### McKinley County Inland Port Market Assessment Final Report

prepared for:



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#### **Outline**

#### Cargo Flow Analysis

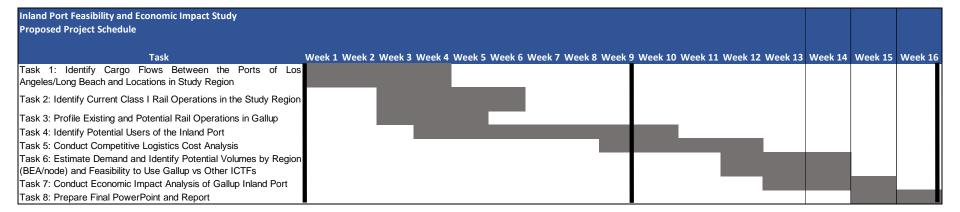
- Waterborne trends
- Intermodal/Rail
- Truck

#### Competitive Landscape for Intermodal

- Existing Intermodal Facilities
- Existing Distribution Centers
- Competitive Cost Analysis
- Carload Rail Assessment
- Economic Impact
- Implications/Recommendations



### **Project Schedule**





### **Gallup Inland Port Potential Markets**

#### Assessing 3 distinct markets:

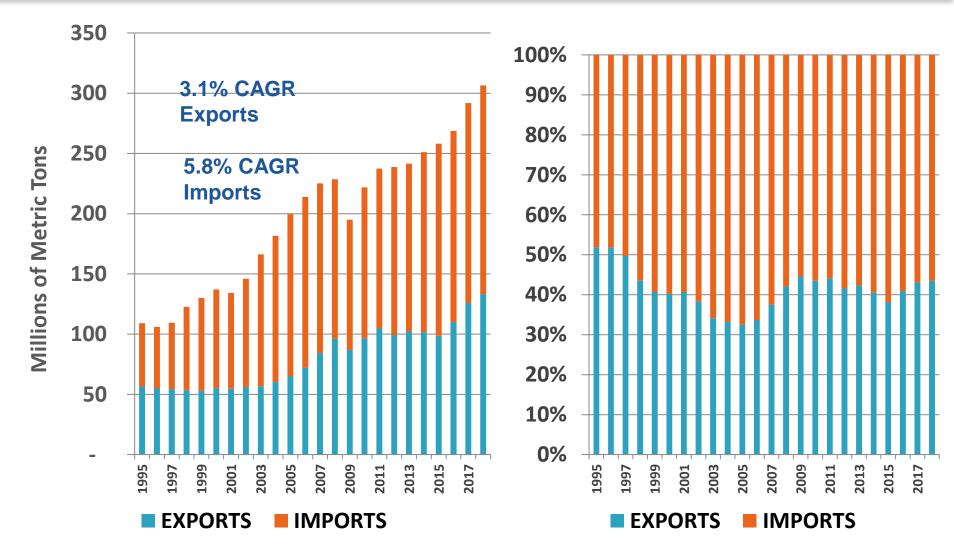
- Intermodal activity
  - Containerized imports/exports ICTF
  - Distribution Center (DC) development
  - Value-added warehousing operations
  - Highly discretionary
- Over the road truck
  - 11-hour Rule
  - Stop in Gallup
  - Truck Super Center
- Carload activity
  - Playing on captive markets
  - Oil/gas, Energy, bulk opportunities
  - Manufacturing/processing
- While potentially synergistic, these are not mutually exclusive



# Cargo Flow Analysis - Waterborne

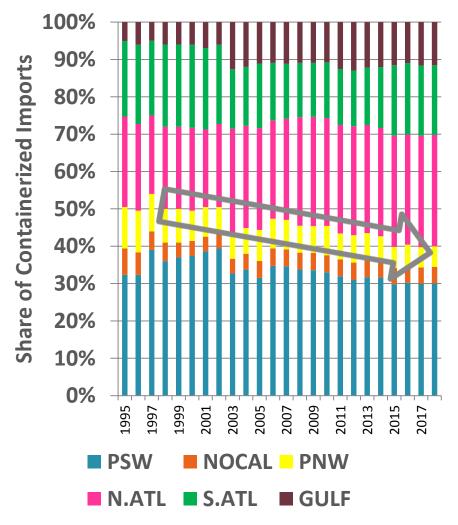


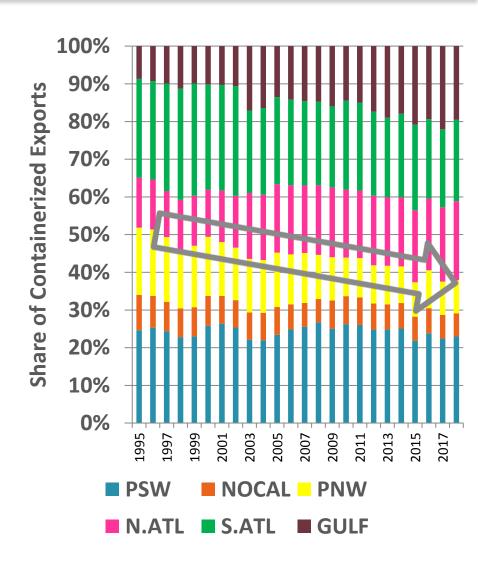
## 2018 was a record year for containerized tonnage – Imported containerized cargo dominates; Exports have been generally increasing since 2005, though their share has been stable since 2009





### West Coast ports handle about 40% of containerized imports and exports; however share has been declining since 2001

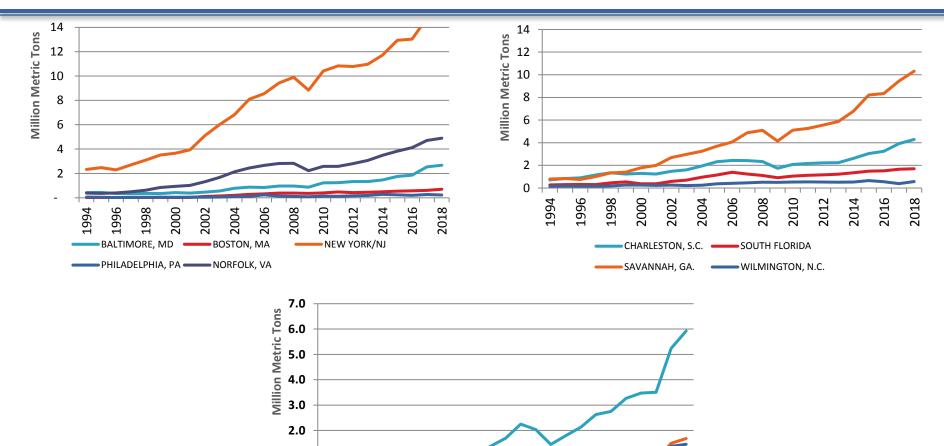






Source: USA Trade Online

### **Growth In All-Water Services Accelerated After 2002 - Asian Imports via Atlantic and Gulf Coast Ports**

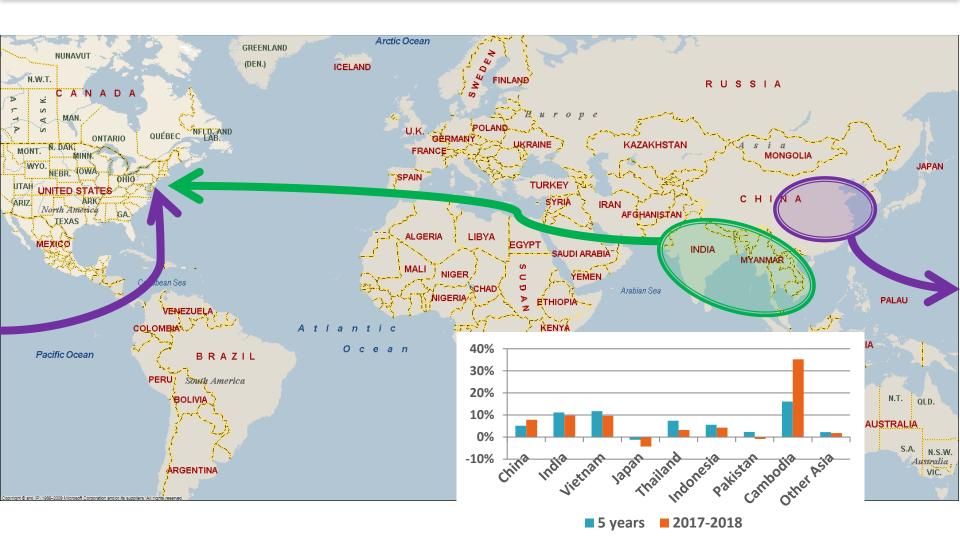


HOUSTON, TX ——MOBILE, AL ——NEW ORLEANS, LA ——TAMPA, FL



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### Southwest Asian Supply Sources Favor a Suez All-Water Routing to the East Coast





#### **All-Water Services Are Growing...**

- Significant growth in distribution centers in Gulf and Atlantic port ranges
- Proximity to Southern Asia/India is a positive for Suez Canal routings
- With direct services to East and Gulf Coast, transit time differentials are narrowing
- Port infrastructure investment on East and Gulf Coasts has responded:
  - Terminal development
  - Rail infrastructure
  - Channel deepening





### LA/LB is the Largest Port in Terms of International Containerized Cargo Import Tonnage

	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%



### LA/LB and Houston Rank atop Total International Containerized Exports

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%



#### **Waterborne Flow Implications**

- Despite decline in share, LA/LB still handles over 40% of containerized Asian imports
- Import market will drive the deployment of the direct calls at Houston, which will supply capacity for export moves
  - If vessel size restrictions limit size of vessels to deployed economically via Houston, other means to serve market will be developed
- 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
  - Intermodal rail from San Pedro Ports of Los Angeles and Long Beach to Dallas DCs, and then distribute to Texas BCOs this is the Mini-Land Bridge routing (MLB)



# Cargo Flow Analysis - Inland Regional Truck and Rail

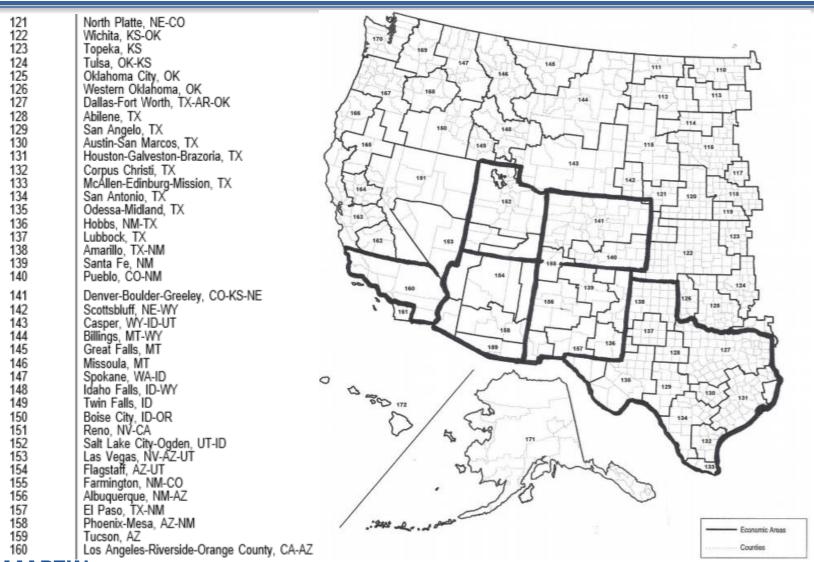


### **Truck and Rail Cargo Flows - Methodology**

- Examine flows from LA/LB to Dallas
- Transearch data purchased
  - Intermodal
  - Carload
  - Truck
  - LTL
- BEA Level of Detail
- Identify key commodity by mode into/out of 4 Corners Region
- Identify Exports from NM and CO

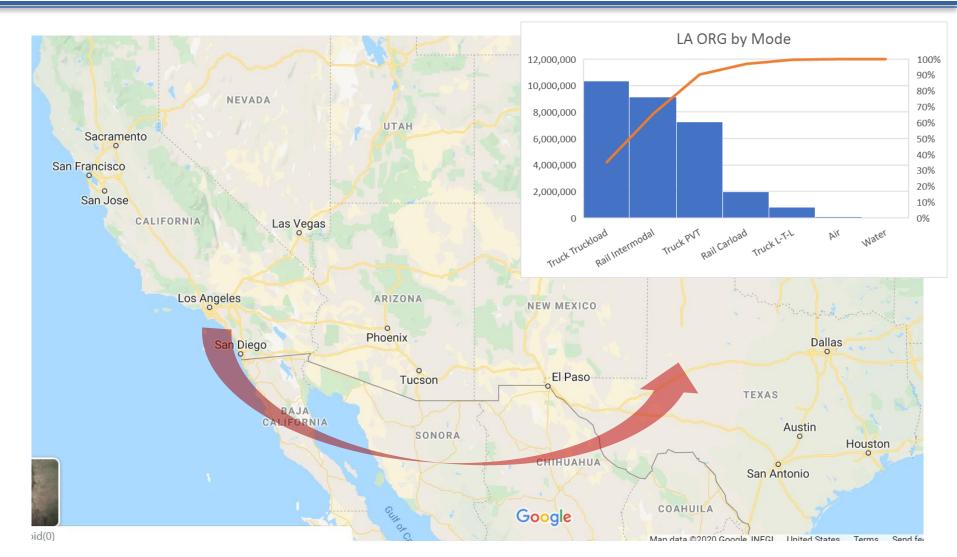


### **Transearch BEAs within Study Region**



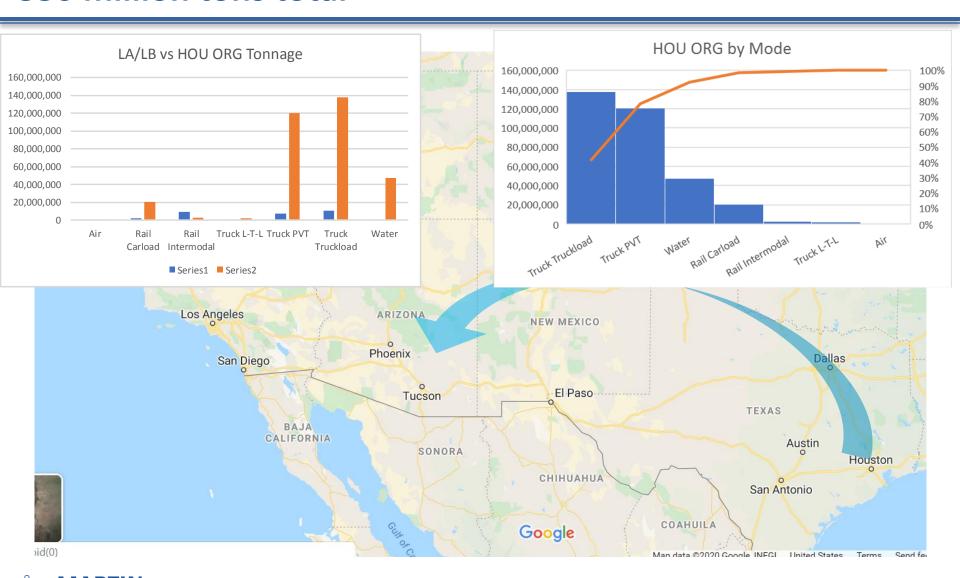


### LA/LB Origin by Mode to All BEAs – NM, AZ, UT, CO, TX, LA 25.6 million tons total



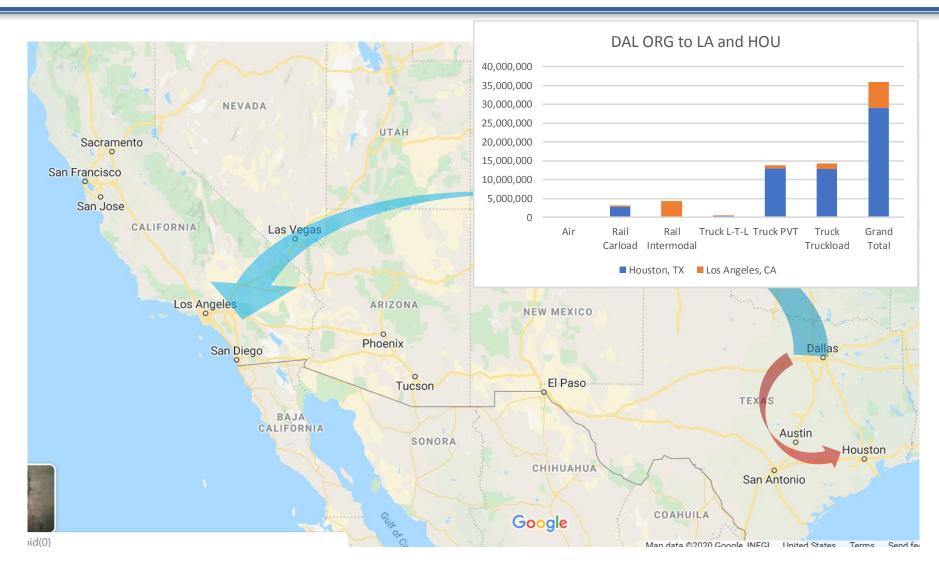


### **HOU Origin by Mode to All BEAs – NM, AZ, UT, CO, TX, LA**330 million tons total



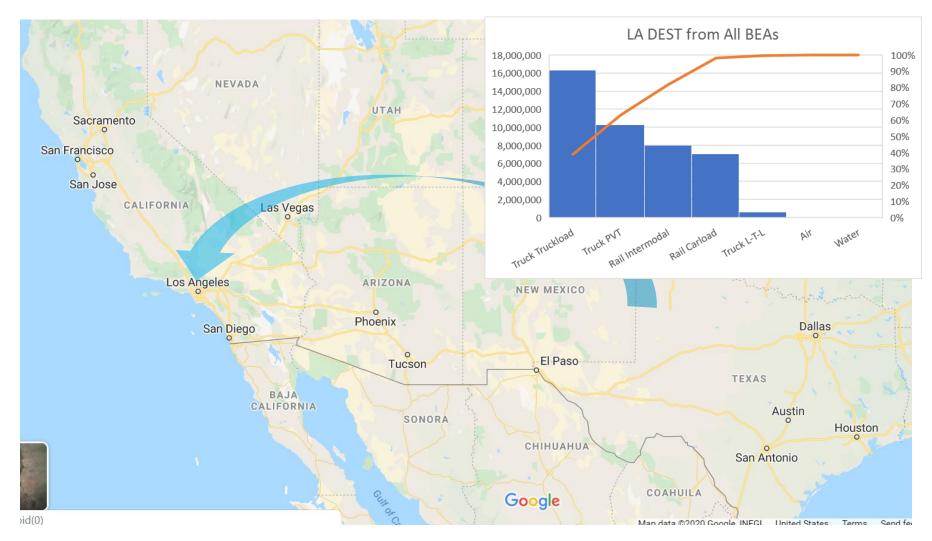


### DAL Origin by Mode to HOU and LA BEAs – 35 million tons total



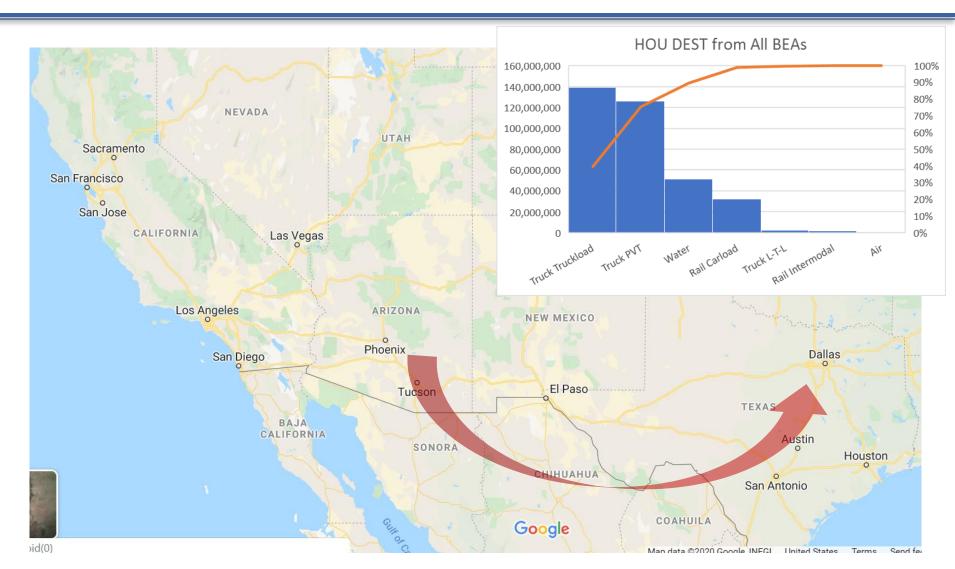


### LA/LB Destination by Type from All BEAs



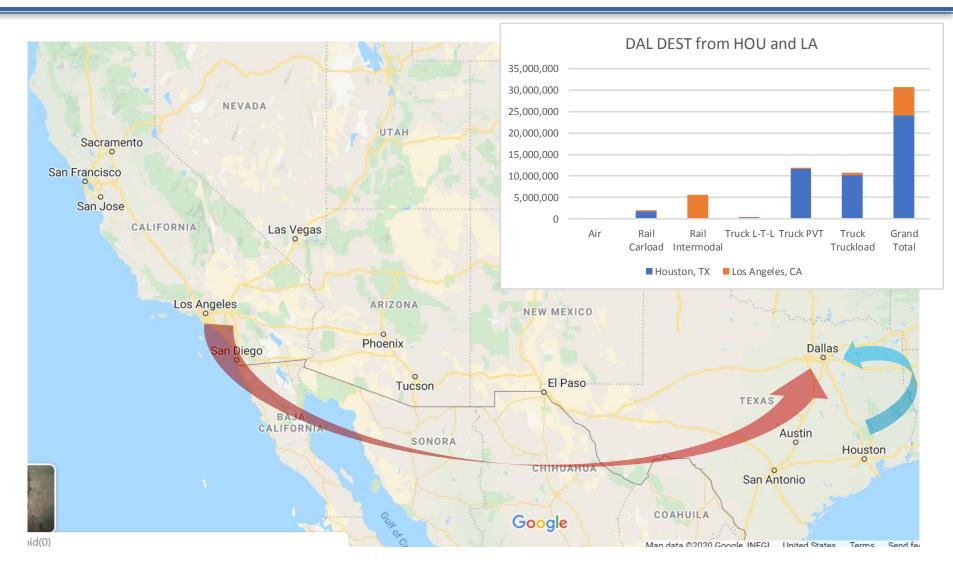


#### **HOU Destination from All BEAs**





#### **DAL Destination from LA and HOU**





### LA/LB BEA to All BEAs by Mode

- Phoenix is largest market
  - no intermodal
- Dallas market is 81% intermodal DCs
- Truck tons to:
  - Dallas 910,000 tons
  - Houston 771,500 tons
  - Target for Truck Super
     Center
  - Approx 90,000 EB trips annually
    - 47,900 to Dallas
    - 41,650 to Houston

Origin BEA Name	Los Angeles, C	A						
			Rail			Truck		
	Air	Rail Carload	Intermodal	Truck L-T-L	Truck PVT	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



### **Houston BEA to All BEAs by Mode**

- HOU to HOU intra-BEA is largest market
  - Petrochem industry
- Dallas market 24 mil tons
  - 92% truck
- LA is largest intermodal market – 2.1 mil tons
  - Rail = 45.5% of total
- Truck tons to LA:
  - Approx 196,000 WB trips annually

Origin BEA Name Ho	ouston, TX							
	Air		Rail Intermoda	1		ruck Truckload	Water	Grand Tota
Grand Total	24,408	20,355,748	2,539,859	2,135,964		138,000,071	47,234,745	
1 Houston, TX		13,419,040		1,353,022	88,369,612		35,956,889	
2 Dallas, TX	5,116	1,768,671	182,325	277,549	11,609,543			24,106,18
3 Beaumont, TX		1,310,505		26,701	5,169,730		7,286,756	
4 Austin, TX	2,835	38,576		89,510	4,930,281			10,301,12
5 San Antonio, TX	1,880	359,406	101	99,618	4,188,092	4,804,940		9,454,03
6 Corpus Christi, TX		229,442		26,274	1,801,920	2,998,099	2,721,356	7,777,09
7 Los Angeles, CA	5,970	1,300,357	2,108,775	66,789	1,290,615	2,673,150	13,605	7,459,26
8 McAllen, TX	736	84,979		17,887	656,297	549,799	1,256,138	2,565,83
9 Phoenix, AZ	973	306,406	39,717	30,934	298,585	461,146		1,137,76
10 El Paso, TX	613	136,138	27,215	14,710	408,586	515,060		1,102,32
11 Odessa, TX	45	443,906		14,040	392,163	217,982		1,068,13
12 Denver, CO	3,495	205,268	161,463	50,171	129,901	199,590		749,88
13 Amarillo, TX	0	94,481		8,580	240,321	161,311		504,69
14 Lubbock, TX	585	105,276	943	7,658	226,514	137,240		478,21
15 Abilene, TX		95,663		5,366	168,411	113,952		383,39
16 Salt Lake City, UT	1,407	196,972	16,246	11,446	45,278	85,607		356,95
17 San Angelo, TX		73,097		3,870	143,801	128,059		348,82
18 Albuquerque, NM	536	28,229	1,884	6,833	58,315	78,942		174,73
19 Tucson, AZ	217	17,259		6,159	57,928	85,593		167,15
20 Las Vegas, NV		103,477		1,690	6,531	13,134		124,83
21 Hobbs, NM	1	208		3,425	45,620	59,610		108,86
22 Pueblo, CO		37,159		5,856	15,444	23,889		82,34
23 Flagstaff, AZ				3,645	18,839	30,319		52,80
24 Santa Fe, NM				1,682	13,094	18,048		32,82
25 Farmington, NM				2,322	10,958	19,220		32,50
26 NULL		1,236			•			1,23
27 North Platte, NE		-		72	148	198		41
28 Casper, WY				153	11			34



### Dallas BEA to Houston and LA BEAs by Mode

- Dallas to Houston is essentially truck market
  - 90% truck
  - Balanced backhauls
- LA largely intermodal
  - Rail = 67% of total
- Truck tons to LA:
  - Approx 128,000 WB trips annually

	Origin BEA Name	Dallas, TX							
		Air	Rail Carload	Rail Intermoda	Truck L-T-L	Truck PVT	ruck Truckloa	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	



### 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
Describeron BEXTRAINE	Danas, TA	Destination Berthame	Danas, 17	Destination Berthame	Banas, 170
	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	1 Motor Vehicles	119,278	1 Warehouse & Distribution Center	175,758
2 Misc Fabricated Textile Products	141,654	2 Potassium or Sodium Compound	70,667	2 Asphalt Coatings or Felt	67,479
3 Small Packaged Freight Shipments	79,673	3 Primary Iron or Steel Products	46,307	3 Misc Waste or Scrap	52,135
4 Misc Plastic Products	56,597	4 Asphalt Coatings or Felt	18,014	4 Leafy Fresh Vegetables	44,276
5 Freight Forwarder Traffic	45,000	5 Paper Waste or Scrap	15,824	5 Soft Drinks or Mineral Water	35,862
6 Chemical Preparations, Nec	29,095	6 Plastic Mater or Synth Fibres	11,237	6 Benches, chairs, Stools	32,538
7 Wood Lockers, partitions, Etc.	27,530	7 Misc Food Preparations, Nec	9,716	7 Misc Food Preparations, Nec	21,817
8 Mens or Boys Clothing	26,215	8 Misc Glassware, blown or Pressed	5,678	8 Household Cooking Equipment	21,292
9 Motor Vehicle Parts or Accessories	20,799	9 Paper	5,576	9 Accounting or Calculating Equipment	21,005
10 Transportation Equipment, Nec	19,221	10 Railroad Cars	830	10 Solid State Semiconducts	20,534
11 Misc Food Preparations, Nec	18,304	11 Fiber, Paper or Pulpboard	730	11 Bread or Other Bakery Prod	18,713
12 Misc Hardware	18,193	12 Structural Wood Prod, Nec	580	12 Cosmetics, perfumes, Etc.	18,689
13 Womens or Childrens Clothing	16,348	13 Animal By-prod,inedible	434	13 Womens or Childrens Clothing	17,714
14 Frozen Specialties	14,562	14 Misc Freight Shipments	394	14 Leather Footwear	17,621
15 Electric Housewares or Fans	14,341	15 Gypsum Products	382	15 Misc Fresh Vegetables	16,407
16 Household Cooking Equipment	14,310	16 Frozen Fruit, Veg or Juice	366	16 Electronic Data Proc Equipment	16,121
17 Games or Toys	13,376	17 Manufactured Prod, Nec	197	17 Misc Nonmetallic Minerals	15,120
18 Tires or Inner Tubes	9,772	18 Nonmetal Minerals, Processed	190	18 Bulbs,roots or Tubers	14,536
19 Potassium or Sodium Compound	8,150	19 Sugar, Refined, Cane or Beet	181	19 Dairy Farm Products	11,766
20 Industrial Gases	7,125	20 Grain	157	20 Beds,dressers,chests, Etc.	11,266



### Dallas to LA BEA – Top Commodities by Mode

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



### **New Mexico Origin to LA/LB BEA**

	Origin State	NM						
	Sum of Outbound Tons							
				Rail			Truck	
		Air	Rail Carload	Intermodal	Truck L-T-L	Truck PVT	Truckload	<b>Grand Total</b>
	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
2	Grain		114,227			906	862	115,995
3	Semi-trailers Returned Empty			112,532	0	0	0	112,532
4	Fak Shipments			104,177				104,177
5	Cheese or Special Dairy Products					18,450	53,385	71,835
6	Dairy Farm Products					331	67,994	68,325
7	Asphalt Paving Blocks or Mix					32,079	33,863	65,942
8	Fiber, Paper or Pulpboard				3,609	9,223	41,520	54,352
9	Crude Petroleum		53,675					53,675
10	Misc. Field Crops					36,163	16,333	52,496
11	Bulbs,roots or Tubers					4,893	25,279	30,173
12	Misc Industrial Organic Chemicals		26,672	14				26,686
13	Warehouse & Distribution Center				1,407	2,252	21,171	24,831
14	Portland Cement					9,912	13,851	23,763
15	Cereal Preparations				3	6	21,843	21,852
16	Metal Scrap or Tailings		296	8,139	186	6,173	4,515	19,310
17	Concrete Products					9,683	8,116	17,799
18	Potassium or Sodium Compound		17,015					17,015
19	Liquefied Gases, Coal or Petroleum		15,160					15,160
20	Misc Coal or Petroleum Products					6,031	7,952	13,983



### **New Mexico Origin to Houston BEA**

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



### **New Mexico Destination from LA/LB BEA**

	Destination State	NM						
	Sum of Inbound Tons			D-11			Tarrela	
			5 16 1	Rail		T 1 5) (T	Truck	0 17 1
		Air			Truck L-T-L		Truckload	Grand Total
	Los Angeles, CA	3,698	42,971	510,025	21,997	94,932	174,504	-
1	Fak Shipments			477,799				477,799
2	Warehouse & Distribution Center				7,623	482	23,747	31,851
3	Soft Drinks or Mineral Water				2	27,016	69	27,087
4	Leafy Fresh Vegetables					6,944	19,034	25,978
5	Misc Food Preparations, Nec			86	1	7	15,742	15,836
6	Misc Indus Inorganic Chemicals		14,381	510				14,891
7	Freight Forwarder Traffic			13,933				13,933
8	Misc Waste or Scrap				357	7,351	5,140	12,848
9	Bread or Other Bakery Prod				502	7,339	4,331	12,172
10	Motor Vehicles		8,808	11			2,503	11,321
11	Primary Iron or Steel Products		10,495		5	65	298	10,863
12	Cosmetics, perfumes, Etc.			6	470	2,775	7,116	10,366
13	Prepared or Canned Feed		1,073		101	2,068	5,034	8,276
14	Asphalt Coatings or Felt		2,813		604	2,116	2,638	8,170
15	Games or Toys			36	627	2,382	3,602	6,648
16	Asphalt Paving Blocks or Mix					2,571	3,443	6,014
17	Household Cooking Equipment				879	1,963	3,005	5,847
18	Womens or Childrens Clothing				169	2,139	3,400	5,708
19	Benches, chairs, Stools				346	1,951	3,393	5,690
20	Misc Fresh Vegetables					564	4,292	4,856



#### **New Mexico Destination from Houston BEA**

Destination State	NM						
Sum of Inbound Tons							
			Rail			Truck	
	Air	Rail Carload	Intermodal	Truck L-T-L	Truck PVT	Truckload	<b>Grand Total</b>
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
2 Primary Iron or Steel Products		32,526		117	3,802	10,961	47,405
3 Concrete Products					23,033	21,888	44,921
4 Misc Coal or Petroleum Products					13,247	17,991	31,238
5 Fak Shipments			19,315				19,315
6 Industrial Gases				54	3,720	8,697	12,471
7 Oil Field Machinery or Equipment						10,560	10,560
8 Misc Industrial Organic Chemicals		9,562				1	9,563
9 Chemical Preparations, Nec		8,426					8,426
10 Portland Cement					2,226	3,025	5,250
11 Misc Indus Inorganic Chemicals				35	109	4,654	4,798
12 Asphalt Paving Blocks or Mix					2,564	2,049	4,614
13 Misc Plastic Products				273	1,572	2,512	4,358
14 Tropical Fruits					430	3,161	3,591
15 Cut Stone or Stone Products				109	1,084	2,363	3,555
16 Railroad Cars		3,298					3,298
17 Nonmetal Minerals, Processed				132	1,158	1,861	3,150
18 Potassium or Sodium Compound		1,584		9	105	870	2,567
19 Constr Machinery or Equipment				169	305	1,965	2,439
20 Misc. Field Crops					694	1,658	2,353



#### **Truck and Rail Flow Implications**

- 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 Super Center) 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."
  - 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.



### Truck and Rail Flow Implications Truck Super Center Potential

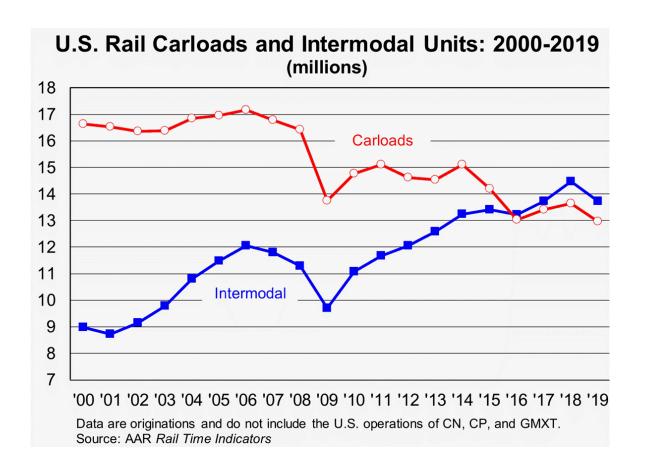
- Based on tons and trip counts, it is estimated that 910,000 tons are moving to Dallas and 771,500 tons to Houston equates to 47,900 and 41,636 trips to those markets respectively, for a total of nearly 90,000 trips annually
- Assuming a Gallup location could attract 20% of the Dallas moves and 10% 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
  - It should also be noted that this only incorporates traffic moving on the LA/LB to Dallas lane.



# Competitive Landscape for Intermodal Activity: Import Containers/DC Cargo

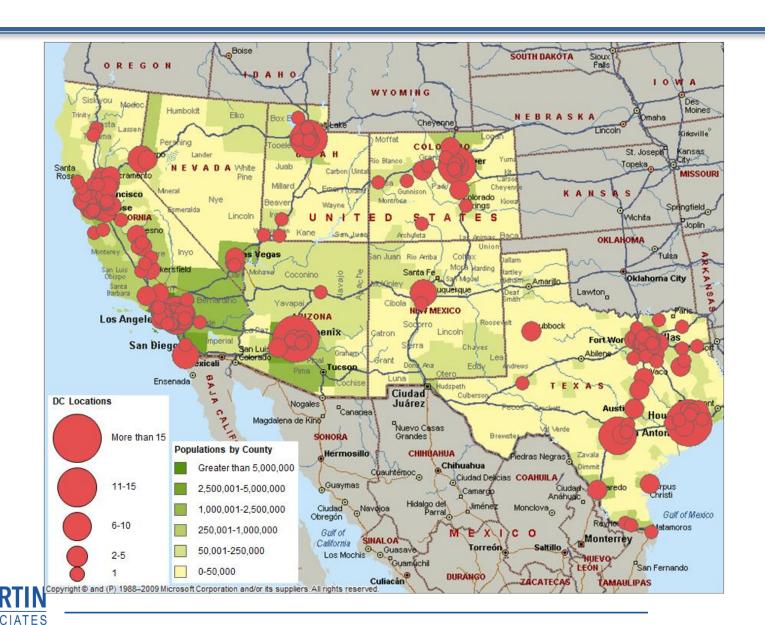


### Intermodal activity has demonstrated growth, however has slowed since 2014

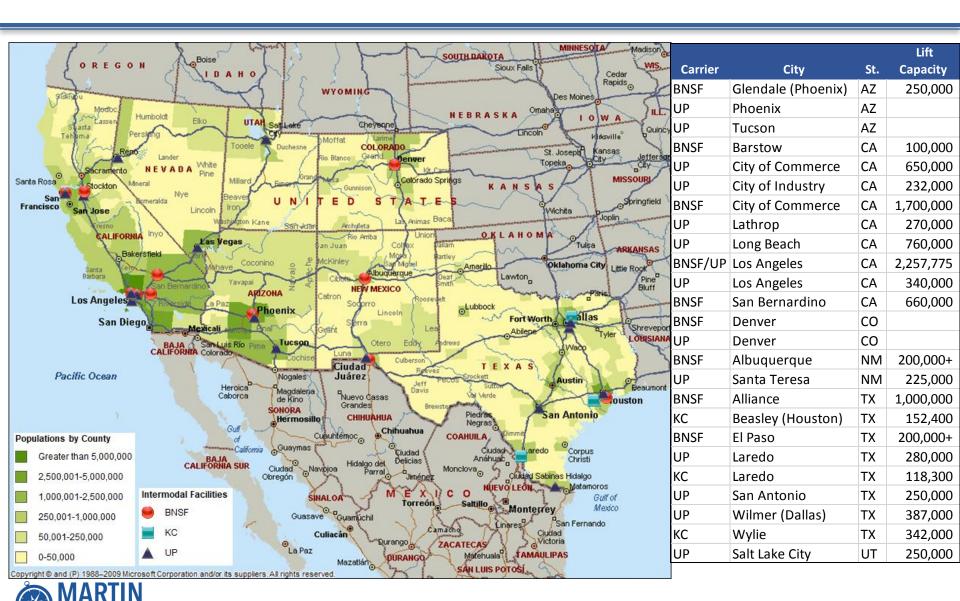




### **DC Locations follow Population Density**



## **Competing Intermodal Facilities**

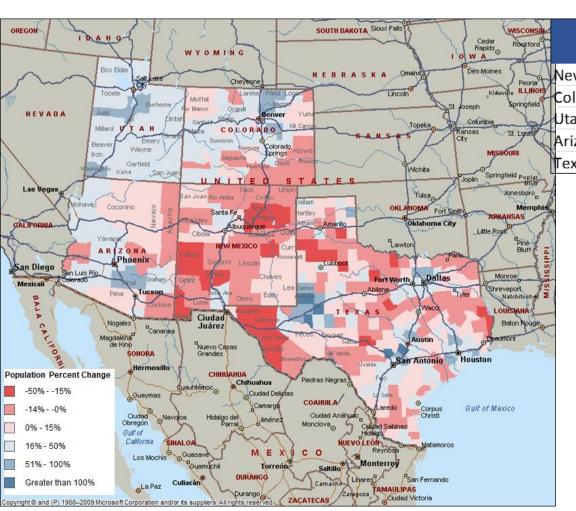


## **Inventory of Competing Intermodal Facilities Detail**

Carrier	City	State	Acreage	Lift Volume	Lift Capacity	Tenants	Expansion Capability	Notes
BNSF	Glendale (Phoenix)	AZ			250,000		limited	Desert Lift, Glendale?
UP	Phoenix	AZ					limited	
UP	Tucson	AZ					limited	
BNSF	Barstow	CA			75-100,000			opened July 2019
UP	City of Commerce	CA			650,000			East LA
UP	City of Industry	CA			232,000			
BNSF	City of Commerce	CA			1,700,000			Hobart Railyard
UP	Lathrop	CA			270,000		pending expansion	
UP	Long Beach	CA			760,000		pending expansion to 1.5MM	Intermodal Container Transfer Facility (ICTF)
BNSF/UP	Los Angeles	CA			2,257,775		BNSF expansion at Southern CA Int'l Gateway pending approval	POLA/LB on-dock intermodal facilities
UP	Los Angeles	CA			340,000			Los Angeles Transportation Center
BNSF	Oakland	CA			300,000			Oakland Int'l Gateway (OIG)
UP	Oakland	CA			450,000			
BNSF	San Bernardino	CA			660,000			
BNSF	Stockton	CA			300,000			
BNSF	Denver	СО	430					Hudson Logistics Ctr?
UP	Denver	CO						
BNSF	Albuquerque	NM			25K????			next to auto facility
UP	Santa Teresa	NM	2200		225,000		up to 700K lifts	
UP	Las Vegas	NV						
UP	Sparks	NV						
BNSF	Alliance	TX	735	600K	1,000,000	320 tenants at Log Park	1MM	
KC	Beasley (Houston)	TX	185	1,394	152,400			
UP	Donna	TX						
BNSF	El Paso	TX			18K????			
BNSF	Pearland (Houston)	TX						
UP	Houston (2)	TX						
UP	Laredo	TX	667		280,000	Costco		
KC	Laredo	TX	71	17,597	118,300			
UP	Mesquite	TX			225,000			
UP	San Antonio	TX	300		250,000		Yes	
UP	Wilmer (Dallas)	TX	360		387,000		Yes	
KC	Wylie	TX	362	186,772	342,000			
UP	Salt Lake City	UT	240		250,000	FedEx, MCS, Valley Cold	Yes	3 logistics parks adjacent



## **Population Projections of Study Region**



	2020	2040	Percent	
State	Projection	Projection	Change	Difference
New Mexico	2,187,183	2,401,480	9.8%	214,297
Colorado	5,842,076	7,460,600	27.7%	1,618,524
Utah	3,325,425	4,463,950	34.2%	1,138,525
Arizona	7,286,100	9,247,200	26.9%	1,961,100
Texas	29,677,668	40,686,496	37.1%	11,008,828

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)



### **Industrial Market Overview**

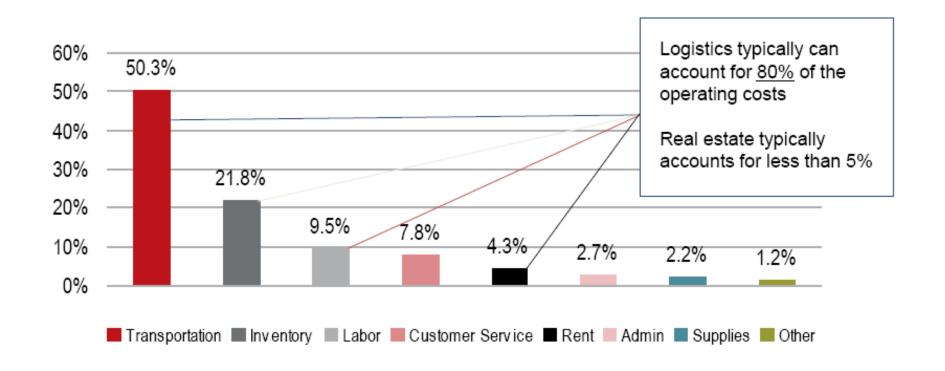
		Market Total	Vacancy	Net	Under	Asking Rate
Market	Period	SF	Rate	Absorption	Construction	(NNN)
Albuquerque	H1 2019	42,515,463	3.3%	947,909	741,589	\$6.66
Phoenix	Q3 2019	324,070,948	6.1%	8,082,653	11,906,784	\$0.66 Mn
Salt Lake County	Q4 2019	137,319,353	3.4%	3,728,588	7,234,359	\$0.53 Mn
Denver	Q4 2019	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 Total		1,458,649,287		7,839,826	37,517,853	

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.

# Logistics costs play an important role in total operating costs of a facility...



Source: Exchange Inc.: Logistics Cost & Service Report



## **Landed Cost to Serve Four Corners Population**

- Assess cost competitiveness of ICTF in McKinley County (Gallup)
- Methodology
  - Identify population by county for each state
  - Develop truck rates using Martin Associates' proprietary model from key intermodal facilities (ICTF) and Gallup to each County Seat
  - 1) Demonstrate least-cost pairing (ICTF and county)
  - 2) Demonstrate least-cost pairing with intermodal rates from LA/LB
    - Assume import containers via LA/LB
    - Spot rates and rail miles from LA/LB to each ICTF
    - Rates from BNSF partners
    - No current rate from LA/LB to Gallup



# Elements of Logistics/Landed Cost Analysis of DCs – Factors in Site Selection

### International

- Ocean freight
- Port/terminal charges
- Transportation costs (truck/rail) to/from port to DC
- Labor
  - Warehousing and supervisory labor
- Lease rates
- Utilities/Insurance/Admin
- Transportation costs from DC/logistics facility to retail/end user "downstream supply chain"

### Domestic

- Transportation costs (truck/rail) to DC/manufacturing plant
- Labor
  - Warehousing and supervisory labor
- Lease rates
- Utilities/Insurance/Admin
- Transportation costs from DC/logistics facility to retail/end users "downstream supply chain"



# Hinterland Reach to Each County in Four Corners Region and Texas: Intermodal + Truck: From LA/LB to ICTF to County

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

Total McKinley
County/Albuquerque
market = 6.2%



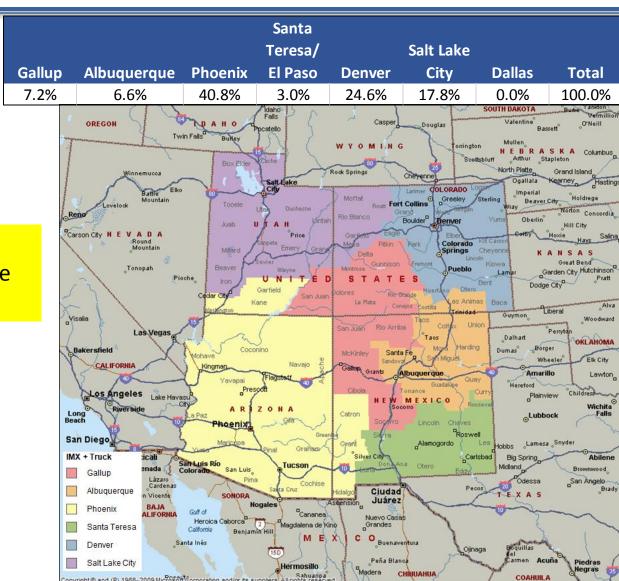


### **Landed Cost Results**

- Large volume of cargo drives more competitive rail rates into Dallas
  - including full back hauls of resin from the Houston area
- If contract 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.
- McKinley County and Albuquerque would essentially compete for the same geographic market, which in total is about 6.2%.
- Therefore, if Albuquerque is not developed as a larger international container facility, McKinley County site can effectively compete for 6.2%.
- However, under either scenario, McKinley County/ Gallup is constrained by existing facilities and capacity in Phoenix and Santa Teresa/El Paso.



# Hinterland Reach to Each County in Four Corners Region: Intermodal + Truck: From LA/LB to ICTF to County



Total McKinley
County/Albuquerque
market = 13.8%



# Importance of proximity to rail: Inland Port Success Stories



- Kansas City, MO
  - International freight Gateway (KCS & NS); KC SMARTPORT
- Fort Worth, TX NSF
  - AllianceTexas (Hillwood) BNSF
- San Bernardino, CA
  - BNSF Intermodal Facility; AllianceCalifornia
- Joliet/Elwood, IL
  - BNSF Logistics Park; CenterPoint Intermodal Center (UP)
- Louisville, KY
  - Buechel; Appliance Park Intermodal Yard (NS)
- Front Royal, VA
  - Virginia Inland Port (VPA) (NS)
- Harrisburg, PA
  - Lucknow Industrial Park; Rutherford Rail Yard (NS)
- Charlotte, NC
  - NS Intermodal Charlotte; CSX Charlotte;
- Austell, GA
  - John W. Whitaker Intermodal Terminal( CSX)
- · Columbus, OH
  - Rickenbacker Inland Port (NS & CSX)



# **Key Attributes for Inland Logistics Center Success Stories**

- Class I rail access
- Proximity to local market and consuming population
  - Especially in growth of online shopping e.g. Amazon
- Ample acreage
  - 1000+ acres (and adjacent parcels)
- Millions of square feet of adjacent DC activity
- Skilled and available workforce
  - Local UNM or CC programs???
- Proximity to air capacity
  - More common with online shopping orders same day/next day



- 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



- 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
- Albuquerque would not be expanded, in lieu of developing and building a Greenfield site in Gallup for international intermodal/DC operations
- The total market area of the key markets of the Four Corners/Texas and LA/Inland Empire is estimated at 3.8 billion sf.
- 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
- My Report is estimated to increase to 5.25 billion of 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
  - Approximately 27,000 loads or 47,500 TEU,
  - it would be critical to attract a major anchor tenant DC operator/developer to guarantee the volume needed
  - approx. 500,000 sf minimum
  - 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



- With respect to partnering with other regional facilities for distribution or transmodal operations 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
- 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
  - 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



# **Competitive Landscape for Carload Rail Activity**



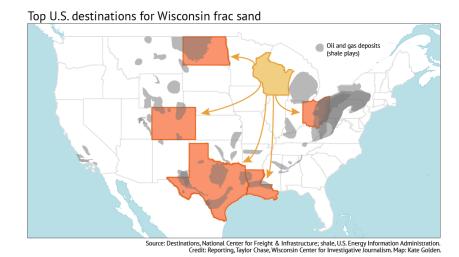
# **Current GELP Activity Aligns with Carload Potential Base Cargoes**

### Coal

- 600,000 700,000 tons trucked in/railed out
- Used in cement production
- Not steam coal
- Outlook appears stable

### Frac Sand

- Railed in/ trucked out
- Expected to ramp up in 2020
- Oil/gas San Juan Basin
- Competition from Dakotas???
- Sensitive to price fluctuations
- COVID-19 impact on future





## **Agribusiness**

- Focus on New Mexico and Colorado to identify potential opportunities with respect to export or transloading
- Key agribusiness sectors in New Mexico and Colorado include:
  - Produce
  - Alfalfa (Hay)
  - Livestock
- NAPI is a key player in local market
- Identify the potential of exports via rail to the West Coast
- Identify the potential of consolidation/warehousing in McKinley County



## **New Mexico Ag Overview**

### 2019 **STATE AGRICULTURE OVERVIEW**

### **New Mexico**

F	Operation	
Farms	Operation	าร

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

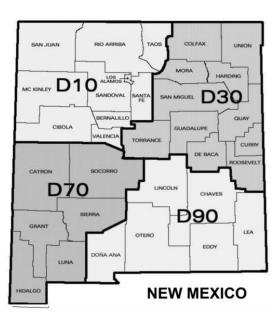
#### Livestock Inventory

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 1

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

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





## **NM Agribusiness 2019**

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		2,000,000
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



## **Colorado Ag Overview**

### 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

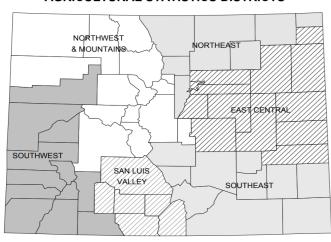
#### Livestock Inventory

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 <sup>†</sup>

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

#### **AGRICULTURAL STATISTICS DISTRICTS**





## **Colorado Agribusiness 2019**

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		



## Alfalfa and Hay Production by NM County

County Estimates: Alfalfa & Alfalfa Mixtures for Hay - New Mexico: 2017 & 2018

District	Acres Harvested		Yield per Acre		Production	
& County <sup>1</sup> , <sup>2</sup>	2017	2018	2017	2018	2017	2018
	(Acres)	(Acres)	(Tons)	(Tons)	(Tons)	(Tons)
Bernalillo	(D)	1,500	(D)	3.95	(D)	5,900
San Juan	29,000	34,000	5.25	5.20	151,600	177,200
Santa Fe	3,400	2,600	4.45	5.00	15,200	13,000
Taos	6,000	8,400	1.20	0.90	7,100	7,700
Valencia	(D)	7,800	(D)	4.80	(D)	37,400
Other Counties	29,600	13,200	2.60	1.95	76,600	25,800
Northwest	68,000	67,500	3.70	3.95	250,500	267,000
Colfax	4,500	(D)	2.45	(D)	11,000	(D)
Curry	1,700	(D)	4.40	(D)	7,500	(D)
De Baca	7,000	5,800	5.00	4.70	35,000	27,400
Mora	(D)	2,600	(D)	1.35	(D)	3,500
Quay	1,900	2,000	4.45	2.90	8,500	5,800
Roosevelt	2,500	2,100	4.00	7.05	10,000	14,800
San Miguel	3,700	(D)	3.60	(D)	13,300	(D)
Torrance	6,900	5,700	5.50	5.00	38,000	28,600
Union	1,200	800	4.10	5.25	4,900	4,200
Other Counties	5,600	7,500	2.20	1.70	12,300	12,700
Northeast	35,000	26,500	4.00	3.65	140,500	97,000
Hidalgo	(D)	1,700	(D)	5.75	(D)	9,800
Luna	(D)	3,200	(D)	6.80	(D)	21,800
Sierra	3,200	3,200	6.95	6.80	22,300	21,700
Socorro	(D)	5,200	(D)	5.20	(D)	27,100
Other Counties	15,800	700	6.80	2.30	107,700	1,600
Southwest	19,000	14,000	6.85	5.85	130,000	82,000
Chaves	29,000	(D)	5.80	(D)	168,000	(D)
Doña Ana	(D)	8,000	(D)	7.70	(D)	61,700
Eddy	21,000	20,500	6.50	4.95	137,000	101,200
Other Counties	18,000	23,500	6.90	6.10	124,000	143,100
Southeast	68,000	52,000	6.30	5.90	429,000	306,000
New Mexico	190.000	160.000	5.00	4.70	950.000	752.000

<sup>(</sup>D) Withheld to avoid disclosing data for individual operations.



<sup>1</sup> Counties with missing data are included in the appropriate district's "Other Counties."

## Alfalfa and Hay Cash Receipts by NM County

Cash Receipts: Al	I Hay – New Mexico: 2017 8						
District/County		Hay					
District/County	2018 Rank	2017 2	2018				
		1,000 Dollars					
NORTHWEST		27,801	38,371				
Bernalillo	21	1,302	911				
Cibola	29	109	100				
McKinley	28	99	134				
Rio Arriba	15	2,406	2,738				
Sandoval	20	792	1,067				
San Juan	1	16,008	25,120				
Santa Fe	17	1,553	1,778				
Taos	19	964	1,173				
Valencia	7	4,568	5,349				
NORTHEAST		20,773	22,252				
Colfax	25	1,237	655				
Curry	13	2,273	2,877				
De Baca	9	3,829	4,016				
Guadalupe	27	297	270				
Harding	31	28	22				
Mora	24	1,158	700				
Quay	16	1,284	2,148				
Roosevelt	6	3,865	5.354				
San Miguel	23	1.730	707				
Torrance	8	4.267	4.683				
Union	22	807	819				
SOUTHWEST		14,151	12,508				
Catron	30	37	35				
Grant	26	322	381				
Hidalgo	11	3,935	3.070				
Luna	10	4.062	3.146				
Sierra	12	2,264	3.059				
Socorro	14	3,530	2,817				
SOUTHEAST		46,269	46,073				
Chaves	2	17,725	14,953				
Doña Ana	4	8,752	9,838				
Eddy	3	14,169	14,275				
Lea	5	4,557	5,639				
Lincoln	32	0	0				
Otero	18	1,067	1,368				
STATE		400.004	440.204				
JIAIE		108,994	119,204				

<sup>&</sup>lt;sup>1</sup> Does not include cash receipts received for livestock grazing. May not sum due to rounding.

SOURCE: New Mexico Department of Agriculture: County figures prorated from state estimate.



<sup>&</sup>lt;sup>2</sup> Revised.

# **Agribusiness Market Summary and Implications**

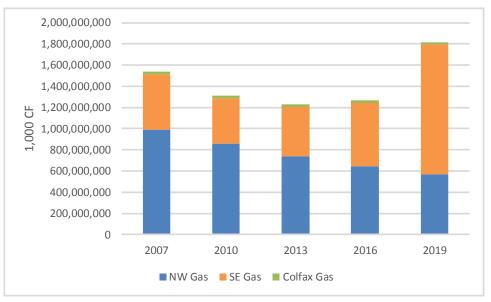
- Given its proximity to McKinley County, and furthermore lack of rail connectivity, NAPI may offer opportunities for inland port operations
- Agricultural products such as pecans, peppers, peaches are sold in smaller lot sizes and not economically feasible for rail shipment
- Corn and wheat, from NAPI and other New Mexico regions, are exported to a certain extent albeit smaller volumes primarily to Canada and Mexico
- 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.
  - Estimated baseline volume needed for a compressor is 80,000 tons annually which 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.

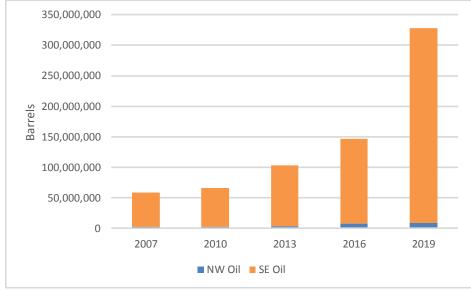
# Agribusiness Market Summary and Implications

- 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.
  - 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
  - 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



# Oil & Gas Production (related Methanol, Resin Manufacturing) New Mexico Historical







### **Methanol Production**

- Natural gas feedstock
- Methanol customers concentrated in Gulf (TX and LA) as well as Midwest – IL, IN, OH
- Tie into synergies with regional polymer production
- Global trade
- Modes of transport include pipeline, rail, barge, and ship



### **Methanol Production**

### What is Methanol?

- Methanol can be made from virtually anything that is, or ever was, a plant. This includes common fossil fuels — like natural gas and coal. It can also be used as renewable resources ranging from biomass to landfill gas. Methanol can also be made from wasted CO2 from the atmosphere to generate electricity and technology. With its diversity of production feedstocks and array of applications, it's no wonder that methanol has been one of the world's most widely used industrial chemicals since the 1800s.

### Production of Methanol

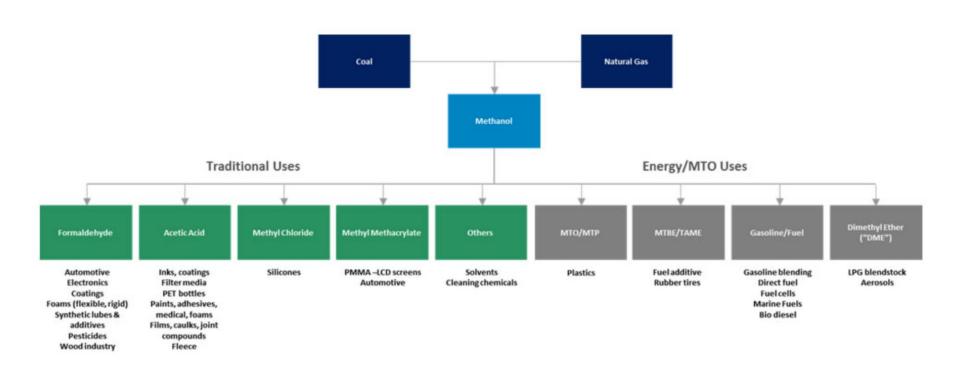
- Today, methanol is typically produced on an industrial scale using natural gas as the principal feedstock. A world-scale methanol plant produces 5,000 metric tons per day – 600 million gallons/2.3 billion liters per year – by reforming natural gas with steam and then putting the resulting synthesis gas through conversion into liquid methanol. But this simplest alcohol can be made from many more feedstocks, including coal, biomass, municipal solid waste, biogas, waste CO2, and even renewable electricity. Methanol production offers a "future proof" transition to sustainable fuels and chemicals.



## **Everyday Methanol Uses**

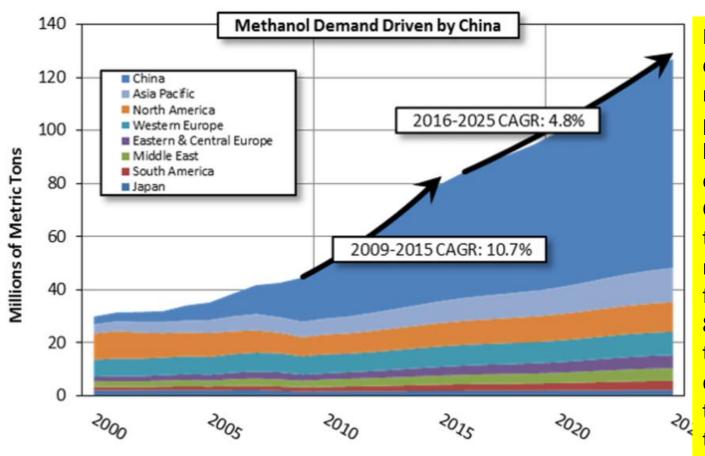


### **Methanol Process and Uses**





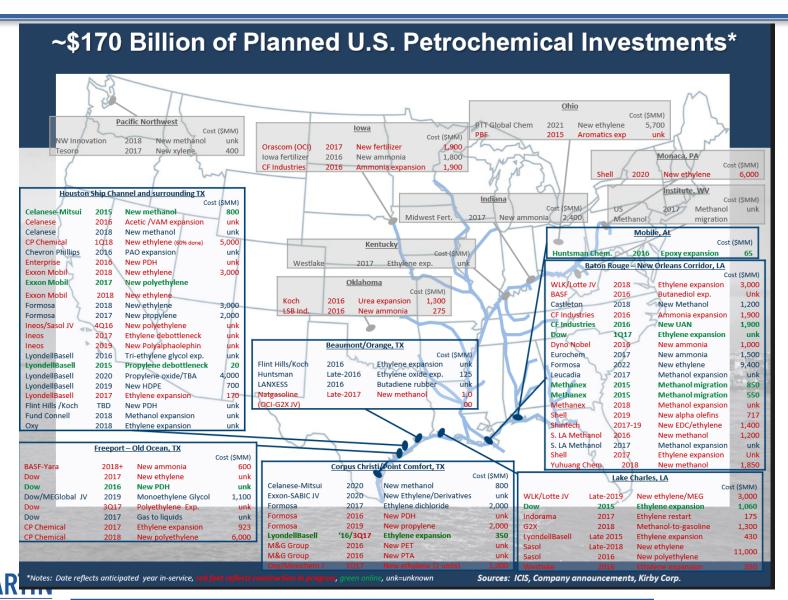
### **Methanol Demand Continues to Increase**



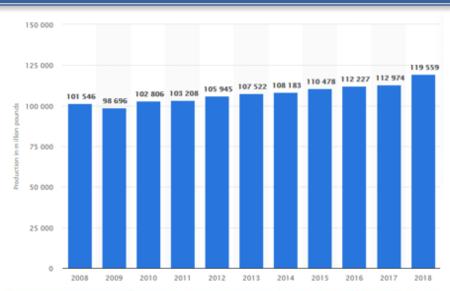
In recent years, the development of methanol production facilities has increased, especially in the Gulf Coast Region due to the accessibility of natural gas feedstock. Exhibit 4-8 illustrates the fact that methanol demand is expected to triple from 2010 to 2025 in all world regions, driven by China.



## **Investments in Petrochemical Industry Remain Strong**



## Resin production and Sales Have Been Increasing



	Production			Total Sales & Captive Use		
Resin	2018	2017	% Chg 18/17	2018	2017	% Chg 18/17
Total Thermosets (5)	17,258	16,764	2.9	17,368	16,877	2.9
LDPE (2)(3)	7,673	6,903	11.2	7,509	7,013	7.1
LLDPE (2)(3)(7)	18,359	15, 185	N/C	17,677	14,883	N/C
HDPE (2)(3)	21,161	18,880	12.1	20,785	18,556	12.0
PP (2)(4)	16,971	17,364	-2.3	17,196	17,286	-0.5
PS (2)(4)	4,135	4,302	-3.9	4,110	4,304	-4.5
EPS (2)(3)	1,082	1,090	-0.7	1,055	1,086	-2.9
PVC (3)	16,311	15,870	2.8	16,313	15,835	3.0
Other Thermoplastics (6)	16,609	16,616	0.0	17,791	17,871	-0.4
Total Thermoplastics (7)	102,301	96,210	6.3	102,436	96,834	5.8
GRAND TOTAL PLASTICS (7)	119,559	112,974	5.8	119,804	113,711	5.4

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.

American Chemistry Council

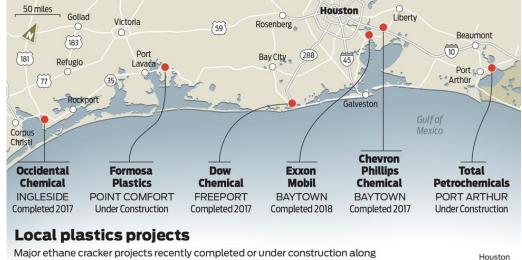


### **Resins and Plastics New Construction/Expansions**

- New Construction
  - Exxon Mont Belvieu 2.5 million tons
  - Chevron Phillips 1 million tons
  - Exxon 1.3 million tons
  - Dow 400,000 tons
  - Ineos 470,000 tons

 2017 PE Production Capacity **Expansion** 

Houston Chronicle, Feb 3, 2018



the Texas Gulf Coast. Multiple other projects are still in the development stages.

Chronicle



### Recent Resin Export Comparisons (Jan-June 2019)

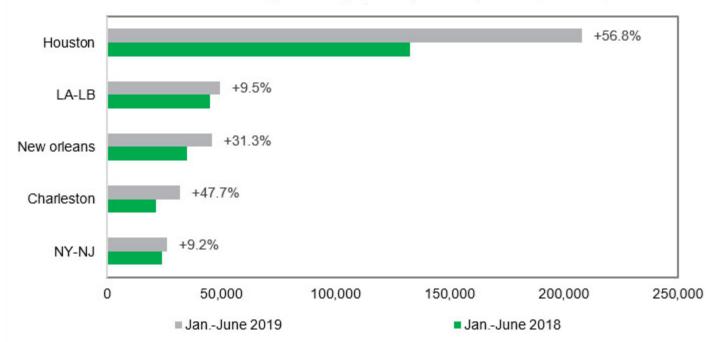
- Houston exported 1.47 million mt, up 58% from January-June of 2018
- New Orleans:
  - 192,000 mt, more than triple the first half of 2018
- Charleston:
  - 134,329 mt, triple the first half of 2018
- Los Angeles:
  - 134,017 mt, an increase of 21%
- Savannah:
  - 47,269 mt, 13x higher than 3,450 mt exported in same period of 2018
- LyondellBasell Industries in LaPorte; 2019:
  - HDPE plant 550,000 tons annual production capacity
- Braskem in LaPorte; 2<sup>nd</sup> qtr 2020:
  - PP plant 500,000 annual production capacity



#### **Resin Exports at Key Ports**

#### US resin capacity expansion drives Houston export gains

Laden TEU volume of US resin\* exports among top 5 US ports with year-over-year change



Notes: HS code:3901-3909; 3911; 3926

Source: IHS Markit © 2019 IHS Markit



### Oil & Gas Production (related Methanol, Resins) Summary and Implications

- 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
  - U.S.G.S. >> Mancos Shale deposit has 66 trillion cu ft of recoverable gas
- 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

### Oil & Gas Production (related Methanol, Resins) Summary and Implications

- 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 McKinley County



### Oil & Gas Production (related Methanol, Resins) Summary and Implications

#### 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 (210 projects)
  - 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."
- Source; American Chemistry Council "Shale Gas Is Driving New Chemical Industry Investment in the U.S."
   February, 2020



### Forest Products Summary and Implications

- The abundance of forest lands in the Four Corners Region proved a natural market for forest product processing
- Key Opportunities:
  - U.S. Forest Service plans to spend \$550 million over the next 20 years on reforestation of Arizona's forests
    - RFP calls to mechanically thin 605,000 to 818,000 acres of forests in Northern Arizona
    - Bio-mass resulting from the thinning can be processed for energy or other renewable processes, potentially export
    - It is estimated that every acre of thinned forest yields about 25 tons round wood (logs)
    - 800,000 acres 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)



### Forest Products Summary and Implications

- New Mexico Forest Services is interested in developing a veneer production facility in McKinley County
  - 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
  - Operator is interested in switching the supply chain and reducing the dray to 120 miles to a Gallup reload facility
  - 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



### Manufacturing Summary and Implications

#### • Aligning manufacturing opportunities with rail transport:

- Transportation of raw materials to the manufacturing site
- Shipment of manufactured products over long-haul markets or to coastal ports for export

#### Key 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
  - 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 regionally



### Manufacturing Summary and Implications

- Renewable Pulp Manufacturing:
  - 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
  - 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.
- Renewable Ethanol Manufacturing:
  - 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



# **Economic Impact of Key Opportunities**



## **Economic Impact Summary**of Potential Investment Opportunities

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



### **Summary and Implications**



- Rigorous data analysis and results of landed cost models demonstrate challenges to developing an intermodal facility to handle Asian imports in McKinley County
  - Lack of immediate population base erodes McKinley County potential
  - Key consumption centers such as Phoenix, Denver and Salt Lake already maintain
    - Existing intermodal ramps for both international and domestic cargo
    - Occupy hundreds of millions of square feet of DC and commercial space to serve their population base more cost effectively
  - Dallas (specifically Alliance Texas) and other key Texas hubs will control the local Texas market and leverage contract rates to also serve outward regionally to other states



- Albuquerque 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 success would be driven by volume

- McKinley site must deliver a minimum of one train in/out per week approximately 27,000 loads or 47,500 TEUs
- Key component is the backhaul move of either loaded or empty containers, which is why near-port intermodal centers are desirable
  - 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:
  - Truck Super Center 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
  - Based on the data analysis, under a high scenario capture of 20% of Dallas (and 10% of eastbound Houston) traffic, it is estimated approximately 35-40 eastbound trips/day and 70-80 westbound daily trips could be captured
  - 105-120 baseline trips/day



- Although intermodal distribution appears unlikely, there still remains the potential to develop truck-in/truck-out distribution that would not require intermodal activity
- Expansion into the Four Corners market, perhaps by a sophisticated supply chain looking for a presence
- Less-complicated supply chain looking to place a single DC to serve a larger region
- Potential Targets:
  - Investment real estate firms such as CenterPoint Properties, Hillwood Investment Properties, Prologis, Rockefeller Group, NAI, Jones Lang LaSalle, CBRE and Duke Realty
  - 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



- Most promising development opportunities involve the movement of the regional natural resources and utilize carload rail for domestic and export shipment
  - 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
  - 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 COVID-19 Pandemic
  - Recovery length?? Lasting effects overseas import and export practices, cold chain operations, food manufacturing and processing, levels of inventory, fuel prices??
  - The outcome may provide more near-sourcing manufacturing opportunities, and with McKinley County's proximity to Mexico
  - Conversely, decreased disposable income, due to unemployment or jobless recovery, may spark a lengthy recession
    - Remain flexible to accommodate any type of opportunity