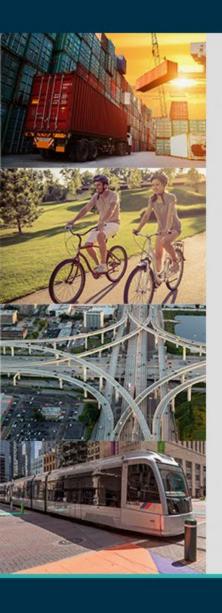


Presenters



Sarah Pullman

- Mobility Innovations Transportation Planner | Policy, Planning, and Projects Group City of Portland
- Presentation: Piloting a Zero-Emissions Delivery Zone in Downtown Portland

Ram Mothe, P.E, S.E, PMP

- Assistant Director Project Management | Capital Projects & Infrastructure, HCTRA
- Presentation: 225 Interchange Update

Clayton Henderson

- Director of Port Development, Trans-Global Solutions, Inc.
- Presentation: TGS Cedar Park Industrial Park



Piloting a Zero-Emission Delivery Zone in Downtown Portland



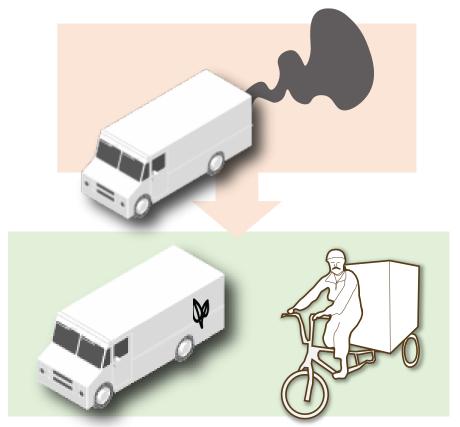
Sarah Copland-Pullman, Transportation Planner, PBOT

July 17, 2025



Agenda

- Policy Background
- Pilot Project Overview
- Measuring Success
- Next Steps



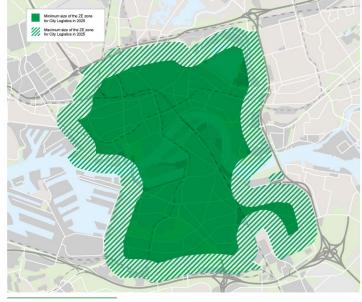


Policy Background

Zero-emission areas around the world

- Strategies like Low-Emission Zones, Zero-Emission Zones, and Zero-Emission Delivery Zones (ZEDZ) were pioneered in European cities like London, Brussels, Oslo, and Stockholm.
- In 2020, Santa Monica, CA piloted a voluntary Zero-Emission Delivery Zone to manage their curb and reduce pollution and congestion.
- Los Angeles, CA piloted ZEDZs in areas with high air-pollution and continues to expand the number of regulated zero-emission loading zone spaces in 2024-2025.
- Rotterdam is enforcing a zero-emission delivery zone to "improve air quality, climate and accessibility in the city."
- Many other major EU cities have planned ZEZ implementation in 2025-2030.









Why focus on freight and urban logistics?

- Freight accounts for roughly 5% of on-road VMT, but more than 24% of GHG emissions
- Freight emits 45% of the transportation sector's NO_x and 57% of PM2.5
- Multnomah County is within the top 1% highest of diesel emission exposure in the country
- E-commerce has exploded, growing 77% as a result of COVID-19
- Large trucks creates noise pollution and makes streets less desirable



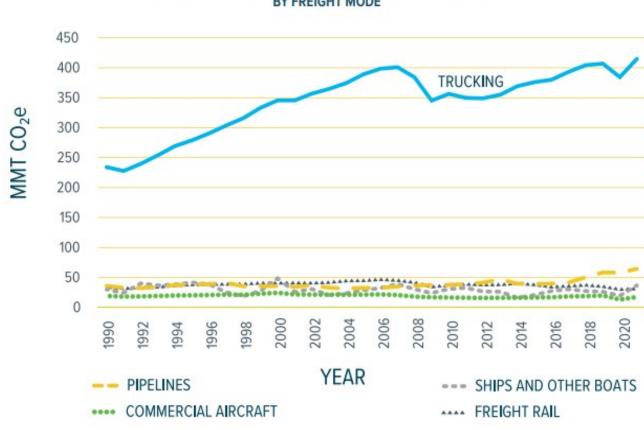


Figure 3: GHG emissions by mode of freight transport, 1990-2021. (Tailpipe only.) 15

Source: DOT Report to Congress, Decarbonizing U.S. Transportation (2024)



Freight decarbonization is a City priority

Policy

Reducing greenhouse gas emissions from freight is called for in:

Climate Action Plan (2009)

Sustainable Freight Strategy (2012)

Climate Action Plan (2015)

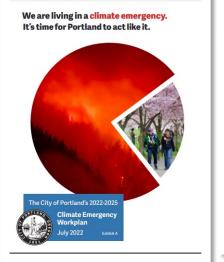
Climate Emergency Declaration (2020)

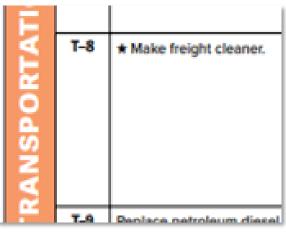
Climate Emergency Workplan (2022)

2040 Freight Plan (adopted July 2023)

Equity

Communities of color and communities living with low incomes face exponentially higher health impacts of diesel pollution.







No.	Actions	Lead Impleme
	egy 2A. Evaluate and implement (and local pollutants emissions.	City progra
2A.1	Pilot green loading zones and low emissions zones to send market signals, test implementation strategies, and collect data on the benefits and costs in consideration of broader implementation. The proposed strategies should include equity considerations for small and BIPOC owned fleet operators.	PBOT Poli PBOT Parl Operation PBOT Urb Freight Coordinat BPS
2A.2	Conduct a feasibility analysis to	PBOT Poli



Zero-Emission Delivery Zone pilot could address key problems

- Climate: Transportation causes >40% of GHG in Portland and is rising. Trucks have an outsized-impact on local carbon emissions.
- **Public Health:** Nearly 40% of BIPOC Portlanders live close to the city's biggest sources of air pollution, such as freeways and industrial facilities.
- Safety: Downtown Portland is one of the areas with the most collisions involving trucks—types of crashes that are more likely to be serious or fatal.



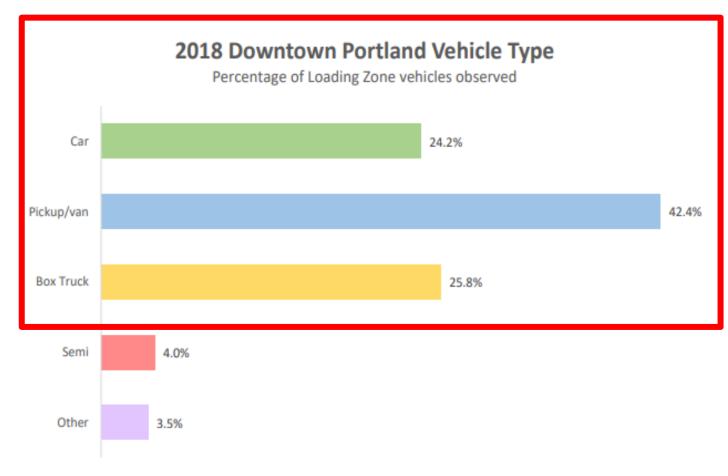






Many cars, vans, and box trucks can be electrified today

- Over 92% of downtown urban deliveries are in vehicle types that can be electrified. Other options like e-trike delivery also exist
- There are federal resources available to help fleets transition to low and zero emission vehicles
- The City wants to partner with industry to support this transition



Source: PBOT, Downtown Loading Zone Parking Assessment, 2018



Pilot Project Overview

USDOT Strengthening Mobility & Revolutionizing Transportation (SMART) Grant

Federal discretionary grant program

\$100 million appropriated for 2022-2026

Two stages of awards

- Stage 1: Planning and Prototyping, up to \$2M
- <u>Stage 2</u>: Implementation, up to \$15M, requires new application

Stage 1 details from USDOT

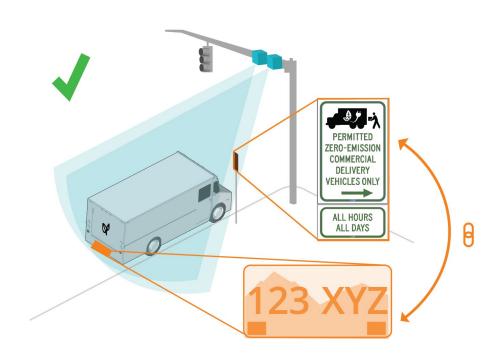
- 1. Build internal buy-in and partnerships with stakeholders to refine and prototype concepts, report on results
- Develop an implementation plan; or decide to not proceed with the concept in Stage 2
- 3. Stage 1 results may uncover previously unknown institutional barriers, technical limitations, or poor performance relative to conventional solutions



Portland awarded
Stage 1 SMART grant

Testing how a combination of incentives and regulations could change behavior

- Curb management: How can strategies, like zero emission delivery loading zones, help freight companies justify transitioning their fleets to zero-emission vehicles?
- Technology: How might parking sensors and other digital curb technologies help the City gain an improved understanding of curb use and inform potential changes to improve efficiency?
- Partnerships: How might public- and privatesector businesses in downtown Portland be willing to change their purchasing or delivery decisions to incentivize freight companies to transition their fleets to zero-emission vehicles?



PBOT designed the ZEDZ to achieve the following goals:



Increase safety & reliability



Build resiliency



Ensure equity & access



Steward our climate

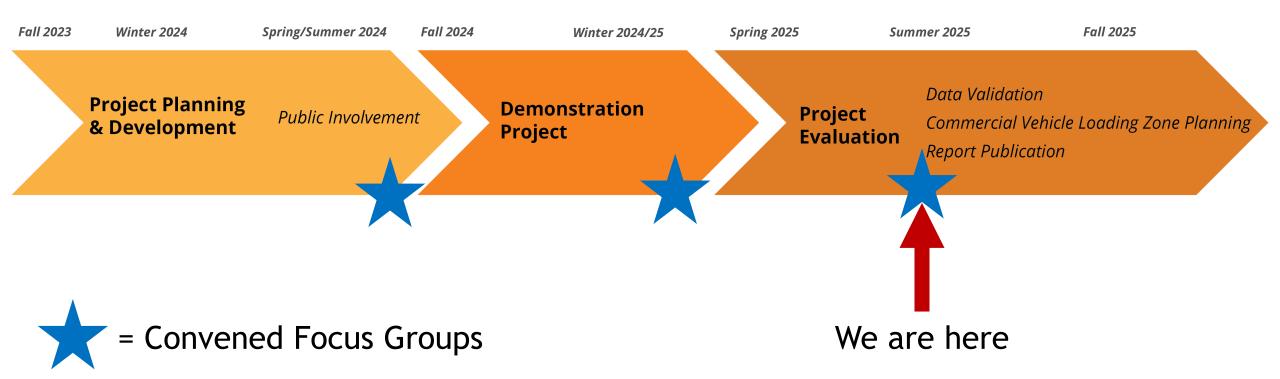


Facilitate partnerships



Improve data systems

Project timeline



Measuring Success

The ZEDZ pilot accomplished 3 key actions

1. Established a Zero-Emission Delivery Zone (ZEDZ)

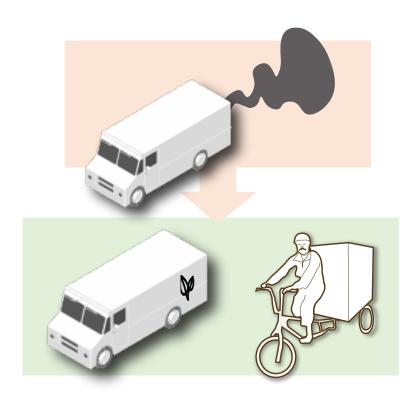
 Regulated through parking permits (the first in the US) to encourage fleet electrification

2. Used Data, Technology, and Curb Access to Manage

 Used high- and low-tech methods to monitor and enforce

3. Facilitated Cyclelogistics Hub Operations and Last-Mile Solutions

 Convened conversations between companies and B-Line Urban Logistics to provide an efficient distribution hub close to downtown without access to zero-emission vehicles



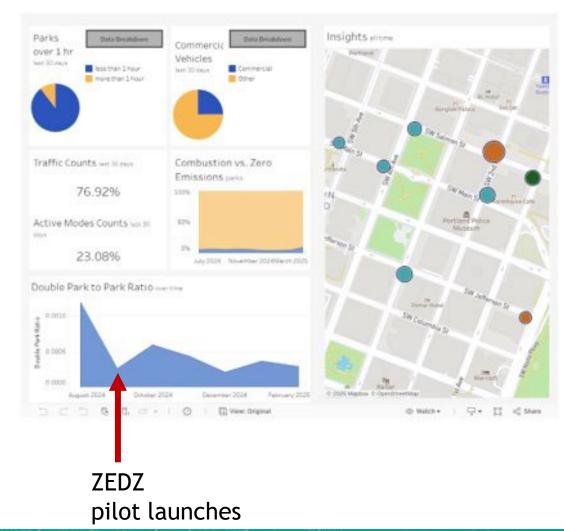
The 6-month demonstration project successfully sent market signals

- Engaged over 40 different stakeholders
- Approved 66 zero-emission vehicle permits
- For this project alone: Amazon rerouted to utilize Rivians, DHL purchased their first Portland EVs and EVSE, and FedEx deployed their first Portland EVs
- PBOT used SMART grant funds to help purchase an EV for City deliveries, showcasing its commitment to leading by example



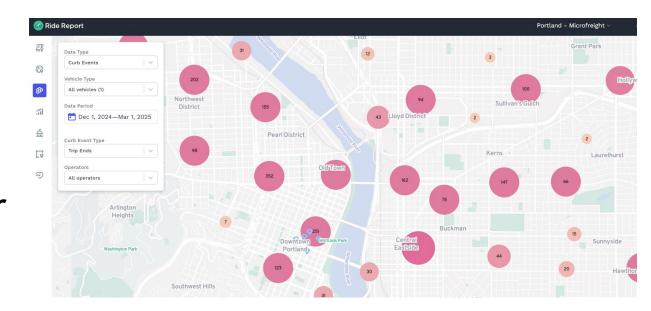
Innovative technology created a greater understanding of curb management

- PBOT partnered with INRIX to digitize all the parking and loading rules
- PBOT installed 16 sensors to understand how the loading zones were used
- Video monitoring created a common understanding of problematic issues in truck loading zones - 75% unauthorized users
- PBOT created the first known MDS (opensource standard) feed for a logistics company in the country



B-Line partnership created opportunities to diversify goods movement

- PBOT's contract with B-Line allowed 6
 businesses within the project area to
 trial diverting deliveries
- PBOT used SMART funding to incentivize B-Line's purchase of their first zero-emission vehicle
- B-Line installed IoT devices on their etrikes to share route data, providing new insights to the city



Lessons Learned

- 1. Identify your assets and challenges
- 2. Connect with peer cities
- 3. Have an engagement plan from the beginning
- 4. Collaborate with key industry partners
- 5. Use data to illustrate the problem
- 6. Find your champions
- 7. Start small but plan to scale
- 8. Use tools that are easy to replicate
- 9. Balance speed with transparency
- 10. Understand the things that are out of your control



Next Steps

Moving forward

- Releasing pilot report in Fall 2025
- PBOT has engaged a consultant to start a research project around Commercial Loading Zone Programs across the country
- This project will:
 - Assess current conditions in Portland
 - Research best practices from other cities
 - Engage curb users from across industries and sectors
 - Develop preliminary policy recommendations





225 Interchange

Construction Status Update Ram Mothe, P.E., S.E., PMP





Today's Agenda

- Update on the 225 interchange construction
 - Project limits
 - Timeline
 - Design coordination
 - Current construction
 - Challenges

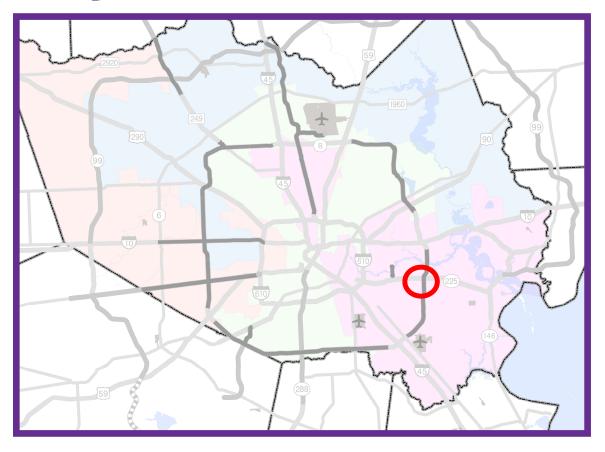


Project Limits





Project Location





Current Construction Project



Sam Houston Tollway/SH-225 Interchange Project



Timeline





Current Construction Status

- NTP January 6, 2025
- As of today:
 - 16% by time
 - 24% by cost
- Targeted substantial for current construction project is early 2028

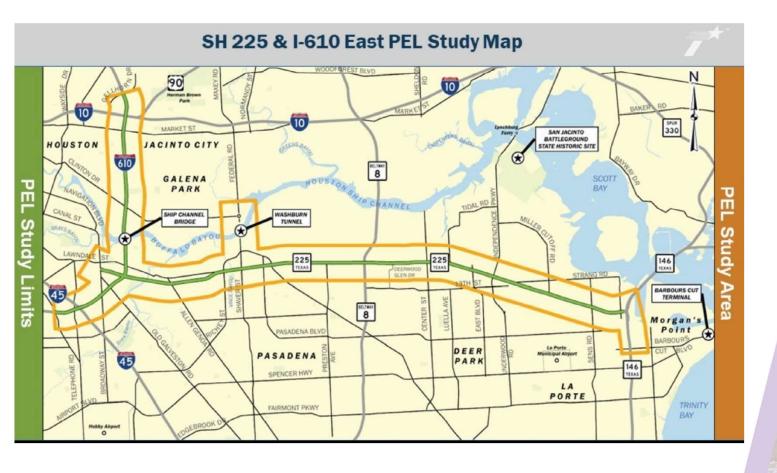


Partnership

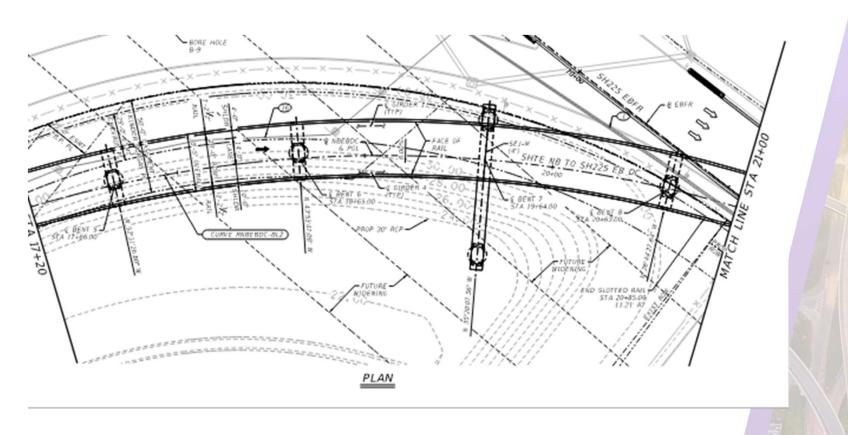




TxDOT 225 PEL Coordination



TxDOT 225 PEL Coordination



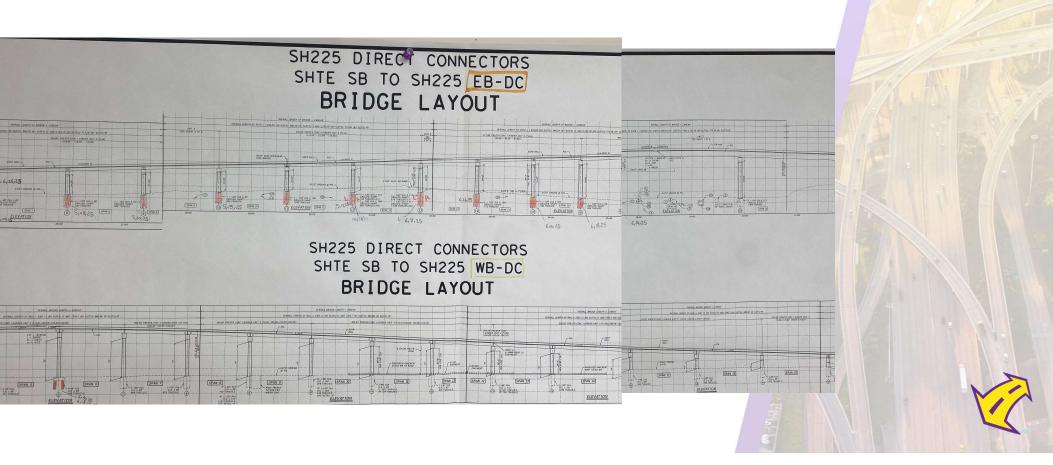


Drilled Shaft Installation



Drilled Shaft Installation

Status as of last week



Drilled Shaft Installation





Drilled Shaft Installation





Bent Construction Starting





Bent Construction Starting



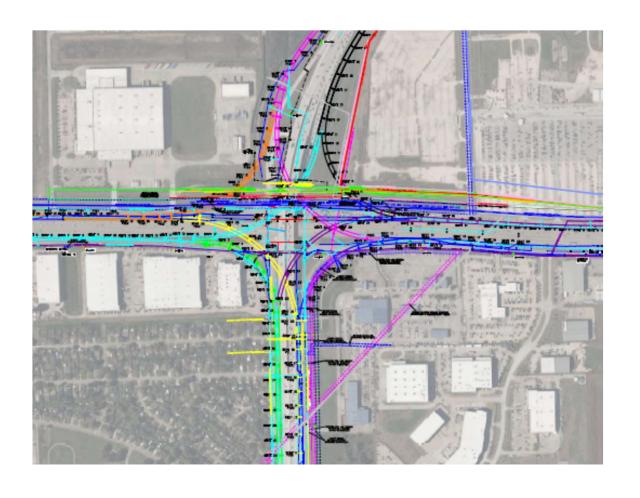


Challenges

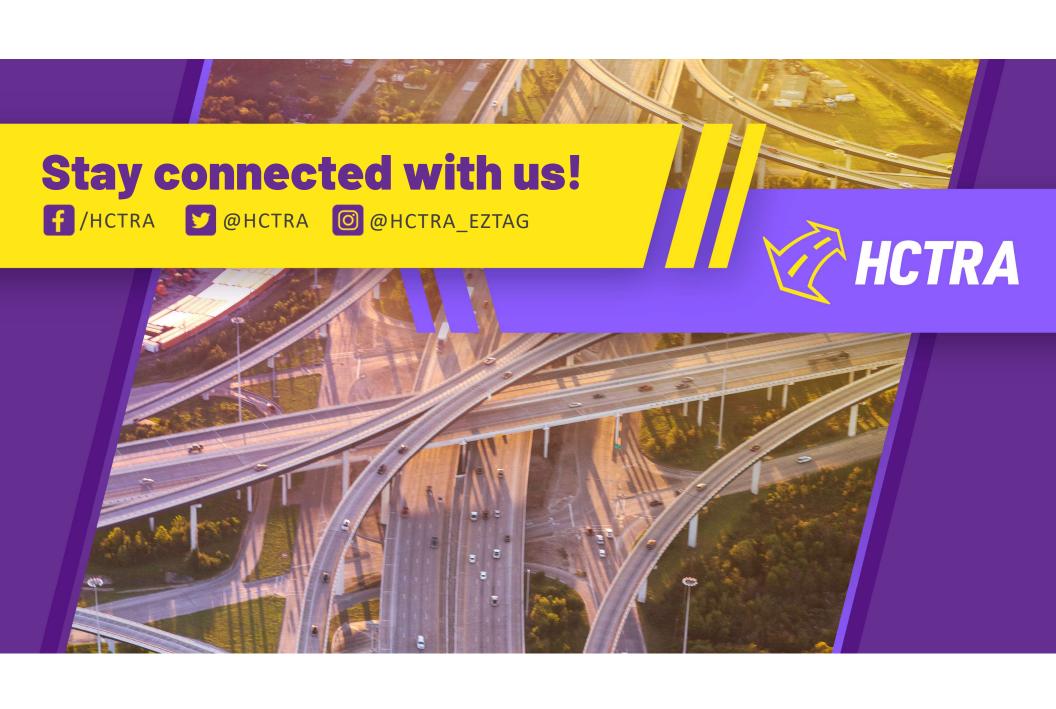




One or Two Utilities.....











TGS CEDAR PORT PRESENTATION
2025

TGS CEDAR PORT BOUNDARY ———



TGS CEDAR PORT

INDUSTRIAL DEVELOPMENTS OVERVIEW

• 2017 Prediction:

Healthy demand will be maintained to support regional demographic growth and specific industrial markets.

• 2025 Reality:

Industrial market demand peaked in 2022, following extreme demand growth beginning 2019

- TGSCP has approximately 25 million SF under roof (including under construction)
 - Added 14.5 million SF since 2017
- TGS entered the market as a developer, with 3.8 million SF developed since August 2020









WALMART | 4 BUILDINGS, 5.6M SF





HOME DEPOT | 1.2M SF -





AMERICOLD | 298K BUILDING





BORUSAN | 45+ AC SITE





FLOOR & DECOR | 1.5M SF BUILDING





IKEA | 2x 500K BUILDINGS -





WEBSTAURANTSTORE | 644K BUILDING



FOREMOST FRESH DIRECT | 65K BUILDING





GULF COAST CRATING | 341K BUILDING





DC 3 | 150K SF (SPEC) -



DC 5 | 609K SF —



PBP | 2 BUILDINGS, 832K SF -





PLASTIC EXPRESS | 800K BUILDING





RAVAGO | 720K BUILDING





VINMAR | 500K BUILDING





TEXAS MATERIALS | 15.74 AC SITE





TEXAS MATERIALS | 32 AC YARD





HARCROS | 72.4K BUILDING





NIAGARA | 611.5K BUILDING





CEDAR PORT





LEASED SITES

BECHTEL | 57.97 AC





EMS RAILCAR CLEANING SERVICE ON-SITE



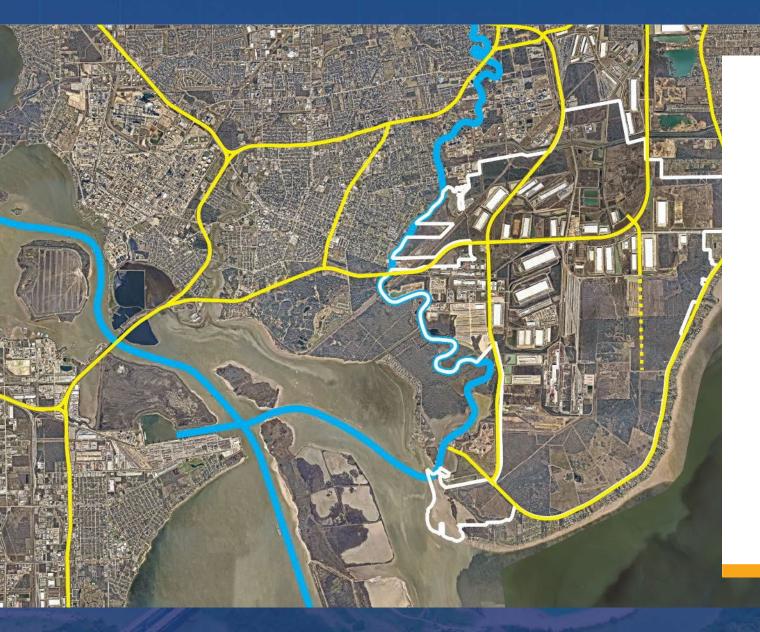


ZACHRY / McDermott | 210K SF/ 250 Acres









TGS CEDAR PORT

RAILROAD OVERVIEW

- Class III designation beginning April 1, 2023 (Short Line Railroad)
- Dual service from UP & BNSF
- TGS continues to operate all rail within CPIP
- 100+ miles of track
- 5,500+ working railcar storage spots (SIT)
- Added railcar / tank car wash facility and full-time railcar repair



Z-Yard Rail SIT Yard

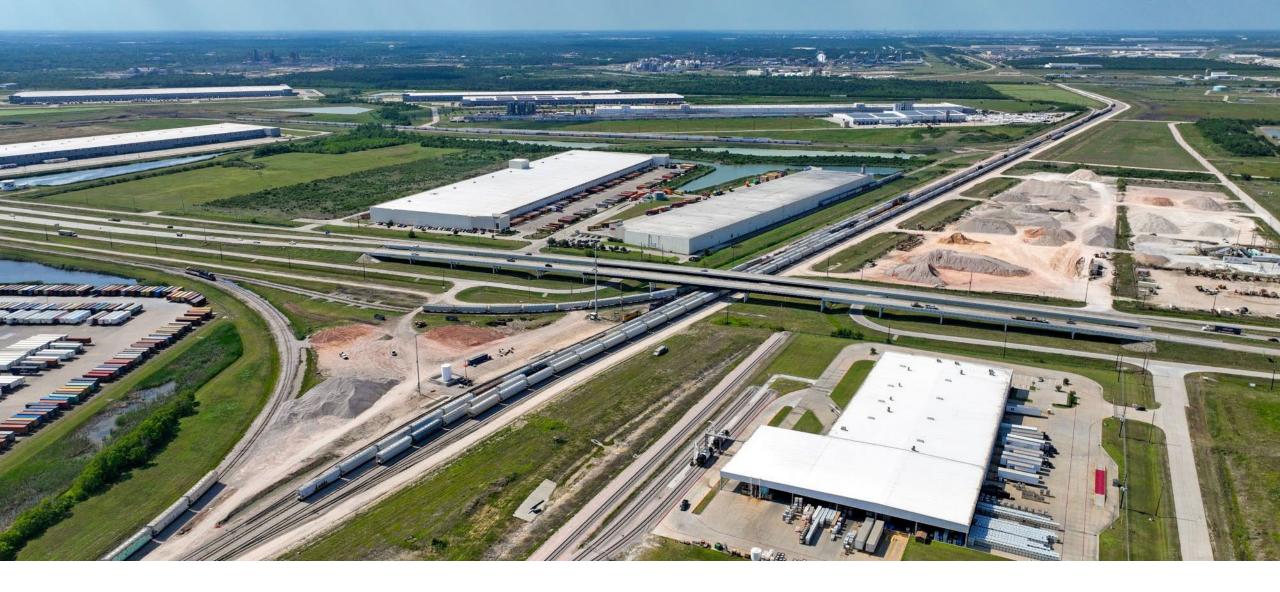


Z-Yard Rail SIT Yard

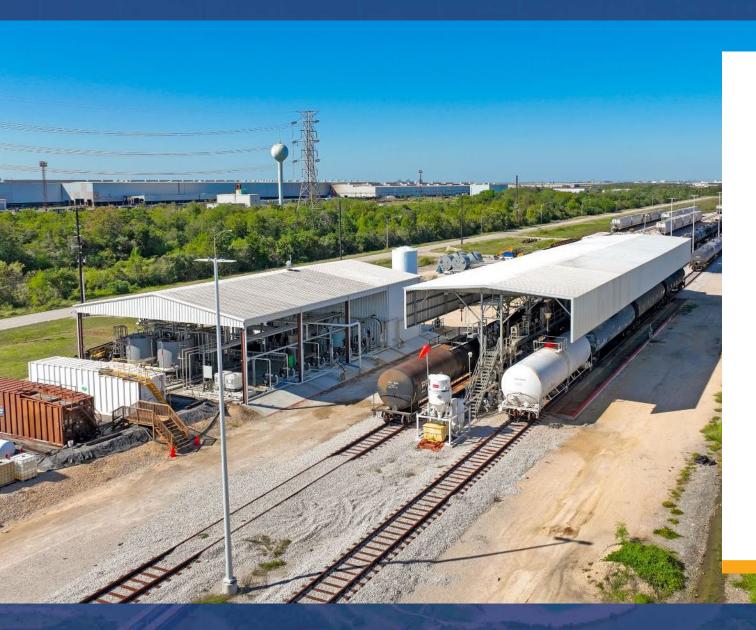


Six Interchange Tracks

Capable of handling 135 railcars each



Six Interchange Tracks Capable of handling 135 railcars each



TGS CEDAR PORT

TANK RAILCAR CLEANING

- GP Tank, Pressure, and Hopper car man-less entry cleaning system
- Clean and dry 8 cars simultaneously in 1.5 hours
- Nitrogen, Steam, and Degassing services available on-site
- Dedicated service tracks for repairs and recertification

INDEPENDENCE RAIL YARD





Project Description:

- Location: Deer Park, TX
 - Hwy 225 & Independence Parkway
- Construct railcar storage yard that is served by PTRA, 600 to 750 railcar storage spots
- Long-term storage agreement with PTRA-served customers





TGS CEDAR PORT | BARGE

2 Barge Dock Terminals 1 more permitted / 1 more permitting

- Cedar Port Navigation and Improvement District (CPNID) has a public barge dock available to qualified operators and stevedores
- Approximately 500,000 tons annually (steel, epc cargo, breakbulk)
- Pipeline corridor and connections close to the barge docks
- Container terminals are a short drive from the Industrial Park
- Ability to handle overweight containers, break bulk, project cargo, and asphalt
- Finger Lakes fleeting area with additional room for dock expansions
- Development-ready waterfront sites available

CEDAR BAYOU TOWING, LLC



Cedar Port Barge Dock #1



FINGER LAKES DOCK —







Future Deepwater Channel and Terminal



- > 19,000,000 c.y. material
- Approx. 4 years to dredge
- Terminal permitted separately
- Estimated cost of dredging \$650M



Future Deepwater Channel and Terminal



TGS CEDAR PORT INDUSTRIAL PARK

- + Bill Scott
 Chairman and Chief Executive Officer
- + Will Scott
 President Operations and Development
- + James Scott

 President Construction and Development
- + Richard Scott

 Principal
- + Brian Bommer
 Chief Financial Officer

- Matt Fleming
 VP Business Development
- Clayton Henderson
 Director of Port Development
- John Klein Vice President
- + Roger Lambeth
 Director of Operations
- + Craig Cavalier

 General Counsel



THANK YOU!

CEDAR PORT









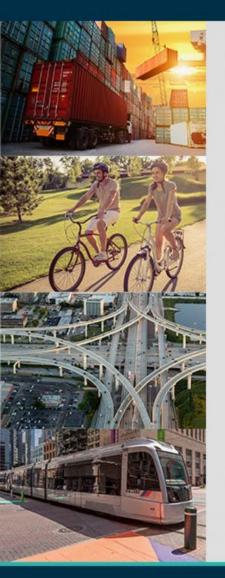
What we'll talk about



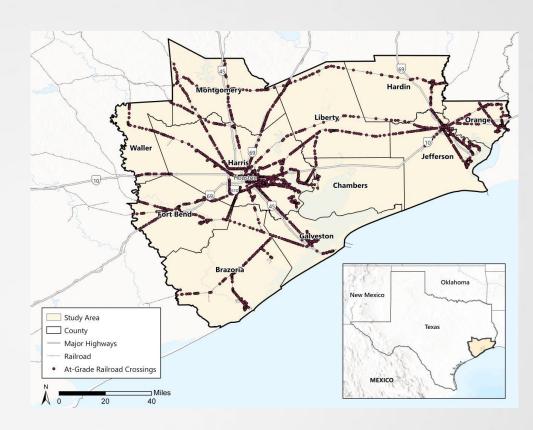
- Rail in the region
- Regional Crossing Catalog
- Proposed Grade Separation Pilot Program



The State of Rail Crossings in the Region



- 10,384 rail miles in Texas, the most rail miles in the US (TX Freight Mobility Plan)
- Home to 54 railroads: 3 Class I railroads: UPRR, BNSF, and 51 short line operators (AAR)
- Over 1,000 miles of track within the region
- 1,100 at-grade crossings within the H-GAC region
- Railroads moved the equivalent of 21.4 million trucks in Texas in 2022 (AAR)





Regional Crossing Study Overview



Draft Regional Railroad Crossing Catalog for the 8-County Region

- HBFRS Grade Separation Recommendation
- Capacity building
- Crossing Closures
- H-GAC requested crossings

Studies that informed the above catalog

- 2021 TxDOT-funded Houston Beaumont Freight Rail study (HBFRS)
 - 59 recommended for GS, 17 closures, and 23 capacity-building projects.
- HART requested that the 2024 TxDOT HBFRS focus on the East End,
 - 10 crossings for review, and TxDOT recommended 4 rail operational improvements.

Regional Crossing Study Overview



Studies that informed the above catalog (con)

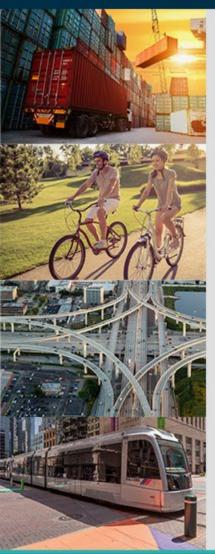
- TxDOT Glidden Sub Technical Memo
 - 18 GS recommended, 15 closures, and 10 operational improvements
- East End Triangle R.A.I.L.S. Plan (future)

H-GAC Calls for Priorities

- H- GAC reviewed submitted locations and compared them to the locations in the previously completed TxDOT studies.
 - 20 locations submitted have not been studied



Rail Grade Crossing Project Process



Proposed new freight program: Freight Grade Separation Planning program.

- 2-year program under the New UPWP
- 10 individual crossing locations and/or one small corridor (per year)

Subregional Study eligibility

- Political entities with jurisdiction within the region, such as municipalities, counties, transit agencies, school districts, etc.
- Must be a study or plan, will not develop signed engineering work.
- Requests must have the ability to be completed within two (2) years.

Requests & Approvals

- Ten locations will be accepted within the two-year UPWP cycle under the initial pilot
- Priority will be given to plans and studies that best meet the Evaluation Criteria.

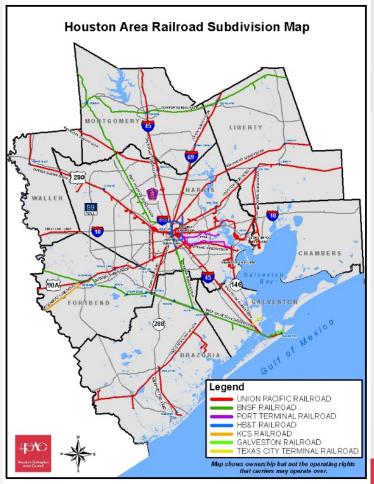


How H-GAC Can Help



Why are the H-GAC studies needed?

- Ensure regional coverage
- Launches the starting point for the project development process
- Compete for additional funding opportunities
 - TIP (project selection) process
 - \$250M statewide grant program
 - Federal grants





Studies to include

- H-GAC and Consultant-led studies are anticipated to include:
- 1. Feasibility of grade crossing improvement recommendations
- 2. Corridor operational improvement recommendations (corridors only)
- 3. Rough order of magnitude (planning level) Benefit-Cost Analysis
- 4. Preliminary concepts
- 5. Preliminary funding sources for consideration
- 6. Implementation strategy





- 1. Weight Assignment: Each factor is assigned a weight that reflects its importance in the overall evaluation, ranging from 1 (least important) to 5 (very important).
- 2. Criteria Definition: Factors are defined to clearly explain what data is needed and where to find it.
- 3. Scoring: Each submitted crossing location is evaluated and scored against the defined factors. Scoring is a combination of numerical (e.g., 1-3 scale) and categorical (e.g., "Yes" or "No") scores.
- 4. Weighted Score Calculation: For each factor, the score is multiplied by its corresponding weight to get a weighted score. The overall score for each option is then calculated by adding up these weighted scores.
 - [Weighted Score = \sum (Score × Weight)]
- 5. Decision Making: The crossing location with the highest weighted score is considered the most suitable choice based on the evaluated criteria. If there are ties in the scores, additional factors like Gade Crossing Accident Prediction (GXAPS) Score and Protection Type will be used to further evaluate the location.



Factor	Weight	Description and Consideration	Score
No. of tracks	2	Number of tracks intersecting roads. You can find this data in the Crossing Inventory Listing.	≥5 = 3 pts 3-4 = 2 pts <2 = 1 pts
Trains per day (both through and switching movements)	5	Number of trains per day on intersecting railroads. You can find this data in the Crossing Inventory Listing. Will also include switching trains.	≥50 = 3 pts 26-49 = 2 pts 0-25 = 1 pts
Reported Blocked crossings	3	Number of reported blockages over a 12-month period, as found on the FRA Blocked Crossing Portal.	≥61 = 3 pts 16-60 = 2 pts 0-15 = 1 pts
Police/fire/EMS distance	4	Fire, EMS, or Police station within one-fourth mile of crossing. Blocked crossings can delay emergency services from providing timely life-saving care. We'll use the H-GAC ACE Tool to figure out if a location falls within this buffer zone.	Yes = 3 pts No = 1 pts

Track data reported in Crossing Inventory Listing https://data.transportation.gov/stories/s/Crossing-Inventory-Listing/ejv6-cpdh/



Train ADT found in the crossing Inventor

^[3] Reports the amount of time a crossing is blocked. Page 4, Blocked Crossing Portal, https://railroads.dot.gov/sites/fra.dot.gov/files/2024-01/FRA%20Report%20to%20Congress Blocked%20Crossing%20Portal.pdf



Factor	Weight	Description and Consideration	Score
Proximity to school	5	For this factor, we'll consider schools within a quarter of a mile of the crossing. Train blockages can create barriers to schools.	Yes = 3 pts No = 1 pts
Crash History	5	Reports on incidents, fatalities, and serious injuries that occur at rail crossings per year.	>10 = 3 pts 5-10 = 2 pts <5 = 1 pt
High Injury Network	3	Grade crossings may impact the safety records of HIN streets; removing a vehicle-train interaction will improve safety.	Yes = 3 pts No = 1 pts
City/County Services	1	Proximity to other public destinations, including community centers, hospitals, health department facilities, and libraries, within a quarter mile.	Yes = 3 pts No = 1 pts
Supply Chain or freight generator	2	Proximity to freight generators, within a quarter mile.	Yes = 3 pts No = 1 pts



Highway-Rail Grade Crossing Incident, Fatalities, and Injuries list - https://data.transportation.gov/stories/s/Highway-Rail-Grade-Crossing-Incidents-patalities-a/bda5-32at/ n



Factor	Weight	Description and Consideration	Score
Distance to nearest grade separation	4	The existence of a parallel grade separation is within a half mile.	Yes = 1 pts No = 3 pts
AADT Score	3	Vehicle volumes on the intersection roadway.	≥20k/day = 3 pts 1k-20k/day = 2 pts <1k/day = 1 pts
Road Classification	3	Street classification on Major Thoroughfare and Freeway Plan.	Major = 3 Collector = 2 Local = 1



Thank you

Questions



Announcements

Houston-Galveston Clean Cities Coalition Stakeholder Meeting

- Date: July 22, 12:00 1:30 PM
- Highlights:
 - Presentation by Mr. Dan Goff of Kodiak on Autonomous Trucking
 - Review of the draft results of our annual report

Statewide Clean Cities Webinar – EV Charging Solutions

- Date: July 24, 10:00 11:00 AM
- Special Guests: Beam, XCharge, and AK Power Solutions
- Focus:
 - Learn about advanced energy management and resiliency applications from industry leaders

DFW Clean Cities Event - EV Codes Roundtable

- Date: July 30, 1:00 2:00 PM
- Purpose:
 - Collaborative roundtable discussion on EV codes
 - We encourage you to attend and see if you would be interested in having a similar event hosted for our region



How to get Involved





- Attend public meetings
- Take a survey
- Website: <u>RTP2050.com</u>
- Join stakeholder group
- Signup for news



Next Meeting



October 17, 2025, 9 am – 12 pm

- Touring the Union Pacific
 Englewood Yard and Port Houston
- Sign up for the tour by September 19th
 - Link will be sent out with the follow-up materials

Greater Houston Freight
Committee Tour





Thank you

Upcoming Meetings

July 25, 2025 - Transportation Policy Council Meeting

July 29, 2025 – Transportation Safety Committee

August 13, 2025 – Transportation Advisory Committee Meeting

