



TEXAS PERMIAN BASIN REGIONAL FREIGHT AND ENERGY SECTOR TRANSPORTATION PLAN

Steering Committee Meeting 2 (Webinar)



February 21, 2020

Agenda

MEETING PURPOSE

Gather input on defining the Permian Basin Spheres of Influence and freight intensive land uses and provide an update on the Plan activities and schedule

Recap of Activities to Date

Permian Basin Spheres of Influence

Freight Intensive Land Use

Next Steps

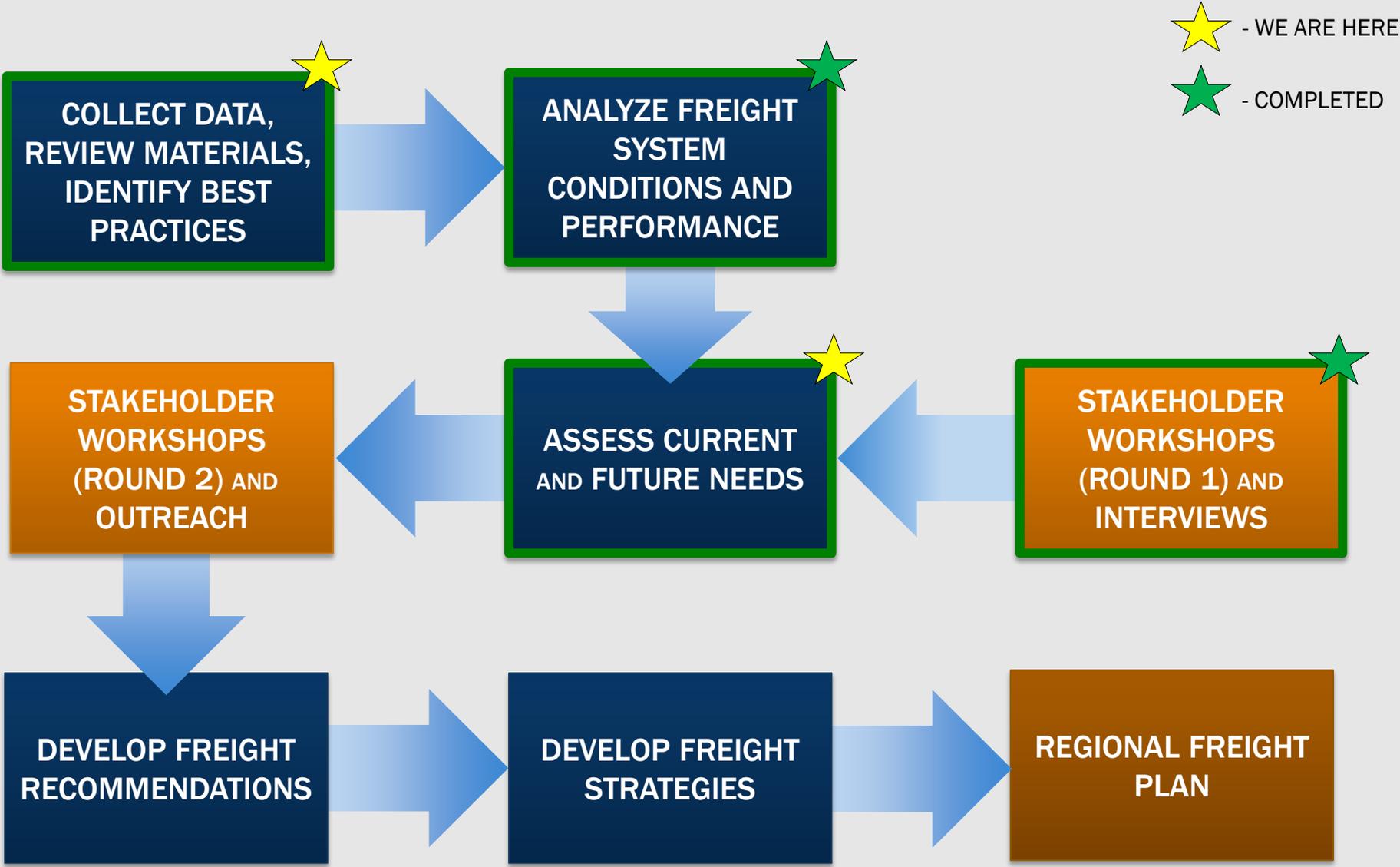
Discussion and Wrap up



ACTIVITIES TO DATE



Plan Development Approach



Data collection

- Private sector
 - In vehicle monitoring system data
 - Truck trip generation data
 - Drilling activity data
- Public sector
- Material/plan review

Analysis

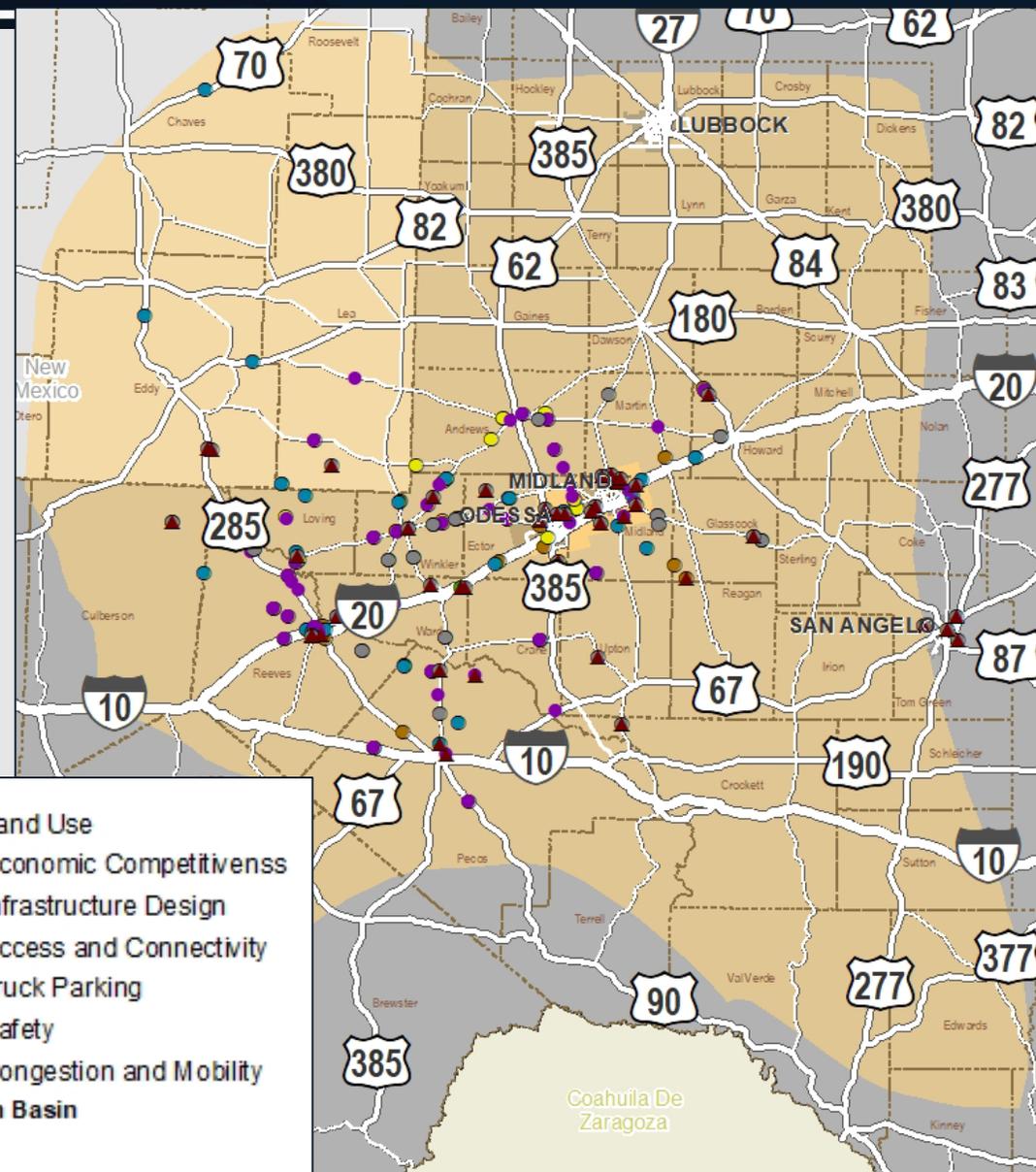
- Finalized goals and objectives
- Finalized freight and energy sector network designation and profile
- Freight demand / commodity flow
- Conditions and performance
- Land use analysis

Stakeholder Outreach

- Kickoff meeting
- Group meetings
- Interviews (40)
- Online survey
- First round stakeholder workshops (6)
- Steering committee meeting

What We Heard - Challenges

- Congestion and Mobility
- Safety
- Infrastructure Design
- Access and Connectivity
- Land Use/Future Development



Conditions and Performance

1

Crash analysis

Truck parking analysis

2

3

Congestion and reliability

Bridges, pavement and design

4

5

Oversize/overweight analysis

Operations and technology assessment

6

Access and Connectivity

- Spheres of Influence

Future Development

- Freight Intensive Land Use



SPHERES OF INFLUENCE

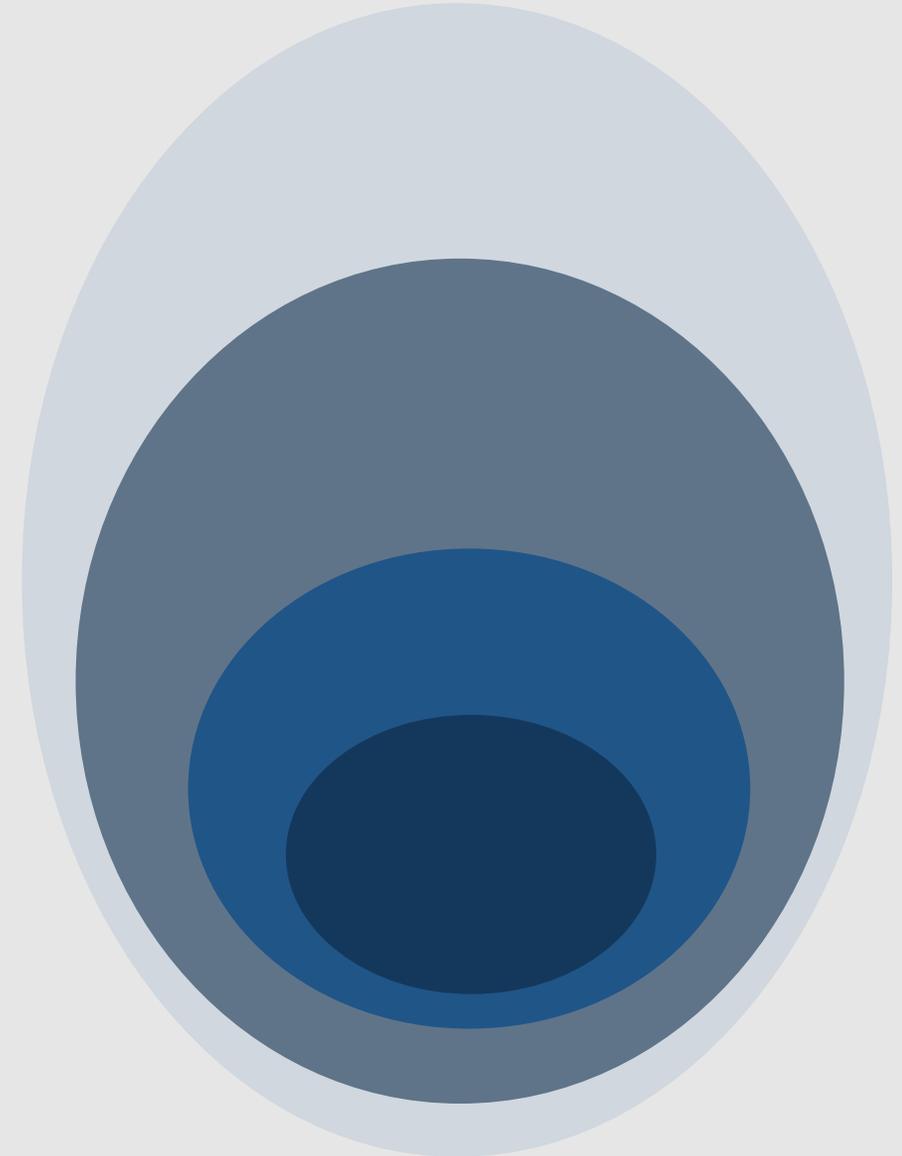


Permian Basin Spheres of Influence

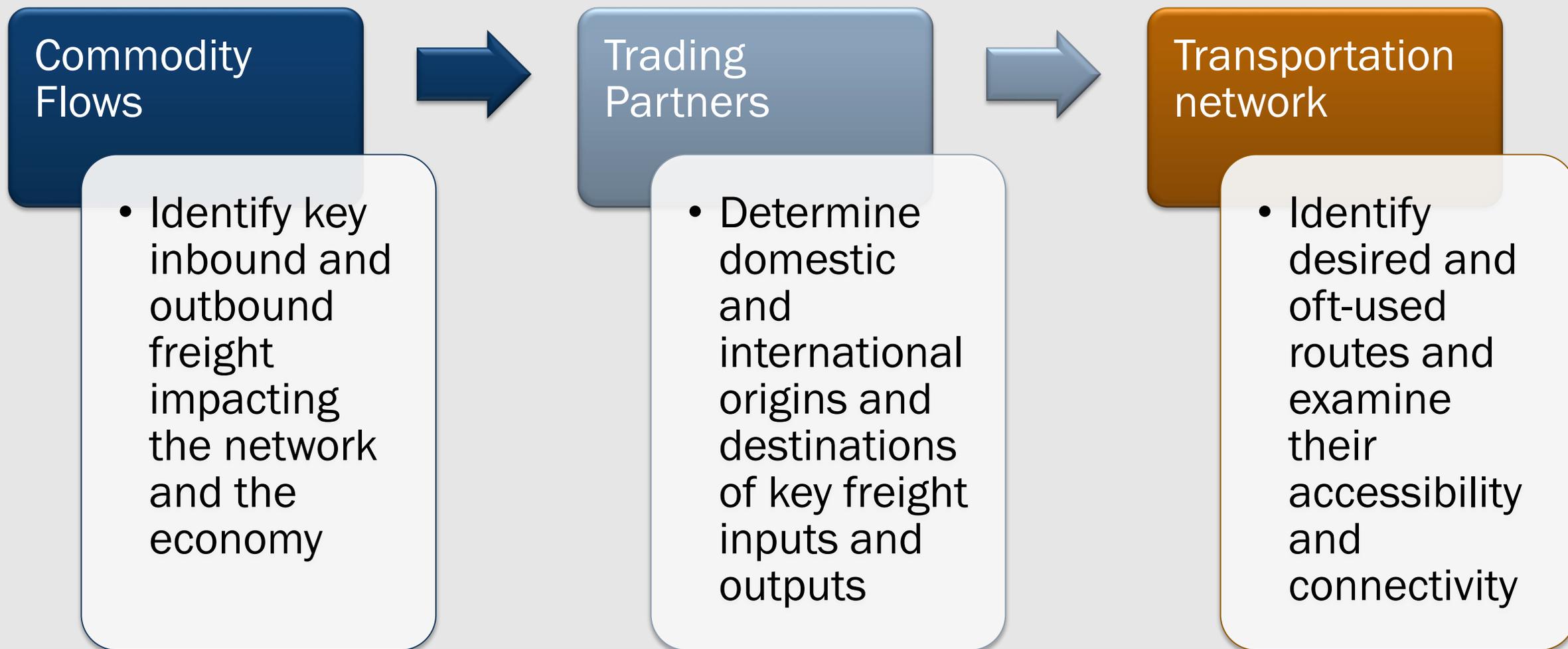
What: Regions, states, and countries whose development both affect and are affected by freight activity in the Permian Basin (PB)

Why: Assessing role of transportation in connecting and providing access to trading partners, markets, economies, and resources key to the PB

How: Examining economic, supply chain, and transportation connections for the PB's key freight intensive industries



Process for Defining Permian Basin Spheres of Influence



Energy Sector

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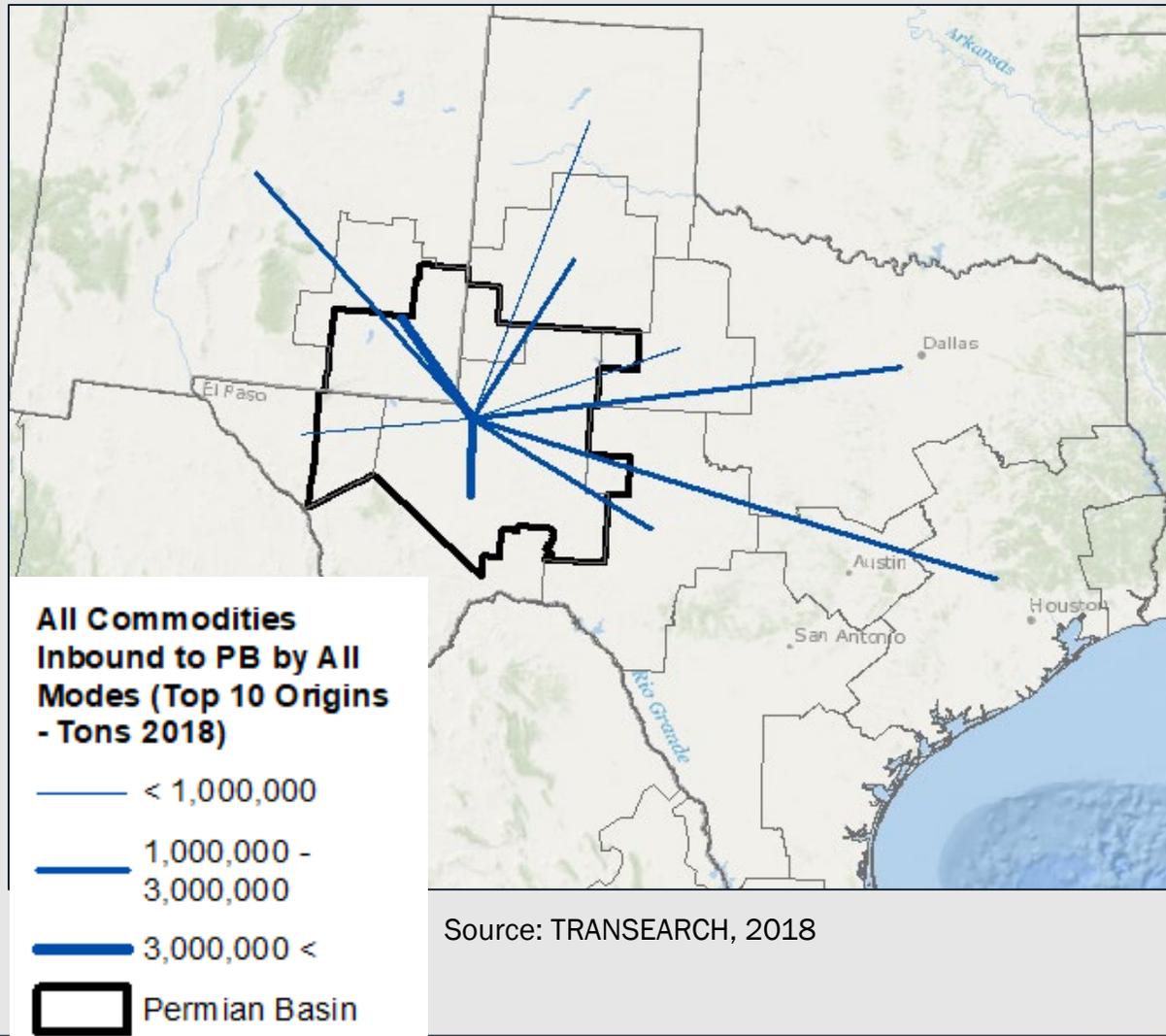
Consumer Goods

Are there other factors?

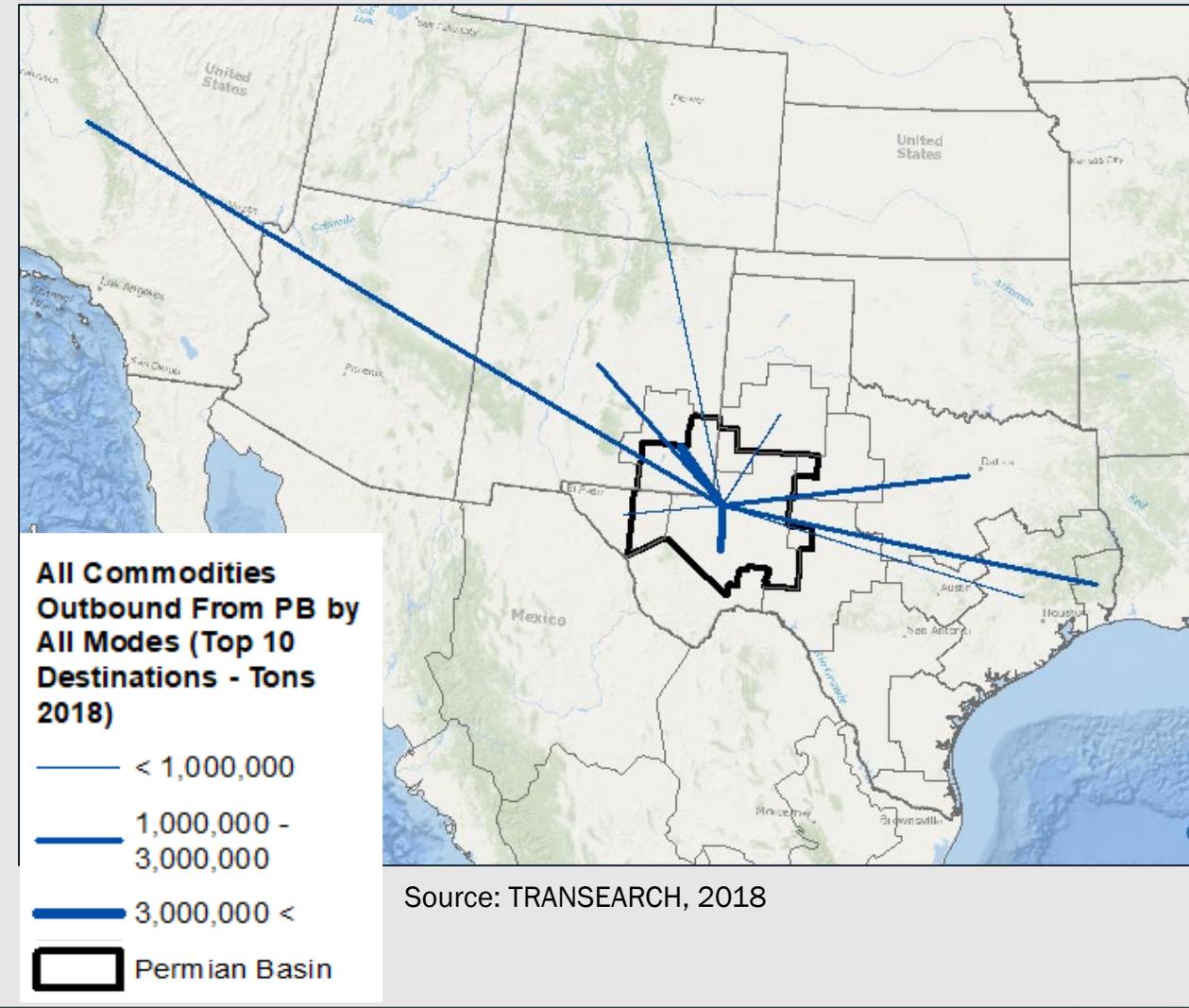
What Factors, Industries, Commodities Should be Considered in Defining the Permian Basin's SOI?

Top Ten Origin and Destinations for Freight Traveling Inbound and Outbound

Inbound Commodities

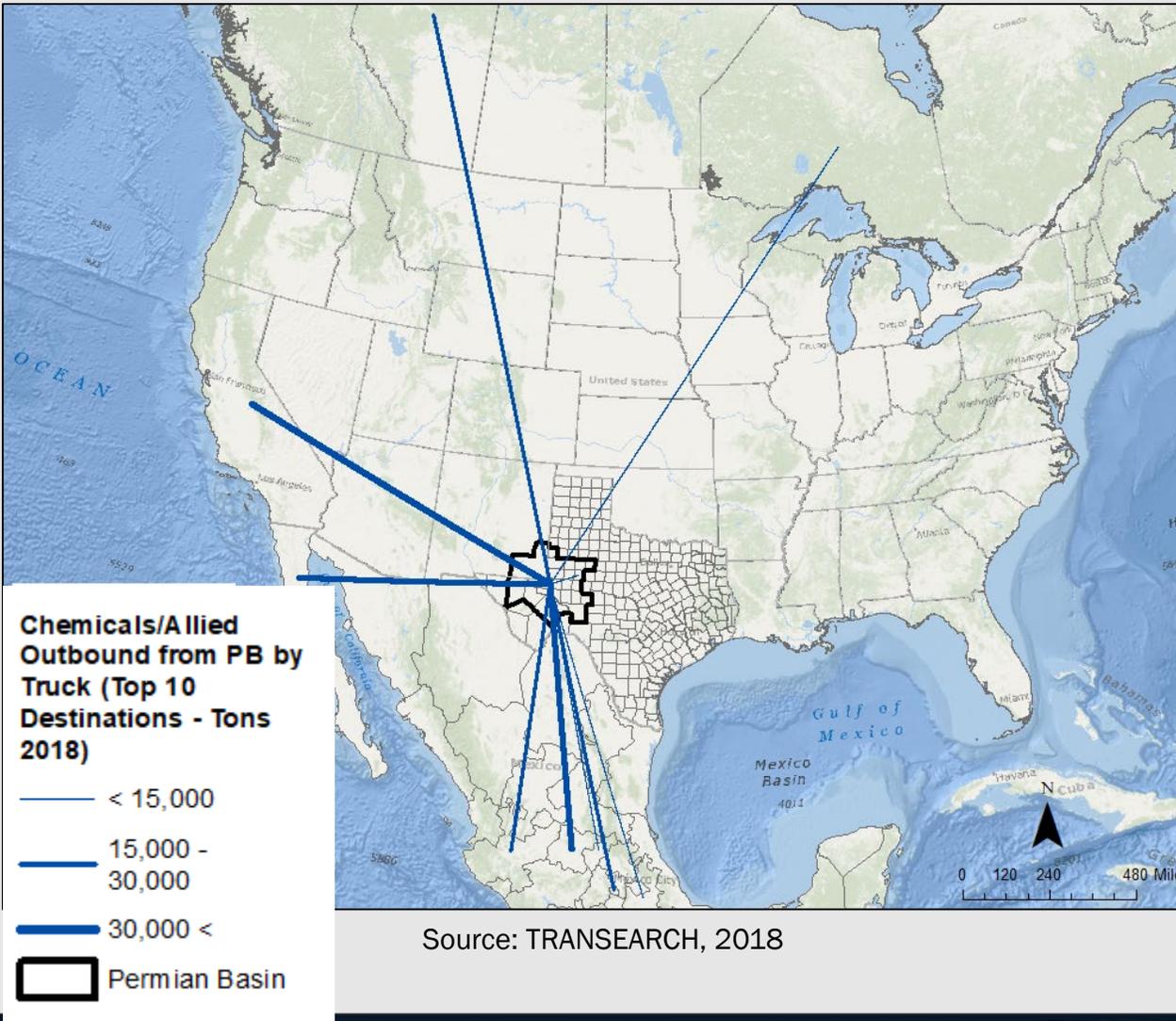


Outbound Commodities

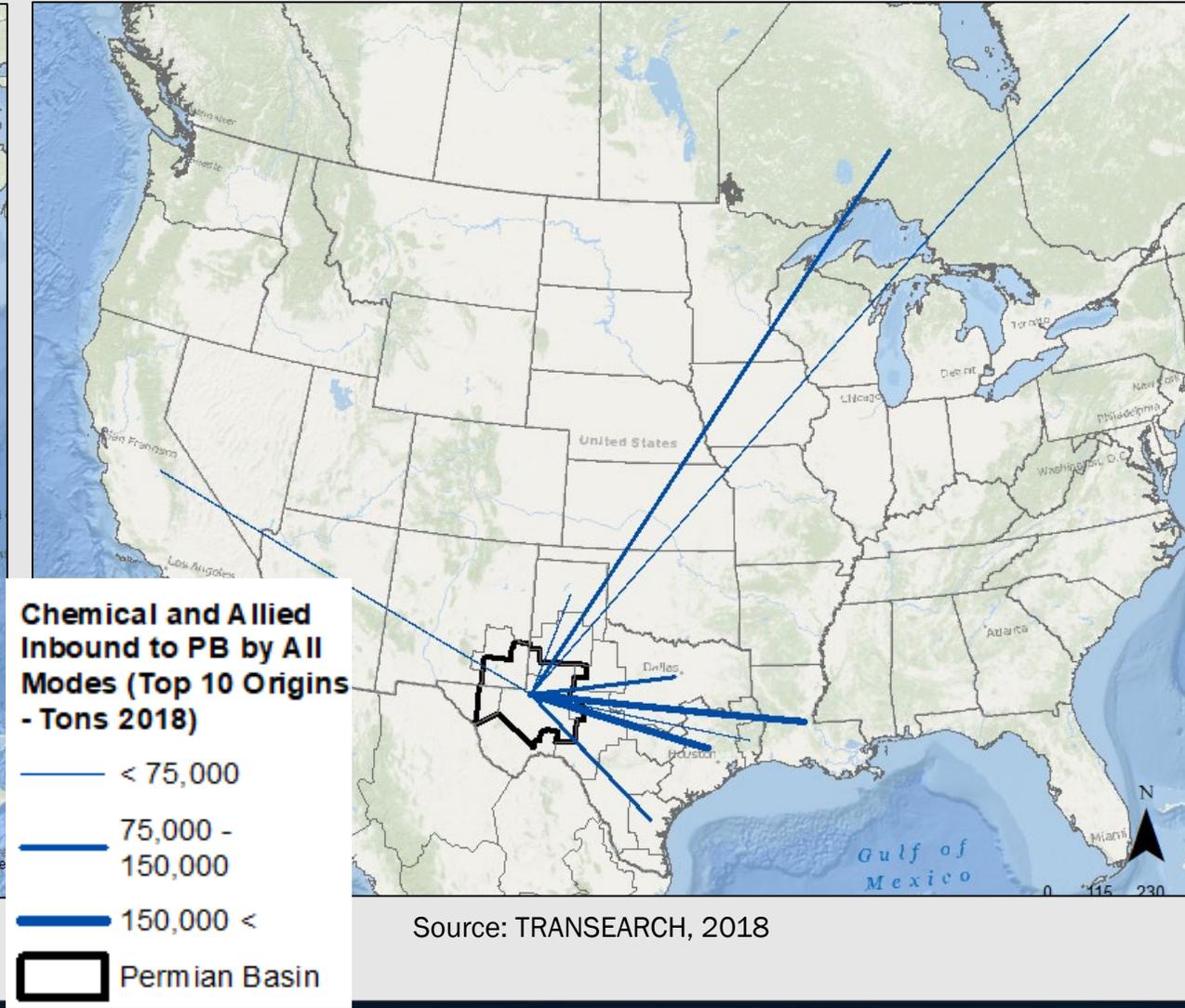


Energy Commodities

Outbound Trucked Chemicals and Allied Products

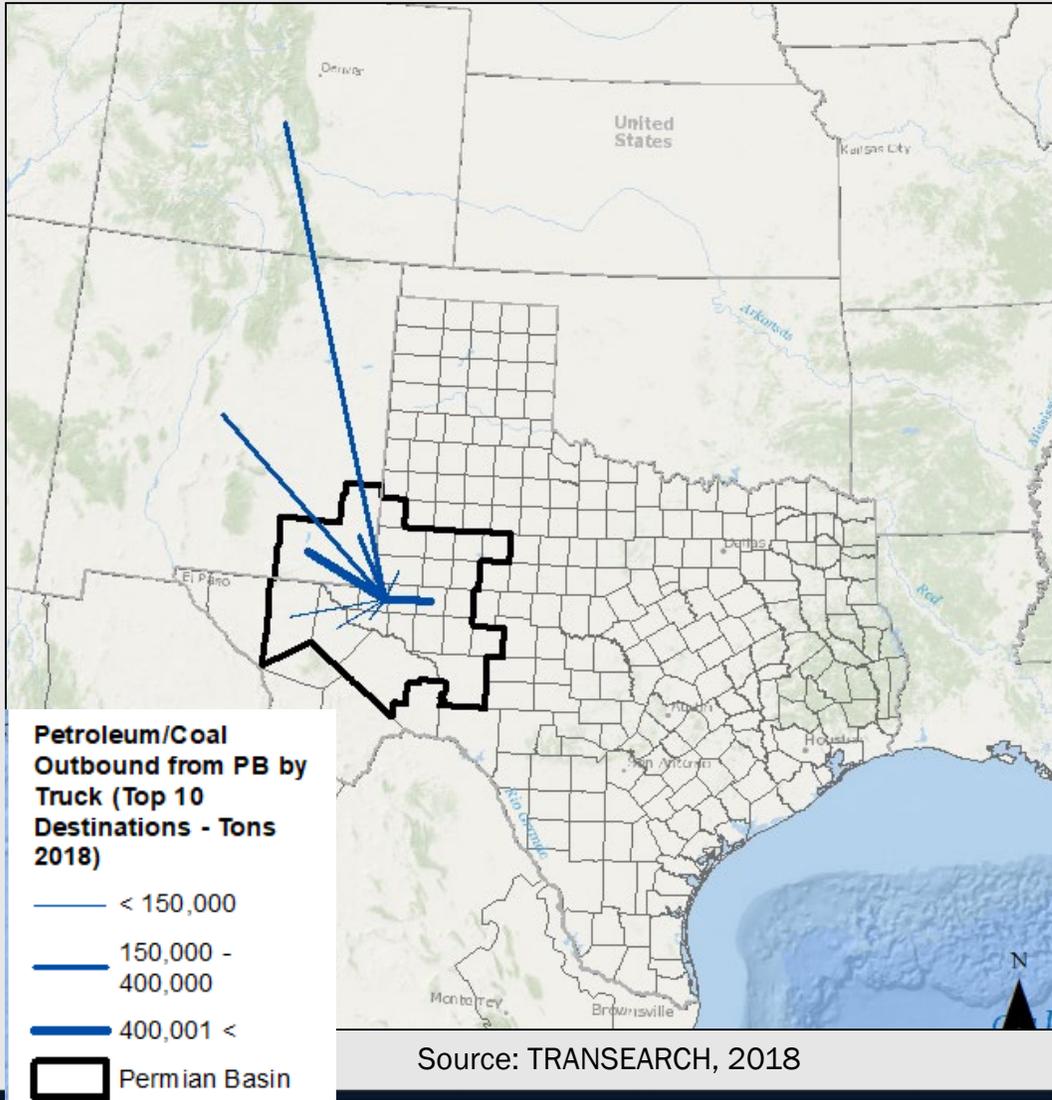


Inbound Trucked Chemicals and Allied Products

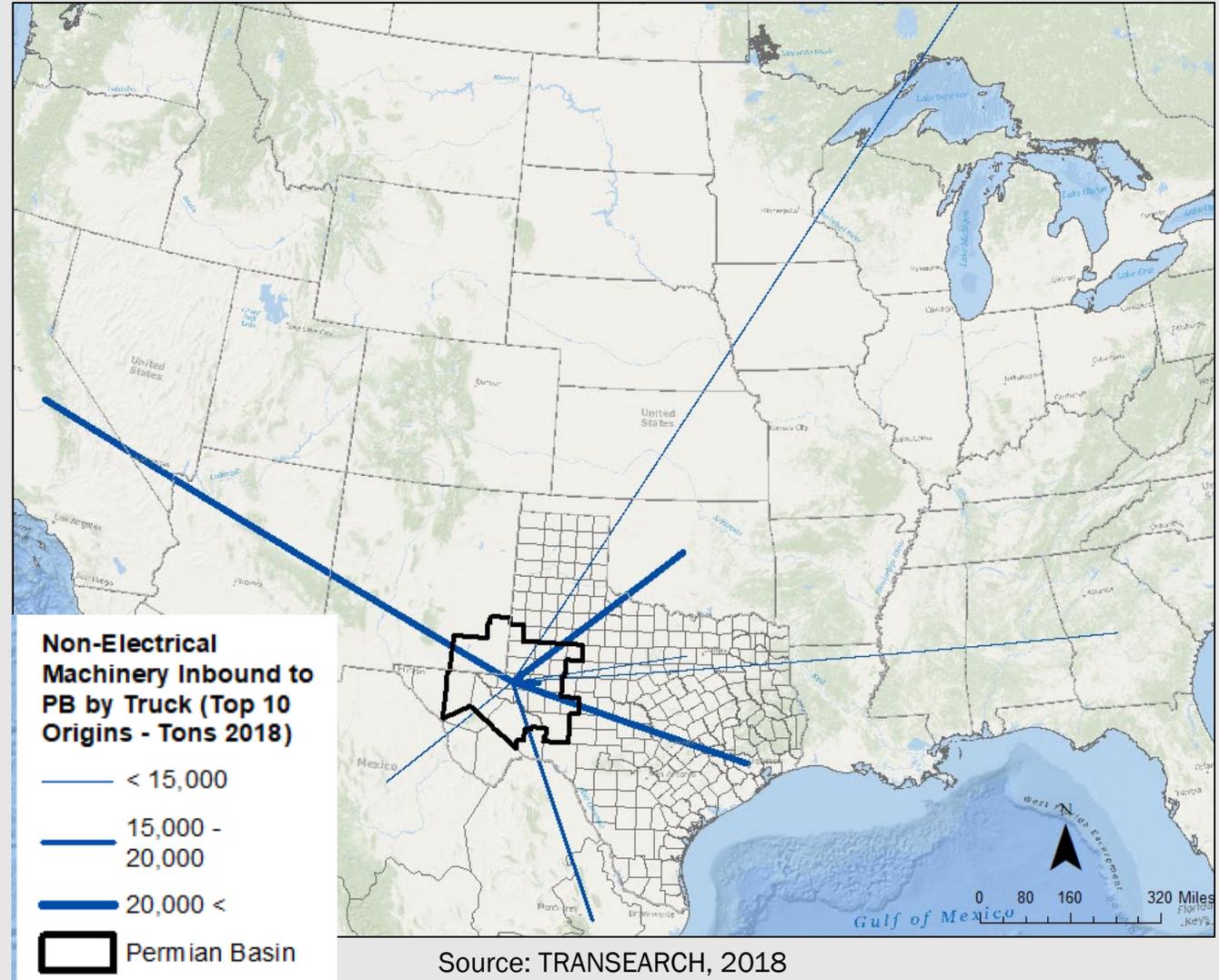


Energy Commodities

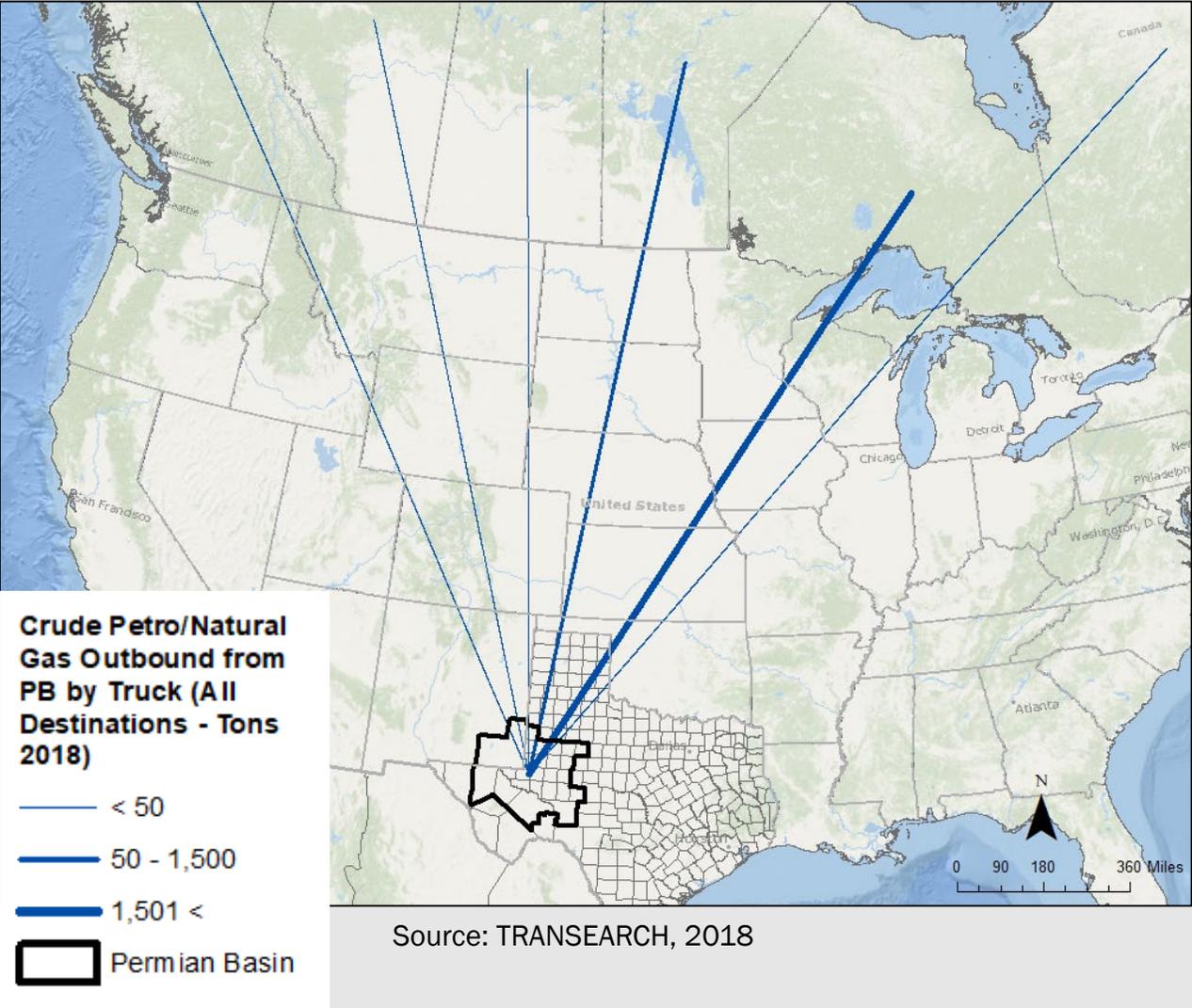
Outbound Trucked Petroleum Products



Inbound Trucked Machinery

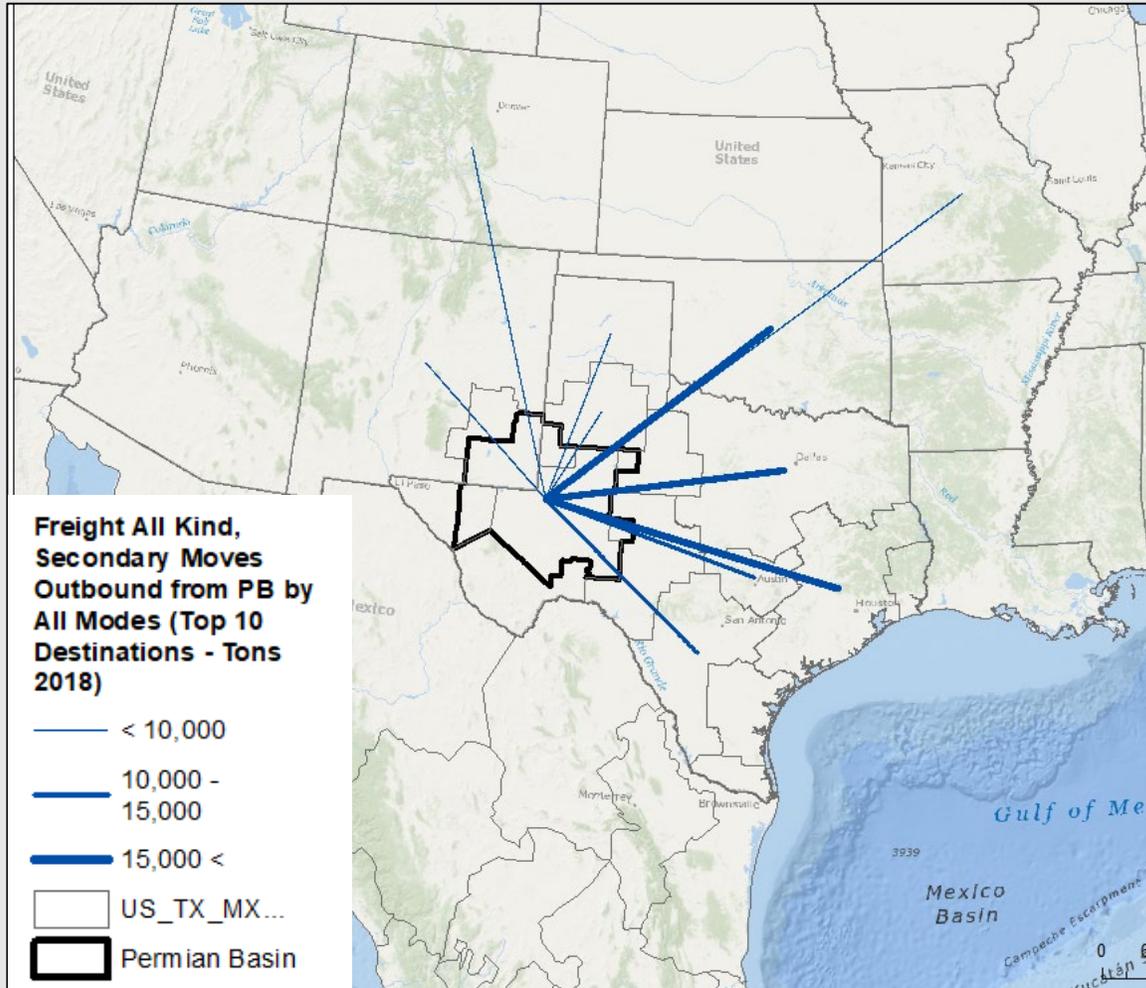


Outbound Trucked Crude/Natural Gas



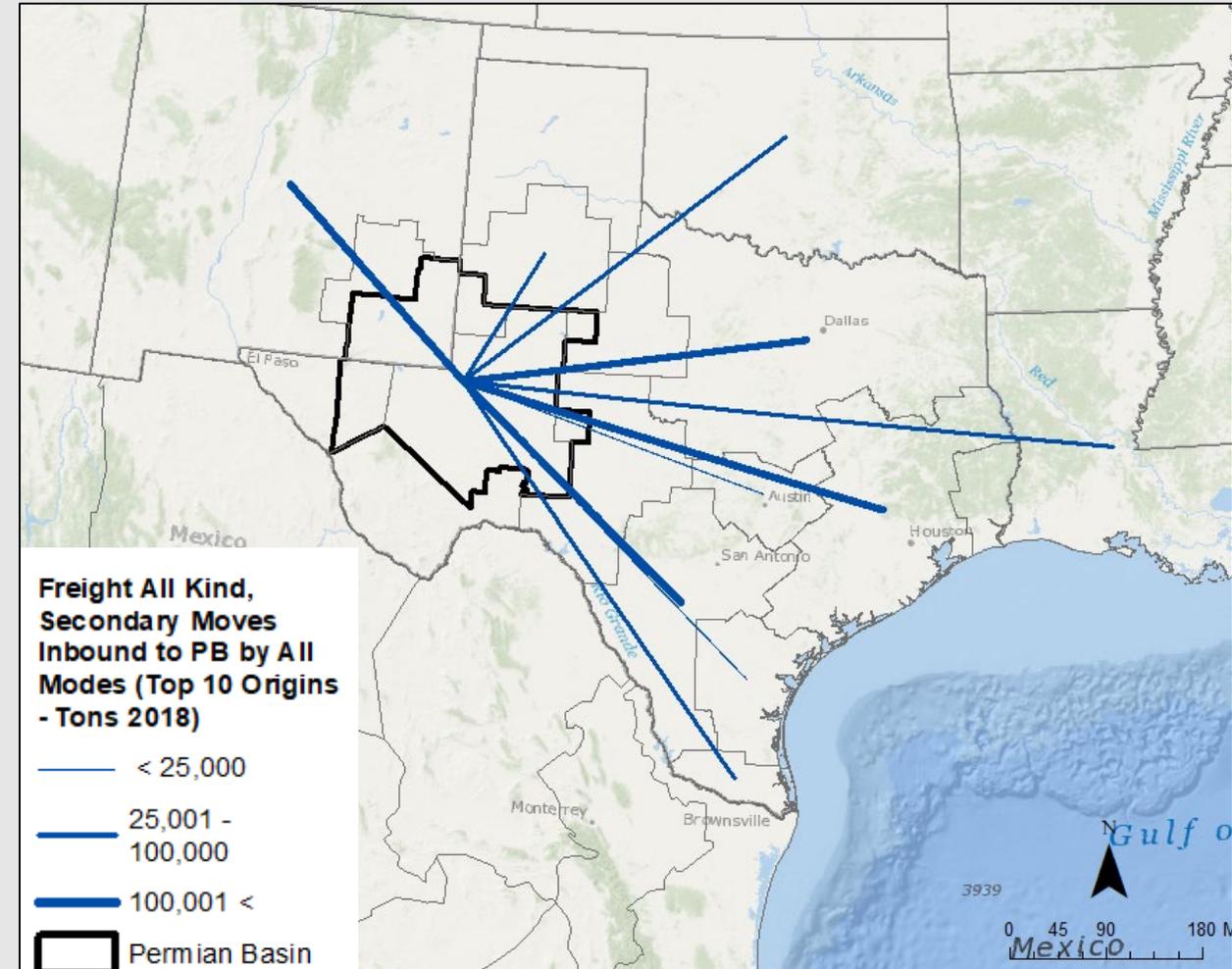
Consumer Goods Flow

Outbound Consumer Goods



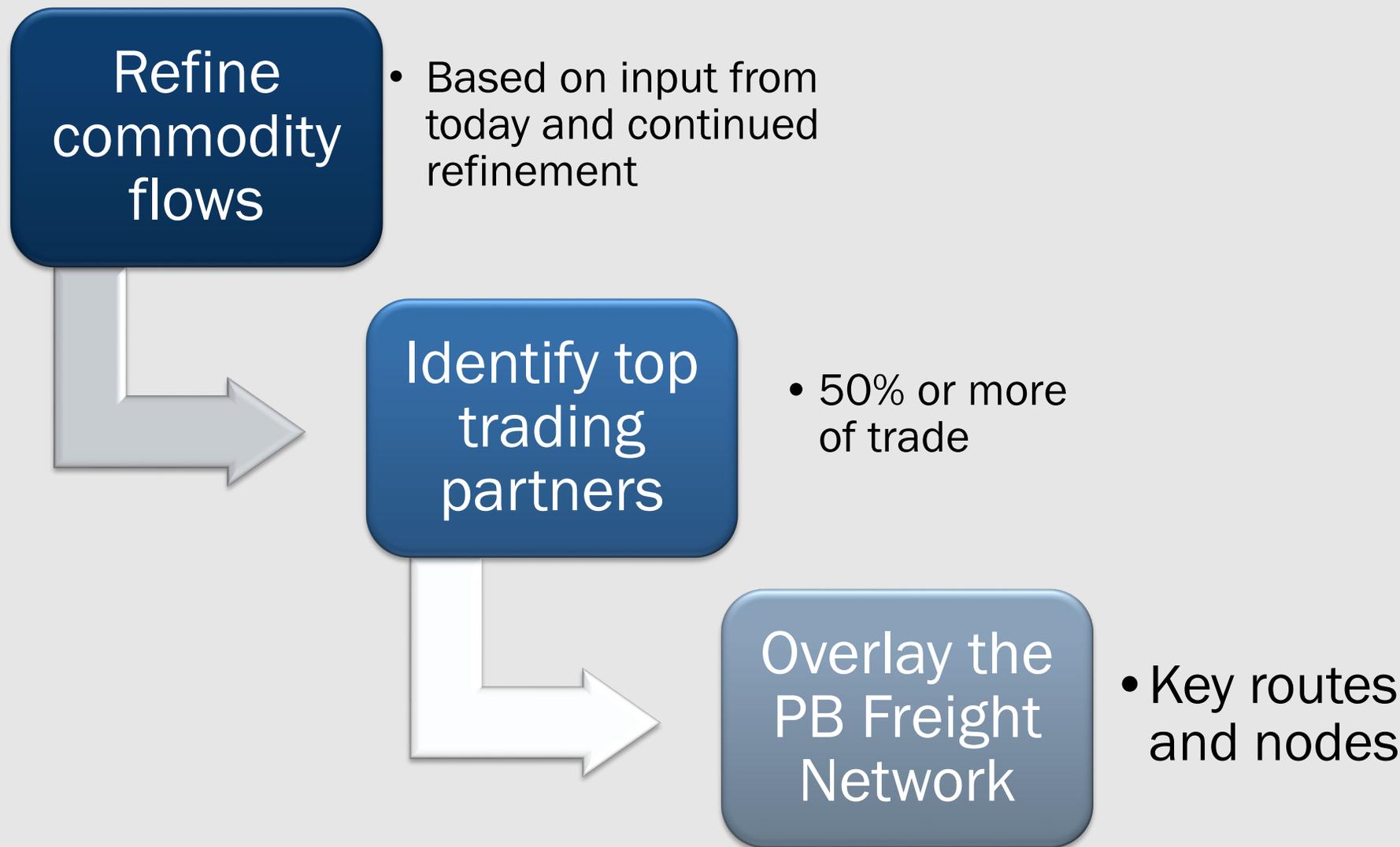
Source: TRANSEARCH, 2018

Inbound Consumer Goods



Source: TRANSEARCH, 2018

Next Steps in Defining Spheres of Influence





FREIGHT INTENSIVE LAND USES



Land Use Assessment Elements

1

Growth patterns

Distribution of employment by freight intensive industry

2

3

Land use patterns

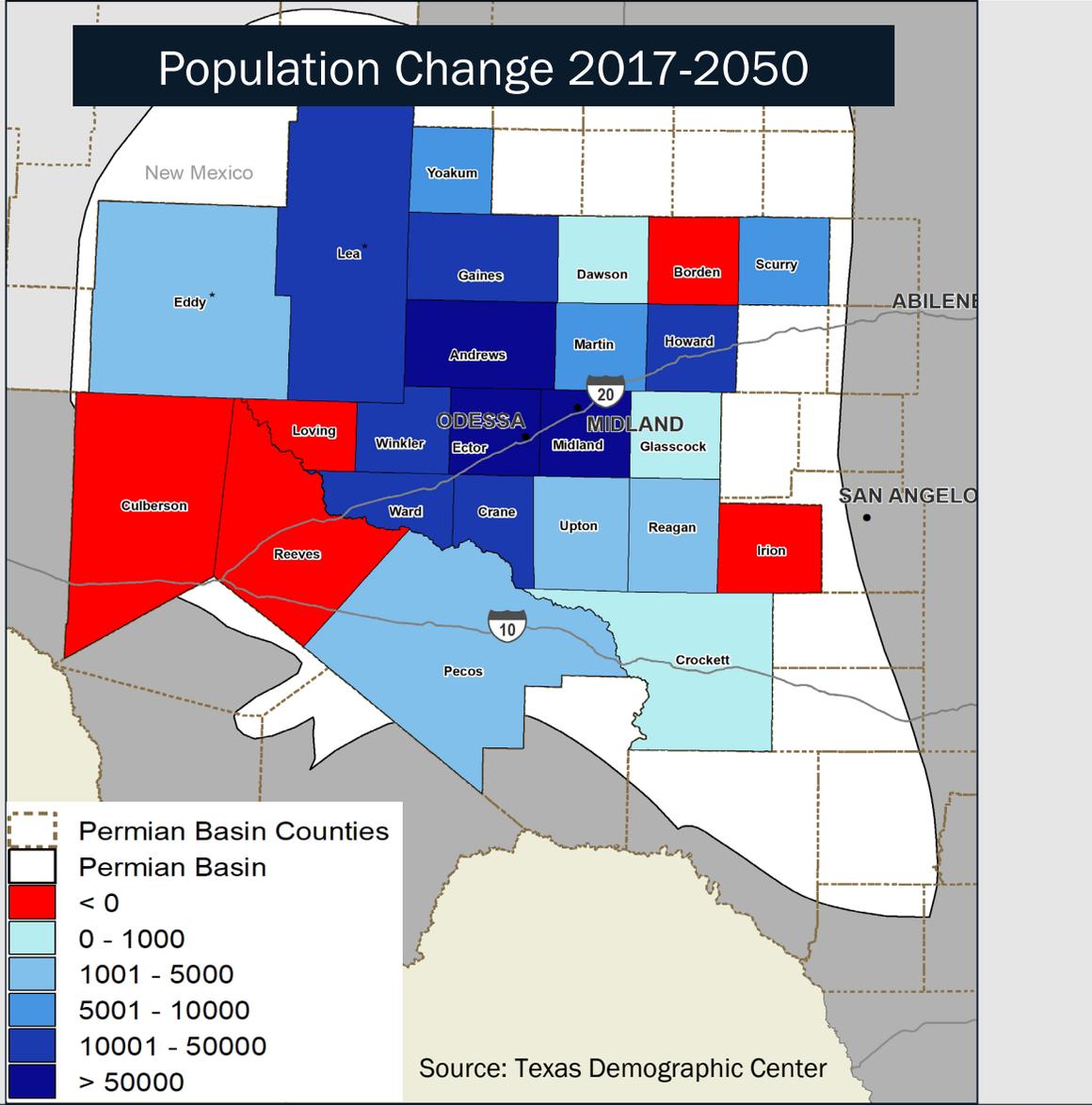
Interaction with transportation network

4

5

Issues and trends related to freight intensive land use

Permian Basin Growth Patterns

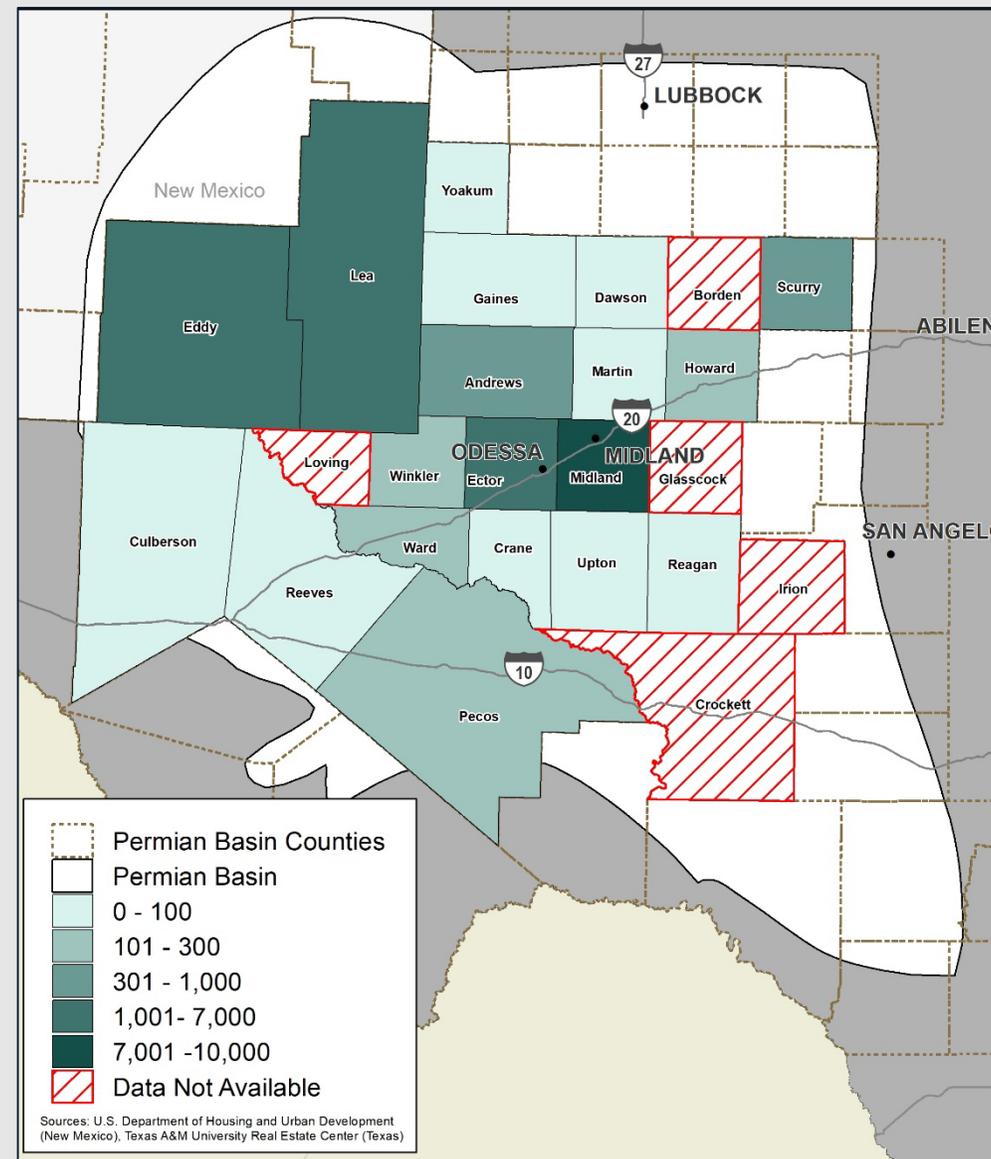


County	2020	2030	2040	2050	% change 2020-2050
Andrews	22,268	35,750	59,669	100,627	352%
Borden	685	706	687	663	-3%
Crane	6,209	8,809	12,665	18,418	197%
Crockett	4,040	4,212	4,209	4,219	4%
Culberson	2,245	2,067	1,840	1,590	-29%
Dawson	13,592	13,482	13,422	13,269	-2%
Ector	184,838	255,395	356,876	494,413	167%
Gaines	22,121	27,880	35,455	45,004	103%
Glasscock	1,365	1,505	1,555	1,485	9%
Howard	41,236	49,372	59,555	71,192	73%
Irion	1,508	1,463	1,389	1,260	-16%
Loving	92	90	88	77	-16%
Martin	6,044	7,618	9,374	11,695	93%
Midland	187,362	268,083	390,818	573,085	206%
Pecos	16,548	17,064	17,466	18,116	9%
Reagan	4,226	5,253	6,513	8,145	93%
Reeves	12,610	11,949	11,139	10,459	-17%
Scurry	18,381	20,049	21,673	23,405	27%
Upton	3,983	4,726	5,551	6,557	65%
Ward	13,592	18,162	24,633	33,336	145%
Winkler	9,295	12,460	17,107	23,352	151%
Yoakum	9,225	11,102	13,169	15,398	67%
Lea, NM	75,784	78,992	81,635	NA	8% (2020-2040)
Eddy, NM	57,913	58,547	58,233	NA	1% (2020-2040)
Total	715,162	914,736	1,204,721	1,375,138 (TX counties only)	146%

Growth Patterns – Residential Building Permits 2009-2018

- Growth is mainly concentrated near existing developed areas with infrastructure, utilities, retail establishments, and social services
- “Staff Camps” are located near existing population centers, but others occur in more remote locations

Is this pattern likely to continue or will it change over the next 10-15 years?



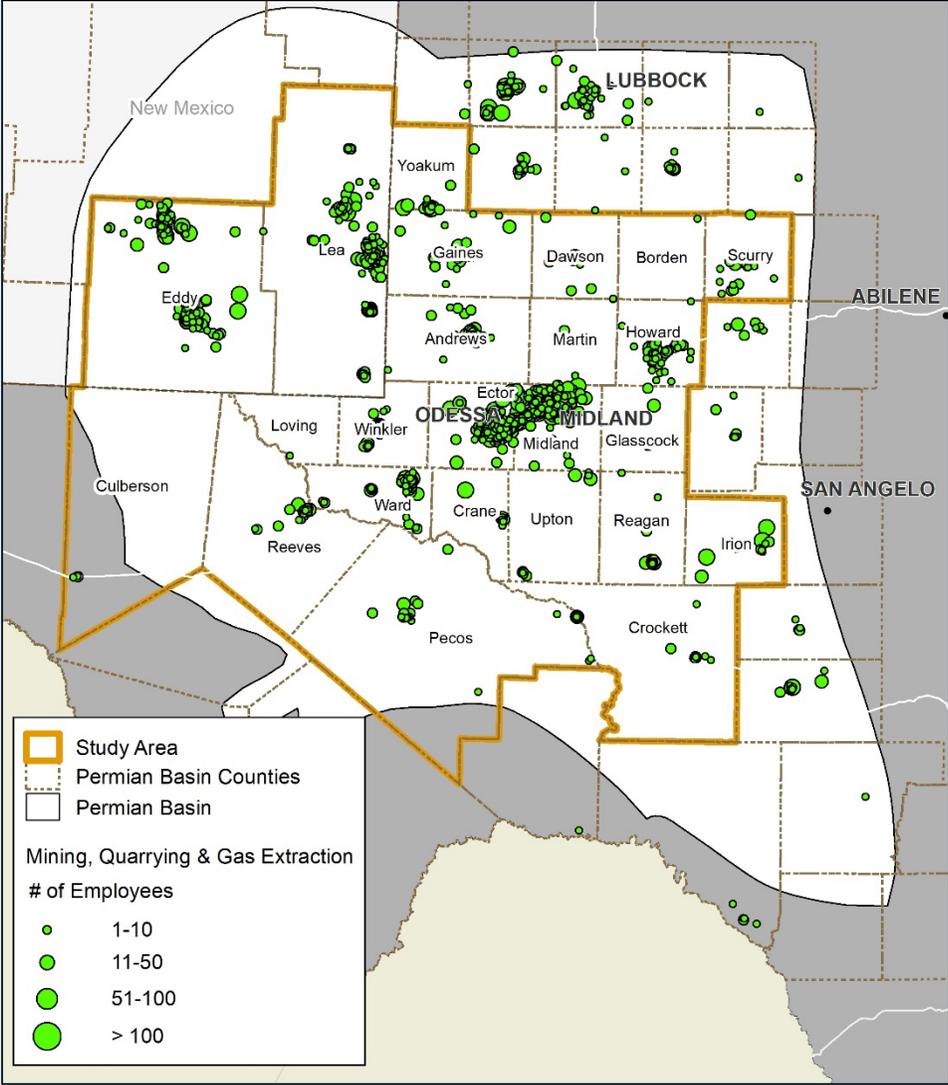
Employment by Select Freight Intensive Industries in the Permian Basin

Industries	# of companies in the study area	Total employees in the study area
Mining, quarrying, oil/gas extraction	1,289	53,491
Construction	989	19,687
Transportation and warehousing	619	11,716
Manufacturing	445	10,989
Agriculture, forestry, fishing, and hunting	602	3,461
Total	3,944	99,344

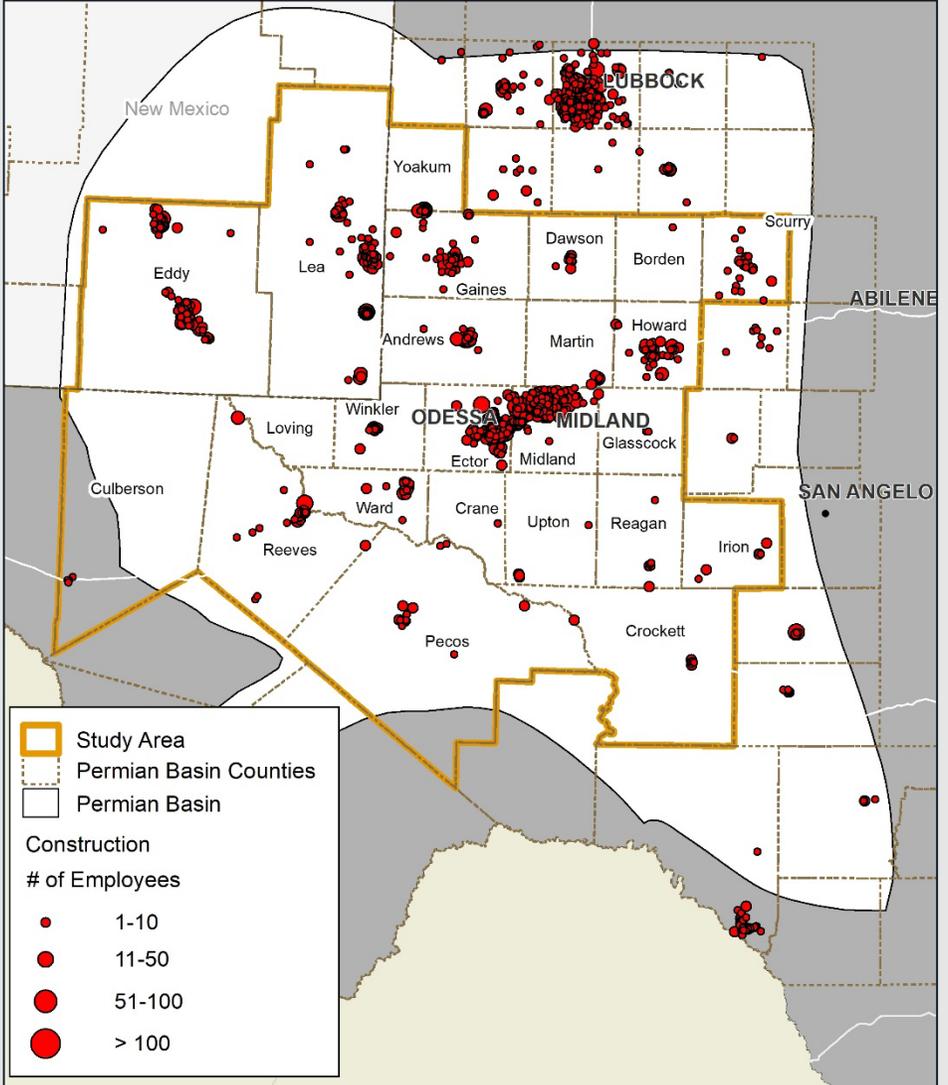
Source: US Census, 2017

Distribution of Employment in Select Freight Intensive Industrial Activities

Mining, Quarrying, and Oil & Gas Extraction



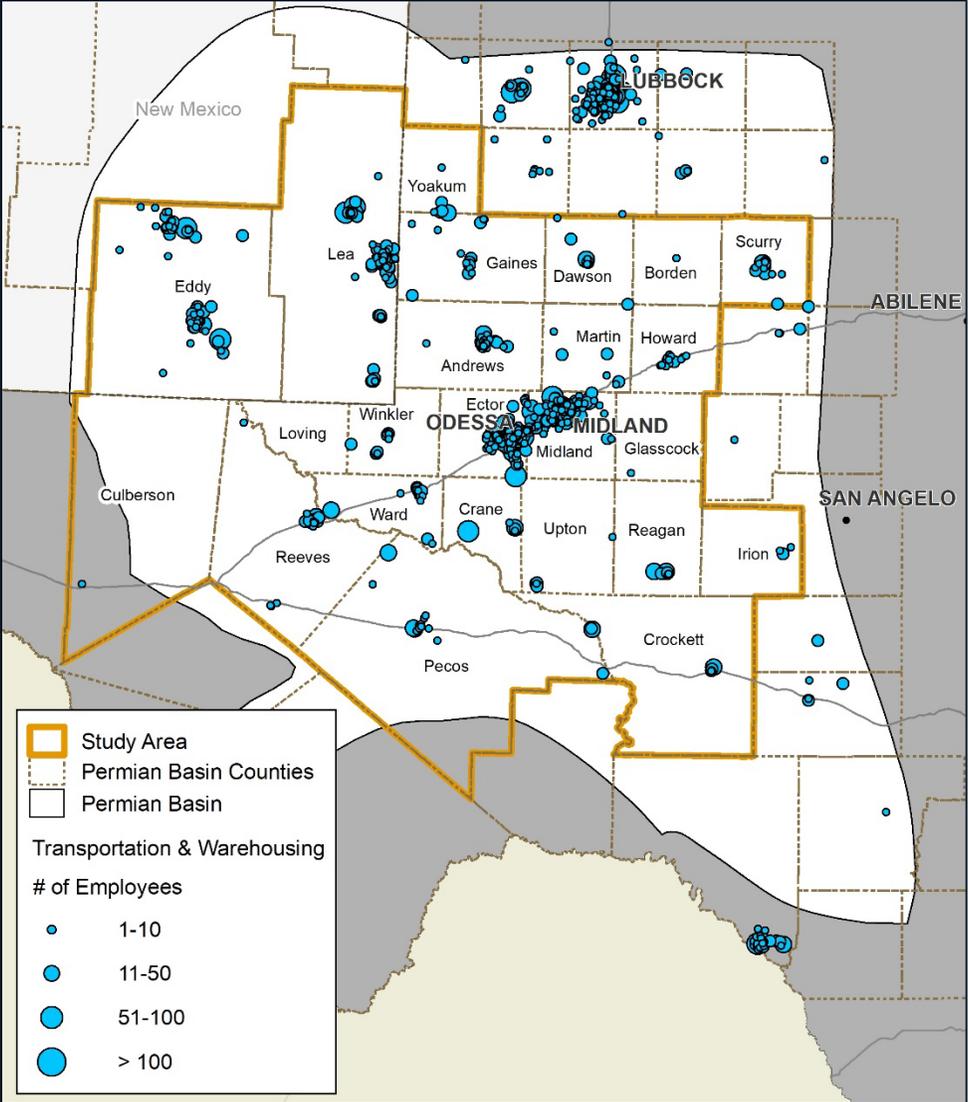
Construction



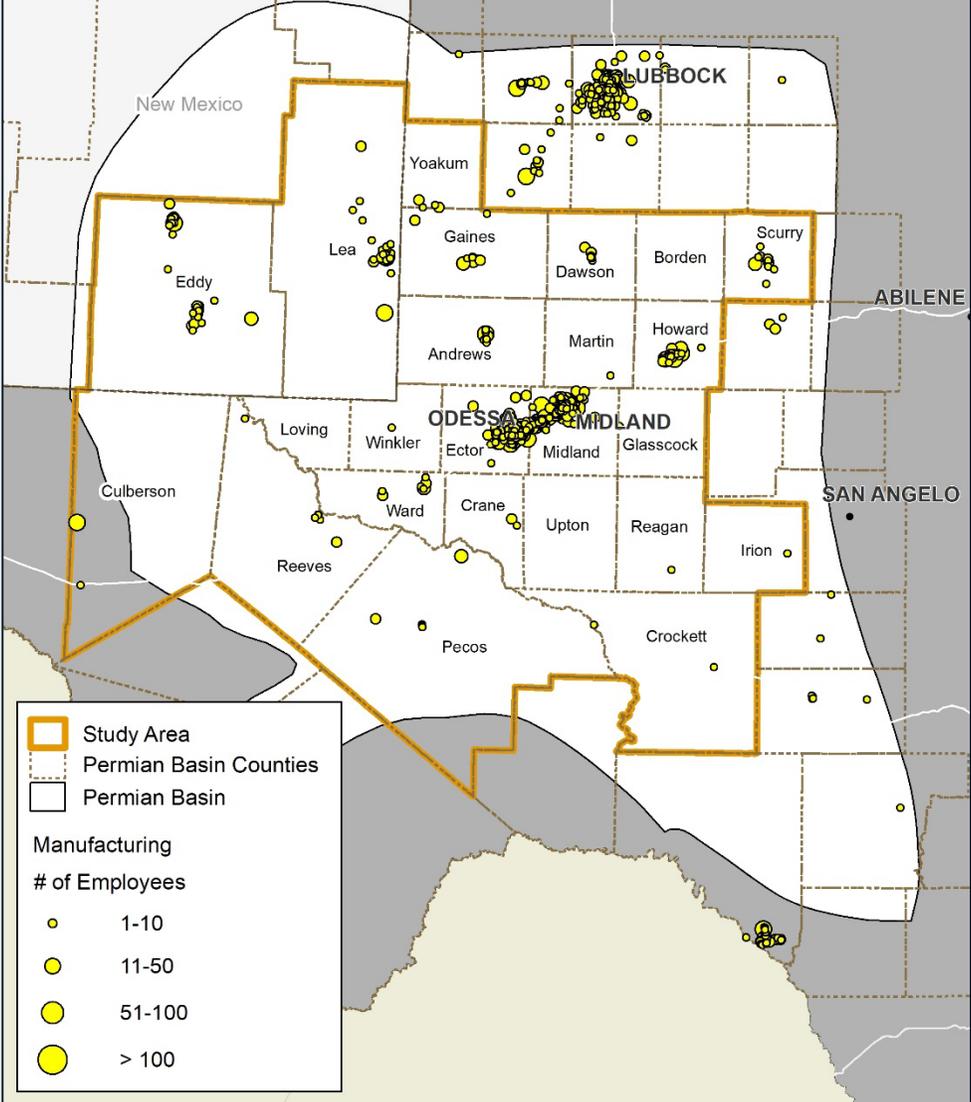
Source: US Census, 2017

Distribution of Employment in Select Freight Intensive Industrial Activities

Transportation & Warehousing



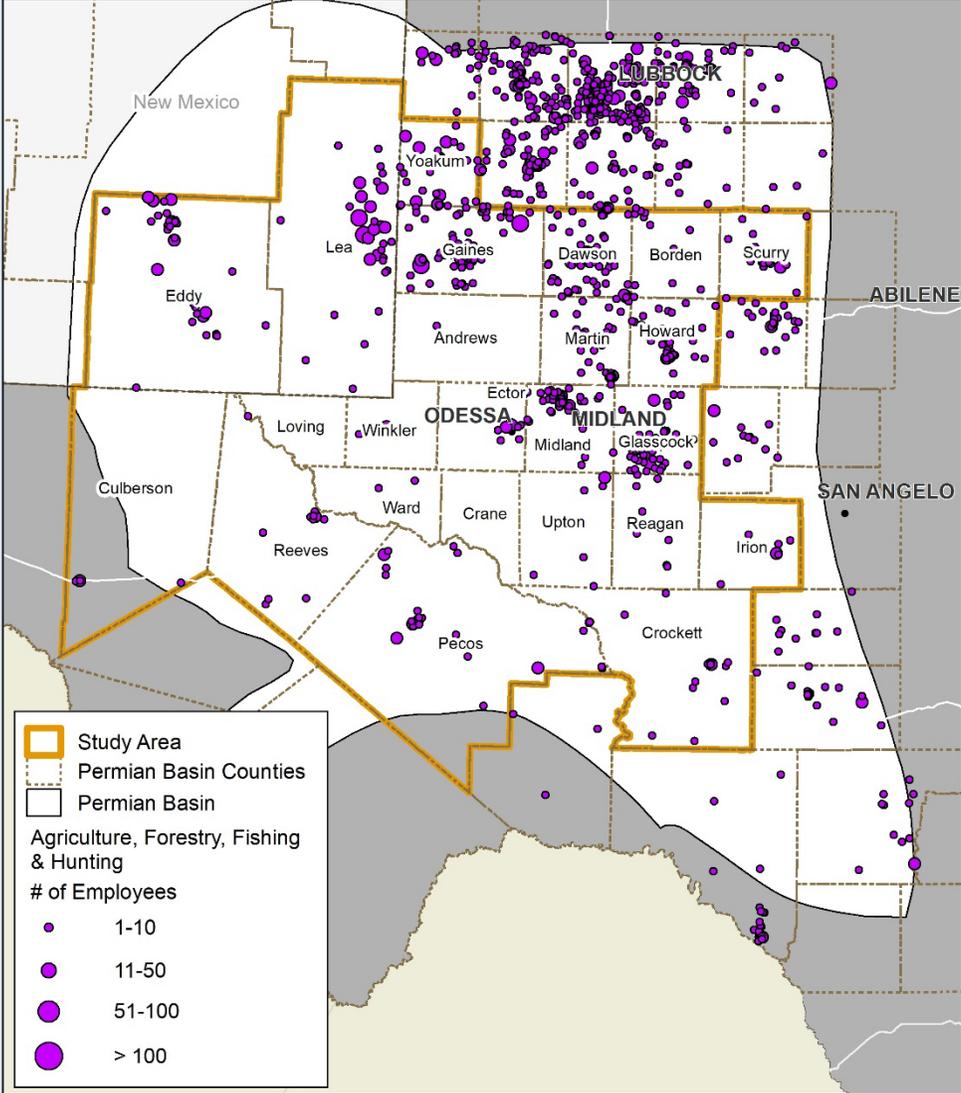
Manufacturing



Source: US Census, 2017

Distribution of Employment in Select Freight Intensive Industrial Activities

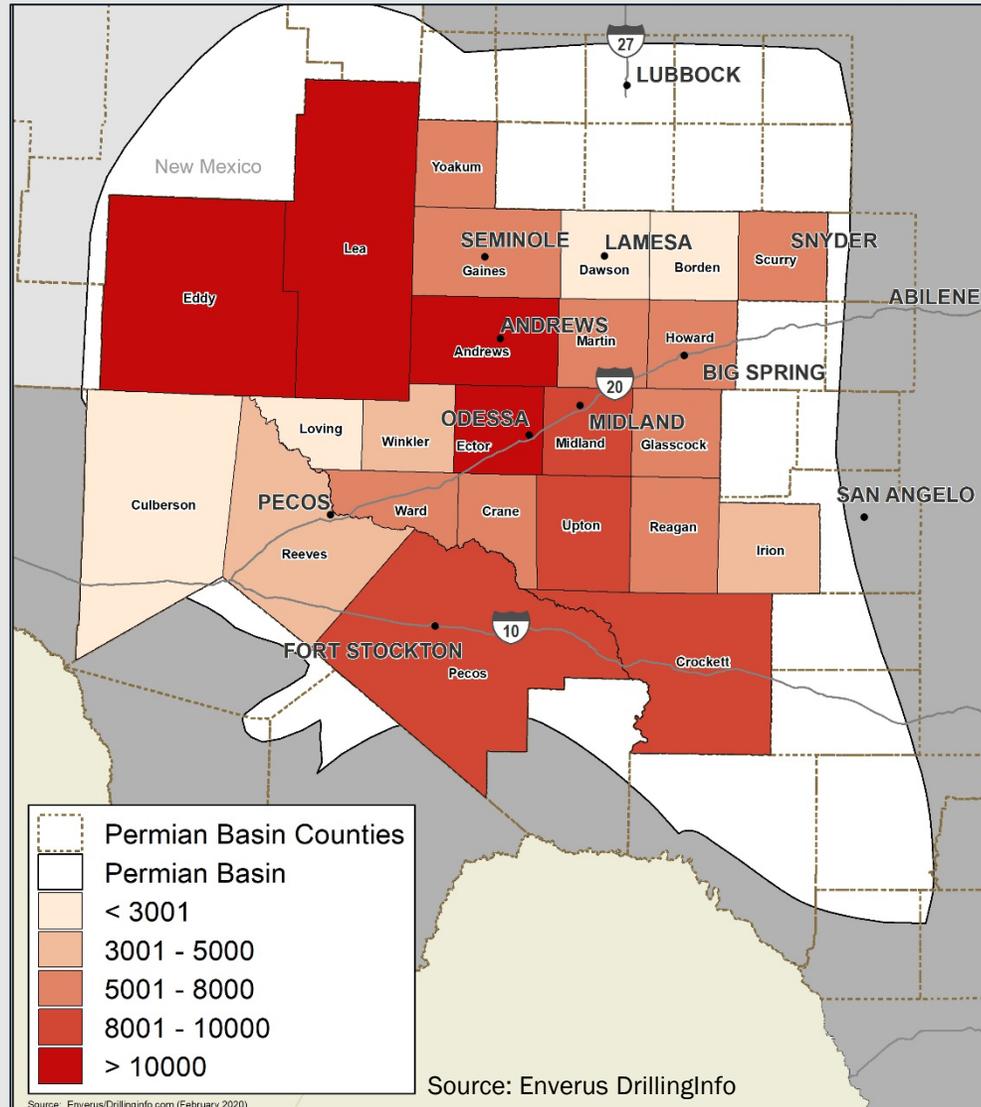
Agriculture, Forestry, Fishing, & Hunting



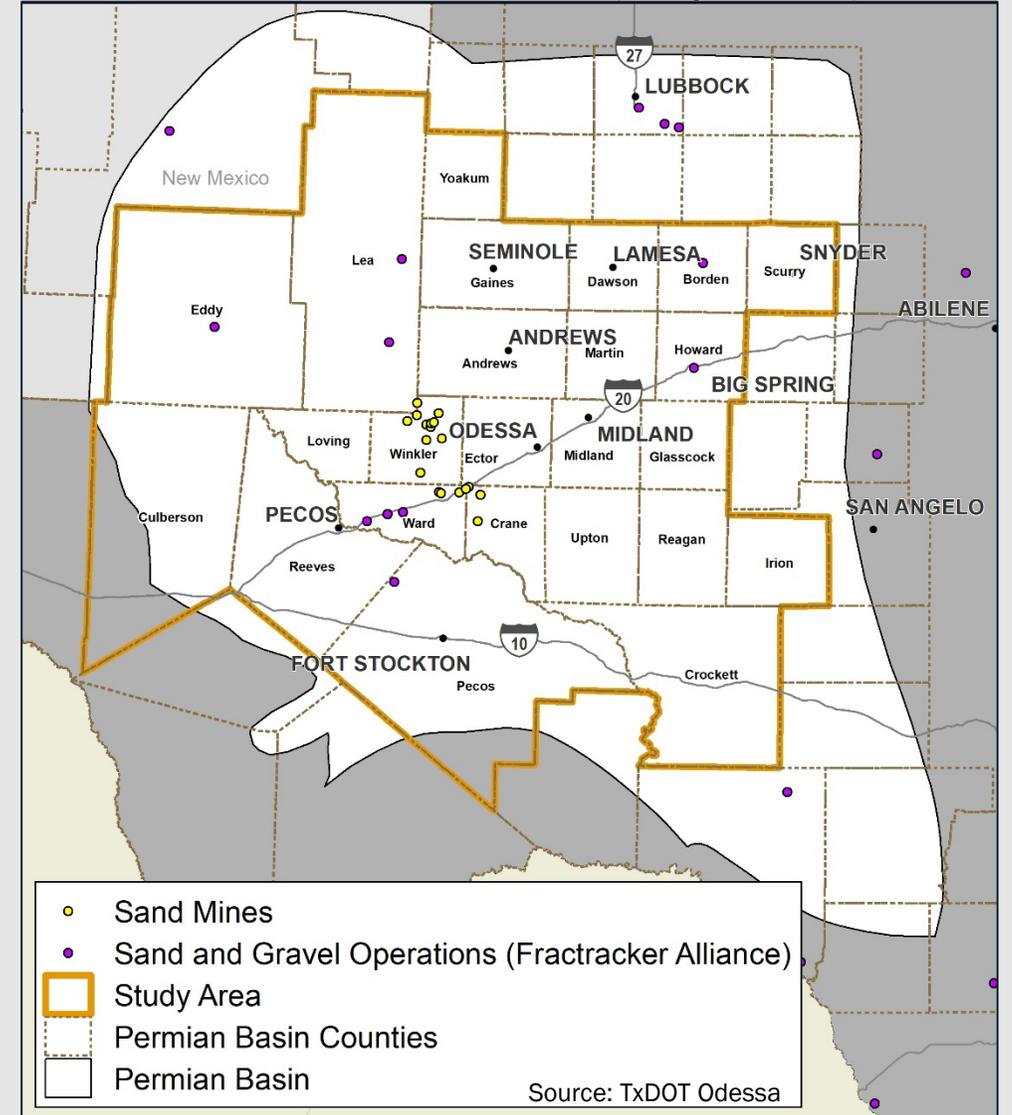
Source: US Census, 2017

Oil and Gas Industry Activity

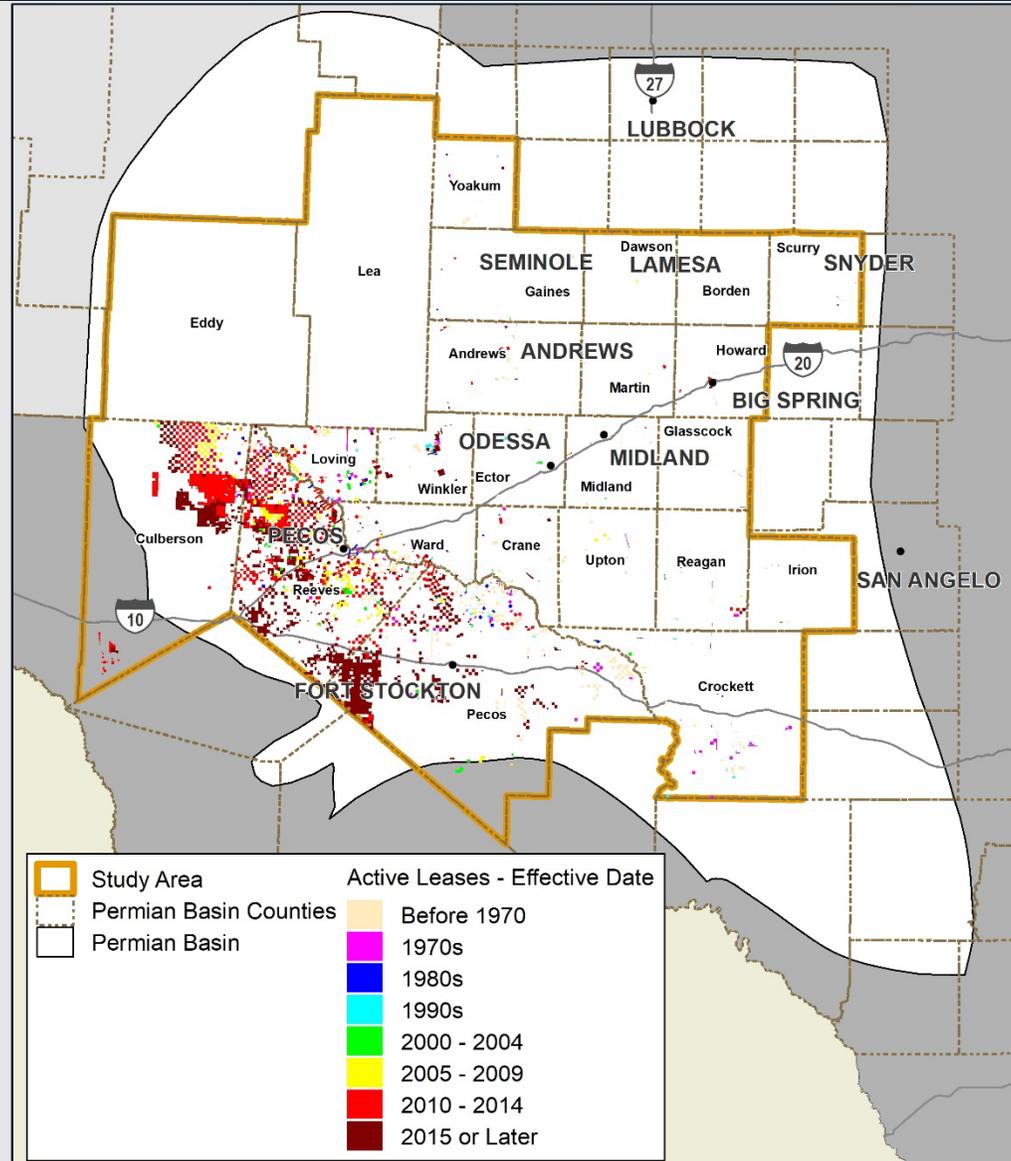
Active Oil and Gas Wells (Feb 2020)



Active Sand Mines (May 2019)



Oil and Gas Industry Activity - Active Lease Date



Source: Enverus DrillingInfo

Linking Land Use to Transportation Network

Identify freight intensive land use (existing and future)

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graph TD; A[Identify freight intensive land use (existing and future)] --> B[Overlay Permian Basin Freight Network]; B --> C[Identify land use impacts (current and future) on Permian Basin Freight Network];
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Overlay Permian Basin Freight Network

Identify land use impacts (current and future) on
Permian Basin Freight Network

Identifying Freight Intensive Land Uses – Existing and Future

Oil & Gas Wells

- Density of active oil wells
- Density of drilling permits

Sand Mines

- Density of active sand mines

Employment

- Density of employment in retail, transportation and warehousing, agriculture, mining/oil and gas, construction, and manufacturing

Population Growth

- Population projections
- Number of building permits

Identifying Freight Intensive Land Uses – Existing and Future

- What other criteria should be considered in identifying freight intensive land uses?
- How important are these criteria in identifying freight intensive land uses?

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NEXT STEPS



Key Deliverables

Deliverables	Schedule
Multimodal Regional Freight and Energy Sector Transportation Network	Winter 2020
Economic and Commodity Flow Profile and Forecast	Spring 2020
Freight Profile and Needs Assessment	Spring 2020
Land Use and Needs Assessment	Spring 2020
Energy Sector / Freight Strategies and Recommendations	Spring 2020
Economic Importance and Impact of Energy Sector	Summer 2020
Implementation and Investment Plans	Summer 2020
Final Plan and Executive Summary	Summer 2020

Technical Analysis

- Complete data analysis from DrillingInfo
- Complete Regional Freight Profile
- Complete Land Use Analysis
- Complete Economic Profile and Spheres of Influence

Stakeholder Outreach

- Steering Committee (April 8, 2020)
- Round 2 listening sessions (April 6-9, 2020)

**April 6 – Rural Transportation Network
(Big Spring)**

**April 7 (AM) – Sand Users and
Transporters (Kermit)**

**April 7 (PM) – Urban Transportation
Network (Midland)**

**April 8 – Regional Freight Plan Steering
Committee**

**April 9 (AM) – Energy Sector
Transportation Network (Midland)**

**April 9 (PM) – Carriers: Trucking and
Railroading in the Region (Midland)**

Note: Revised dates of workshops due to Good Friday

Thank you!

**Contact us for more information about the Permian Basin
Regional Freight and Energy Sector Transportation Plan**

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