



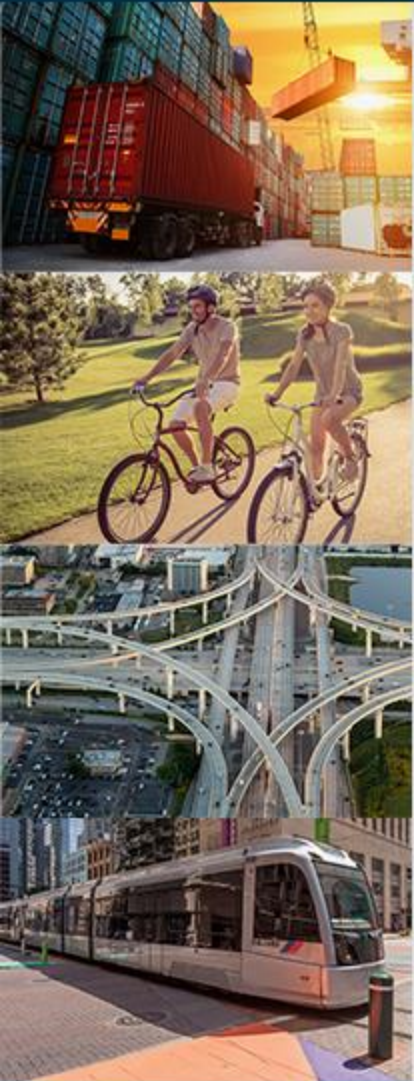
Greater Houston Freight Committee Meeting



06/15/2023



Agenda



- 1. Welcome and Introductions.**
Co- Chairs Bruce Mann, and Commissioner Billy Combs
- 2. Regional Goods Movement Plan Update**
Sydni Ligons, H-GAC
- 3. TxDOT Truck Parking Update**
Dan Andersen, Camsys, Sherry Pifer and Paul Truban, TxDOT
- 4. Technology and Fright – Freight Shuttle**
Mitch Carlson, Elevated Freight Technologies
- 5. The REAL Plan**
Catherine McCreight, TxDOT
- 6. October site meeting site visit**
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- 7. Project Selection Process– Regional Goods Movement Category**
Vishu Lingala, H-GAC
- 8. Adjournment**



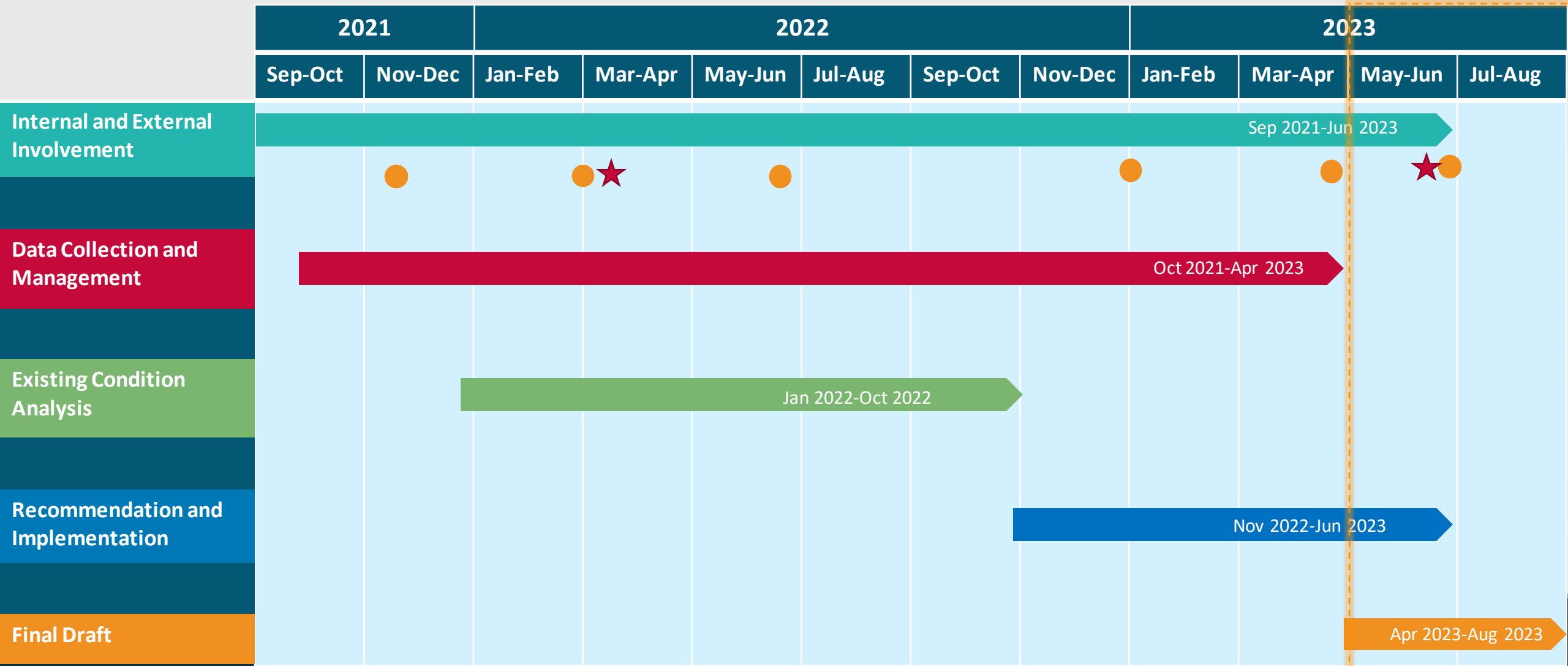
Regional Goods Movement Plan Update



06/15/2023

Project Schedule

● Steering Committee/Stakeholder Meeting ★ Public Meeting



Summary of Key Issues

■ Key issues for freight in the area

- Congestion
- Safety
- Emissions
- High-Risk Areas for Flooding
- Bridge Conditions/Clearances/Collisions
- At-Grade Railroad Crossings and Blocked Railroad Crossings
- Truck Parking

Output: GIS Storyboard

[H-GAC Regional Goods Movement Plan Storyboard](#)

Policies & Programs

Actions to address



Safety



Freight related emissions



Residential and Community Impacts



Freight mobility and congestion



Protect natural resources

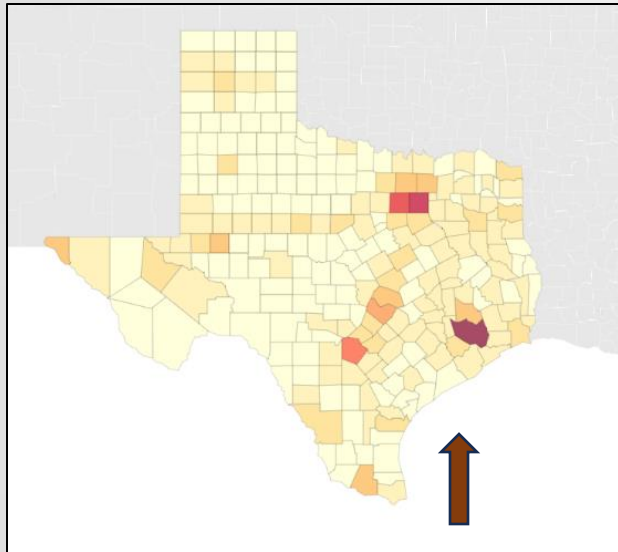


Policies/Programs

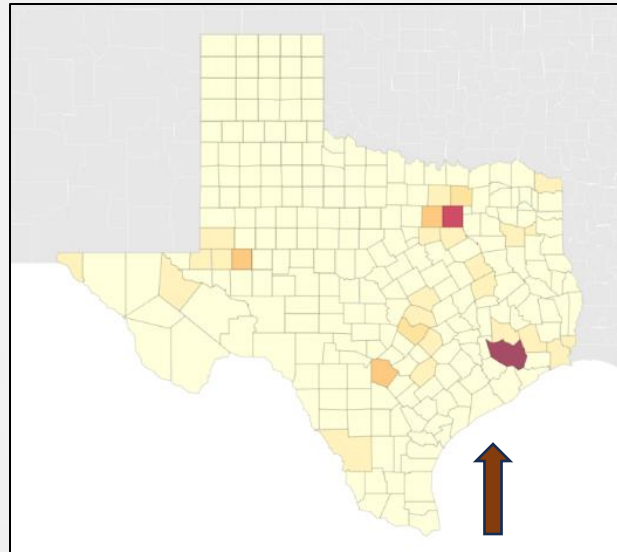
Freight safety related policies & programs, why?

- In 2020, 568 fatal crashes involving large trucks in Texas¹
- Commercial trucks involved in 8% of the region's fatal crashes, 4% seriously injured crashes

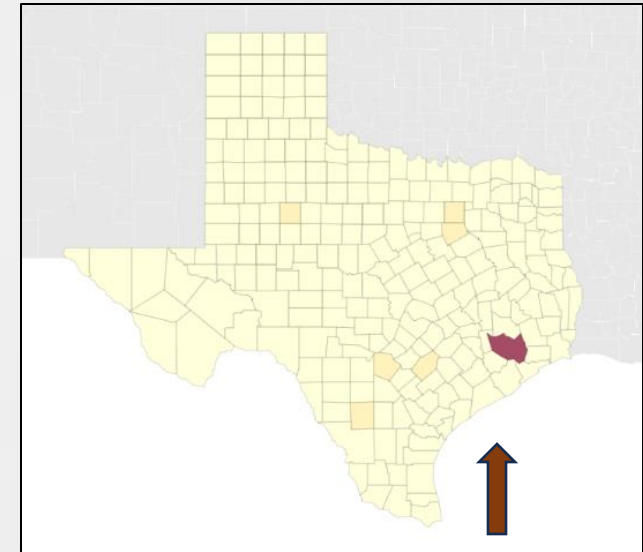
Number of Large Trucks Involved
in All Crashes – CY 2022
H-GAC Region -17.6% of state
total ²



Number of Large Trucks Involved
in Fatal Crashes – CY 2022
H-GAC Region -11.9% of state total



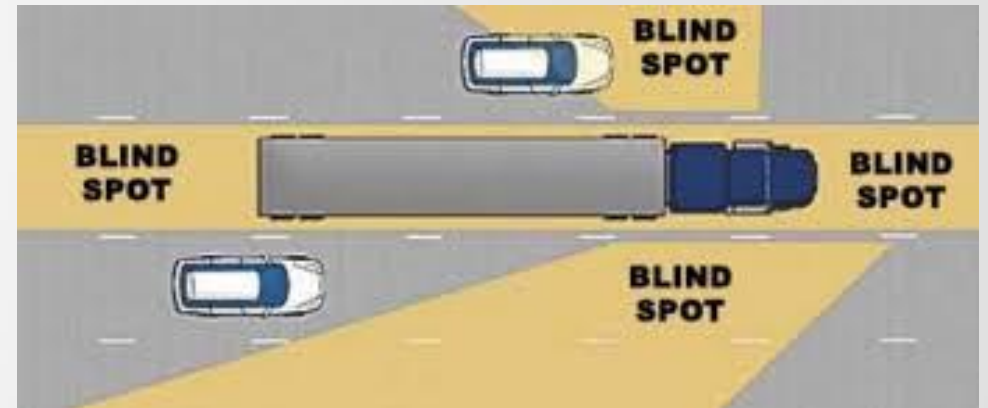
Number of Large Trucks Involved
in Haz Mat Crashes – CY 2022
H-GAC Region - 21% of state total



Policies & Programs - Safety



1. Truck safety initiatives included in Local/Regional Vision Zero and safety plans
2. Establish regional truck safety task force
3. Increase the number of truck parking spaces in the region
 - Work underway with TxDOT



Policies & Programs - Safety



4. Update National Hazardous Materials Route Registry

- Earliest regulations date from:
 - 1970 Harris
 - 1972 Galveston
 - 1984 Waller
 - 1987 Chambers
 - 1991 Brazoria
 - 1990 Fort Bend



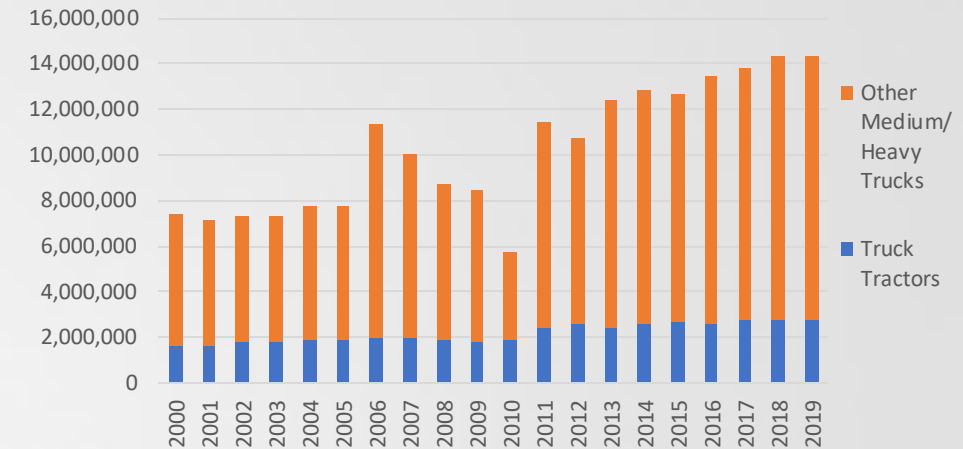
5. Increase uptake of Truck Safety Equipment not mandated by Federal Regulations



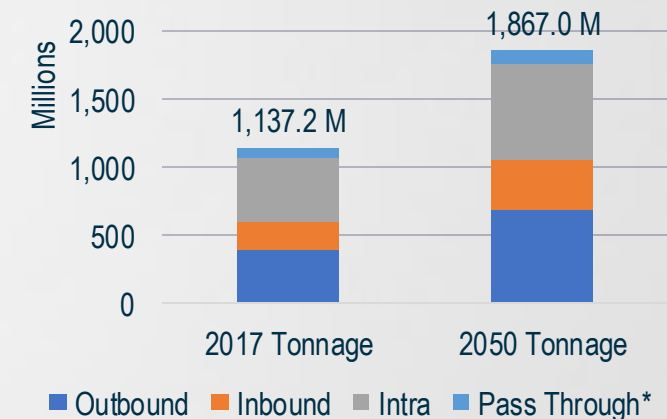
Congestion related policies & programs, why?

- Number of trucks is growing
- Future freight forecasts
- Legacy of infrastructure design, location and growth
- Houston's regional competitiveness
- Difficult to expand infrastructure in urban areas
- Infrastructure expensive to maintain and operate
- Make better use of existing infrastructure
- Top National 100 Truck Bottlenecks in 2021
 - 10 bottlenecks in the region

Number of US Truck Registrations by Type



Forecast of Tonnes by Direction, 2017 - 2050



Policies & Programs - Congestion

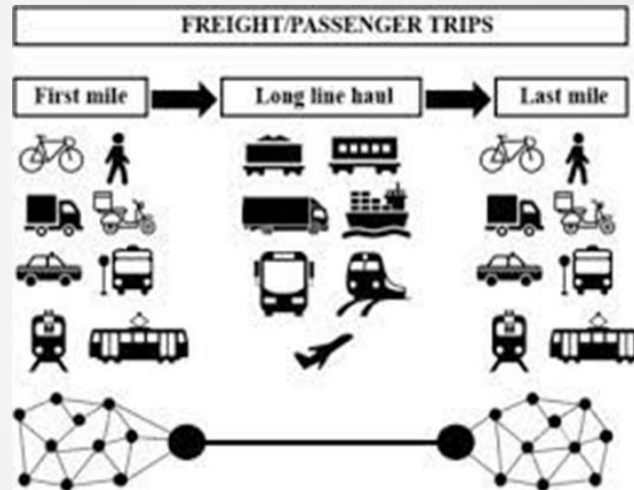


1. Encourage more off-peak truck activity

- Economic Centers
- Commercial Freight Drop/pickup/distribution

2. Railroad Crossings

- Work underway with Houston Area Rail Transformation (HART)



Policies & Programs - Congestion

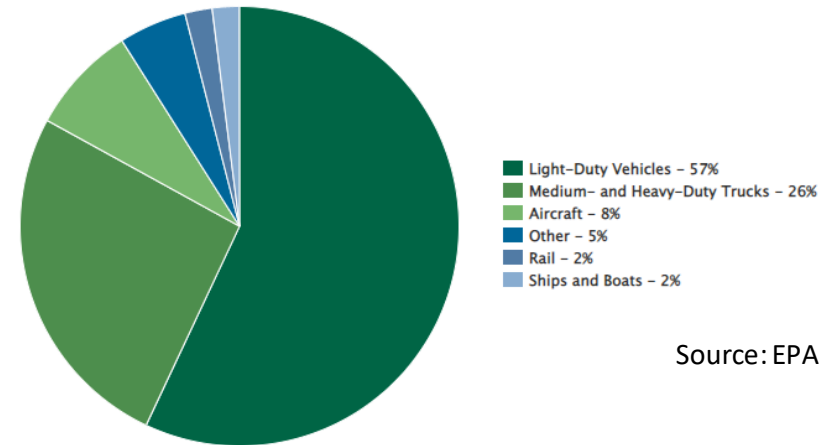
Matchbacks:



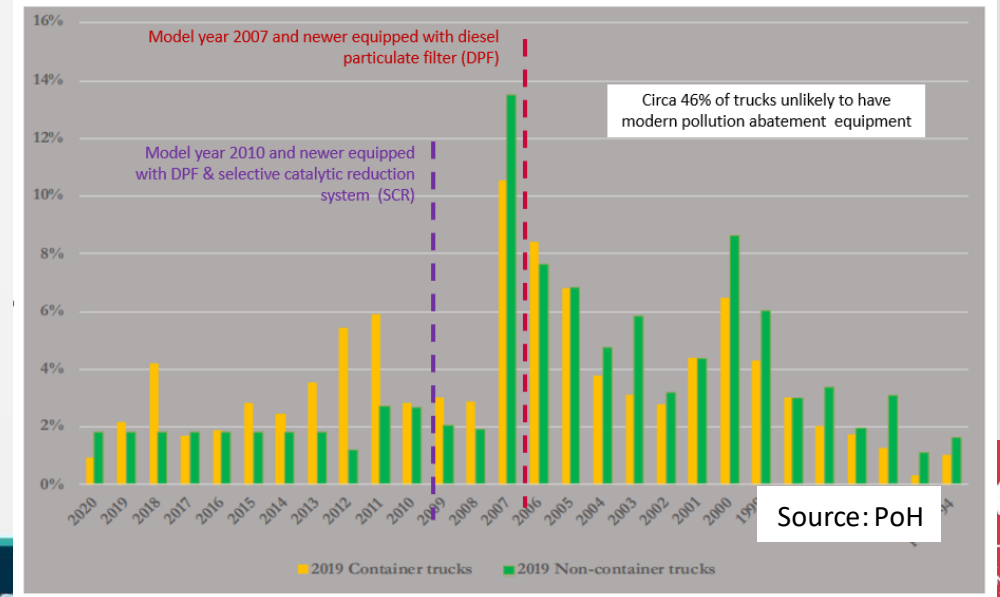
Freight emission related policies & programs, why?

- Freight related sources produce significant amounts of emissions
- Local air quality/Nonattainment area
- Growth in freight activity
- Technological advancements in transportation and cleaner fuels
 - Improving cost parity with traditional fuels
- High numbers of older vehicles operated
- Accelerate use of cleaner equipment deployed to the region
- Maximize synergies with Houston industrial base
- Expand upon existing and previous initiatives
- Access to federal funding

2020 U.S. Transportation Sector GHG Emissions by Source



Source: EPA



Source: PoH

Policies & Programs - Emissions



1. Freight facility emission reduction (rail yards, ports, warehouses)
2. Older trucks emission reduction
3. Increase the number of Zero Emission Vehicles (ZEV) operated in the region



Reduce residential and community impacts, why?

- Improve lives and communities blighted by freight activity
- Improve safety in communities
- Improve local air quality in communities

Policies & Programs - Residential & Community Impacts



1. Develop a Truck Route Map (including designated high and heavy corridors)
2. Mitigate residential impact
 - o Such as Pass through truck traffic, access to commercial areas





Projects

Projects - Background & Purpose



- Data-driven process to categorize Projects from H-GAC 2045 Regional Transportation Plan (RTP) into:
 - Addressing high-need areas
 - Addressing medium-need areas
 - Addressing low-need areas
- Known "hot spots" without Projects in 2045 RTP analyzed separately for inclusion in future RTP
- Process is NOT related to Transportation Improvement Program "Project Selection"

Projects – Categorization Process Overview

1. Identified criteria and variables for evaluation

- Criteria: Five Goals
- RTP Alignment: Region's Long-range Transportation Plan Vision, April 2023.

Goals	
Safety	
Move people and goods efficiently	
Economic Competitiveness	
State of good repair	
Protect natural resources	
TOTAL	

Project Scores (Examples)	
Corridor	Intersection
11.77	9.39
7.72	3.91
7.42	3.01
7.12	4.15
4.13	3.51
38.15	23.97
38.15	32.39

Adjusted Project Scores*
** To account for project type*



2. Each project evaluated using data on individual variables

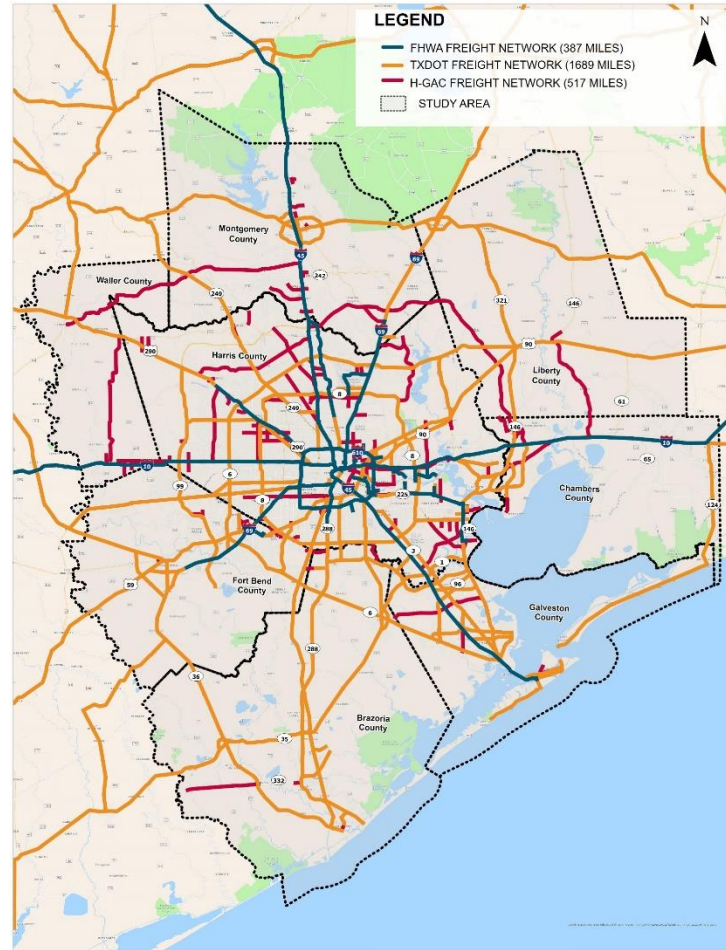
- Trusted data sources

3. Adjusted project scores placed into one of three categories

- High, Medium, Low

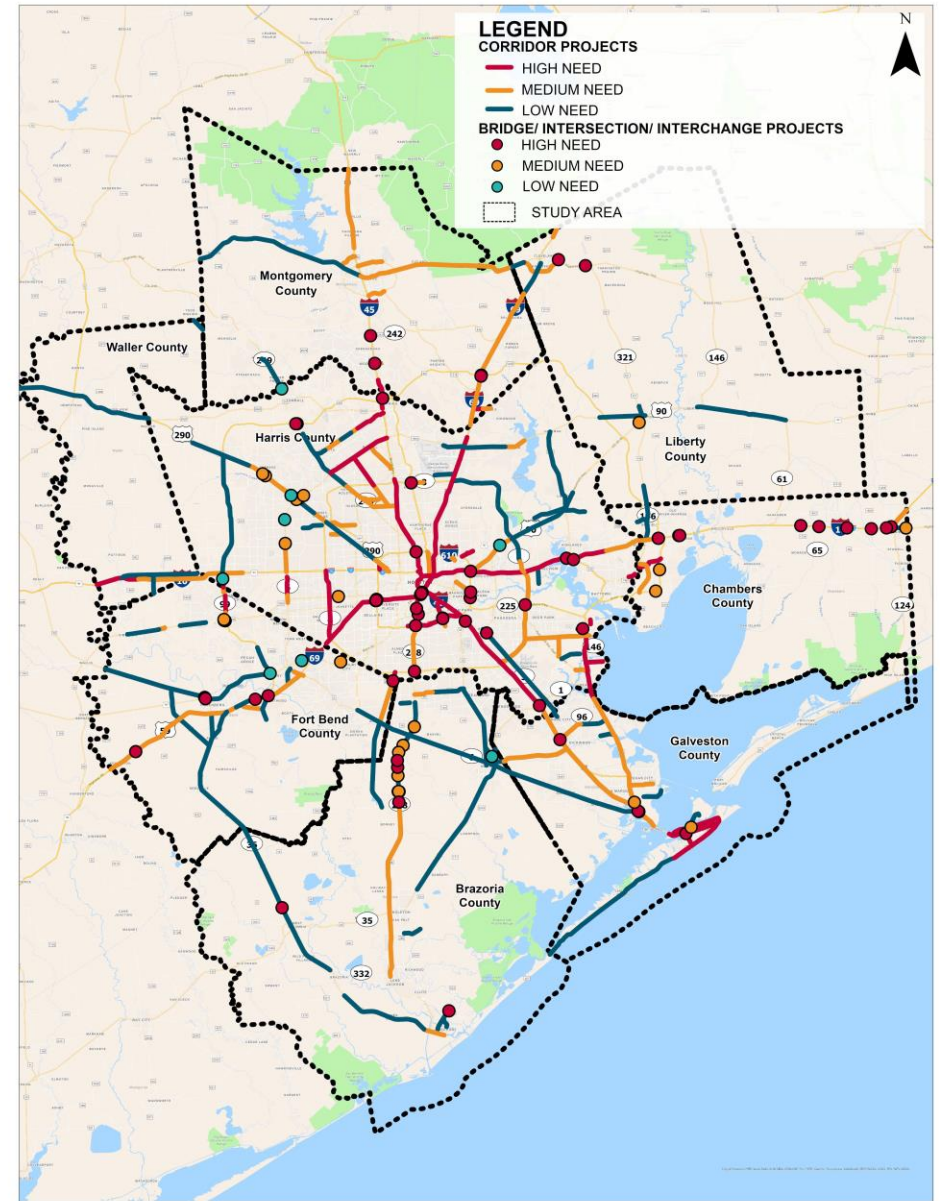
Projects –

Freight Network & RTP Projects Maps



HPAC **HDR** DRAFT MAP

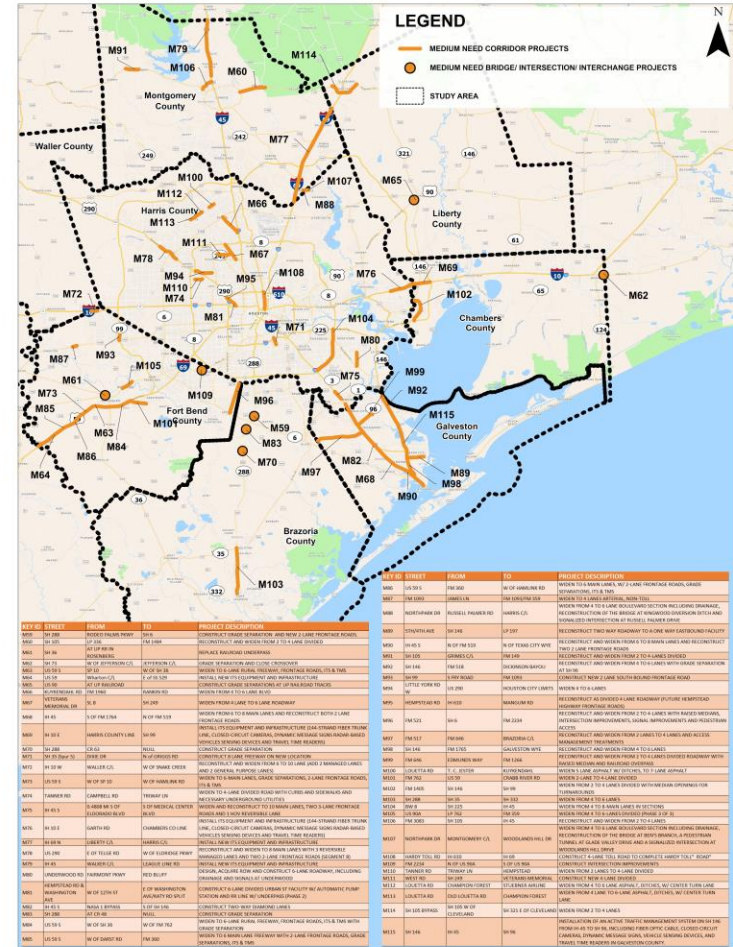
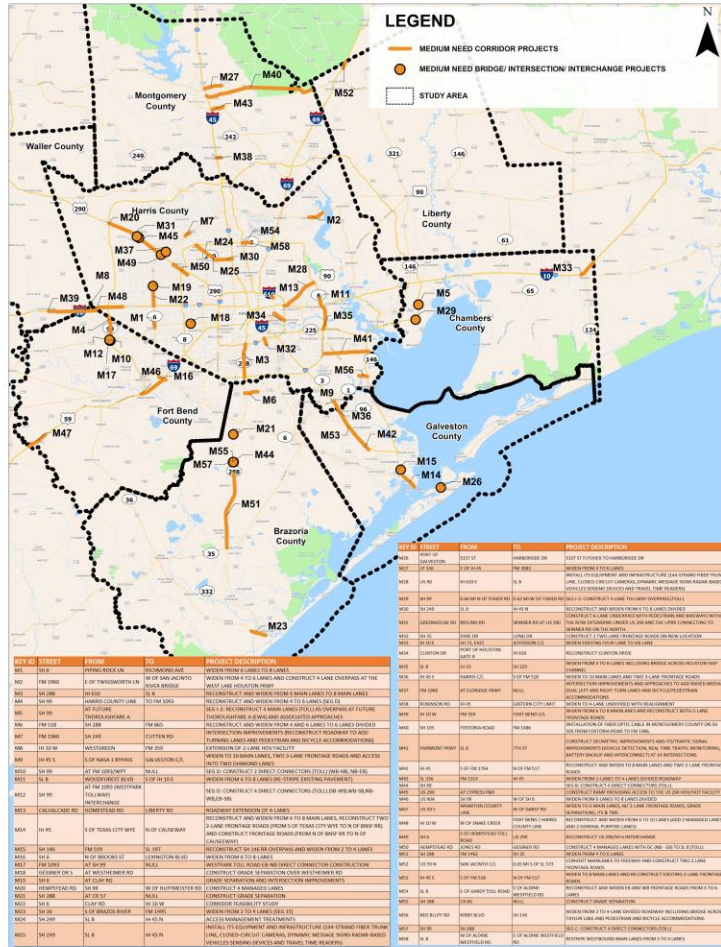
Regional Goods Movement Plan
Freight Network Map



HPAC **HDR** DRAFT MAP

Regional Goods Movement Plan
RTP 2045 Projects on Freight Network

Projects – Medium-Need Projects

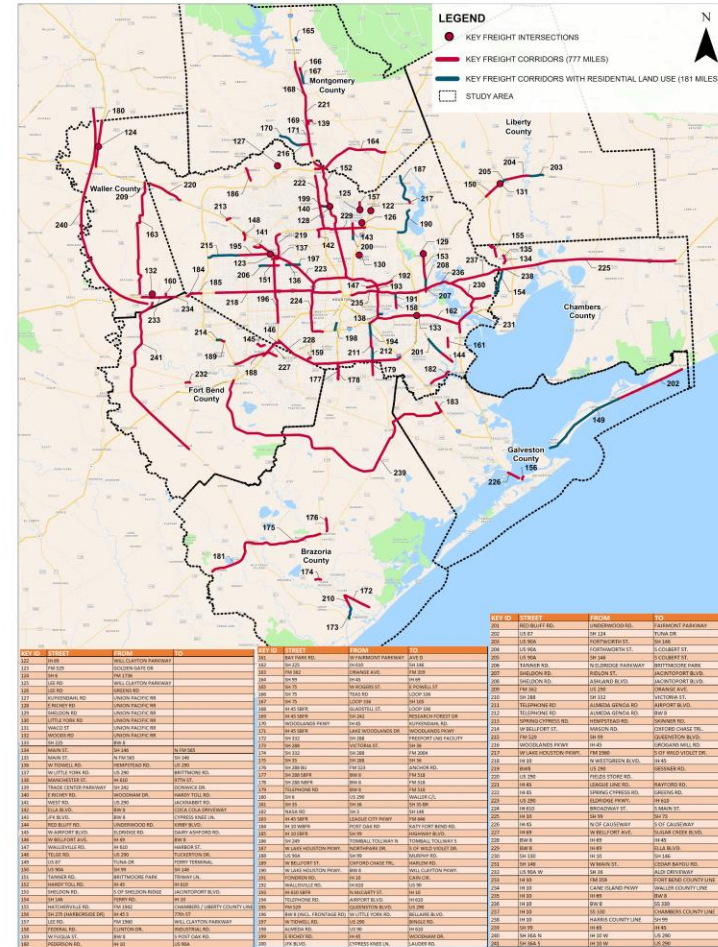
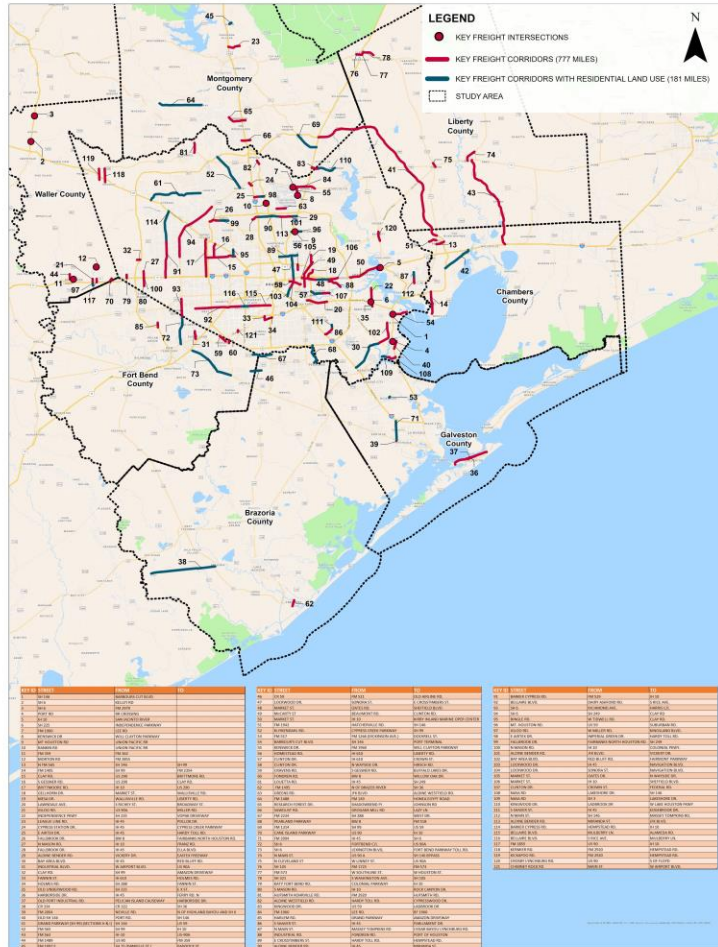


LEGEND

- Corridor Project
- Intersection Project



Key Freight Corridors for Future RTP



LEGEND

- Key Freight Corridor
- Key Freight Corridor Surrounded by Residential Land Use
- Key Freight Intersection



Questions?



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Southeast Texas Truck Parking Action Plan

H-GAC Greater Houston Freight Committee



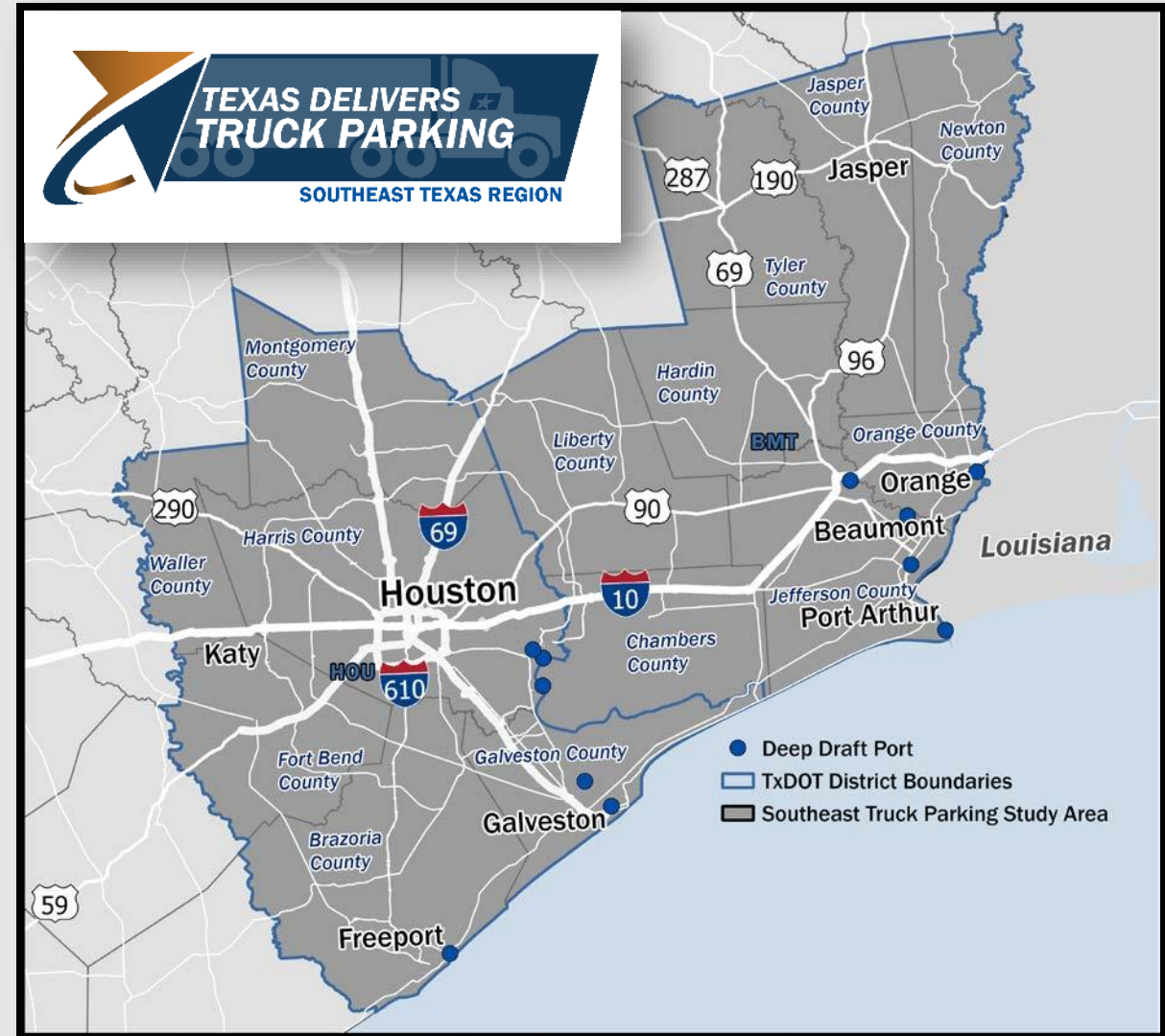
Southeast Texas Truck Parking Action Plan



- TxDOT Transportation Planning and Programming Division
 - Recommendation from the **2020 Statewide Truck Parking Study (TPS)**
 - TxDOT-led and supported local action plans
 - Study Area: TxDOT Houston and Beaumont Districts, H-GAC, Southeast Texas Regional Planning Commission, and ports
 - Stakeholder engagement
 - Outcomes: conceptual action plans, preliminary cost estimates, short, mid, and long-term phasing concepts



Spring 2024 – Final Action Plan





Purpose – Solicit input on truck parking issues, needs, and opportunities

6 Public Agency Meetings: 67 registered

6 Industry Meetings: 28 registered

H-GAC Actions:

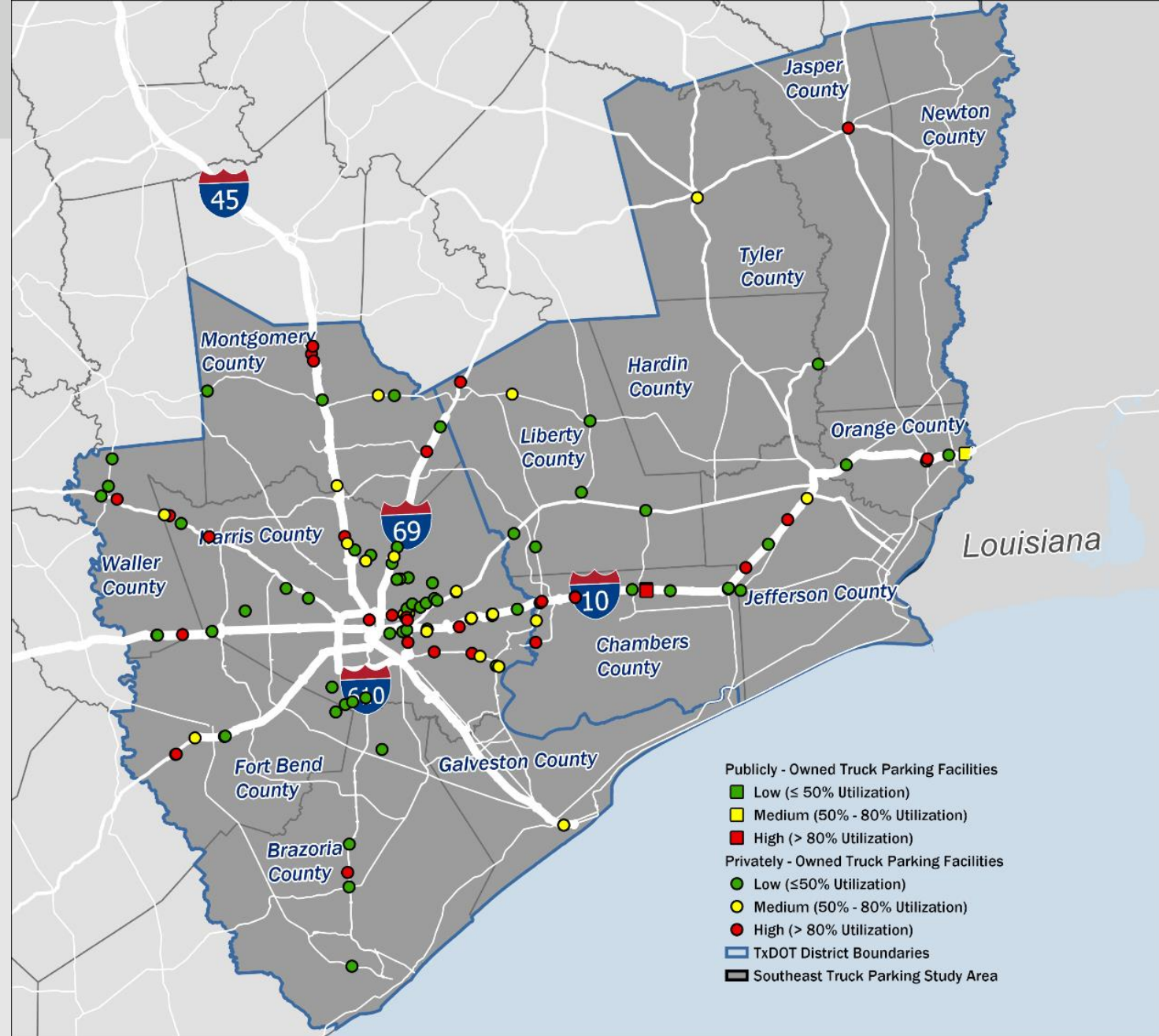
- Help us ID additional industry partners for confidential interviews
- Let us know if you were not able to attend a workshop session—we would like to schedule an interview

Utilization of Designated Truck Parking Facilities

Peak hour utilization estimates from 2019 truck GPS data

Only a few publicly-owned facilities

Most full-service truck stops have high utilization



Undesignated Truck Parking by Census Tract

Reasons for on-street parking

Overnight: Truck stops full or not convenient

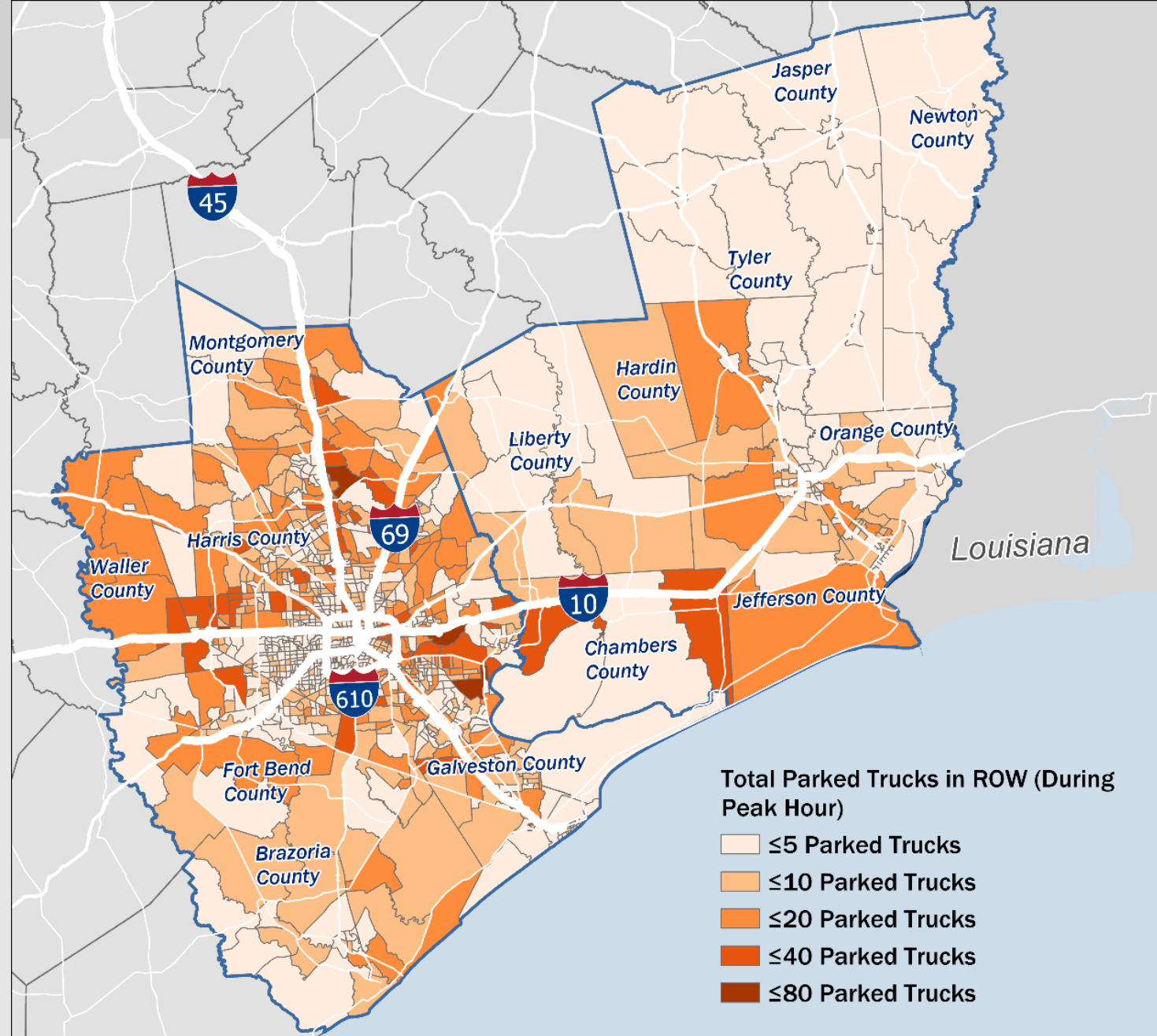
Drivers need to park as close as possible to customer

Electronic Logging Devices

Congestion

Staging: waiting for access to shipper or receiver

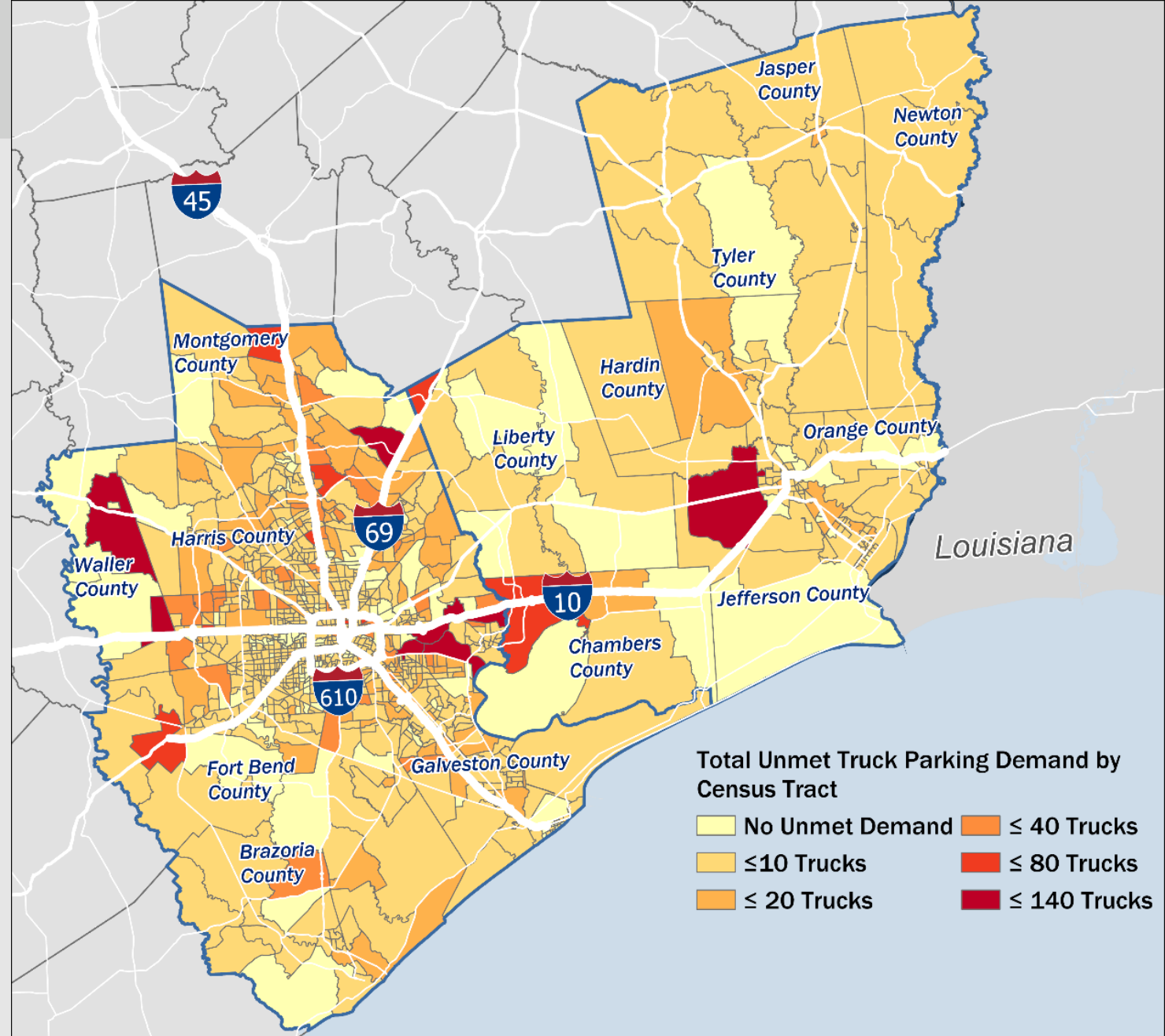
Owner-operator at home on break



Total Unmet Truck Parking Demand by Census Tract

Unmet demand = Number of parking spaces less the number of trucks parked at designated facilities *and* on the street

RED is where unmet truck parking demand is the highest





TxDOT-Led

Truck Parking Guidance

- Project development process
- Right-of-way acquisition guidelines
- Facility closures

Technology

- Expand on I-10 TPAS
- Remote staging lot integrated with:
 - Trucking customer receiving
 - Curbside parking management

New Parking Capacity

TxDOT-Supported

Industry-provided Truck Parking

- Logistics parks
- Commercial and industrial properties
- Include truck parking demand as part of Traffic Impact Analyses for new developments

Emergency and Evacuation

- Allow truck parking at large parking facilities when not in use

Manage Curbside Truck Parking

New Parking Capacity

Workshop Discussion Questions

What type(s) of truck parking is your community or organization most concerned with?

Have you seen any instances of illegal parking, safety-related incidents, or other issues related to a lack of truck parking in your community?

How does your community accommodate and/or regulate truck parking within your jurisdiction?

What strategies has your community or organization discussed or implemented to address the truck parking shortage?

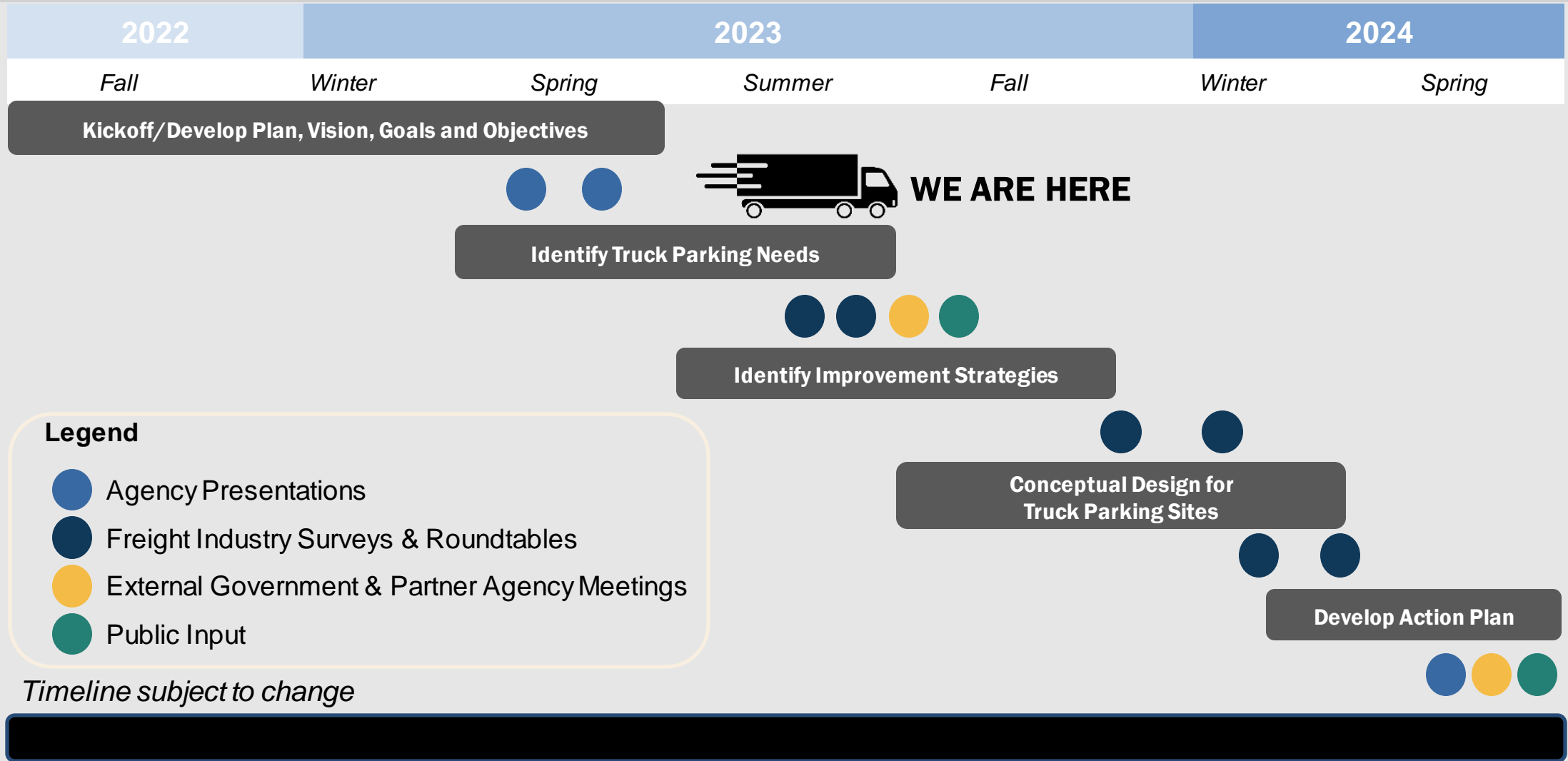
What barriers must be overcome to implement effective strategies and solutions to address the truck parking needs?

What types of solutions and strategies would your community or organization be most interested in implementing to address the truck parking shortage?

Does your community currently coordinate or plan to coordinate with other public agencies or private partners?



Next Steps



Thank you!



- Contact Information

- TxDOT

- Sherry Pifer

- Sherry.Pifer@txdot.gov

- HNTB Consultant Project Manager

- Brian Comer, AICP

- Bcomer@HNTB.com



Thank you for participating. Your input helps TxDOT deliver truck parking to the southeast Texas region!

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**ELEVATED
FREIGHT
TECHNOLOGIES**

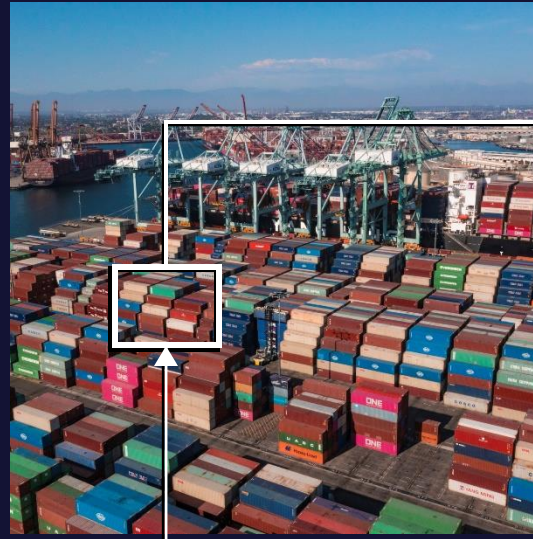


Current System

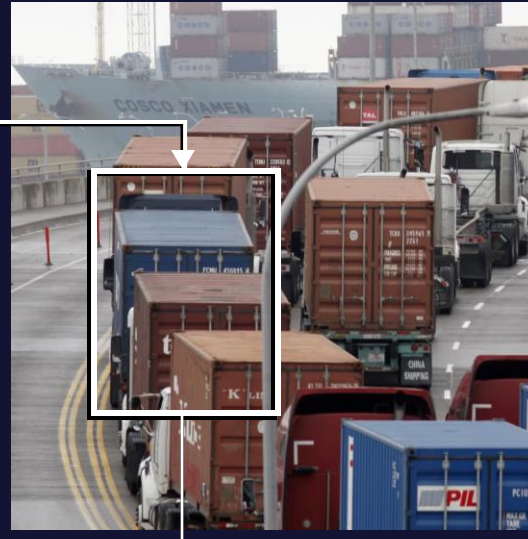
This truck...



needs to pick up this container...



and travel on this road...



to get to this distribution hub



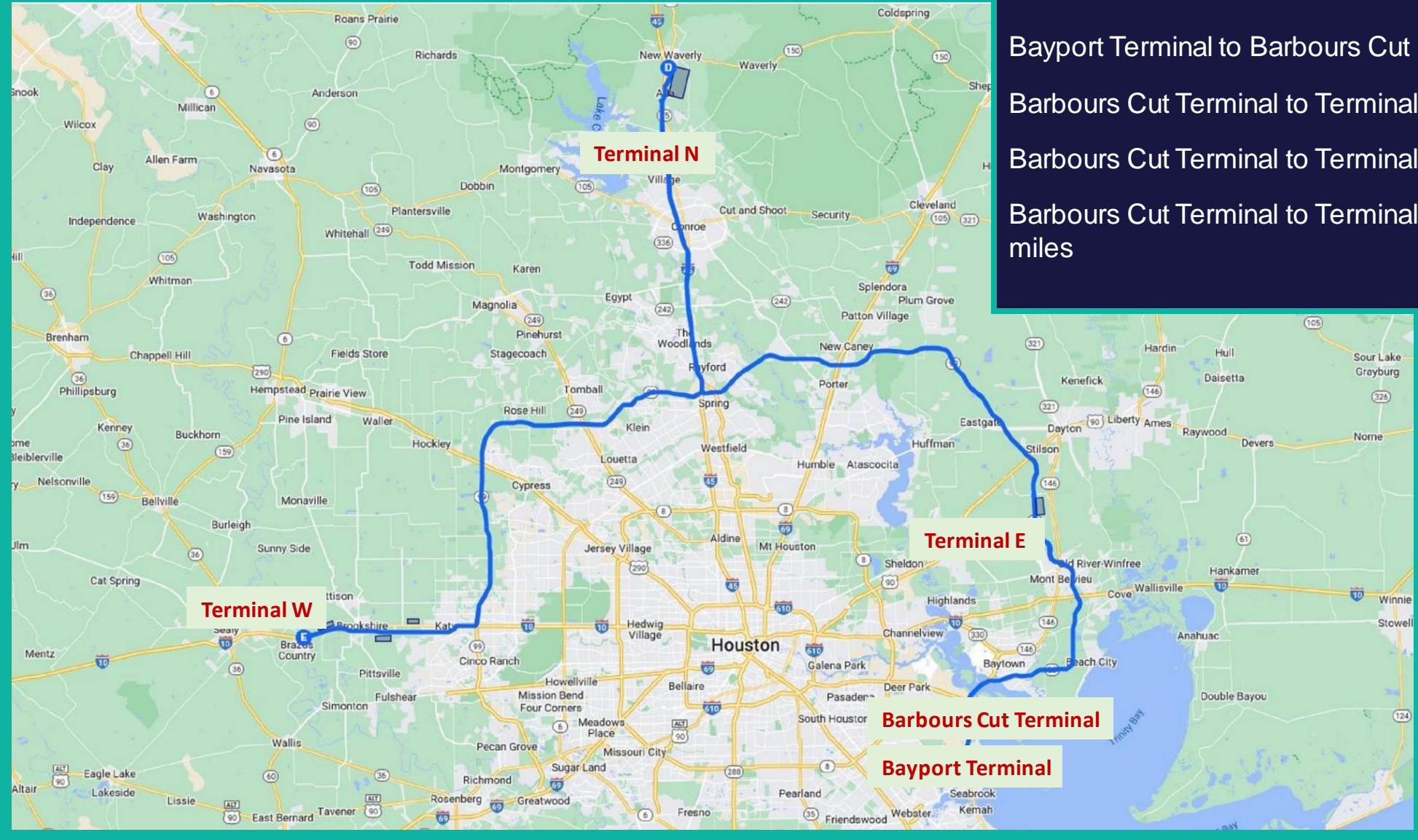
Intelligent Freight Transport System (“IFTS”)

Key Benefits



- Increases supply chain efficiency
- Alleviates traffic congestion
- Reduces damage to roads
- Reduces serious accidents
- Reduces emissions
- Increases productivity overall
- Creates true green corridors for the freight industry
- Future proofs cities, states, countries

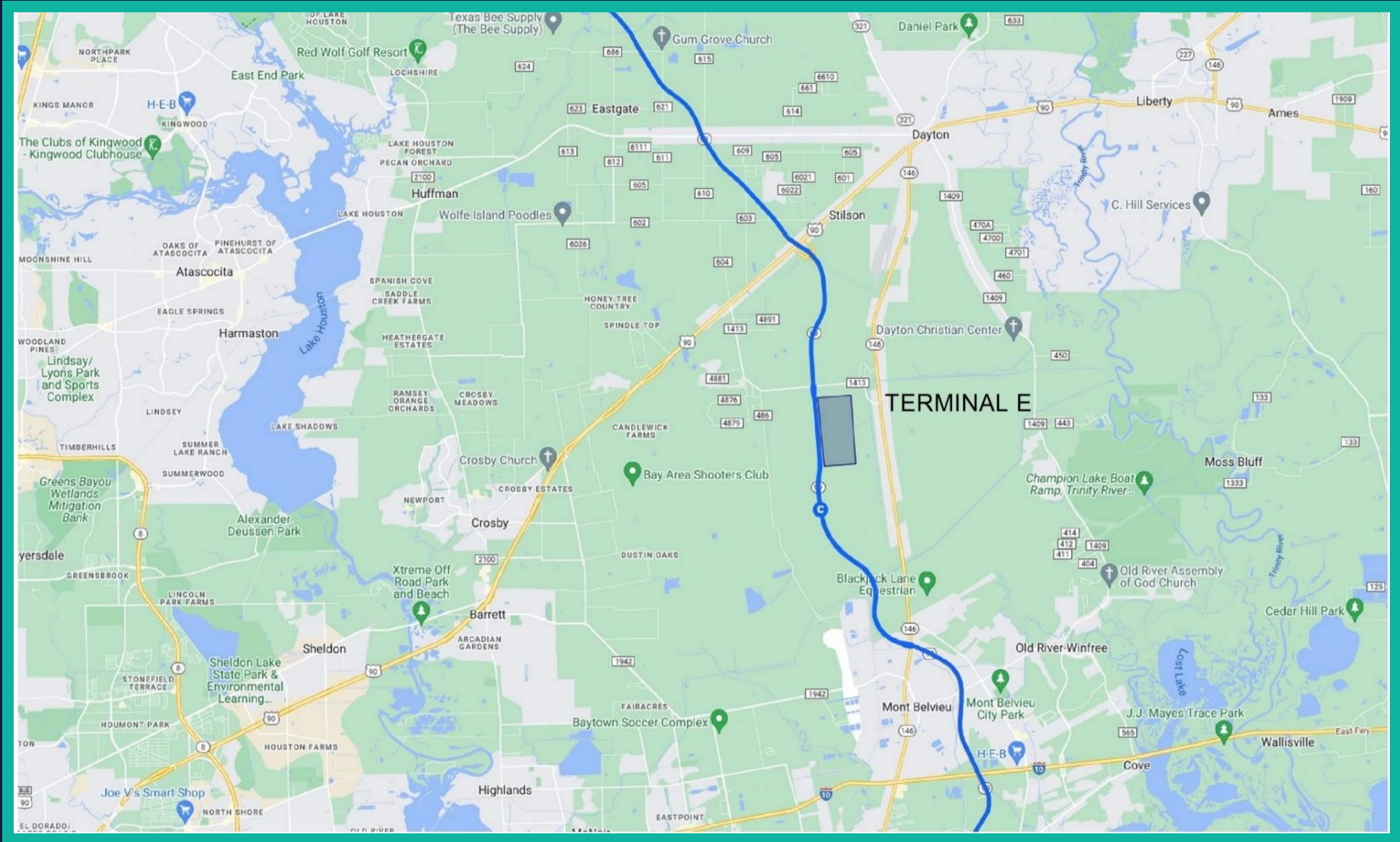
2 Terminals on SH 99 (East, West) – 1 Terminal on I-45



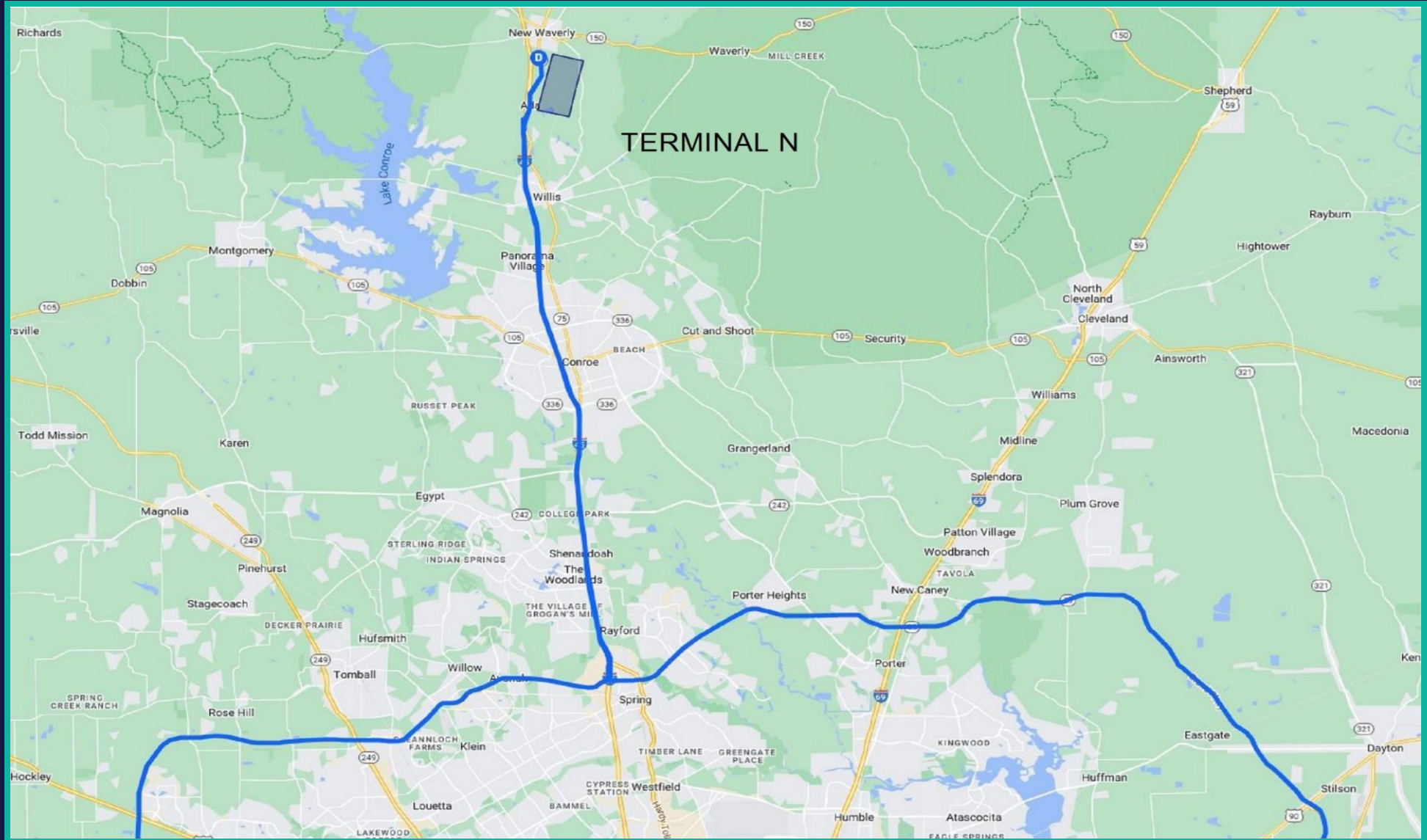
Bayport Terminal to Barbours Cut	9 miles
Barbours Cut Terminal to Terminal E	28 miles
Barbours Cut Terminal to Terminal N	90 miles
Barbours Cut Terminal to Terminal W	121 miles



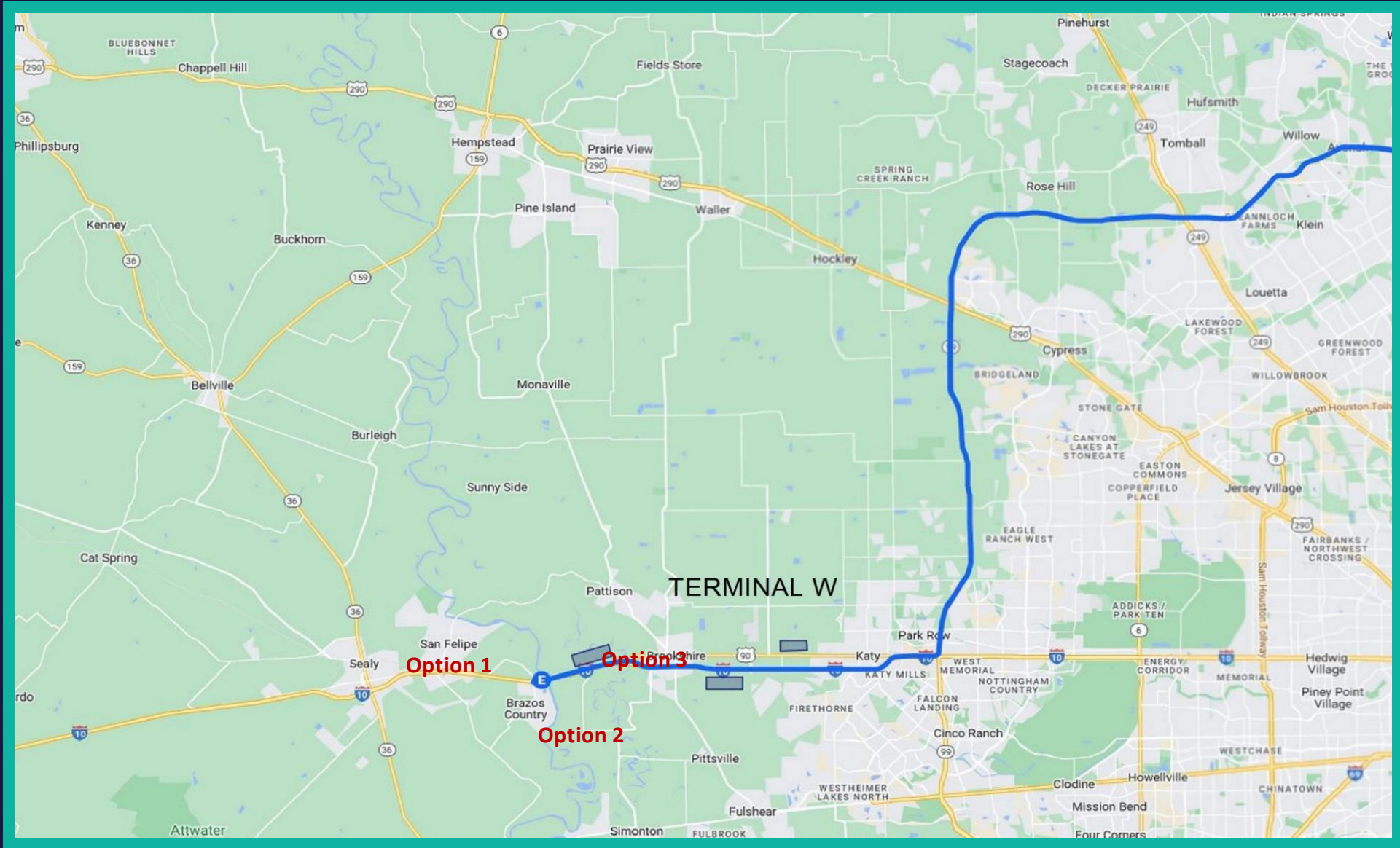
East Terminal (Mont Belvieu, Cedar Port, Beaumont, Lake Charles)



North Terminal (Dallas, Fort Worth)



West Terminal (Katy, San Antonio, Austin, Corpus Christi)



Intelligent Freight Transport System

Key Features



- ❖ Dedicated system for safe autonomous operations
- ❖ Electric propulsion moves cargo between freight hubs
- ❖ Steel on steel vs rubber on asphalt = 90% efficiency gain
- ❖ Swarming = 30% efficiency gain
- ❖ Intelligent power distribution systems
- ❖ Tried, tested and true rail engineering = no surprises
- ❖ AI /ML driven proprietary operating system



Intelligent Freight Transport System

Net-Zero Emissions



- 🔗 Adopting the Envision Sustainability Framework*
- 🔗 High efficiency operations throughout system
- 🔗 Clean energy strategy to power the entire EFT network
- 🔗 Regulatory-grade carbon credit certification

* <https://sustainableinfrastructure.org/>



SYSTEMS INTEGRATOR

SPONSORS

Ownership & Control



PUBLIC PARTNERS

PROJECT DEVELOPMENT TEAM



TxDOT

PROJECT DELIVERY TEAM

PROJECT MANAGEMENT



ENGINEERING



O&M



PHA/TxDOT/HCTRA
COLLABORATIVE
INTERFACE

HCTRA

SOFTWARE/OP SYS



PHA/EFT
COLLABORATIVE
INTERFACE



of truck trips removed
from the road/yr:

1,085,973



of vehicle miles travelled

184,485,000



>7409
times around
the world



772
times to moon
and back

Emissions reduction:

337,588

Tonnes of CO₂e/yr



2.4 million TEUs / year (60% of *current* volume)





2.4 million TEUs / year (60% of *current* volume)





EMISSIONS

Freight trucks = **23%** of **all** transportation-related emissions

- methane, CO₂, particulate matter
- Sulfer dioxide (S₂O), nitric oxide (NO_x)

HEALTH ISSUES

- heart and lung disease
- premature mortality
- childhood asthma and other respiratory issues
- lung cancer





PUBLIC SAFETY

- 415,000 large truck accidents in U.S.A (2020)
- 4,444 (1%) fatal crashes,
- 101,000 (24%) injury crashes

TEXAS SPECIFIC

- Texas leads the nation in fatal truck accidents (2022)
- 13% of all accidents in U.S.A
- 513 fatal commercial vehicle accidents
- 581 deaths
- 32,562 commercial vehicle accidents last year





PRODUCTIVITY

- Traffic jams cost U.S. drivers more than \$81 billion annually
- 110 freight bottlenecks = 243 million non-productive hours costing \$6.5 Billion/yr

BUDGETS

- Freight haulers cause most damage to roads
- 1 Heavy truck = 9600 cars



Before

After



Efficient Freight Movement and Reduced Traffic Congestion



- Enables freight movement unconstrained by traffic conditions
- Frees up capacity on existing roadway infrastructure
- Alleviates traffic congestion
- Reduces serious accidents
- Decreases road maintenance and rehabilitation costs

Transit Framework That Drives Economic Development



- ❖ Creates a network of inland ports at strategic locations
- ❖ Develops freight hubs that connect truck, rail and warehouse distribution away from congested metropolitan areas
- ❖ Attracts business and creates new employment centers
- ❖ Improves supply chain efficiencies
- ❖ Increases overall productivity

Air Quality Improvement and Quality of Life



- Offers a sustainable alternative that is 100% electric-powered
- Reduces GHG emissions, air pollution and ozone levels
- Improves noise pollution, health and quality of life for communities



- 📍 Network of Freight Mobility Hubs
- 📍 Efficient Freight Movement
- 📍 Traffic Congestion & Safety
- 📍 Centers of Economic Growth & Job Creation
- 📍 Local Air Quality
- 📍 Quality of Life

Elevating the Movement of Freight





www.greencorridors.com

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Next GHFC meeting

- Date – October 16th
- Time -10am-1 pm
- Location – KTN, TGS and Cedar Port facilities

Please use the link or QR code to sign up

- Link - <https://forms.office.com/r/fSfQ4UbQ4d>

Greater Houston Freight
Committee October Meeting



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Project Selection Process

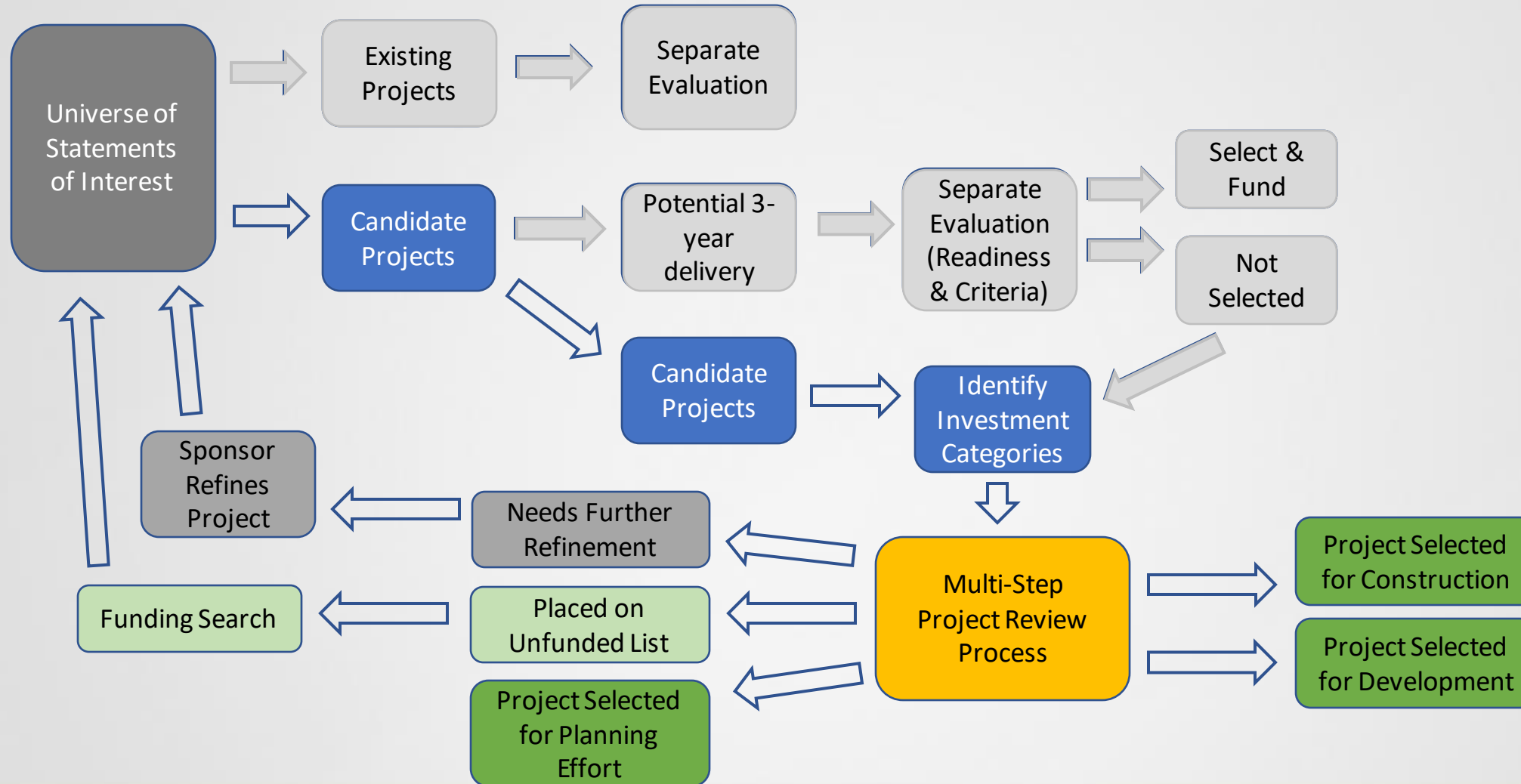


Greater Houston Freight Committee
June 15, 2023

Implementing TPC's Guidance

- Performance categories
- Scoring criteria
 - Investment Category-focused scoring
 - Planning factors
 - Benefit-cost analysis
 - Two types of scoring
 - Qualitative assessments based on narratives
 - Quantitative measures
- All Goals, Priorities and Policies are incorporated

Project Screening Flowchart



Project Screening Outcomes

Multi-Step
Project
Review
Process

Projects Needing
Further Refinement

Projects that need further refinement will not be awarded funding. These projects will be sent back to the project sponsor for further refinement before being eligible to re-compete for funding in the project selection process.

Project Placed on
Unfunded List

Projects placed on the unfunded list will not receive federal funds through the project selection process. However, these projects may be used for other funding programs (e.g., federal discretionary grant programs). Also, these projects will be reconsidered during future reviews of each investment category.

Projects Selected for
Planning Activities

Projects selected for planning efforts will be inventoried for planning funding in the Unified Planning Work Program for further planning and study. Project recommendations developed during the study will have to compete for funding in the future. They will receive additional points during project selection cycles.

Project Selected for
Development

Projects selected for development will be amended into the Regional Transportation Plan and project sponsors may continue to further develop the project. Once ready for construction, the project will be reviewed for readiness and programmed into the Transportation Improvement Program and the H-GAC 10 Year Plan. **Project development activities such as design and row-of-way may be funded and programmed in advance of construction.**

Project Selected for
Construction

Anticipate that projects selected for construction will begin in the next 2 to 10 years. Projects will be programmed into the Transportation Improvement Program and the H-GAC 10 Year Plan, and Regional Transportation Plan at the next available opportunity.

Investment Categories: Purpose

Investment Category	Description and Purpose (“Identify, develop, and fund...”)
Regional Goods Movement	Projects that most effectively enhance or improve safe and reliable freight mobility throughout the region.
Major Projects	Projects that are regional in scope, most effectively address goals and priorities of the Transportation Policy Council or identified in the Regional Transportation Plan and exceed \$100 million in total estimated costs.
High-Growth Area Needs	Projects that most effectively address mobility, accessibility, and congestion mitigation needs in areas experiencing rapid or significant growth in population or other demographic measures, economic development, travel demand, or other indicators identified by local agencies.
Resiliency & State of Good Repair	Projects that most effectively help the transportation system avoid or recover quickly from events that create delays, closures, or other impacts, and projects that provide maintenance of current transportation facilities and services.
Operational Improvements & Congestion Management	Projects that most effectively deliver traffic management and other operational improvements, as well as mitigate current congestion.
Transit	Projects that most effectively provide, expand, or enhance transit infrastructure throughout the region.
Active Transportation	Projects that most effectively enhance or improve walking and bicycling for essential trip-making in the region.
Safety **	Projects that most effectively will reduce or eliminate crashes that result in fatalities and serious injuries.

Eligible Activities Potential Spending

Investment Category	Rehab/ Restoration	Added Capacity	New Road	Access Management	Intersection Improv.	ITS	Sidewalks/ Bike Lanes	Transit Facilities
Regional Goods Movement	11%*							
Operational Improvements	16%*							
High-Growth Area Needs	25%*							
Active Transportation	7.5%*							
Transit	7.5%*							
Major Projects (~25%*)	25%*							
Resiliency **	8%*							
Safety **								
Potential availability	26.5%	77%	61%	77%	92.5%	92.5%	65%	73.5%

Scoring Point Distribution

Scoring Factor	Investment Category					
	Regional Goods Movement	Operational Improvements	High-Growth Area Needs	Active Transportation	Transit	Resiliency & SOGR
Regional Goods Movement	50	4	3	3	3	4
Operational Improvements	6	50	4	4	3	5
High-Growth Area Needs	5	4	50	4	4	3
Active Transportation	2	3	4	50	5	3
Transit	3	4	5	5	50	5
Resiliency & State of Good Repair	4	5	4	4	5	50
Planning Factors	30	30	30	30	30	30
TOTAL POINTS	100	100	100	100	100	100



Regional Goods Movement

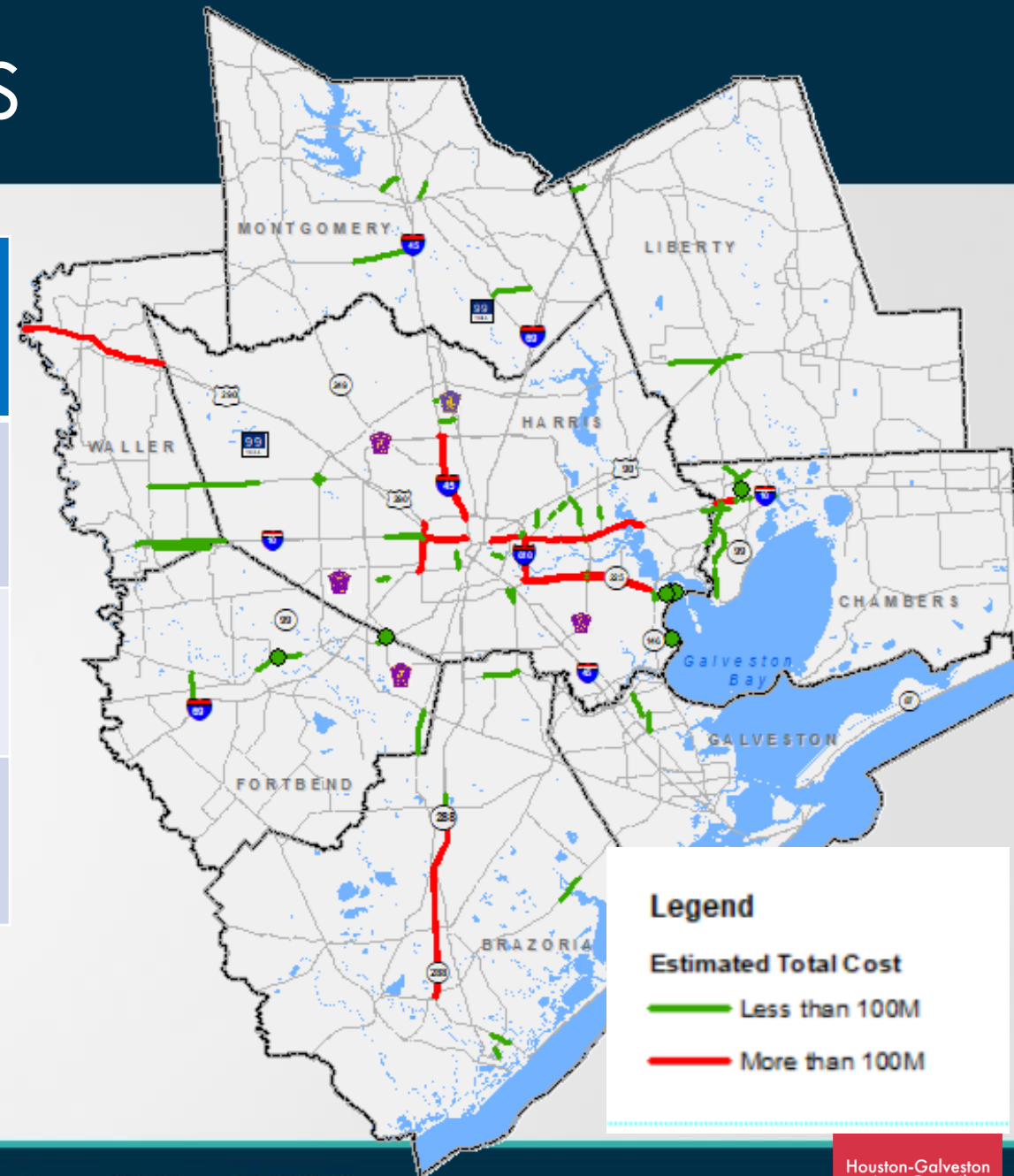
Investment Category Focused Criteria	Max 50 Pts
Project is recommended as a priority in a statewide, regional or a local freight plan.	Up to 10 Pts
Project is located on critical urban/rural freight corridor (CUFC/CRFC) or regional freight corridor or on a facility that carries significant daily truck traffic (truck %).	Up to 10 Pts
Narrative explaining how proposed project improve regional goods movement.	Up to 5 Pts
Project provides new or improves existing first-mile last-mile connectivity to Ports/airports or other freight generators (such as big box store, warehouses, etc.).	Up to 10 Pts
Project sponsor is considering strategies to promote off-peak and overnight delivery.	Up to 5 Pts
Project is located on a designated hurricane evacuation route by state, regional or local hurricane evacuation plans or a facility that functions as an alternative route to a hurricane evacuation route.	Up to 10 Pts

Regional Goods Movement Evaluation Status

- Sponsors submitted additional scoring information
- Online questionnaire closed on May 15, 2023
- 15 sponsors submitted 88 projects with cost of \$11.8B
- 64 Projects with cost of \$2.35B will be scored for Regional Goods Movement Criteria
- 24 Projects with cost greater than \$100M will be scored for major investment criteria
- Staff will seek for Benefit-Cost and project readiness information from the sponsors in June/July.

Submitted RGM Projects

Submitted	Sponsors	Projects	Cost (\$B)
Total	15	88	\$11.80
> than \$100 M	2	24	\$9.45
< than \$100 M	15	64	\$2.35



Benefits Calculators

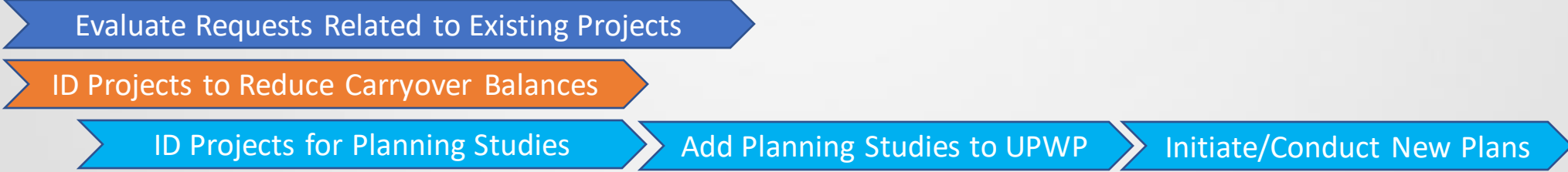
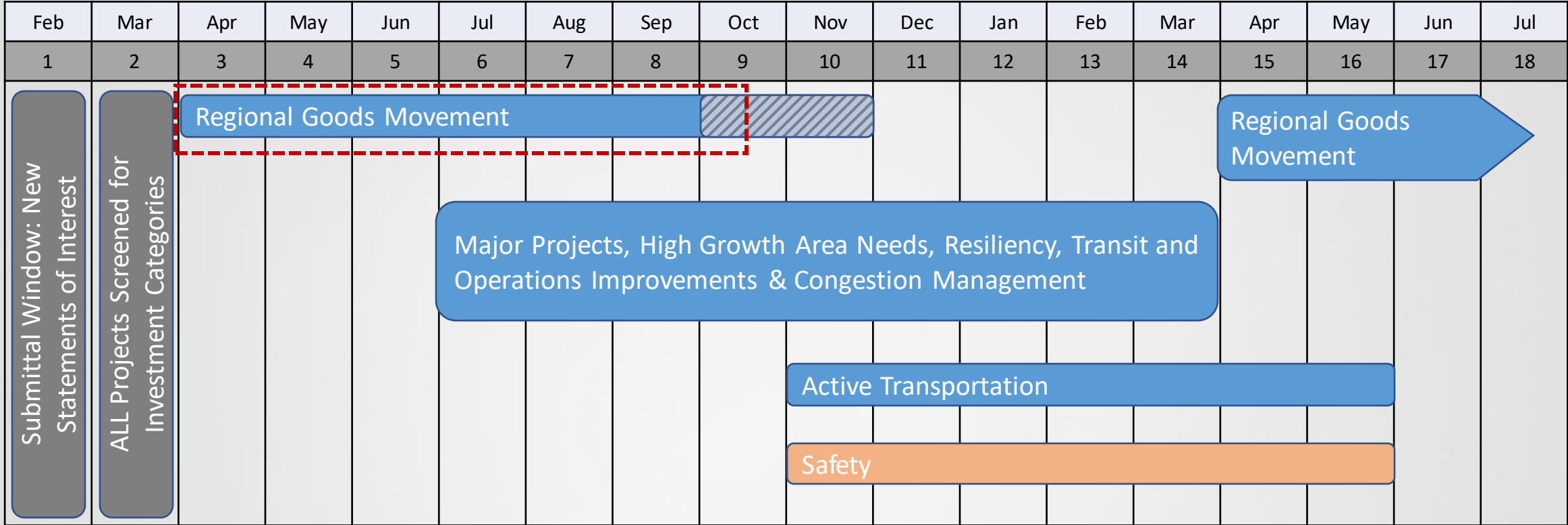
- Crash Reductions
- Delay Reductions
- Emission Reductions
- Total Benefits/Costs
- Benefits/Costs ratios in to points 0-100
 - Review outliers

Action

- Recommendation for Transportation Policy Council approval of Adjusted Funding Instructions as presented.

Investment Category	Initial Recommendation	Adjusted
Regional Goods Movement	12%	11%
Operational Improvements & Congestion Management	13%	16%
High-Growth Area Needs	25%	23.75%
Active Transportation	7.5%	7.5%
Transit	7.5%	10%
Major Projects	30%	23.75%
Resiliency & State of Good Repair	5%	8%
Safety **	TBD; ~\$30M/year	

Investment Categories – Revised Timeline



Contacts



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Thank you

