products. However, 115,000 tons of empty trailers and 104,000 tons of FAK cargo is moving intermodally. Over 80 percent of the total tonnage is attributed to the top 20 commodities.

Exhibit 2-23
New Mexico Origin to LA BEA – Top 20 Tonnage by Commodity and Mode

Origin State	NM							
Sum of Outbound Tons								
			Rail			Truck		Cumulative
	Air	Rail Carload	Intermodal	Truck L-T-L	Truck PVT	Truckload	Grand Total	Percent
Los Angeles, CA	**1,268**	**250,692**	**253,538**	**8,435**	**319,941**	**529,964**	**1,363,837**	
1 Chem or Fertilizer Minerals Crude					108,659	102,588	211,247	15.5%
2 Grain		114,227			906	862	115,995	24.0%
3 Semi-trailers Returned Empty			112,532	0	0	0	112,532	32.2%
4 Fak Shipments			104,177				104,177	39.9%
5 Cheese or Special Dairy Products					18,450	53,385	71,835	45.2%
6 Dairy Farm Products					331	67,994	68,325	50.2%
7 Asphalt Paving Blocks or Mix					32,079	33,863	65,942	55.0%
8 Fiber, Paper or Pulpboard				3,609	9,223	41,520	54,352	59.0%
9 Crude Petroleum		53,675					53,675	62.9%
10 Misc. Field Crops					36,163	16,333	52,496	66.8%
11 Bulbs,roots or Tubers					4,893	25,279	30,173	69.0%
12 Misc Industrial Organic Chemicals		26,672	14				26,686	70.9%
13 Warehouse & Distribution Center				1,407	2,252	21,171	24,831	72.8%
14 Portland Cement					9,912	13,851	23,763	74.5%
15 Cereal Preparations				3	6	21,843	21,852	76.1%
16 Metal Scrap or Tailings		296	8,139	186	6,173	4,515	19,310	77.5%
17 Concrete Products					9,683	8,116	17,799	78.8%
18 Potassium or Sodium Compound		17,015					17,015	80.1%
19 Liquefied Gases, Coal or Petroleum		15,160					15,160	81.2%
20 Misc Coal or Petroleum Products					6,031	7,952	13,983	82.2%

Source: Transearch

Nearly half of the tonnage destined for HOU is potassium/sodium compounds and dairy products, with all of the compounds moving by rail. Unlike the LA market, the HOU market is more fragmented where only 68% of the total is captured in the top 20 groups. The balance of the top 20 cargoes are again driven by commodity markets with only 30,000 tons of FAK consumer cargo moving intermodally.

Exhibit 2-24
New Mexico Origin to HOU BEA – Top 20 Tonnage by Commodity and Mode

Origin State Sum of Outbound Tons	NM							
	Air	Rail Carload	Rail Intermodal	Truck L-T-L	Truck PVT	Truck Truckload	Grand Total	Cumulative Percent
Houston, TX	**427**	**466,966**	**32,974**	**4,726**	**133,777**	**333,864**	**972,734**	
1 Potassium or Sodium Compound		438,638					438,638	32.2%
2 Dairy Farm Products					1,202	203,440	204,642	47.2%
3 Chem or Fertilizer Minerals Crude		10,845			59,533	29,789	100,166	54.5%
4 Asphalt Paving Blocks or Mix					19,949	12,171	32,120	56.9%
5 Fak Shipments			30,262				30,262	59.1%
6 Misc Waste or Scrap				452	15,354	11,035	26,840	61.1%
7 Warehouse & Distribution Center				2,183	2,789	14,964	19,936	62.5%
8 Cheese or Special Dairy Products					3,663	10,882	14,545	63.6%
9 Petroleum Refining Products		11,915					11,915	64.5%
10 Misc. Field Crops					6,339	3,832	10,171	65.2%
11 Gravel or Sand					6,454	3,034	9,489	65.9%
12 Bulbs,roots or Tubers					1,685	6,967	8,651	66.5%
13 Prepared or Canned Feed				316	2,221	5,448	7,985	67.1%
14 Misc Food Preparations, Nec				36	1,126	4,192	5,353	67.5%
15 Cereal Preparations				176	406	3,534	4,116	67.8%
16 Metal Scrap or Tailings		2,811	134	18	550	290	3,802	68.1%
17 Soft Drinks or Mineral Water				10	1,129	1,519	2,658	68.3%
18 Semi-trailers Returned Empty			2,424	0	0	0	2,424	68.5%
19 Canned Specialties				68	505	1,750	2,323	68.6%
20 Cotton,raw						2,201	2,201	68.8%

Source: Transearch

Exhibit 2-25
New Mexico Destination from LA BEA – Top 20 Tonnage by Commodity and Mode

Destination State Sum of Inbound Tons	NM							
	Air	Rail Carload	Rail Intermodal	Truck L-T-L	Truck PVT	Truck Truckload	Grand Total	Cumulative Percent
Los Angeles, CA	**3,698**	**42,971**	**510,025**	**21,997**	**94,932**	**174,504**	**848,127**	
1 Fak Shipments			477,799				477,799	56.3%
2 Warehouse & Distribution Center				7,623	482	23,747	31,851	60.1%
3 Soft Drinks or Mineral Water				2	27,016	69	27,087	63.3%
4 Leafy Fresh Vegetables					6,944	19,034	25,978	66.3%
5 Misc Food Preparations, Nec			86	1	7	15,742	15,836	68.2%
6 Misc Indus Inorganic Chemicals		14,381	510				14,891	70.0%
7 Freight Forwarder Traffic			13,933				13,933	71.6%
8 Misc Waste or Scrap				357	7,351	5,140	12,848	73.1%
9 Bread or Other Bakery Prod				502	7,339	4,331	12,172	74.6%
10 Motor Vehicles		8,808	11			2,503	11,321	75.9%
11 Primary Iron or Steel Products		10,495		5	65	298	10,863	77.2%
12 Cosmetics,perfumes, Etc.			6	470	2,775	7,116	10,366	78.4%
13 Prepared or Canned Feed		1,073		101	2,068	5,034	8,276	79.4%
14 Asphalt Coatings or Felt		2,813		604	2,116	2,638	8,170	80.3%
15 Games or Toys			36	627	2,382	3,602	6,648	81.1%
16 Asphalt Paving Blocks or Mix					2,571	3,443	6,014	81.8%
17 Household Cooking Equipment				879	1,963	3,005	5,847	82.5%
18 Womens or Childrens Clothing				169	2,139	3,400	5,708	83.2%
19 Benches,chairs, Stools				346	1,951	3,393	5,690	83.9%
20 Misc Fresh Vegetables					564	4,292	4,856	84.4%

Source: Transearch

Unlike the origin market, Exhibit 2-25 demonstrates the New Mexico destination market from LA BEA is dominated by consumer cargoes, with FAK intermodal shipments accounting for 480,000

tons, or 56% of the total. Aside from these shipments, the balance of the market is dominated by private and truckload activity. Nearly 85% of the total tonnage is comprised in the top 20 commodities.

Exhibit 2-26
New Mexico Destination from HOU BEA – Top 20 Tonnage by Commodity and Mode

Destination State	NM							
Sum of Inbound Tons								
			Rail			Truck		Cumulative
	Air	Rail Carload	Intermodal	Truck L-T-L	Truck PVT	Truckload	Grand Total	Percent
Houston, TX	**537**	**58,647**	**24,387**	**16,411**	**142,990**	**210,613**	**453,585**	
1 Warehouse & Distribution Center				11,899	74,806	86,038	172,743	20.4%
2 Primary Iron or Steel Products		32,526		117	3,802	10,961	47,405	26.0%
3 Concrete Products					23,033	21,888	44,921	31.3%
4 Misc Coal or Petroleum Products					13,247	17,991	31,238	34.9%
5 Fak Shipments			19,315				19,315	37.2%
6 Industrial Gases				54	3,720	8,697	12,471	38.7%
7 Oil Field Machinery or Equipment						10,560	10,560	39.9%
8 Misc Industrial Organic Chemicals		9,562				1	9,563	41.1%
9 Chemical Preparations, Nec		8,426					8,426	42.1%
10 Portland Cement					2,226	3,025	5,250	42.7%
11 Misc Indus Inorganic Chemicals				35	109	4,654	4,798	43.2%
12 Asphalt Paving Blocks or Mix					2,564	2,049	4,614	43.8%
13 Misc Plastic Products				273	1,572	2,512	4,358	44.3%
14 Tropical Fruits					430	3,161	3,591	44.7%
15 Cut Stone or Stone Products				109	1,084	2,363	3,555	45.1%
16 Railroad Cars		3,298					3,298	45.5%
17 Nonmetal Minerals, Processed				132	1,158	1,861	3,150	45.9%
18 Potassium or Sodium Compound		1,584		9	105	870	2,567	46.2%
19 Constr Machinery or Equipment				169	305	1,965	2,439	46.5%
20 Misc. Field Crops					694	1,658	2,353	46.8%

Source: Transearch

Previous Exhibit 2-26 demonstrates the dominance of truck movements from HOU to New Mexico destination markets. In a highly fragmented marked, with only 47% of the tonnage accounted for by top 20 commodities, warehouse and DC cargo ranks at the top with 20% share. The balance of the top 20 is comprised primarily of commodity-driven and industrial cargoes such as steel, concrete and chemicals.

2.3 Cargo Flow Summary and Implications

Despite decline in share, LA/LB still handles over 40% of containerized Asian imports. Houston has been growing and the import market will drive the deployment of the direct calls at Houston, which will supply capacity for export moves. Containerized trade with East Asia represents some of the fastest growing trade lanes. The key route to serve the Texas BCOs via the Asian market is direct service to Houston or intermodal rail from Los Angeles and Long Beach to Dallas DCs, and then distribute to Texas BCOs – this is the Mini-Land Bridge routing (MLB).

As previously mentioned, the Dallas BEA is of particular interest due to the transit time to/from LA. With Gallup/McKinley County falling at the midpoint, the potential for driver rest and services (Truck SuperCenter) may exist. USDOT Federal Motor Carrier Safety Administration Hours of Service Rules mandates "PROPERTY-CARRYING DRIVERS: 11-Hour Driving Limit: May drive a maximum of 11 hours after 10 consecutive hours off duty. 14-Hour Limit: May not drive beyond the 14th consecutive hour after coming on duty, following 10 consecutive hours off duty. Off-duty

time does not extend the 14-hour period."[1] Waiting time, such as loading/unloading of container retrieval at a marine terminal or weigh station inspection can be counted as on-duty/not driving. Google Maps indicates that driving time from Port of Los Angeles is 10h:22m, and Long Beach 10h:16m, while transit time from Gallup to AllianceTexas is 10h:54m, falling just within the HOS limit.

Based on tons and trip counts, it is estimated that 910,000 tons are moving to Dallas and 771,500 tons to Houston equates to 47,900 and 41,636 trips to those markets respectively, for a total of nearly 90,000 trips annually. Assuming a Gallup location could attract 20% of the Dallas moves and 10% of the Houston moves (since an alternative route to the south is also an option), the baseline is estimated at 10,000 - 15,000 trips per year or approximately 35-40 eastbound trips/day. Additionally, Dallas generates 2.3 million westbound tons or 128,000 trips to LA and Houston accounts for another 4.3 million tons (196,000 trips). Using the same methodology for trips originating in Dallas, approximately 25,000 – 30,000 annual trips or 70-80 daily trips could be captured. Houston cargo is not included in this calculation since is it outside of the 11-hour rule. These 105-120 daily trips should be considered a moderate base line, with aggressive capture rates resulting in more activity at such a facility in the County. It should also be noted that this only incorporates traffic moving on the LA/LB to Dallas lane. Other commercial drivers traveling along I-40 will undoubtedly be captured.

3. Competitive Market Assessment Inland Port Intermodal Activity: Import Containers/Distribution Center Cargo
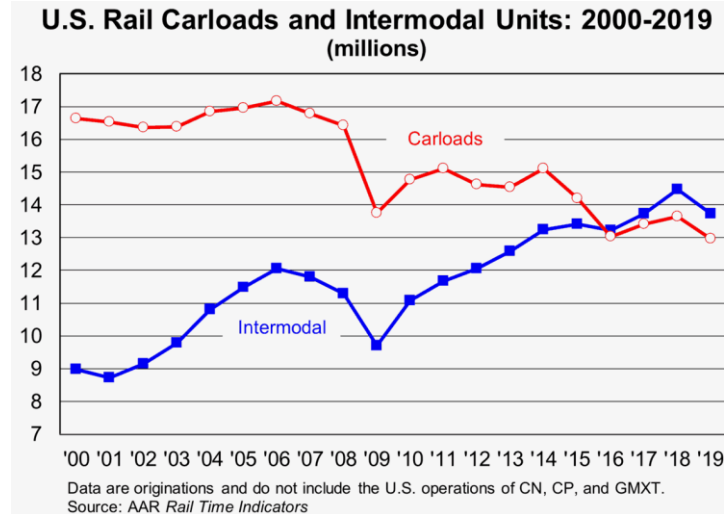
In order to compete for intermodal cargo and DC cargo, particularly containerized cargo moving on the Trans-Pacific trade lanes to and from the ports of LA/LB into the Four Corners Region as well as Texas, it is critical to identify the competitive logistics cost hinterland for a McKinley County inland port. This includes the ability to serve the regional consumption areas from McKinley County versus other competing intermodal ramps.

Currently, a majority of the Texas Trans-Pacific container market is served via the San Pedro Bay ports of Los Angeles and Long Beach than moved by rail into import distribution centers located in the Dallas/Fort Worth area. From these import distribution centers, the containers are moved by truck to final consumption points throughout Texas, and surrounding states. This current method of serving the Texas market intermodally via the San Pedro Ports is known as mini-land bridge (MLB) routing.

Growth in intermodal facilities, distribution centers, warehousing and logistics-related services has centered in key population and consumption centers. Exhibit 3-1 illustrates the growth in intermodal cargo in the U.S. since 2000. Carload activity has been in decline, primarily due to the contraction of coal markets, meanwhile intermodal has continued to grow pacing at 2-2.5X real GDP. In fact, in 2016, intermodal units surpassed carload units.

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[1] https://www.fmcsa.dot.gov/regulations/hours-service/summary-hours-service-regulations

Exhibit 3-1
Growth in U.S. Intermodal

Source: AAR

3.1 Current Intermodal and Distribution Center Regional Landscape

Clusters of distribution centers have historically developed near population centers and many of these facilities have key intermodal ramps to handle both international and domestic intermodal traffic to serve the regional consumption base. Exhibits 3-2 and 3-3 demonstrate this correlation and show key competing intermodal facilities in areas such as Los Angeles, the Bay Area, Denver, Salt Lake City, Phoenix, Houston, Austin and Dallas/Ft. Worth.

Exhibit 3-2
Location and Concentration of Southwest U.S. DCs Overlaid on Population Density
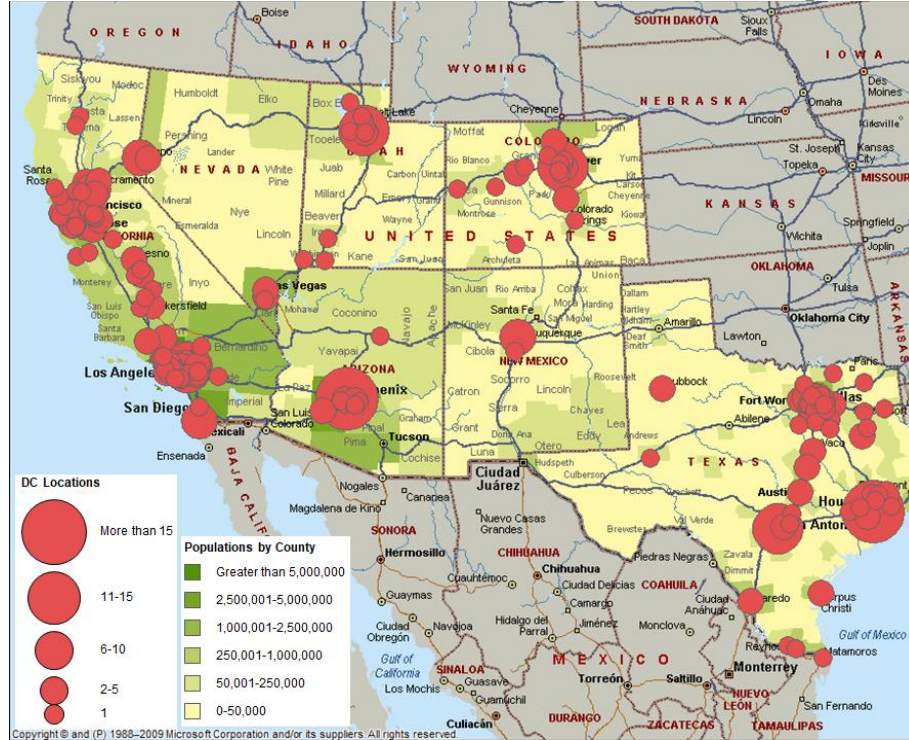
Source: https://www.indexmundi.com/facts/united-states, Chain Store Guide, Martin Associates internal data base, Hoovers

Exhibit 3-3
Key Intermodal Facilities in the Southwest Overlaid on Population Density

Carrier	City	St.	Lift Capacity
BNSF	Glendale (Phoenix)	AZ	250,000
UP	Phoenix	AZ	
UP	Tucson	AZ	
BNSF	Barstow	CA	100,000
UP	City of Commerce	CA	650,000
UP	City of Industry	CA	232,000
BNSF	City of Commerce	CA	1,700,000
UP	Lathrop	CA	270,000
UP	Long Beach	CA	760,000
BNSF/UP	Los Angeles	CA	2,257,775
UP	Los Angeles	CA	340,000
BNSF	San Bernardino	CA	660,000
BNSF	Denver	CO	
UP	Denver	CO	
BNSF	Albuquerque	NM	200,000+
UP	Santa Teresa	NM	225,000
BNSF	Alliance	TX	1,000,000
KC	Beasley (Houston)	TX	152,400
BNSF	El Paso	TX	200,000+
UP	Laredo	TX	280,000
KC	Laredo	TX	118,300
UP	San Antonio	TX	250,000
UP	Wilmer (Dallas)	TX	387,000
KC	Wylie	TX	342,000
UP	Salt Lake City	UT	250,000

Source: https://www.indexmundi.com/facts/united-states, individual Class I Railroad websites, CA State Rail Plan 2018, TX State Rail Plan Update 2016

Over the next 20 years, population in Texas is anticipated to grow by 11 million residents. Colorado, Utah and Arizona are expected to see increases in excess of 1 million, while New Mexico is anticipated to grow by 9.8% (215,000 residents). Exhibit 3-4 illustrates the gross percent change by county.

Exhibit 3-4
Regional Population Forecast 2020-2040

State	2020 Projection	2040 Projection	Difference	Gross Percent Change	Annual Percent Change
New Mexico	2,187,183	2,401,480	214,297	9.8%	0.47%
Colorado	5,842,076	7,460,600	1,618,524	27.7%	1.23%
Utah	3,325,425	4,463,950	1,138,525	34.2%	1.48%
Arizona	7,286,100	9,247,200	1,961,100	26.9%	1.20%
Texas	29,677,668	40,686,496	11,008,828	37.1%	1.59%
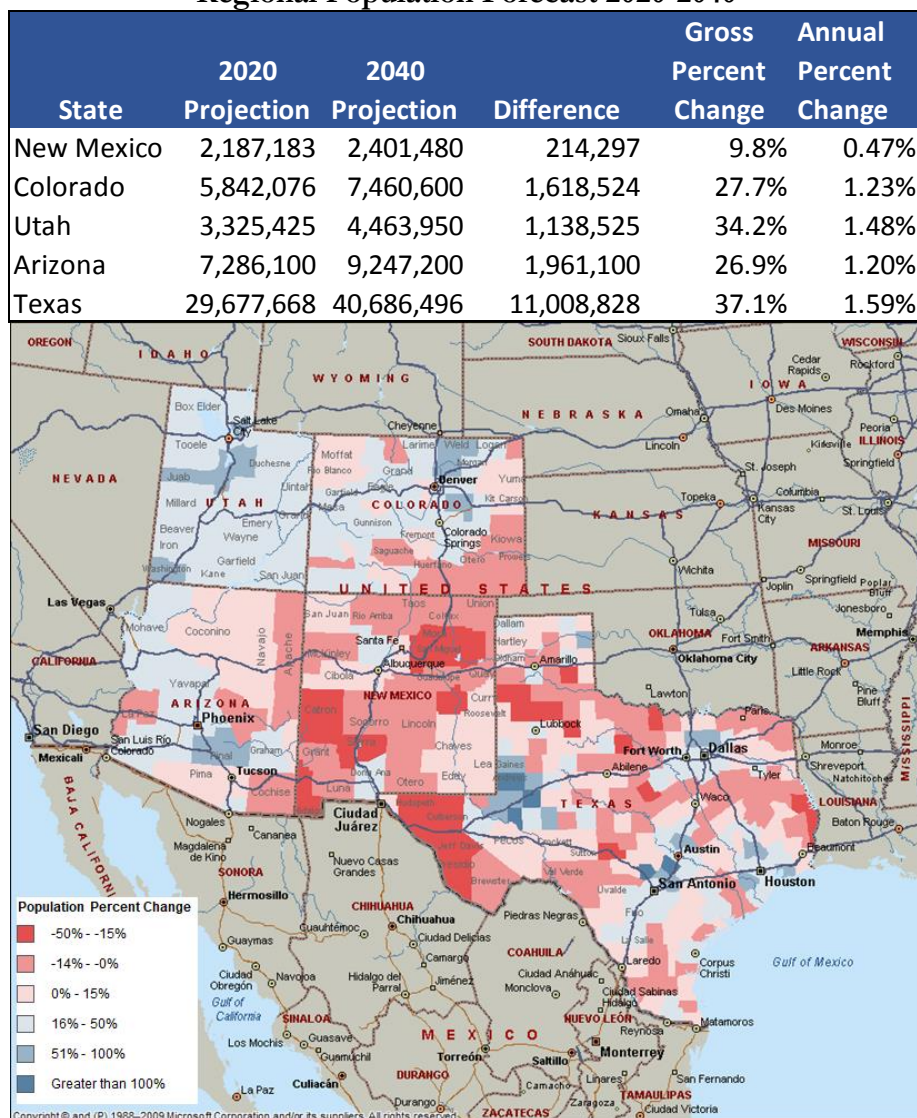
Source: https://www.indexmundi.com/facts/united-states, University of New Mexico Geospatial and Population Studies, Colorado Dept of Local Affairs, Kem C. Gardner Policy Institute 2020-2065 State and County Projections, produced July 2017, Arizona Office of Economic Opportunity, Texas Demographic Center

The relationship of DCs to population centers indicates that the majority of growth would likely occur within the Texas consumption hinterland. Exhibit 3-5 presents recent trends in industrial markets within the study region.

Exhibit 3-5
Regional Industrial Market Overview

Market	Period	Market Total SF	Vacancy Rate	Net Absorption	Under Construction	Asking Rate (NNN)
Albuquerque	H1 2019	42,515,463	3.3%	947,909	741,589	$6.66
Phoenix	Q3 2019	324,070,948	6.1%	8,082,653	11,906,784	$0.66 Mn
Salt Lake County	Q4 2019	137,319,353	3.4%	3,728,588	7,234,359	$0.53 Mn
Denver	Q4 2019	247,256,252	6.6%	916,575	6,592,116	$8.24
Greater Los Angeles	Q3 2019	1,016,138,338	1.3%	643,745	6,493,571	$0.91 Mn
Inland Empire	Q3 2019	545,474,903	3.1%	3,233,840	27,077,730	$.61 Mn
Austin	Q2 2018	52,294,683	9.9%	82,633	1,629,676	$7.96
Dallas/Ft. Worth	Q2 2018	770,065,368	5.8%	5,980,988	22,282,426	$4.23
El Paso	Q2 2018	52,237,014	7.9%	436,979	586,500	$4.06
Houston	Q2 2018	514,137,544	5.1%	1,212,766	10,705,336	$4.80
Mc Allen	Q2 2018	23,950,152	3.5%	-7,891	585,000	$5.38
San Antonio	Q2 2018	45,964,526	13.0%	134,351	1,728,915	$4.72
Texas SubTotal		*1,458,649,287*		*7,839,826*	*37,517,853*	
Total Market		**3,771,424,544**		**25,393,136**	**97,564,002**	

Source: CB Richard Ellis MarketView Reports 2018, 2019

As shown, Texas and Southern California (Los Angeles & Inland Empire) each have industrial markets of 1.5 billion square feet, with 37.5 million and 33.5 million square feet under construction respectively. Conversely the Albuquerque Market maintains 42.5 million sf. These comparisons demonstrate the vast logistics networks and logistics service providers presence in the competing markets with respect to New Mexico.

The location of distribution centers is critical in attracting cargo, particularly consumer goods such as furniture, apparel, electronics, toys, and perishables. Port-centric locations are becoming more critical in that a key cost component to an ocean carrier is the ability to control empty containers, and minimize the cost of repositioning the empty containers from the consumption points back to the seaport, with no revenue bearing cargo.

In addition, ocean carriers are continuing to price "port-to-port" moves more frequently than "point-to-point" moves. Under the port-to-port moves, the ocean carrier is responsible for the cost of moving the cargo from the foreign port to the U.S. port, including the terminal and stevedoring charges. The BCO is responsible for the inland transportation part of the move. Under the point-to-point move, the ocean carrier is responsible for the inland cost portion as well as the cost of the ocean transportation as well as the terminal and stevedoring operations. With the greater emphasis on port-to-port pricing, BCO's are incentivized to develop distribution centers closer to the port as well as to population centers, thereby minimizing the inland cost from the port to the consumption point, and further from the import distribution center to a regional distribution center or directly to the consumer from the distribution center. This latter method of serving the consumers directly from the distribution center/fulfillment center is very advantageous to the growth in e-commerce, as the distribution center serves not only as an import distribution center, but also as a fulfillment center.

At the distribution center, the marine containers are stripped, and cargo is warehoused, orders filled, and transloaded into domestic trailers (often 53 ft. trailers) for delivery to a regional distribution center. In cases where the distribution center also serves as a fulfillment center supporting e-commerce and last mile delivery (often within 24 hours), the imported containers are stripped, and often the cargo is reloaded into less than truckload lots for direct delivery to consumers.

Whether serving as an import center located in proximity to the port or as a fulfillment center, the near-port location (i.e. Port of LA/LB or Houston) of distribution centers reduces the drayage cost between the port of discharge and the distribution center, as well as provides the ocean carrier with near port control of its marine container.

In addition, with the escalation in tucking costs due to rising fuel prices, strictly enforced Hours of Service due to the mandatory electronic logging devices (ELD) installed on all trucks, and truck driver shortages, the minimization of trucking is critical to beneficial cargo owners. Thus, near-port and near-consumer market locations to the DC is a key factor driving ocean carrier port selection. In addition, the location of fulfillment centers in densely populated regions is further critical not only from the ability to meet 24-hour order fulfillments, but the fact that 30% of all e-commerce products are returned, compared to 8.9% for purchases from brick and mortar stores.[2]

3.2 Logistics Cost Analysis to Serve Regional Population

The following analysis presents the identification of optimal locations to serve the counties in the Four Corners Regional consumption market and assess the cost competitiveness of an intermodal ramp in McKinley County (Gallup).

Cost Analysis Methodology/Assumptions:
- Identify population by county for each state in the study region;
- Assume all import containers originate at LA/LB;
- Obtain intermodal ramp-to-ramp rates from interviews with intermodal providers - BNSF contractors; for Phoenix a truck rate was developed as current intermodal service is domestic only
- Develop estimated rate into Gallup based on interview data, and spot "per mile" rates;
- Identify mileages from existing key intermodal ramp locations – Dallas, Denver, Salt Lake City, Santa Teresa/El Paso and Albuquerque to county seats of all counties in the Four Corners Region and Texas;
- Develop truck rates using Martin Associates' proprietary model from key intermodal facilities (ICTF) and Gallup to each County Seat; Truck mileages were converted into truck costs using 40 MPH and $86/hour (interviews with drayage companies and American Transportation Research Institute (ATRI), An Analysis of the Operational Costs of Trucking, 2018 Update, ATRI;
- Demonstrate least-cost pairing with intermodal rates from LA/LB.

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[2] https://www.abivin.com/single-post/2018/04/12/5-fundamental-ways-to-reduce-Last-mile-Delivery-Costs

Using these assumptions, the cost-effective hinterland of serving the study region is presented in Exhibit 3-6.

Exhibit 3-6
Competitive Cost-Effective Hinterland for Intermodal Cargo – Four Corners and Texas

Gallup	Albuquerque	Phoenix	Santa Teresa/ El Paso	Denver	Salt Lake City	Dallas	Total
2.8%	3.5%	15.8%	5.0%	9.5%	6.9%	56.6%	100.0%

Source: Martin Associates

As shown above, an intermodal facility in McKinley County (Gallup) handling international containers from LA/LB, can effectively serve 2.8% of the study regional population, while Albuquerque could serve 3.5%. Conversely, Dallas and Phoenix can serve 56.6% and 15.8% respectively. Given these results, it appears the prospect of developing an intermodal facility in Gallup to siphon off intermodal cargo moving from LA to Dallas is limited. The large volume of cargo, which drives more competitive rail rates into Dallas, and the amount of DC/warehousing development and vast presence of logistics-related businesses already located in Dallas (specifically Alliance Texas) provides that routing with a distinct advantage - including full back hauls of resin from the Houston area - especially to serve the population-rich counties in Eastern Texas. If contract rail rates from Port of LA/LB to Dallas are assumed, the Dallas share increases to 59.5% at the expense of Albuquerque which falls from 3.5% to 2.4% and Santa Teresa/El Paso which falls from 5.0% to 3.1%. Furthermore, Houston and San Antonio DCs (not included cost analysis due to minimal impact on the Four Corners Region) will compete against Dallas for south and east Texas markets.

3.3 Implications for Intermodal and Distribution Center Development in McKinley County

Favorable attributes of McKinley County with respect to intermodal rail and DC development include:
- Large parcel availability – site(s) with over 2,000 acres;
- Rail access – Site(s) adjacent to BNSF Southern Transcon Line;
- Designated as a BNSF Certified Site – meaning certain requirements are already met for more efficient development; and
- Adjacent access to I-40.

Issues/Constraints/Challenges of intermodal DC development include:
- Lack of immediate population base hinders McKinley County potential;
- Existing intermodal in Phoenix and Albuquerque limit Gallup to the east and west;
- Los Lunas, NM and Surprise, AZ are also listed as BNSF Certified Sites;
- Albuquerque better situated on I-25 to serve North toward Denver;
- In order to serve as an intermodal facility handling import containers, a minimum of one train in/out per week is necessary - approximately 27,000 loads or 47,500 TEUs;
- Availability of empty containers - Empties are located at major DC clusters, essentially in Dallas and Houston;
- Technically educated labor force – Today's logistics needs are highly evolved and sophisticated and many major retailers, wholesalers and 3PLs utilize experienced labor with technical school training in logistics-based programs; and
- Population growth is most likely to occur in key population markets as shown in Exhibit 3-4.

Ultimately, Dallas (Alliance Texas) and other key Texas hubs such as Houston, San Antonio and Austin will control the local Texas market and also serve outward regionally to other states. Phoenix, with only domestic intermodal service, will be a factor since the DCs are served by truck from the Ports of LA/LB. Albuquerque becomes a highly interesting play since it already has intermodal activity, albeit mostly domestic traffic. The question needs to be addressed as to why the existing intermodal facility in Albuquerque would not be expanded, in lieu of developing and building a Greenfield site in Gallup for international intermodal/DC operations. Both Phoenix (Surprise) and Albuquerque (Las Lunas) are located nearby BNSF Certified Sites.

The total market area of the key markets of the Four Corners/Texas and LA/Inland Empire is estimated at 3.8 billion square feet. Based on recent ratios of net absorption to total market, it is expected that the total market will grow by 1.3% - 1.8% per year. At that rate the identified market is estimated to increase to 5.25 billion sf by 2040.

In order for a McKinley County site to reach the required import container volume necessary for a minimum 1x per week intermodal service, it would be critical to attract a major anchor tenant - DC operator/developer to guarantee the volume needed. With Four Corners/Texas import logistics chains already in place for key retailers and wholesalers, it appears unlikely to develop that type of operation. Therefore, preliminary findings indicate that an intermodal facility in McKinley County appears limited.

Furthermore, with respect to partnering with other regional facilities for distribution or transmodal operations, such as Phoenix, it is necessary for any opportunity to maintain a competitive cost structure from upstream to downstream stakeholders. Additional handling will incur more cost and additional transit time will add to inventory catting costs and potential delays. This type of partnership may be more advantageous with respect to carload activity discussed later in this report.

Despite the current challenge of intermodal development, there may be a play for a truck-in/truck-out DC that would not require intermodal activity. This type of operation would essentially be an expansion into the Four Corners market, perhaps by a sophisticated chain looking for a presence in the market or a less complicated chain looking to place a single DC to serve a larger region. Again, it is not recommended that public money be spent on a speculative building as a firm commitment of volume from a user would need to be secured beforehand.

4. Competitive Market Assessment Inland Port Carload Rail Activity

Section 4 provides potential opportunities for McKinley County with respect to logistics and manufacturing. While the notion of an intermodal facility does not appear feasible in the near-term, the potential opportunities identified may require carload rail operations. In addition, these opportunities may require significant development in terms of manufacturing, processing, storage and other value-added services.

With intermodal/DC operations limited, the focus of potential development of inland port operations should shift to other activity and investigate the potential of carload operations which utilize the advantage of resources and commodities in proximity to McKinley County.

Currently, Gallup Energy Logistics Park (GELP) handles 600,000-700,000 tons of which are trucked through Gallup for transload to railcars destined for Arizona and California for use in cement production. Business levels look to remain stable over the near-term. Additionally, GELP handles inbound frac sand by rail which is transloaded to truck for use in fracking operations in the San Juan Basin to the north. It was anticipated that this market would ramp up in 2020, however at the time of this report, the current COVID-19 pandemic is heavily impacting commodities markets and the near-term and recovery is uncertain. As this market is already sensitive to price fluctuations, recovery in this market will hinge on the health of future domestic and global economic conditions.
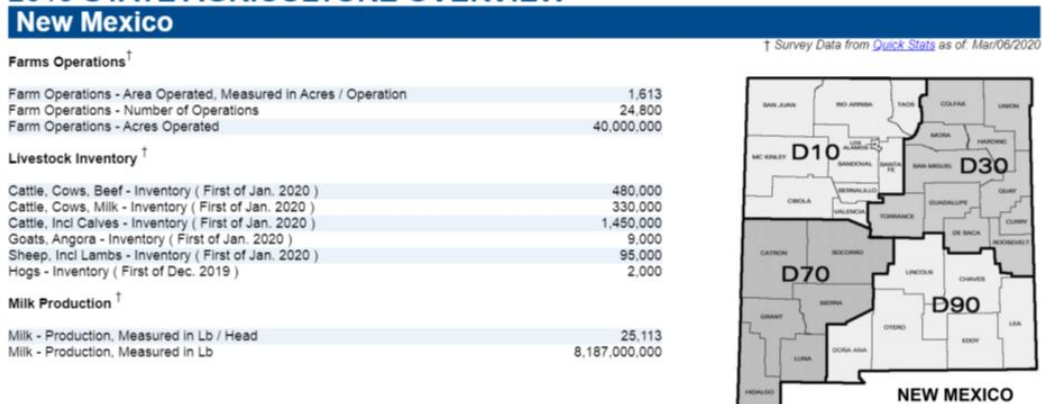
The balance of this section will highlight key opportunities for potential inland port operations within McKinley County.

4.1 Agribusiness

Hay, corn and wheat are key products in New Mexico's agribusiness sector. Exhibit 4-1 provides a summary of crops and livestock. The state produced approximately 950,000 tons of hay, 2 million tons of corn and 80,000 tons of wheat. Additionally, there is an inventory of 2.26 million cattle.

Exhibit 4-1
New Mexico Agricultural Summary

2019 STATE AGRICULTURE OVERVIEW
New Mexico

† Survey Data from *Quick Stats* as of: Mar/06/2020

Farms Operations†

Farm Operations - Area Operated, Measured in Acres / Operation	1,613
Farm Operations - Number of Operations	24,800
Farm Operations - Acres Operated	40,000,000

Livestock Inventory†

Cattle, Cows, Beef - Inventory (First of Jan. 2020)	480,000
Cattle, Cows, Milk - Inventory (First of Jan. 2020)	330,000
Cattle, Incl Calves - Inventory (First of Jan. 2020)	1,450,000
Goats, Angora - Inventory (First of Jan. 2020)	9,000
Sheep, Incl Lambs - Inventory (First of Jan. 2020)	95,000
Hogs - Inventory (First of Dec. 2019)	2,000

Milk Production†

Milk - Production, Measured in Lb / Head	25,113
Milk - Production, Measured in Lb	8,187,000,000

NEW MEXICO

Commodity	Planted All Purpose Acres	Harvested Acres	Yield	Production	Price per Unit	Value of Production in Dollars
HAY						
HAY		245,000	3.89 TONS / ACRE	954,000 TONS	223 $ / TON	211,874,000
HAY, ALFALFA		160,000	4.9 TONS / ACRE	784,000 TONS	231 $ / TON	181,104,000
HAY, (EXCL ALFALFA)		85,000	2 TONS / ACRE	170,000 TONS	181 $ / TON	30,770,000
HAY & HAYLAGE						
HAY & HAYLAGE						211,874,000
HAY & HAYLAGE, ALFALFA	15,000					181,104,000
HAY & HAYLAGE, (EXCL ALFALFA)						30,770,000
PECANS						
PECANS, UTILIZED, IN SHELL			2,100 LB / ACRE	97,000,000 LB		170,016,000
PECANS		46,000	2,100 LB / ACRE		1.76 $ / LB	
PEPPERS						
PEPPERS, CHILE	9,100	8,700	145 CWT / ACRE	1,261,500 CWT	39.6 $ / CWT	50,008,000
PEPPERS, CHILE, PROCESSING					800 $ / TON	41,378,000
PEPPERS, CHILE, FRESH MARKET					38 $ / CWT	8,630,000
PEPPERS, CHILE, UTILIZED				1,261,500 CWT		
COTTON						
COTTON, UPLAND	63,000	47,000	1,328 LB / ACRE	130,000 480 LB BALES	0.535 $ / LB	33,384,000
COTTON, COTTONSEED				46,000 TONS	210 $ / TON	9,660,000
COTTON	68,300	52,000	1,283 LB / ACRE	139,000 480 LB BALES		
COTTON, PIMA	5,300	5,000	864 LB / ACRE	9,000 480 LB BALES	(D) $ / LB	(D)
CORN						
CORN, GRAIN		46,000	135 BU / ACRE	6,210,000 BU	4.4 $ / BU	27,324,000
CORN	145,000					
CORN, SILAGE		90,000	20 TONS / ACRE	1,800,000 TONS		
WHEAT						
WHEAT, WINTER	360,000	105,000	30 BU / ACRE	3,150,000 BU	4.5 $ / BU	14,175,000
WHEAT	360,000	105,000	30 BU / ACRE	3,150,000 BU	4.5 $ / BU	14,175,000
PEANUTS						
PEANUTS	4,700	4,700	3,210 LB / ACRE	15,087,000 LB	0.282 $ / LB	4,255,000

Source: USDA NASS statistics

In comparison, Colorado handles fairly similar crops with 8.2 million tons of corn, 3 million tons of wheat and sorghum products, 4.1 million tons of hay, and 2.8 million in cattle inventory.

Exhibit 4-2
Colorado Agricultural Summary

2019 STATE AGRICULTURE OVERVIEW
Colorado

† Survey Data from *Quick Stats* as of: Mar/06/2020

Farms Operations †

|	
Farm Operations - Area Operated, Measured in Acres / Operation	822
Farm Operations - Number of Operations	38,700
Farm Operations - Acres Operated	31,800,000

Livestock Inventory †

Cattle, Cows, Beef - Inventory (First of Jan. 2020)	771,000
Cattle, Cows, Milk - Inventory (First of Jan. 2020)	189,000
Cattle, Incl Calves - Inventory (First of Jan. 2020)	2,800,000
Cattle, On Feed - Inventory (First of Jan. 2020)	1,120,000
Goats, Meat & Other - Inventory (First of Jan. 2020)	23,000
Goats, Milk - Inventory (First of Jan. 2020)	9,500
Sheep, Incl Lambs - Inventory (First of Jan. 2020)	425,000
Hogs - Inventory (First of Dec. 2019)	750,000

Milk Production †

Milk - Production, Measured in Lb / Head	25,844
Milk - Production, Measured in Lb	4,807,000,000

AGRICULTURAL STATISTICS DISTRICTS
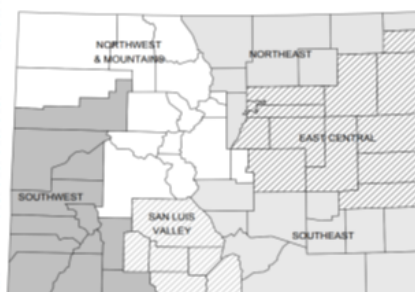
Commodity	Planted All Purpose Acres	Harvested Acres	Yield	Production	Price per Unit	Value of Production in Dollars
HAY & HAYLAGE						
HAY & HAYLAGE						934,660,000
HAY & HAYLAGE, ALFALFA	80,000					626,632,000
HAY & HAYLAGE, (EXCL ALFALFA)						308,028,000
HAY						
HAY		1,460,000	2.78 TONS / ACRE	4,052,000 TONS	232 $ / TON	934,660,000
HAY, ALFALFA		730,000	3.7 TONS / ACRE	2,701,000 TONS	232 $ / TON	626,632,000
HAY, (EXCL ALFALFA)		730,000	1.85 TONS / ACRE	1,351,000 TONS	228 $ / TON	308,028,000
CORN						
CORN, GRAIN		1,300,000	123 BU / ACRE	159,900,000 BU	3.95 $ / BU	631,605,000
CORN	1,550,000					
CORN, SILAGE		175,000	24 TONS / ACRE	4,200,000 TONS		
WHEAT						
WHEAT, WINTER	2,150,000	2,000,000	49 BU / ACRE	98,000,000 BU	3.95 $ / BU	387,100,000
WHEAT	2,150,000	2,000,000	49 BU / ACRE	98,000,000 BU	3.95 $ / BU	387,100,000
WHEAT, SPRING, (EXCL DURUM)					(NA) $ / BU	(NA)
POTATOES						
POTATOES	51,300	51,100	376 CWT / ACRE	19,219,000 CWT	10.9 $ / CWT	209,487,000
MILLET						
MILLET, PROSO	340,000	320,000	37 BU / ACRE	11,840,000 BU	5.2 $ / BU	61,568,000
SORGHUM						
SORGHUM, GRAIN		310,000	41 BU / ACRE	12,710,000 BU	4.7 $ / CWT	33,453,000
SORGHUM, SILAGE		18,000	17 TONS / ACRE	306,000 TONS		
SORGHUM	365,000					
BARLEY						
BARLEY	54,000	52,000	138 BU / ACRE	7,176,000 BU	4.55 $ / BU	32,651,000
SUNFLOWER						
SUNFLOWER	59,000	55,000	1,080 LB / ACRE	59,400,000 LB	19 $ / CWT	11,299,000
PEACHES						
PEACHES				17,000 TONS		

Source: USDA NASS statistics

In terms of agricultural exports from New Mexico and Colorado Exhibit 4-3 breaks down the historical container tonnage. By far, Colorado is much more active than New Mexico in the export market especially with meat exports totaling 150,000 tons in 2019 and cereal grains of 66,000 tons. New Mexico's strongest export market has historically been dairy products, followed by nuts and seeds.

Exhibit 4-3
New Mexico and Colorado Containerized Agricultural Export Tonnage

Sum of Container Tons	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Grand Total
New Mexico												
08 Edible Fruit & Nuts; Citrus Fruit Or Melon Peel	1,730	65	68	209	650	1,053	155	2,160	3,470	2,365	3,362	15,287
04 Dairy Prods; Birds Eggs; Honey; Ed Animal Pr Neso	2,684	13,968	24,049	17,531	26,480	23,352	5,824	7,026	7,579	6,623	2,966	138,081
12 Oil Seeds Etc.; Misc Grain, Seed, Fruit, Plant Etc	76	68	317	221	103	13	0	240	1,110	1,871	1,016	5,034
09 Coffee, Tea, Mate & Spices	345	64	96	451	832	681	634	897	825	1,315	1,007	7,146
10 Cereals	0	429	568	1,097	790	111	266	911	1,077	767	639	6,655
07 Edible Vegetables & Certain Roots & Tubers	55	25	765	538	662	256	1,468	571	72	151	45	4,607
02 Meat And Edible Meat Offal	3			3		39			27		29	101
05 Products Of Animal Origin, Nesoi	323	20	27	50		24	0		0		0	445
03 Fish, Crustaceans & Aquatic Invertebrates									44			44
11 Milling Products; Malt; Starch; Inulin; Wht Gluten	0	0	1	3	2	155	57	103	2			323
Colorado												
02 Meat And Edible Meat Offal	51,864	74,319	90,277	98,463	83,914	109,450	102,685	114,308	122,182	140,891	147,184	1,135,538
10 Cereals	18,084	20,744	27,522	18,237	7,235	32,843	34,833	39,151	81,661	65,247	66,938	412,494
05 Products Of Animal Origin, Nesoi	935	3,743	1,300	7,765	7,325	12,617	8,120	8,996	11,004	16,273	15,655	93,733
07 Edible Vegetables & Certain Roots & Tubers	1,088	4,560	6,165	2,424	986	2,398	5,510	7,883	4,347	4,989	3,149	43,499
12 Oil Seeds Etc.; Misc Grain, Seed, Fruit, Plant Etc	4,751	3,054	985	258	800	416	426	2,973	3,049	1,330	2,616	20,658
11 Milling Products; Malt; Starch; Inulin; Wht Gluten	81	92	290	416	800	495	671	782	741	852	1,897	7,115
04 Dairy Prods; Birds Eggs; Honey; Ed Animal Pr Neso	266	178	999	788	3,853	2,298	4,761	3,221	1,414	3,003	1,426	22,207
08 Edible Fruit & Nuts; Citrus Fruit Or Melon Peel	197	63	262	300	398	177	161	92	271	203	153	2,275
09 Coffee, Tea, Mate & Spices	15	12	3	1	19	1	87	128	111	72	74	523
06 Live Trees, Plants, Bulbs Etc.; Cut Flowers Etc.	0	0	1	2	4	0	7			2	10	26
01 Live Animals	5	5	5			0	0	491				506
03 Fish, Crustaceans & Aquatic Invertebrates		28		5	0	10	3	5	61	22		134

Source: U.S. Census, USA TradeOnline

Exhibit 4-4
New Mexico and Colorado Non-Containerized Agricultural Export Tonnage

Sum of Non-Container Tons	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Grand Total
New Mexico												
09 Coffee, Tea, Mate & Spices	0	291	148	90	33	55	18	132	108	22	110	1,007
04 Dairy Prods; Birds Eggs; Honey; Ed Animal Pr Neso	1,146	3,981	3,808	1,017	3,900	404	831	313	300	407	43	16,151
08 Edible Fruit & Nuts; Citrus Fruit Or Melon Peel	136	84	0	0	58	105	807	66	0	275	22	1,553
02 Meat And Edible Meat Offal	0			0		0			0		0	0
05 Products Of Animal Origin, Nesoi	229	12	0	0		0	20		0		0	261
07 Edible Vegetables & Certain Roots & Tubers	0	70	935	27	1,859	2,054	3	0	0	0	0	4,947
10 Cereals	1,295	793	614	1,055	271	21	11	10	10	0	0	4,080
12 Oil Seeds Etc.; Misc Grain, Seed, Fruit, Plant Etc	71	80	68	123	349	217	60	0	0	0	0	967
03 Fish, Crustaceans & Aquatic Invertebrates									0			0
11 Milling Products; Malt; Starch; Inulin; Wht Gluten	125	1,180	0	0	7	0	0	0	0			1,312
Colorado												
10 Cereals	2,510	3,864	7,185	3,875	1,601	47,581	20,952	5,487	122,710	1,864	2,891	220,522
05 Products Of Animal Origin, Nesoi	150	264	241	436	291	50	49	994	328	8	944	3,755
12 Oil Seeds Etc.; Misc Grain, Seed, Fruit, Plant Etc	220	135	2,564	2,614	2,295	4,233	4,133	4,535	1,306	202	291	22,528
02 Meat And Edible Meat Offal	3,970	11,078	5,938	8,955	27,722	458	2,004	793	1,092	122	35	62,167
04 Dairy Prods; Birds Eggs; Honey; Ed Animal Pr Neso	481	163	433	713	2,583	428	473	134	178	20	18	5,624
09 Coffee, Tea, Mate & Spices	25	11	11	92	56	4	14	17	13	1	7	250
06 Live Trees, Plants, Bulbs Etc.; Cut Flowers Etc.	1	0	0	0	0	2	0			0	6	9
11 Milling Products; Malt; Starch; Inulin; Wht Gluten	245	532	631	2,627	1,219	580	169	42	10	176	2	6,233
07 Edible Vegetables & Certain Roots & Tubers	1,265	396	502	947	1,196	4,436	4,611	569	982	472	0	15,375
08 Edible Fruit & Nuts; Citrus Fruit Or Melon Peel	0	0	63	22	12	20	0	0	0	0	0	117
01 Live Animals	3	13	0			41	0	0				57
03 Fish, Crustaceans & Aquatic Invertebrates		0		0	35	0	0	0	0	0		35

Source; U.S Census, USA TradeOnline

Given its proximity to McKinley County, and furthermore lack of rail connectivity, the Navajo Agricultural Products Industry (NAPI) may offer opportunities for inland port operations. Interviews with NAPI indicate that the vast majority of their product is sold to local and regional customers. NAPI has processing and value-added services on site, including fresh pack, bean plant and flour mill.

Despite the fact that products are sold primarily for local and regional markets, some customers do export product overseas. In addition, NAPI leases land or partner with on-site contractors to produce products for their businesses. Key contractors include Anderson Hay, Wilbur-Ellis, Navajo Mesa Farms and New Mexico Milling, LLC.

In terms of developing refrigerated warehousing or transloading operations, it appears that the agricultural products such as pecans, peppers, peaches are sold in smaller lot sizes and not economically feasible for rail shipment. Corn and wheat, from NAPI and other New Mexico regions, are exported to a certain extent albeit smaller volumes primarily to Canada and Mexico. Furthermore, there already exists on-site processing within NAPI for certain products.

However, hay and alfalfa volumes are more significant and can support rail service and there may be an opportunity to rail these products to the West Coast for export. A critical factor in this export move is the need for a compressor to bale the hay and stuff into a container or box car. This operation would be most effectively served at the rail line, where the product would be trucked to McKinley County for storage, compressing and stuffing. The estimated baseline volume needed for a compressor is 80,000 tons annually, which according to the interviewee, would consume the majority of the outbound hay from NAPI and contractors. However, with the vast amount of production in other areas of New Mexico and Colorado, there may be potential to meet this demand – 100,000 to 150,000 tons.

Although frozen meat and beef exports from Colorado have tripled from 50,000 tons in 2009 to nearly 150,000 tons in 2019, the potential to handle this tonnage at a McKinley County site is limited. First, the majority of the cattle are raised in the Northeast and East Central Agricultural Districts of the state. In order to ship via rail from Gallup, the product would need to be drayed across the state essentially passing Denver, where there exists intermodal connectivity. Next, the primary export markets are Canada and Mexico and handled, to a great extent, via truck. Furthermore, in speaking with cold chain warehouse operators, the critical need for successful rail-served cold chain is the ability to have your facility near-port for imports and within 50 miles for exports. Eliminating additional cost of drayage contributes significantly to the feasibility of the service.

4.2 Oil & Gas (Methanol, Resins Production)

The San Juan Basin covers 7,500 square miles and resides in northwestern New Mexico, southwestern Colorado, and parts of Utah and Arizona. San Juan Basin is one of America's oldest oil and gas producing areas. The northern third of the basin produces primarily dry gas, the central portion, primarily wet gas and the southern third produces oil.

Exhibit 4-5
San Juan Basin and Pipeline Network
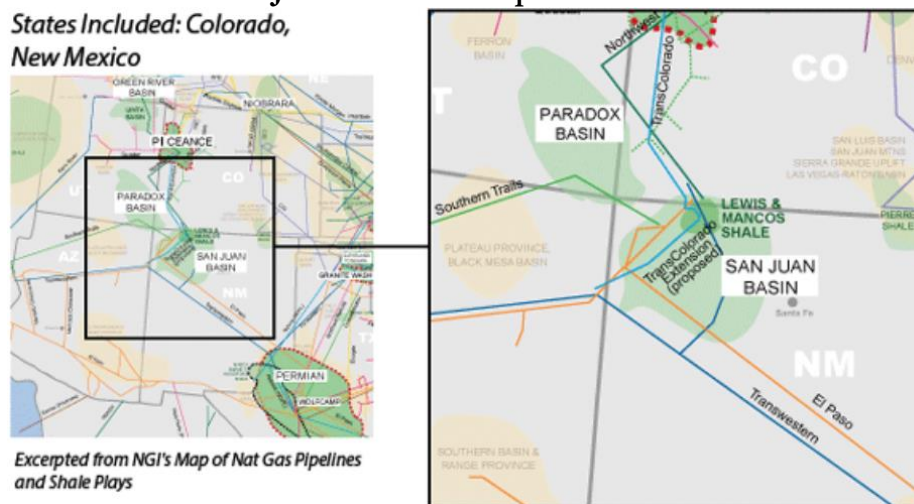
Source: Natural Gas Intelligence

Over the past decade, gas production from San Juan Basin has declined, meanwhile the Southeast play, the Permian Basin has accelerated production. From 2007 through 2019, the San Juan Basin declined 42% from 990 bil cf to 470 bil cf. Conversely, the Permian Basin increased 135% over the same period. Decline in San Juan production (Exhibit 4-6) can be attributed to market changes, price fluctuations as well as "the flood of Marcellus gas supplies to market over the past few years led producers in the San Juan Basin away from the gassier part of the play and towards the oil-rich Mancos Shale portion located in the southern end of the basin[3]." Furthermore, the Permian Basin is also one of the nation's leading oil producing regions as shown in Exhibit 4-7.

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[3] Gib Knight, "The San Juan Basin- Coming Back in Style?", OklahomaMinerals.com , May 15, 2019

Exhibit 4-6
New Mexico Gas Production by Region
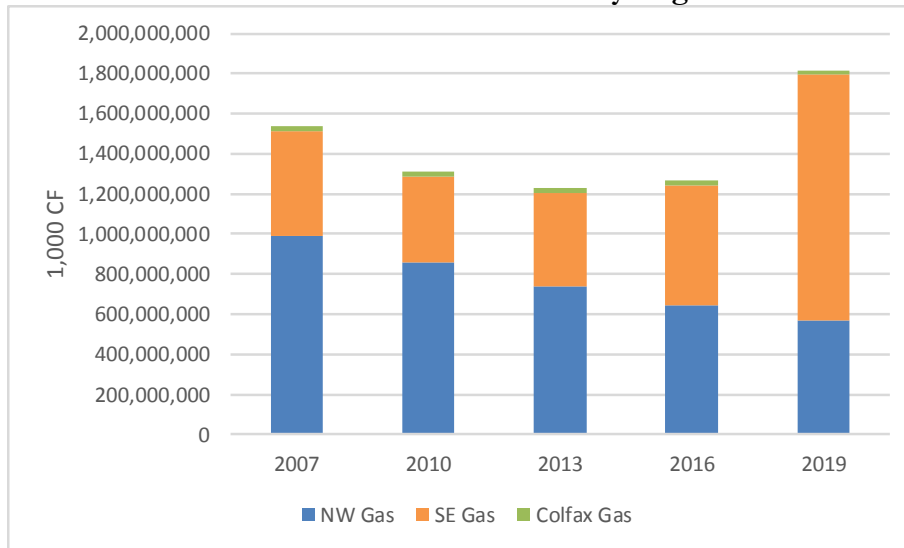
Source: U.S. Energy Information Administration

Exhibit 4-7
New Mexico Oil Production by Region
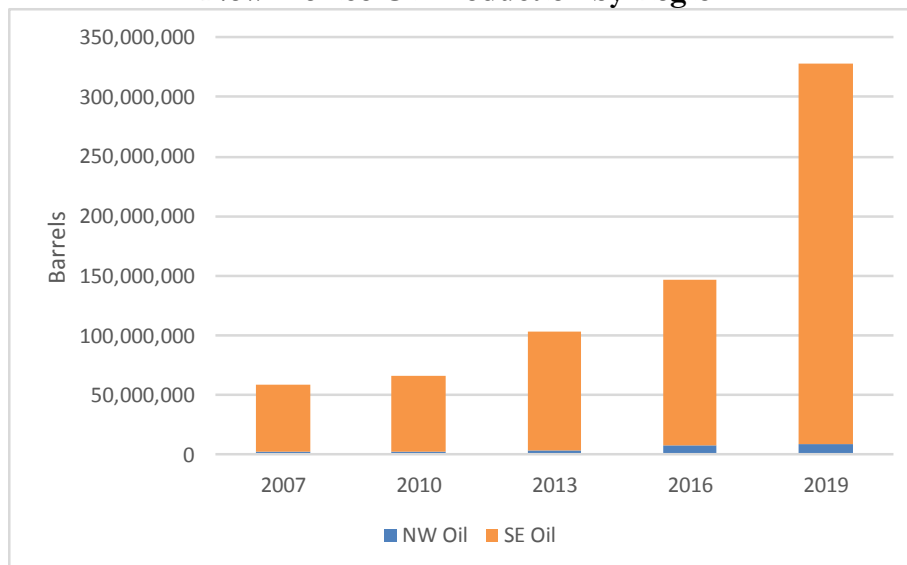
Source: U.S. Energy Information Administration

Despite the decline in San Juan Basin, companies such as DJR Energy are acquiring acreage repositioning rigs to revitalize the region, specifically the Mancos Shale. According to the U.S. Geological Survey, the Mancos Shale deposit has 66 trillion cubic feet of recoverable gas[4].

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[4] Ibid.

With respect to inland port operations, currently GELP does handle frac sand which moves inbound by rail and is discharged then transloaded into truck for delivery at the well sites. Under current conditions, the market is unstable due to COVID-19 and the near-term outlook will depend on U.S. and global recovery as well as the price of oil. Assuming a moderate recovery, GELP is in a good position to handle additional volume as necessary. A potential shift in frac sand supply sources may impact the volumes handled at GELP.

The resurgence of the gas plays in San Juan and Mancos may provide more significant impact to the region. Interviews with regional leadership indicate that the plan is to follow the Marcellus Shale (PA & OH) model and utilize gas as an input in value-added production and manufacturing of such products as methanol, plastics, polyethylene, butane and isobutane. Furthermore, the recently signed MOU between Navajo Nation and San Juan County to develop a plan for rail spur access may impact activity in McKinley County as well.

In recent years, the development of methanol production facilities has increased, especially in the Gulf Coast Region due to the accessibility of natural gas feedstock. Exhibit 4-8 illustrates the fact that methanol demand is expected to triple from 2010 to 2025 in all world regions, driven by China.

Exhibit 4-8
Methanol Demand
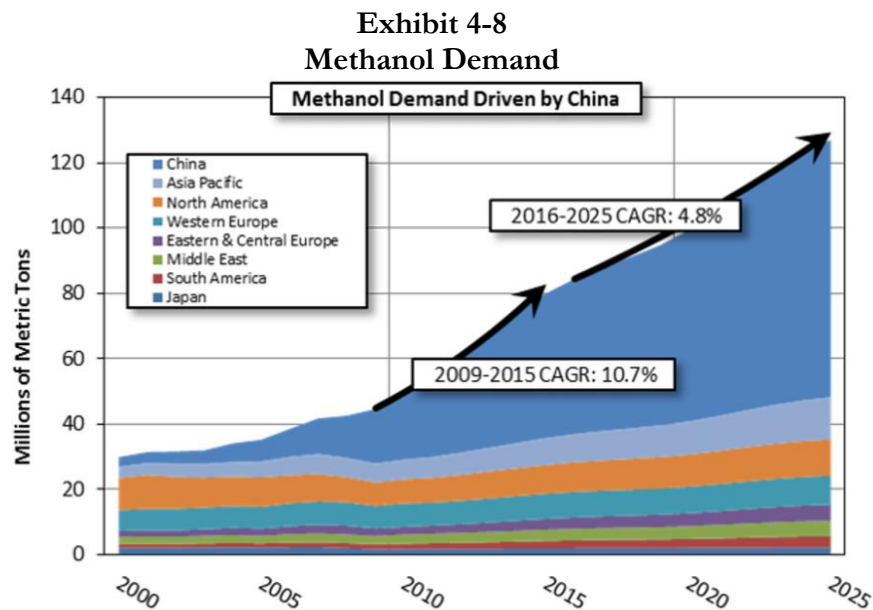
Source:

Methanol is used in thousands of everyday products from paint, silicone, mattress foam, carpeting, adhesives, LCD screens, automotive components, building materials and clothing to name a few. To keep up with demand, the U.S has witnessed numerous domestic and foreign investments in methanol and complimentary manufacturing.

Exhibit 4-9
Investments in Petrochem Industries

~$170 Billion of Planned U.S. Petrochemical Investments*

Pacific Northwest

			Cost ($MM)
NW Innovation	2018	New methanol	unk
Tesoro	2017	New xylene	400

Iowa

			Cost ($MM)
Orascom (OCI)	2017	New fertilizer	1,900
Iowa fertilizer	2016	New ammonia	1,800
CF Industries	2016	Ammonia expansion	1,900

Ohio

			Cost ($MM)
PTT Global Chem	2021	New ethylene	5,700
PBF	2015	Aromatics exp	unk

Monaca, PA

			Cost ($MM)
Shell	2020	New ethylene	6,000

Indiana

			Cost ($MM)
Midwest Fert.	2017	New ammonia	2,400

Institute, WV

			Cost ($MM)
US Methanol	2017	Methanol migration	unk

Kentucky

			Cost ($MM)
Westlake	2017	Ethylene exp.	unk

Oklahoma

			Cost ($MM)
Koch	2016	Urea expansion	1,300
LSB Ind.	2016	New ammonia	275

Mobile, AL

			Cost ($MM)
Huntsman Chem.	2016	Epoxy expansion	65

Houston Ship Channel and surrounding TX

			Cost ($MM)
Celanese-Mitsui	2015	New methanol	800
Celanese	2016	Acetic /VAM expansion	unk
Celanese	2018	New methanol	unk
CP Chemical	1Q18	New ethylene (60% done)	5,000
Chevron Phillips	2016	PAO expansion	unk
Enterprise	2016	New PDH	unk
Exxon Mobil	2018	New ethylene	3,000
Exxon Mobil	2017	New polyethylene	
Exxon Mobil	2018	New ethylene	
Formosa	2018	New ethylene	3,000
Formosa	2017	New propylene	2,000
Ineos/Sasol JV	4Q16	New polyethylene	unk
Ineos	2017	Ethylene debottleneck	unk
Ineos	2019	New Polyalphaolephin	unk
LyondellBasell	2016	Tri-ethylene glycol exp.	unk
LyondellBasell	2015	Propylene debottleneck	20
LyondellBasell	2020	Propylene oxide/TBA	4,000
LyondellBasell	2019	New HDPE	700
LyondellBasell	2017	Ethylene expansion	170
Flint Hills /Koch	TBD	New PDH	unk
Fund Connell	2018	Methanol expansion	unk
Oxy	2018	Ethylene expansion	unk

Beaumont/Orange, TX

			Cost ($MM)
Flint Hills/Koch	2016	Ethylene expansion	unk
Huntsman	Late-2016	Ethylene oxide exp.	125
LANXESS	2016	Butadiene rubber	unk
Natgasoline (OCI-G2X JV)	Late-2017	New methanol	1,000

Baton Rouge – New Orleans Corridor, LA

			Cost ($MM)
WLK/Lotte JV	2018	Ethylene expansion	3,000
BASF	2016	Butanediol exp.	Unk
Castleton	2018	New Methanol	1,200
CF Industries	2016	Ammonia expansion	1,900
CF Industries	2016	New UAN	1,900
Dow	1Q17	Ethylene expansion	unk
Dyno Nobel	2016	New ammonia	1,000
Eurochem	2017	New ammonia	1,500
Formosa	2022	New ethylene	9,400
Leucadia	2017	Methanol expansion	unk
Methanex	2015	Methanol migration	850
Methanex	2015	Methanol migration	550
Methanex	2018	Methanol expansion	unk
Shell	2019	New alpha olefins	717
Shintech	2017-19	New EDC/ethylene	1,400
S. LA Methanol	2016	New methanol	1,200
S. LA Methanol	2017	Methanol expansion	unk
Shell	2017	Ethylene expansion	Unk
Yuhuang Chem.	2018	New methanol	1,850

Freeport – Old Ocean, TX

			Cost ($MM)
BASF-Yara	2018+	New ammonia	600
Dow	2017	New ethylene	unk
Dow	2016	New PDH	unk
Dow/MEGlobal JV	2019	Monoethylene Glycol	1,100
Dow	3Q17	Polyethylene Exp.	unk
Dow	2017	Gas to liquids	unk
CP Chemical	2017	Ethylene expansion	923
CP Chemical	2018	New polyethylene	6,000

Corpus Christi/Point Comfort, TX

			Cost ($MM)
Celanese-Mitsui	2020	New methanol	800
Exxon-SABIC JV	2020	New Ethylene/Derivatives	unk
Formosa	2017	Ethylene dichloride	2,000
Formosa	2016	New PDH	unk
Formosa	2019	New propylene	2,000
LyondellBasell	'16/3Q17	Ethylene expansion	350
M&G Group	2016	New PET	unk
M&G Group	2016	New PTA	unk

Lake Charles, LA

			Cost ($MM)
WLK/Lotte JV	Late-2019	New ethylene/MEG	3,000
Dow	2015	Ethylene expansion	1,060
Indorama	2017	Ethylene restart	175
G2X	2018	Methanol-to-gasoline	1,300
LyondellBasell	Late 2015	Ethylene expansion	430
Sasol	Late-2018	New ethylene	11,000
Sasol	2016	New polyethylene	
Westlake	2016	Ethylene expansion	350

Notes: Date reflects anticipated year in-service, red font reflects construction in progress, green online, unk=unknown   Sources: ICIS, Company announcements, Kirby Corp.

Source: ICIS, Company announcements, Kirby Corp.

To get an idea of the impact of investment, Yuhuang Chemical (Chinese investment) spent $1.85B on a methanol complex in St. James Parish, Louisiana which will directly employ 2000+ with $85,000 annual salary. Lotte Chemical USA invested $1.1B in MEG plant and $1.9 billion JV with Westlake Chemical) for ethane cracker complex in Lake Charles, LA – supporting 130 new jobs with $80,000 annual salary.

Ethane Cracker/Resins/Plastics: Ethane crackers are plants that perform the first step in the process of transforming ethane, a component of natural gas, into plastics products. The plant separates the ethane and natural gas and heats it to form ethylene. Ethylene is then processed to resins, which is then processed into plastics. Resin production and exports have been increasing, especially in Houston as shown below.

Exhibit 4-10
Resin Production
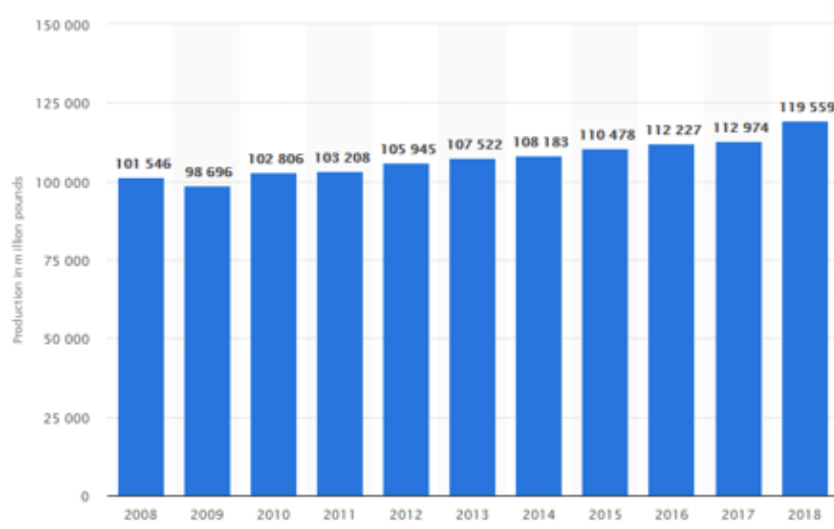
Exhibit 4-11
Resin Export Growth
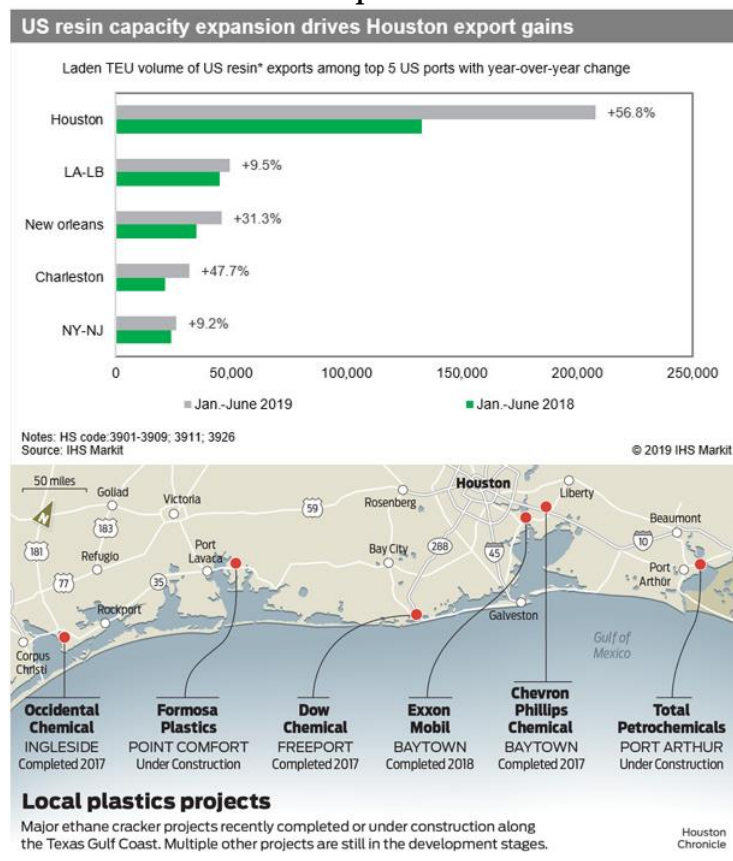
Source: IHS Global Insight, Houston Chronicle

Development continues to grow: "Companies from around the world are investing in projects to build or expand capacity in the United States. Since 2010, the chemical industry has invested $89 billion in new or expanded facilities. These 210 projects are completed and operating. Another 43 projects cumulatively valued at $27 billion are under construction, while 90 projects valued at $87 billion are in the planning phase. Total completed, under construction, or planned investment is $203 billion across 343 projects. Fully 69 percent of the total is foreign direct investment or includes a foreign partner."[5]

4.3 Forest Products

The abundance of forest lands in the Four Corners Region proved a natural market for forest product processing. For example, the U.S. Forest Service plans to spend $550 million over the next 20 years on reforestation of Arizona's forests - Apache-Sitreaves, Coconino, Kaibab and Tonto. Business and industry will play a key role in this effort by harvesting, processing, and selling wood products. The RFP calls to mechanically thin 605,000 to 818,000 acres of forests in Northern Arizona[6]. The bio-mass resulting from the thinning can be processed for energy or other renewable processes, potentially export.

According to Novo BioPower, a wood burning power plant in Snowflake, AZ, every acre of thinned forest yields about 25 tons round wood (logs)[7]. Using this relationship, 800,000 acres called for in the RFP could result in 20,000,000 tons of wood products (assuming a 25% capture for processing at an inland port site, = 5 million tons of product).

According to a private-sector interview, the New Mexico Forest Services is interested in developing a veneer production facility in McKinley County. This opportunity focuses on mimicking a veneer facility with current operations in Dolores, CO – which is located near feedstock, strips logs into veneers and drays approximately 200 miles to Grand Junction for rail (10-15 cars per week) to Pacific Northwest for manufacturing of plywood.

The operator is interested in switching the supply chain and reducing the dray to 120 miles to a Gallup reload facility. The key issue is the 80,000 lb. road limit which is less than the 96,000 lb. limit in Colorado. It is estimated that initial potential volume of 10-15 railcars/week with production at half speed. At full capacity, volumes increase to 20 cars/week, with the potential to add an additional shift to 40 cars/week. Shorter dray allows for head haul/backhaul in single day.

In order to convert this opportunity, an 80,000 lb. weight limit must be mitigated and rail cost must be competitive with current structure out of Grand Junction.

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[5] American Chemistry Council "Shale Gas Is Driving New Chemical Industry Investment in the U.S.'" February, 2020

[6] Victoria Harker, "Huge RFP to bring industry, innovation to thin Arizona forests," Chamber Business News, October 1, 2019

[7] Michael Johnson, "Novo BioPower doing its part to maintain WM forests," The Independent, January 19, 2018

4.4 Manufacturing/Pulp Manufacturing

In a 2018 report, Foote Consulting Group noted that the Four Corners states witnessed 72 manufacturing location/expansions between 2017 and 2018[8], despite U.S Census data manufacturing (NAICS Code 31-33) employment decreased from 27,434 to 25,434 in New Mexico from 2011 to 2016. In 2019, Rhino Health LLC opened a medical glove manufacturing plant in McKinley County, creating up to 350 jobs.

Aligning manufacturing opportunities with rail transport involves the transportation of raw materials to the manufacturing site or the shipment of manufactured products over long-haul markets or to coastal ports for export. Manufacturing operations that do not meet these criteria can certainly locate to the region, even in the absence of rail or inland port operations.

Therefore, the focus in this section is to identify key sectors or specific opportunities that would require rail transportation. Through interviews with regional stakeholders and relevant research, these opportunities include:

- Mobile Container Home Manufacturing: Need for affordable housing is increasing, results of the interview indicate that 5,000 homes are needed in Albuquerque and another 20,000 in Navajo Nation. Furthermore, nationwide, the need is even greater. Rail is required to bring the used marine containers to the manufacturing site. Each fully-sustainable solar-powered, net-zero home requires 3-4 marine containers. Estimated production is 250 units/year (approximately 1,500 containers needed annually).

  Ancillary construction and assembly such as electrical, plumbing, solar component installation, and cabinetry would create more jobs. Per the interview, it is estimated that 1 finished unit creates 7 jobs in the regional economy.

- Renewable Pulp Manufacturing: Shifts in global supply chain have decreased the export market for recycled material to China. However, while Chinese demand for recyclables has decreased while the demand for pulp for the packaging has increased. Investment in pulp and box manufacturing facilities in the U.S. is increasing – specifically Total Fiber Recovery is investing $49 million to establish its first recycle pulp production facility in the city of Chesapeake, Virginia and DS Smith opening a 550,000 SF box plant in Lebanon, IN.

  The McKinley County project would require $150 million investment and 150 acres for POTW materials recovery facility (MRF) and would process 1,500 tons of scrap and waste per day. At full build-out, it is anticipated that the pulp manufacturing facility would create 170 jobs on-site as well as another 200 in the transportation sector. Adequate water supply is necessary for development.

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[8] "Prewitt Industrial Clusters: Supply Chain & Preliminary Target Industry Analysis," Foote Consulting Group LLC, June, 2018

- Renewable Ethanol Manufacturing: An interested company is looking to use technology to use carbon feedstock to liquid. Feedstock supply can be drawn from any carbon-based matter including coal, biomass, waste, railroad ties and municipal trash. Initial estimates of coal as feedstock are 500,000 tons annually. Cost of investment is $108 million with foreign investment to back the project. The facility is anticipated to create approximately 400 direct jobs. While there is significant interest in McKinley County, there are other locations in the U.S. that are also under consideration.

5. Potential Economic Impact of Inland Port Operations

The purpose of this analysis is to identify the potential jobs, income revenue and taxes that would be generated by inland port activity within McKinley County. This inland port/industrial real estate model developed for McKinley County is designed as a tool to test the sensitivity of impacts to changes in such factors as employment levels, capital investment, inland distribution patterns, and new tenant base. The industrial impact model can also be used to assess the impact of developing a parcel of land for various uses such as manufacturing vs. distribution.

The study employs methodology and definitions that have been used by Martin Associates to measure the economic impacts of seaport, inland port, distribution center, industrial, shipyard activity at more than 275 ports in the United States and Canada, and at the leading airports in the United States. It is to be emphasized that only measurable impacts are included in this study. In order to ensure defensibility, the Martin Associates' approach to economic impact analysis is based on data developed through an extensive interview process. Specific re-spending models have been developed New Mexico to reflect the unique economic and consumer profiles of the regional economy. To further underscore the defensibility of the study, standardized impact models, such as the MARAD Port Kit are not used. Instead, the resulting impacts reflect the uniqueness of the individual inland port operations, as well as the surrounding regional economy.

Impact Definitions

The impacts presented in this analysis are measured in terms of:

➢ Jobs [direct, induced and indirect];
➢ Personal income;
➢ Business revenue; and
➢ State and local taxes.

Each impact measurement is described below:

- Direct jobs are those that would not exist if activity at the inland port were to cease. Direct jobs created by cargo activity at the inland port terminals are those jobs with the firms directly providing cargo handling and vessel services, including trucking companies, terminal operators and stevedores, freight forwarders and customshouse brokers, warehouse operators.

- Induced jobs are jobs created in New Mexico by the purchases of goods and services by those individuals directly employed by each of the inland port's lines of business. The induced jobs are jobs with grocery stores, restaurants, health care providers, retail stores, local housing/construction industry, and transportation services, as well as with wholesalers providing the goods to the retailers.

- Indirect jobs are created throughout New Mexico as the result of purchases for goods and services by the firms directly impacted by the inland port activity. The indirect jobs are measured based on actual local purchase patterns of the directly dependent firms, and occur with such industries as utilities, office supplies, contract service providers, maintenance and repair, and construction.

- Personal income impact consists of wages and salaries received by those directly employed by inland port activity, and includes a respending impact which measures the personal consumption activity in New Mexico of those directly employed as the result of inland port activity. Indirect personal income measures the wages and salaries received by those indirectly employed.

- Business revenue consists of total business receipts by firms providing services in support of inland port activity.

- Local purchases for goods and services made by the directly impacted firms are also measured. These local purchases by the dependent firms create the indirect impacts.

- State and local taxes include taxes paid by individuals as well as firms dependent upon inland port activity.

The annual economic impacts of key opportunities discussed in the previous chapter are presented in Exhibit 5-1.

Exhibit 5-1
Economic Impact of Prospective Development at McKinley County Inland Port

Impact Category	Investment A	Investment B	Investment C	Investment D	Total
Direct Jobs	78	375	30	400	883
Induced Jobs	44	213	17	227	502
Indirect Jobs	33	157	13	167	370
Total Jobs	**155**	**745**	**60**	**795**	**1,754**
Direct Income (1,000)	$4,495	$21,610	$1,729	$23,050	$50,884
Re-spending/Consumption (1,000)	$3,262	$15,682	$1,255	$16,728	$36,926
Indirect Income (1,000)	$1,915	$9,205	$736	$9,819	$21,675
Total Income (1,000)	**$9,671**	**$46,497**	**$3,720**	**$49,597**	**$109,485**
Business Revenue (1,000)	**$50,000**	**$218,556**	**$17,484**	**$233,126**	**$519,167**
Local Purchases (1,000)	**$3,004**	**$14,443**	**$1,155**	**$15,406**	**$34,008**
State/Local Taxes (1,000)	**$1,054**	**$5,068**	**$405**	**$5,406**	**$11,934**

Source: Martin Associates

As shown above, each potential opportunity would generate local and regional benefits in terms of jobs, income, revenue and taxes. For example, "Investment A" would generate the following impacts:

- Estimated to create 155 direct, induced and indirect jobs for McKinley County area residents. Of these 155 jobs, 78 are direct jobs, 44 jobs are supported in the region area as the result of the purchases of the 78 direct job holders, while another 33 indirect jobs are supported in local industries that supply services and goods to the operation.

- The 78 direct job holders would receive $4.5 million of direct wages and salaries. As the result of the purchases made locally with this income, (which support the 44 induced jobs) an additional $3.3 million of local income and consumption "spinoff" expenditures would be realized regionally. The 33 indirectly employed workers would earn $1.9 million, for a total wage and salary income impact of $9.7 million annually.

- Local businesses will receive $50 million of sales revenue, and finally, a total of $1.1 million of state and local tax revenue is estimated to be generated annually by the direct, induced and indirect activity.

The total column in the table illustrates the potential impact if all four opportunities were realized. The impact model developed as part of this analysis can be used to evaluate potential development scenarios such as manufacturing, processing, third-party logistics value-added services and distribution. Potential scenarios can be weighed in terms of benefits to the region and can be incorporated into benefit-cost analyses/ratios (BCA/BCR) to determine project feasibility.

6. Implications

Rigorous data analysis and results of landed cost models demonstrate the fact that there are significant challenges to developing an intermodal facility to handle Asian imports in McKinley County. Key challenges include:

- Lack of immediate population base erodes McKinley County potential, and key consumption centers such as Phoenix, Denver and Salt Lake already maintain existing intermodal ramps for both international and domestic cargo and occupy hundreds of millions of square feet of DC and commercial space to serve their population base more cost effectively. Furthermore, Dallas (specifically Alliance Texas) and other key Texas hubs such as Houston, San Antonio and Austin will control the local Texas market and leverage contract rates to also serve outward regionally to other states.

- Albuquerque is of significance since it already has intermodal activity, albeit mostly domestic traffic, and is better suited to serve local population as well as Denver via I-25. Albuquerque could potentially be expanded at a more competitive cost than a greenfield development in McKinley County. Additionally, Albuquerque is located near anther BNSF Certified Site in Las Lunas.

- Ultimately the success of an intermodal facility to handle international containerized cargo boils down to volume – can a McKinley site deliver a minimum of one train in/out per week - approximately 27,000 loads or 47,500 TEUs. A key component is the backhaul move of either loaded or empty containers, which is why near-port intermodal centers are desirable – the ocean carrier has more control over their equipment. Typically, an abundance empties are also located at major DC clusters, in this case, essentially in Dallas and Houston.

Despite these findings, it is to be emphasized that McKinley County has a number of potential opportunities that should continue to be explored by the County Administration, regional economic development groups and private stakeholders, including:

- The location of McKinley County (in particularly Gallup) at essentially the midpoint between Los Angeles and Dallas, and within the Hours of Service 11-Hour Rule, provides the County with an opportunity to potentially capture truck traffic at a Truck Super Center between the two. Based on the data analysis, assuming a Gallup location could attract 20% of the Dallas moves and 10% of the Houston moves (since an alternative route to the south is also an option), the baseline is estimated at 10,000 - 15,000 trips per year or approximately 35-40 eastbound trips/day. Additionally, Dallas generates 2.3 million westbound tons or 128,000 trips to LA and Houston accounts for another 4.3 million tons (196,000 trips). Using the same methodology for trips originating in Dallas, approximately 25,000 – 30,000 annual trips or 70-80 daily trips could be captured. Houston cargo is not included in this calculation since is it outside of the 11-hour rule. These 105-120 daily trips should be considered a moderate base line, with aggressive capture rates resulting in more activity at such a facility in the County. It should also be noted that this only incorporates traffic moving on the LA/LB to Dallas lane. Other commercial drivers traveling along I-40 will undoubtedly be captured.

- Although intermodal distribution appears unlikely, there still remains the potential to develop truck-in/truck-out distribution that would not require intermodal activity. This type of operation would essentially be an expansion into the Four Corners market, perhaps by a sophisticated supply chain looking for a presence in the market or a less-complicated supply chain looking to place a single DC to serve a larger region. Investment real estate firms such as CenterPoint Properties, Hillwood Investment Properties, Prologis, Rockefeller Group, NAI, Jones Lang LaSalle, CBRE and Duke Realty who maintain key industrial/commercial real estate investments, should be viewed potential target companies to partner with to develop this type of facility. These firms have intimate knowledge of key retailers, wholesalers and third-party logistics service providers and their supply chain needs, and can place potential anchor tenants in such a facility.

- Perhaps the most promising development opportunities involve the movement of the regional natural resources and utilize carload rail for domestic and export shipment. These opportunities, detailed in the previous section, include agribusiness, oil & gas and related industries such as methanol production, forest products and manufacturing. Interviews with prospective companies indicate that these opportunities would generate significant investment would result in long-term economic activity to the region. It is conceivable that any one of these investments could anchor logistics park activity in McKinley County. It is recommended

that regional stakeholders maintain contact with these parties and stay abreast of any potential developments within these industries.

- It is important to stress that prior to any investment of public monies, grants or tax dollars, it is recommended that a firm commitment of investment and long-term agreement be secured from a prospective tenant or operator. Speculative investment in any type of operation is not recommended.

In conclusion, at the time of this report, logistics supply chains are stressed with the effects of the global COVID-19 Pandemic. Looking forward, the time frame is uncertain as to when individual state economies will re-open, and to what degree. Currently, it is unclear how long the recovery will take and what the lasting effects will be with respect to overseas import and export practices, cold chain operations, food manufacturing and processing, levels of inventory, fuel prices, etc. The outcome may provide more near-sourcing manufacturing opportunities, and with McKinley County's proximity to Mexico, this may present even more advantageous opportunities. Conversely, decreased disposable income, due to unemployment or jobless recovery, may spark a lengthy recession that will affect retailers. In any event, McKinley County should be prepared to entertain any potential opportunity that may present itself.