

**MEETING OF THE RTP SUBCOMMITTEE
HOUSTON-GALVESTON AREA COUNCIL**

MEMBERS PLEASE USE THE TEAMS INVITATION

TELECONFERENCE PARTICIPATION VIA MICROSOFT TEAMS

[+1 346-262-0140](tel:+13462620140) United States, Houston (Toll)

Conference ID: 641 945 004#

May 11, 2022

1:30PM

AGENDA

1. Call to Order
Roll Call Attendance
2. Election of Officers
Staff will ask for nominations from the floor for Chair and Vice Chair
3. Acceptance of Minutes
From meeting of March 9, 2021
4. Action Items
 - a. Transit Asset Management (TAM) Plan – request to recommend CY 2024-2026 Performance Targets (Jamilia Owens and Chris Whaley)
5. Review Timeline for System Reliability, Freight, and Congestion Management Air Quality (CMAQ) Performance Measures (PM3) (Karen Owen)
6. Transit-Oriented Development – Website (Justin Kuzila)
7. Discussion of the 2045 RTP Updating Strategy
 - a. Outreach Strategy – Visioning Phase Update (Mike Burns)
 - b. Aviation (Mike Burns)
 - c. Ferry Operations (Mike Burns)
 - d. High Speed Rail (Mike Burns)
8. Announcements
 - a. Next TAC Meeting – May 18, 2022 at 9:30AM (Teleconference)
 - b. Next TPC Meeting – May 20, 2022 at 9:30AM (Teleconference)
 - c. Next RTP Subcommittee Meeting – June 15, 2022 at 1:30PM (Teleconference)
9. Adjourn

RTP Subcommittee Roster

Nominated Position	Primary-Name	Organization	Alternate-Name	Organization
Local Government	Morad Kabiri	City of Friendswood	Jildardo Arias	City of Friendswood
Transit	Perri D'Armond	Fort Bend County	Stacy Slawinski	Fort Bend County
Active Transportation	Joe Cutrufo	Bike Houston	Nikki Knight	SE Management Dist.
Airport	Bill Zrioka	Houston Airport System	Marcel Allen	Houston Airport System
Business Interest	Elizabeth Whitton	Energy Corridor	Elijah Williams	Energy Corridor
Citizen Interest	Andrea French	Scenic Houston	Jonathan Brooks	LINK Houston
Environmental	Harrison Humphreys	Air Alliance Houston	Vacant	
Local Government	Todd Stephens	The Woodlands Township	Ruthanne Haut	The Woodlands Township
Local Government	Karen McKinnon	Brazoria County	Matt Hanks	Brazoria County
Local Government	Hon. John Bowen	City of League City	Christopher Sims	City of League City
Local Government	Robert Upton, P.E.	City of Pearland	Rajendra Shrestha	City of Pearland
Local Government	David Fields	City of Houston-P&D	Peter Eccles	City of Houston - Planning
Local Government	Loyd Smith, P.E.	Harris County	Brannan Hicks	Harris County
Local Government	Monique Johnson	City of Sugar Land	Rick Ramirez	City of Sugar Land
Local Government	Yancy Scott	Waller County	Hon. Jay Knight	Liberty County
Planning	Katherine Parker	GCRD	Carol Lewis, PhD	TSU
Port	Bruce Mann	Port of Houston	Rohit Saxena	Port of Houston
Port	Mike Wilson	Port of Freeport	Rodger Rees	Port of Galveston
State	Charles Airiohuodion	TxDOT-HOU	Jeffrey English	TxDOT-HOU
State	Lisa Collins	TxDOT-BMT	Scott Ayres	TxDOT-BMT
Toll Road	Vacant		Vacant	
Transit	Ken Fickes	Harris County	Vernon Chambers	Harris County
Transit	Taylor Marcantel	METRO	Jose Pulido	METRO

**MEETING OF THE RTP SUBCOMMITTEE
HOUSTON-GALVESTON AREA COUNCIL
TELECONFERENCE PARTICIPATION VIA MICROSOFT TEAMS
March 9, 2022
1:30PM
Minutes**

Member Attendance:

Primary-Name	Present	Alternate-Name	Present
Morad Kabiri, Chair	Yes	Robert Upton	No
Perri D'Armond, Vice Chair	No	Stacy Slawinski	No
Monique Johnson	No	Krystal LaStrape	No
Bill Zrioka	Yes	Marcel Allen	No
Andrea French	No	Nikki Knight	No
Elijah Williams	No	Elizabeth Whitton	Yes
Iris Gonzalez	No	Jonathan Brooks	No
Adam France	No	Chris Bogert	No
Christopher Sims	Yes	Hon. Chad Tressler	No
Matt Hanks	No	Karen McKinnon	No
David Fields	Yes	Peter Eccles	Yes
Hon. Jay Knight	No	David Douglas	Yes
Loyd Smith	No	Bryan Brown	Yes
Nick Woolery	No	Frank Simoneaux	No
Yancy Scott	Yes	Jared Chen	No
Katherine Parker	Yes	Carol Lewis	No
Bruce Mann	No	Rohit Saxena	No
Rodger Rees	Yes	Brett Milutin	No
Charles Airiohuodion	Yes	Jeffrey English	Yes
Lisa Collins	No	Scott Ayres	No
Ken Fickes	No	Vernon Chambers	Yes
Kenneth Brown	Yes	Philip Brenner	No
John Tyler	No	Dale Hilliard	Yes

Others Present: Jim Dickinson, Thomas Gray, Christopher Whaley, Patrick Mandapaka, Kent McLemore, Carlos Lugo, Amy Skicki, Tim (guest), Weijie Zhuo, Shirley Li, Christopher Whaley, Brandy George, Karen Owen, Susan Jaworski

Staff Participating:

Mike Burns, Jamila Owens, David Fink, Veronica Green

1. Call to Order
Chair Morad K called the meeting to order at 1:31PM and conducted roll call to ensure a quorum. Morad K confirmed that a quorum was present.
2. Acceptance of Minutes
Elizabeth W made a motion to approve, Bill Z seconded.
The motion was approved unanimously.
3. Transit Asset Management (TAM) Plan – Informational (Jamila Owens and Chris Whaley)
 - a. CY 2022 Asset Target Analysis
 - b. CY 2024-2026 Target Setting

c. Investments to Meet Targets

Jamila O presented the Transit Asset Management Plan's listing of asset categories and measures, discussed the performance measure and targets for calendar years 2020 and 2020, the process for establishing future year performance targets for calendar years 2024 and 2026, the investments to meeting future targets, and the timeline for approving and establishing the future year targets. It was noted that each transit agency prepares a TAM plan and each MPO is required to set regional targets biennially using the information in each transit agency's TAM plan. The process aligns with the regional goal of achieving and maintaining a state of good repair for transit assets. Investments to help achieve this goal includes \$40 million in transit investments in the regional TIP. It was noted that a recommendation will be requested at the April meeting followed by approval by TAC and TPC at their May meetings.

4. Discussion of the 2045 RTP Updating Strategy

a. Outreach Strategy – Visioning Outreach Update

Mike B briefly mentioned the public survey and outreach meetings for each county will now start in April 2022 and proceed through May 2022. An image of the website shared with a note that the theme was a multimodal approach that encouraged working and thriving together. A sample of the survey question was also shared noting the use of juxtaposition questions to get public input on tradeoffs.

David Fields asked if the condition juxtaposition question could be more multimodal rather than roadway oriented.

Mike B responded that the condition question was focused on quality of facilities rather than any specific mode of travel and mentioned that there are other questions related specifically to multimodal travel.

Mike B responded that meetings will likely be a combination of in-person and virtual.

b. Transportation Assets – Regional ITS/Safety (David Fink)

David Fink summarized the region's traffic safety, ITS, and incident management programs. This included a note that the TPC will be establishing a task force to recommend strategies to improve the rate of roadway fatalities and serious injuries. Data was presented summarizing crash totals and types, response time to clear crashes, and noted some key investments in projects and programs listed in the RTP to improve transportation safety and incident response. Other strategies included use of safety countermeasures as part of a regional intersection study. Morad K noted a question in the chat from Amy Skicki regarding any impact to the timeline for hurricane evaluations due to population increase.

David Fink did not know if there have been any changes from the current 48-hour notification for evaluation and noted that residents only needed to evacuate out of the storm surge areas.

c. Freight – Regional Goods Movement Plan Update (Veronica Green)

Veronica G provided an overview of the recently initiated RGM plan, which included the project team, purpose, study area and facilities, and project schedule. The plan should be completed by June 2023 and will include vision and goals that align with the RTP. Some initial data was summarized, including projections in commodity flows through 2050 and congestion, safety, and facilities considerations that will be part of additional analysis during the plan's development. The outreach strategy and public participation opportunities are all included in the project's webpage on engage.h-gac.com.

Elizabeth W asked if growing industrial areas will be examined as part of the process.

Veronica G responded that industrial land use is not the focus, rather than the impacts of land uses on the system will be the focus.

Elizabeth W responded that some new facilities in the western area of the region will be open soon and wants to ensure the plan accounts for those facilities.

Veronica G responded that if there is a permit issued for a new facility that those be shared with the project team.

5. Announcements

- a. Next TAC Meeting – March 16, 2022 at 9:30AM (Teleconference)
- b. Next TPC Meeting – March 25, 2022 at 9:30AM (Teleconference)
- c. Next RTP Subcommittee Meeting – April 13, 2022 at 1:30PM (Teleconference)

Morad K mentioned upcoming meetings over the next month and noted that the next RTP meeting will be in May if members concurred with meeting on a bi-monthly schedule.

Mike B noted a 2023-2026 Transportation Improvement Program public meeting on March 22, 2022.

6. Adjourn

Morad K asked for any other comments. Hearing none, the Chair declared the meeting adjourned at 2:17PM.

Minutes submitted by: Mike Burns

DRAFT



Item 4: Transit Asset Management Performance Measures



Chris Whaley for RTP Subcommittee
May 11th, 2022

Transit Asset Management (TAM)



- **Purpose: *Ensure State of Good Repair***
- **Overview:**
 - ***Each transit agency has a Transit Asset Management Plan***
 - ***Each MPO sets regional targets***
 - ***H-GAC sets the regional targets (biennially) for asset management using the information in each Agency's TAM Plan***

Transit Asset Management (TAM)

Asset Category	Performance Measure
Rolling Stock	Age - % of Revenue Vehicles exceeding their Useful Life Benchmark (ULB)
Equipment	Age - % of Non-revenue Vehicles exceeding their Useful Life Benchmark (ULB)
Facilities	Condition - % of Facilities with a condition rating below 3 on the TERM scale (Marginal or Poor)
Infrastructure	Performance - % of Rail track segments, signals and systems with performance restrictions

Transit Asset Management (TAM)



■ **Current Process:**

- **Use updated agency TAM Plans to calculate current performance**
- **Use current performance to set next targets**

Regional TAM Performance

Performance Targets and Actuals by Year									
Asset Category	2018	2020			2022			Proposed Targets	
	Baseline	Targets	Actuals	Achieved	Targets	Actuals	Achieved	2024	2026
Rolling Stock (revenue vehicles)	11%	11%	10%	✓	10%	10%	✓	10%	10%
Equipment (non-revenue vehicles)	46%	46%	46%	✓	46%	46%	✓	46%	46%
Facilities (buildings and structures)	55%	55%	55%	✓	54%	45%	✓	45%	45%
Infrastructure (rail tracks, signals & systems)	0%	0%	0%	✓	0%	0%	✓	0%	0%

Note: A lower percentage indicates better conditions of the transit assets.

Transit Investments to Watch



- **Over \$40 million transit investments in the TIP (METRO, City of Conroe, The Woodlands Township)**
- **Fort Bend County – 28 new buses / service to downtown**

Action Requested



The Regional Transportation Plan Subcommittee endorse the Regional Transit Asset Management Performance Targets proposed for 2024 and 2026.

TAM Performance Targets – Proposed Timeline



Month	Event
✓ January	RTCS Information
✓ February	RTCS Endorsement
✓ March	RTP & TIP Subcommittee Information
✓ March	2023-2026 TIP Public Comment & Review Period
✓ April	TIP Endorsement, TAC/TPC Information
May	RTP Endorsement, TAC/TPC Action

Discussion/Questions?





Performance Measures



Karen Owen
RTP Subcommittee
May 11, 2022



Federal Performance Measures

- Required by the FAST Act and Infrastructure and Investment Jobs Act
- Report Performance of past 4 years (targets met?)
- Target Setting for future 4 years



Transportation System Performance

Reliability

- Personal & Truck Travel Times

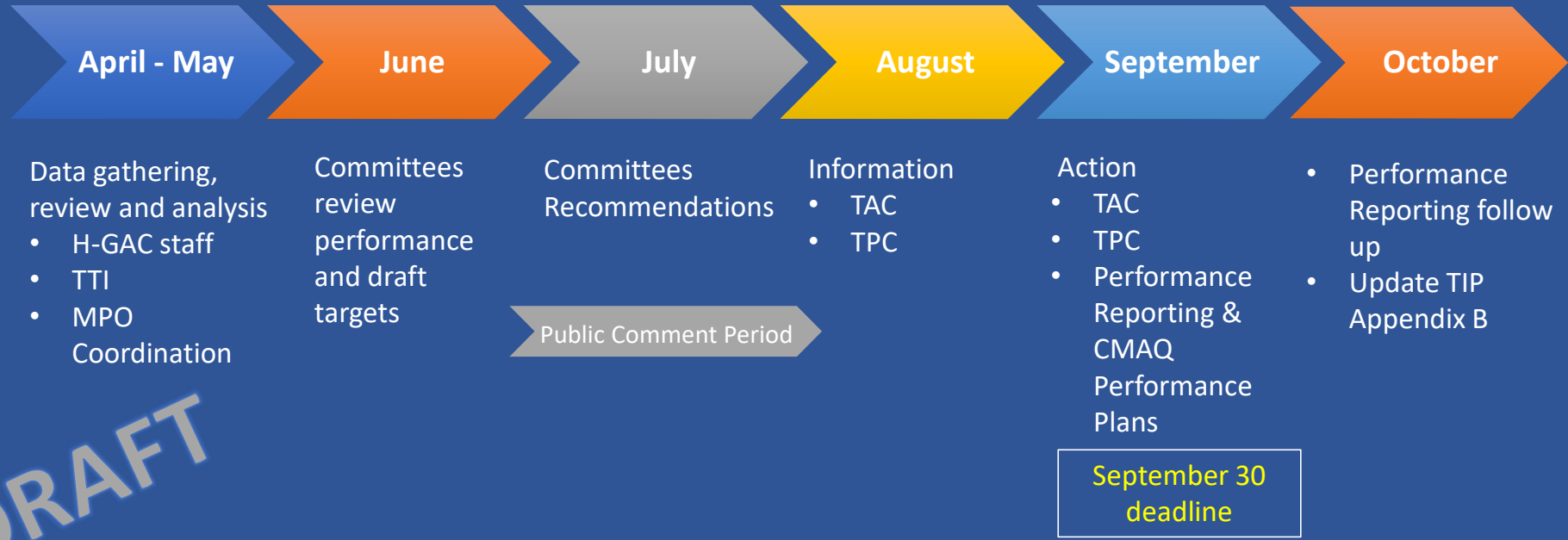
Congestion

- Peak Hour Excessive Delay
- Multi-Occupant Vehicle Use

Air Quality

- Emissions reduced from CMAQ projects

Reliability, Congestion & Air Quality Performance Measures



DRAFT

Performance Measures



Performance Measures:

<https://www.h-gac.com/transportation-performance-measures>

Performance Report:

<https://www.h-gac.com/getmedia/105c5480-1dd4-4025-b9a3-f921d5f31639/Appendix-B-FAST-Act-Compliance-Performance-Measures-January-2022>

Questions?



Transit Oriented Development Update



May 11, 2022
RTP Subcommittee



Defining Transit Oriented Development

Transit-oriented development (TOD) aspires to re-imagine how we grow our communities. This form of development shifts away from the traditional low-density, auto-centric exurban/suburban growth models, to instead focus on building economic hubs (with housing, retail, office, and recreational options) along corridors that offer more transit and multimodal travel options for residents.



TOD Webpage



- What is TOD?
- Where can TOD work?
- Why TOD in the Houston Region.
- What could TOD in Houston look like?
- How to make TOD successful in the Houston Region.

H-GAC Houston-Galveston Area Council

Search H-GAC

Transit Oriented Development

Transit-oriented development (TOD) aspires to re-imagine how we grow our communities. This form of development shifts away from the traditional low-density, auto-centric exurban/suburban growth model to instead focuses on building economic hubs (with housing, retail, office, and recreational options) along corridors that offer more transit and multimodal travel options for residents. By building these more dense, walkable, mixed-use districts, residents can work, play, and move throughout the region more efficiently and enjoy enhanced quality of life.

Why Transit-Oriented Development?

By shifting development to a more transit-oriented design, residents attain better access to more multimodal transportation options beyond using personal vehicles. This can help alleviate roadway congestion, improve traffic safety, bolster transit ridership, increase recreational opportunities, and provide residents higher quality of life with better, more connected communities to live, work, and play.

Where Can Transit-Oriented Development Work?

Although the Houston Region does not possess the typical formula for transit-oriented development as other major urban centers like Los Angeles or Chicago, TOD still has plenty of potential to succeed in many areas of the region. We can create more effective, alternative types of TOD that fit around the park and ride facilities, light rail stations, bus-rapid transit stops, and high use local routes.

Why Transit-Oriented Development in the Houston Region?

Historically, the region's growth pattern has relied on costly highway expansions to handle increasing suburban development. While this has helped to facilitate rapid growth, it has also led to uneven growth. Much of our region's growth in recent years has been concentrated along the outskirts of the city. It has also created a strain on resources, which has furthered the economic divide between more affluent neighborhoods and historically neglected communities.

Transit Oriented Development

- [Regional Data](#)
- [Regional Demographic Data](#)
- [Regional Employment Data](#)
- [Webmap](#)

RESOURCES

- [Transit Oriented Development Institute](#)
- [Federal Transit Administration](#)
- [City of Houston TOD Standards](#)
- [EPA Brownfields](#)

TOD Webpage



- H-GAC's Approach to TOD should focus on:
 - Transportation
 - Economic opportunity
 - Equity
 - Place Making

H-GAC's Approach to Transit Oriented Development

H-GAC aims to take a holistic, regionally coordinated approach to transit-oriented development by focusing on the key principles of transportation, economics, equity, and placemaking.

Transportation

Focusing TOD around areas that offer current and future transit lines will be key to making it successful in the region. This strategy can further incentivize and encourage residents to use already-established transit services, which will further enhance their service quality and fuel expansion.

List of transit providers, services and future connections

- [MetroNext](#)
- [Metro Transit](#)
- [Harris County Transit](#)
- [Conroe Connection](#)
- [Island Transit](#)
- [Fort Bend County Transit](#)
- [Golf Coast Transit District](#)
- [Brazos Transit District](#)
- [The Woodlands Township](#)

Economic

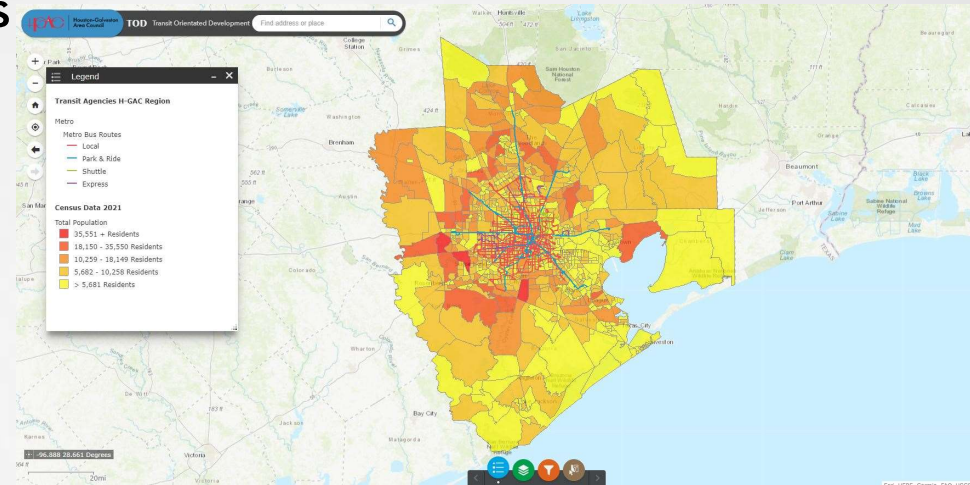
Equity

Place Making

TOD Webpage



- Regional Data
 - Regional Demographics
 - Regional Economic
 - Web mapping Tool
- Resources
 - City of Houston TOD Standards
 - TOD Institute
 - FTA



Next Steps



- Feedback on next steps moving forward
 - What is important to the Houston Region?
 - Regionwide TOD Plan?
 - Regional TOD evaluation?
 - TOD Viability Study?
 - List of TOD best practices?
 - Case study evaluation of peer regions?
 - Creation of TOD Toolkit?

Next Steps



- Weblink www.h-gac.com/transit-oriented-development
- Contact Justin Kuzila
- Justin.Kuzila@h-gac.com



Regional Transportation Plan Update



Mike Burns, AICP
RTP Subcommittee – 05/11/2022

RTP Update Schedule



July 2021-June 2022

Visioning & Needs Assessment Phase



July - December 2022

Prioritization Phase



January 2023 - April 2023

Plan Review Public Meetings

2021

2022

2023

Public Meetings & Visioning Survey

May 2022

Public Meetings

October 2022

Finalize RTP

April 2023

2045 RTP Update Public Meetings

Fort Bend County: Thursday, May 5 – Sugar Land City Hall

Brazoria County: Tuesday, May 10 – Pearland City Hall

Liberty County: Thursday, May 12 – Liberty City Hall

Galveston County: Tuesday, May 17 – Historic Galveston 30th Street Pump Station

Waller County: Thursday, May 19 – City of Hempstead Recreation Room

Montgomery County: Tuesday, May 24 – Shenandoah City Hall

Harris County: Thursday, May 26 – Houston-Galveston Area Council Office

Chambers County: Tuesday, May 31 – Eagle Pointe Recreation Center

Virtual Meeting: Thursday June 2 – Virtual

- Vision Survey
- Commenting Map
- Transportation 101
- Share Ideas
- Ask Questions



Home » 2045 Regional Transportation Plan Update

2045 Regional Transportation Plan Update

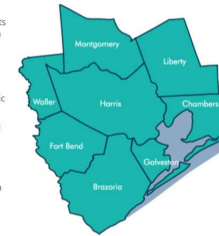


The 2045 Regional Transportation Plan (RTP) Update for the Houston-Galveston area will build on previous planning efforts to set investment priorities for the multimodal transportation system that connects people to places where they live, work, play, and efficiently moves goods from, to, and through the region.

Updated every four years in coordination with the state, transit providers, local public agencies, freight interests, public and private community organizations, the RTP will:

- Assess demographic trends and transportation demand
- Forecast future demand for regional mobility
- Estimate available funding
- Track progress towards system performance targets

Help us connect the dots and make getting around the region safer and better for generations to come.



[Visioning Survey](#) [Introduction Video](#) [Comment Map](#) [Transportation 101](#) [Ideas](#) [More -](#)

Visioning Survey

HELP US FORGE A NEW TRANSPORTATION VISION

The world is changing. How we work. How we commute. How we buy and trade goods. And how we visit with friends and family.

Our region is evolving. How we approach transportation planning must evolve too.

We need a new vision that prioritizes safety, convenience, accessibility, and sustainability. A vision that drives opportunity wherever we live and however we move. A vision where every part of our community is connected and thriving now and in the future.

We need your involvement to bring this vision to life.

Take our digital survey & help us connect the dots to make getting around the region safer and better for generations to come!

Because life is better when we all work and thrive together!



Visit engage.h-gac.com/2045rtpupdate

Survey starts

Finish

Documents

2045 RTP

Shortcuts

2045 RTP Documents

RTP Updating Schedule

- July 2021 to June 2022 - Visioning and Needs Assessment Phase
Develop vision, strategies, and goals through public survey and outreach.
- May 2022 - Visioning Phase Public Meetings
- July to December 2022 - Prioritization and Scenario Planning Phase
Link between vision and project selection.
- October 2022 - Prioritization Phase Public Meetings
- January to April 2023 - Plan Review Phase
Communicate content and outcome through public review prior to Transportation Policy Council approval.
- February 2023 - Plan Review Public Meetings
- April 2023 - Approval
Follow public outreach and review the draft 2045 RTP Update will be presented to the Transportation Policy Council for approval.
- April to August 2023 - Air Quality Conformity Review
Confirmation that the regional emissions resulting from implementation of projects prioritized through the horizon year of 2045 will result in regional air quality conditions that are within forecasted budgets.


Who's Listening

Mike Burns
Principle Planner
H-GAC








Email: mike.burns@h-gac.com

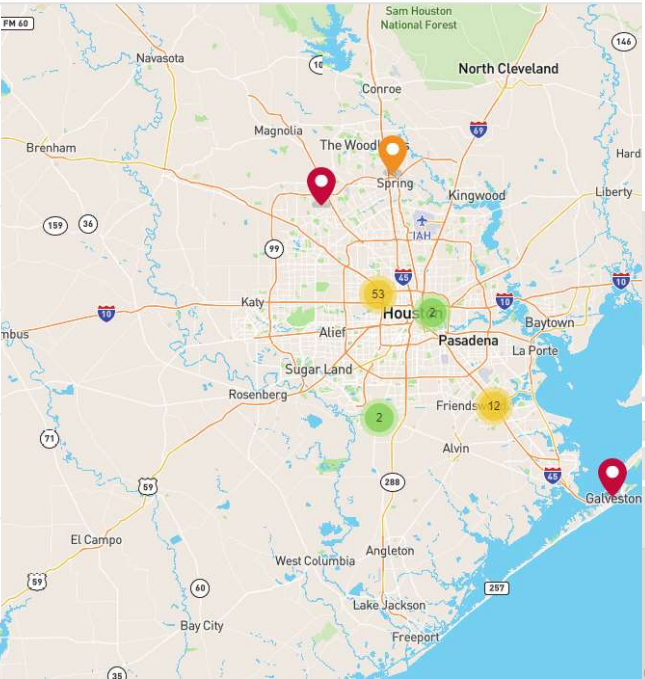
Comment Map: engage.h-gac.com


 **Houston-Galveston Area Council**

Home » 2045 Regional Transportation Plan Update » Where are your areas of concern? Map it!


ADD PIN
Select a pin below and drag to the map

-  Safety
-  Congestion and Delay
-  Access and Connectivity
-  Walking, Biking, and Transit
-  Anything Else





 **Houston-Galveston Area Council**

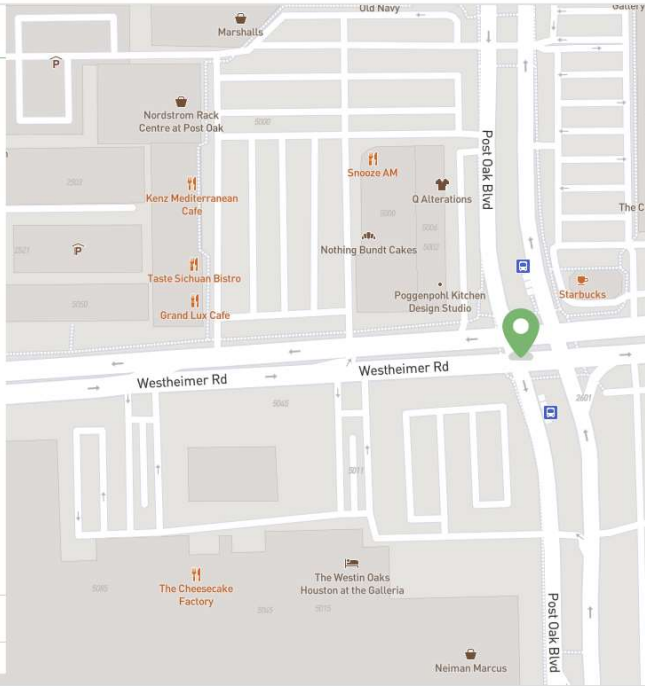
Home » 2045 Regional Transportation Plan Update » Where are your areas of concern? Map it!

 **NealEhardt**
2 days ago

It's impossible to safely bike to the Galleria: one of the most prominent hubs in the region for jobs and shopping. Please add protected bike lanes to Westheimer and to Post Oak. Bike lanes will increase capacity for people; it will improve safety; it will revitalize local businesses; and it will have strong synergy with the Silver Line as bicycle riders transfer to the bus. There are so many lanes for cars - please convert one in each direction to a protected bike lane!



 Access and Connectivity



Story Map: engage.h-gac.com



Collection

2045 RTP Update Visioning Outreach

2045 Regional Transportation Planning

Mike Burns

Get started



1 Transportation 101



2 Households



3 Jobs



4 Commute Flows



5 Performance Measures



6 Texas Congestion Index



7 Freight Network NHS



8 Ports and Waterways

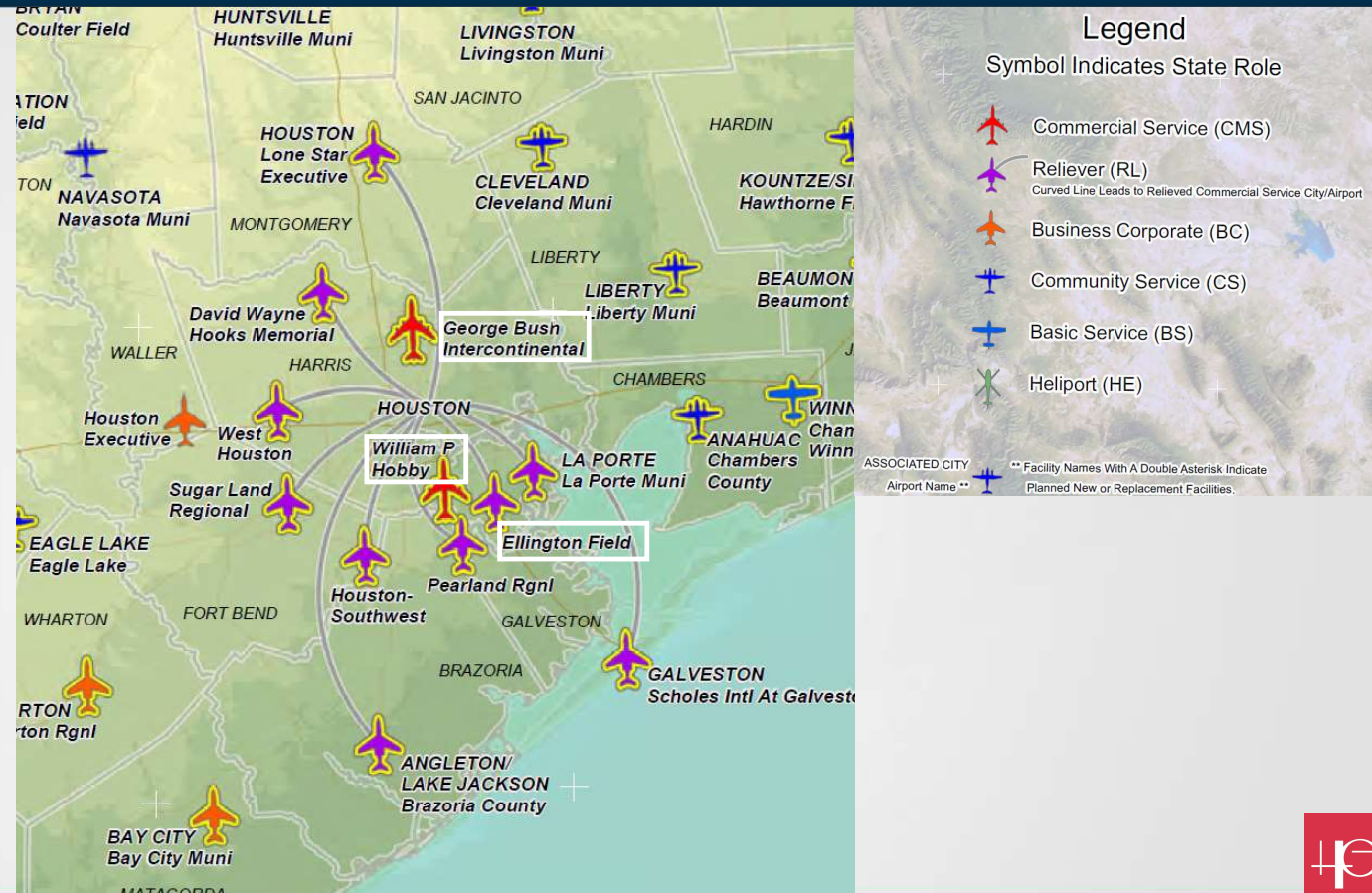


9 Active Transportation Viewer

- Interactive Maps
- Demographics
- Asset Conditions

Other RTP Elements – Aviation

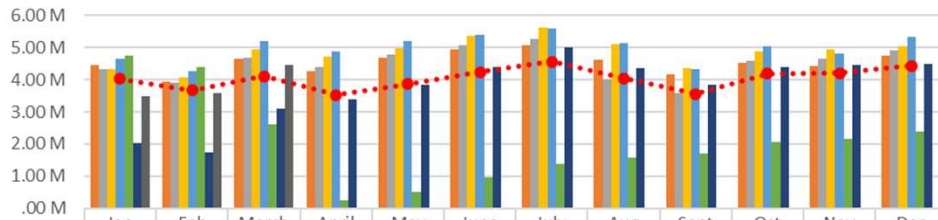
Facilities



Aviation – Houston Airport System

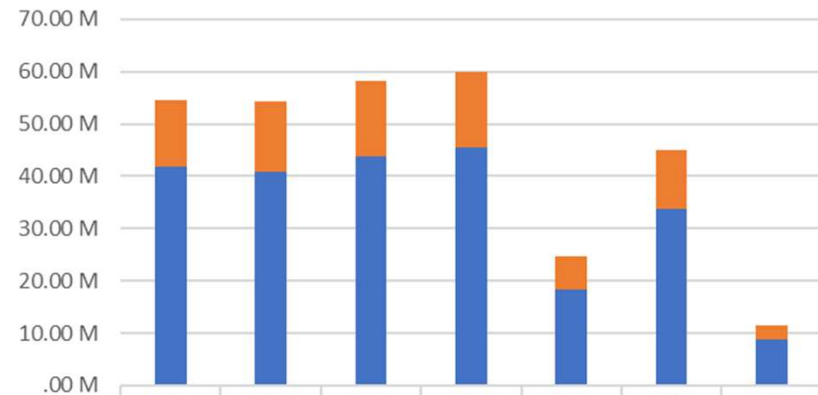
Passengers

Total - IAH & HOU - Passengers



2016	4.44 M	3.94 M	4.66 M	4.26 M	4.67 M	4.96 M	5.07 M	4.61 M	4.18 M	4.51 M	4.44 M	4.75 M
2017	4.33 M	3.91 M	4.69 M	4.41 M	4.79 M	5.07 M	5.25 M	4.01 M	3.57 M	4.58 M	4.65 M	4.90 M
2018	4.32 M	4.06 M	4.95 M	4.72 M	4.96 M	5.36 M	5.60 M	5.09 M	4.36 M	4.88 M	4.94 M	5.05 M
2019	4.66 M	4.26 M	5.21 M	4.88 M	5.19 M	5.39 M	5.57 M	5.15 M	4.34 M	5.05 M	4.81 M	5.32 M
2020	4.75 M	4.40 M	2.62 M	.24 M	.51 M	.96 M	1.37 M	1.56 M	1.70 M	2.06 M	2.15 M	2.37 M
2021	2.03 M	1.73 M	3.10 M	3.38 M	3.85 M	4.39 M	4.99 M	4.37 M	3.82 M	4.39 M	4.44 M	4.49 M
2022	3.49 M	3.57 M	4.44 M									
5-YR Monthly Avg	4.02 M	3.67 M	4.11 M	3.53 M	3.86 M	4.23 M	4.56 M	4.04 M	3.56 M	4.19 M	4.20 M	4.43 M

IAH & HOU - Total Annual Passengers

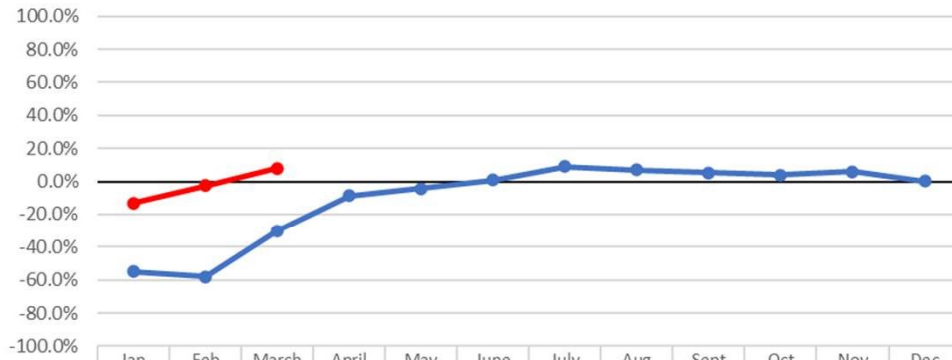


HOU - Passengers	12.78 M	13.44 M	14.48 M	14.46 M	6.48 M	11.31 M	2.76 M
IAH - Passengers	41.69 M	40.73 M	43.81 M	45.38 M	18.22 M	33.67 M	8.74 M

Aviation – Houston Airport System

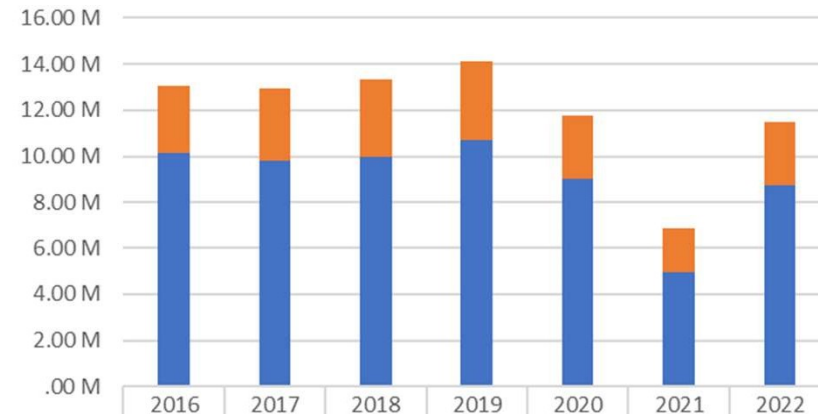
Passengers

IAH & HOU - Passengers vs 5-Year Average



2022 vs 5-YR Avg	-13.2%	-2.6%	8.0%									
2021 vs 5-YR Avg	-54.9%	-58.0%	-29.9%	-8.7%	-4.3%	0.9%	9.2%	7.0%	5.4%	4.0%	5.8%	0.3%

IAH & HOU - Total Passengers to Date

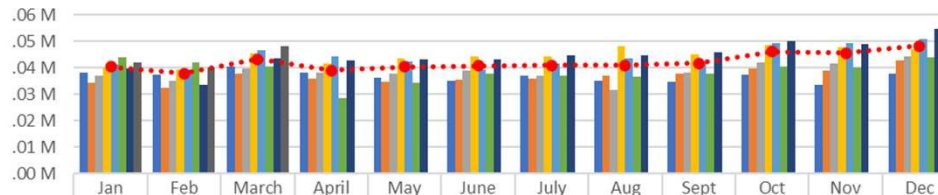


HOU - Passengers	2.90 M	3.12 M	3.33 M	3.43 M	2.73 M	1.93 M	2.76 M
IAH - Passengers	10.14 M	9.82 M	10.00 M	10.69 M	9.04 M	4.92 M	8.74 M

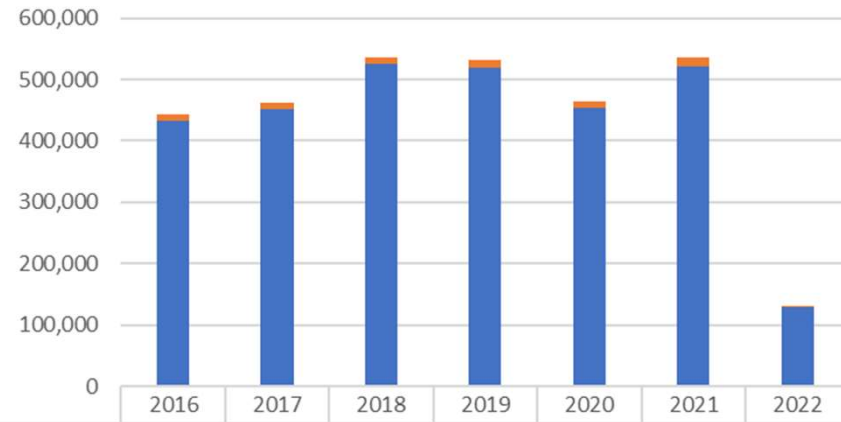
Aviation – Houston Airport System

Air Cargo

Total - IAH & HOU - Cargo (Metric Tons)



IAH & HOU - Total Annual Cargo (Metric Tons)



	2016	2017	2018	2019	2020	2021	2022
HOU - Air Cargo	10,646	10,569	11,392	11,916	10,479	13,215	2,777
IAH - Air Cargo	431,981	451,131	524,715	518,697	452,771	521,500	127,811

Aviation – Houston Airport System

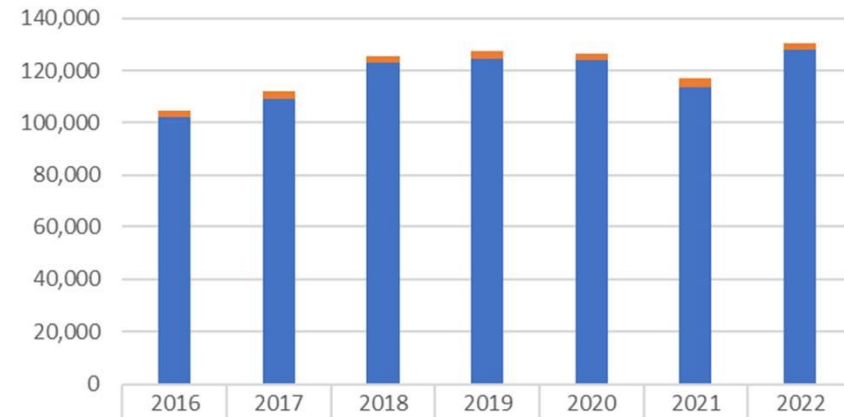
Air Cargo

IAH & HOU - Cargo vs 5-Year Average (Metric Tons)



	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2022 vs 5-YR Avg	4.3%	6.3%	11.3%									
2021 vs 5-YR Avg	1.1%	-11.3%	3.7%	13.6%	11.4%	10.3%	13.9%	13.2%	13.9%	13.4%	12.8%	19.3%

IAH & HOU - Total Cargo to Date (Metric Tons)



	2016	2017	2018	2019	2020	2021	2022
HOU - Air Cargo	2,610	2,501	2,318	2,725	2,640	3,362	2,777
IAH - Air Cargo	102,086	109,328	122,902	124,575	123,932	113,494	127,811

Aviation – Houston Airport System

Improvements

MPOID	CSJ Number	CIPID	County Name	Sponsor	Project Description	Type	TOTAL COST
18178			Harris	METRO	New BRT service from downtown to Bush Intercontinental Airport; includes 4 stations	TRANSIT	\$358,220,000
18191			Harris	METRO	Bus priority treatments, bus stop optimization, and frequent service along Airport/College/Spencer between Hobby Airport and San Jacinto College Central in LaPorte	TRANSIT	\$5,510,061
18174			Harris	METRO	Extension of Purple/Southeast from MLK/Griggs via MLK and East Bellfort; includes 9 stations	TRANSIT	\$2,678,360,000
18093			Harris	CITY OF HOUSTON - PARKS & RECREATION DEPARTMENT	CONSTRUCT A NEW NORTH-SOUTH GREENWAY INCLUDING DEDICATED BIKE PATHS, A NEW BRIDGE OVER BUFFALO BAYOU, A NEW TRAIL ALONGSIDE OLD GALVESTON ROAD, A NEW BRIDGE ACROSS SIMS TO A NEW GREENWAY SOUTH TO HOBBY AIRPORT, PLUS ASSOCIATED INTERSECTION IMPROVEMENTS.	PEDESTRIAN / BICYCLE	\$100,948,740

Aviation – Houston Airport System

- “Space Port” Improvements
 - Enabling Highway Projects
 - Improve Access
 - Mitigation Neighborhood impacts

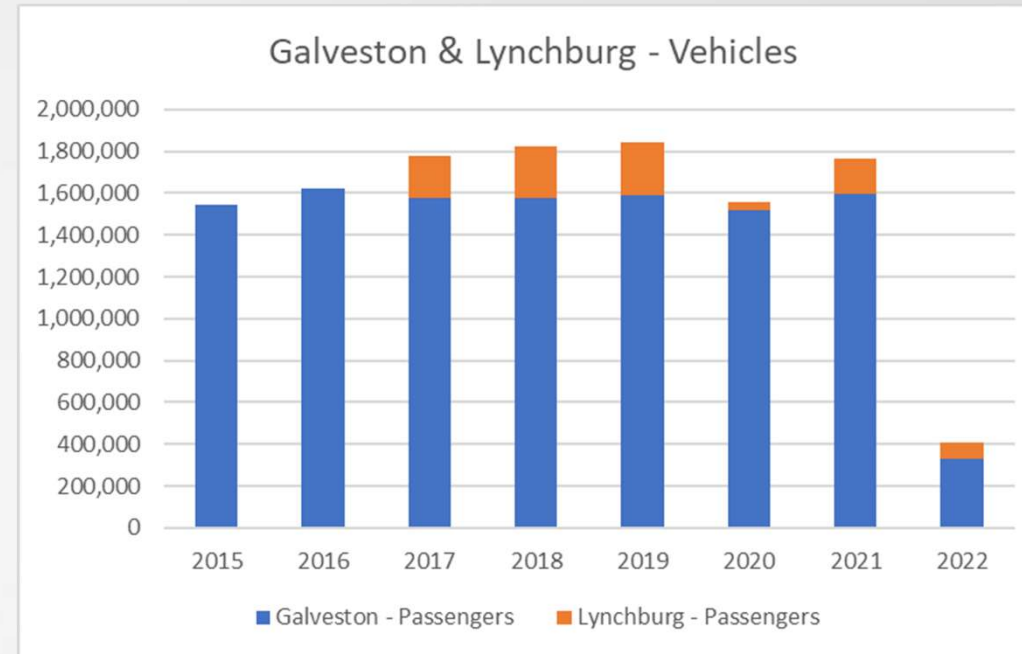
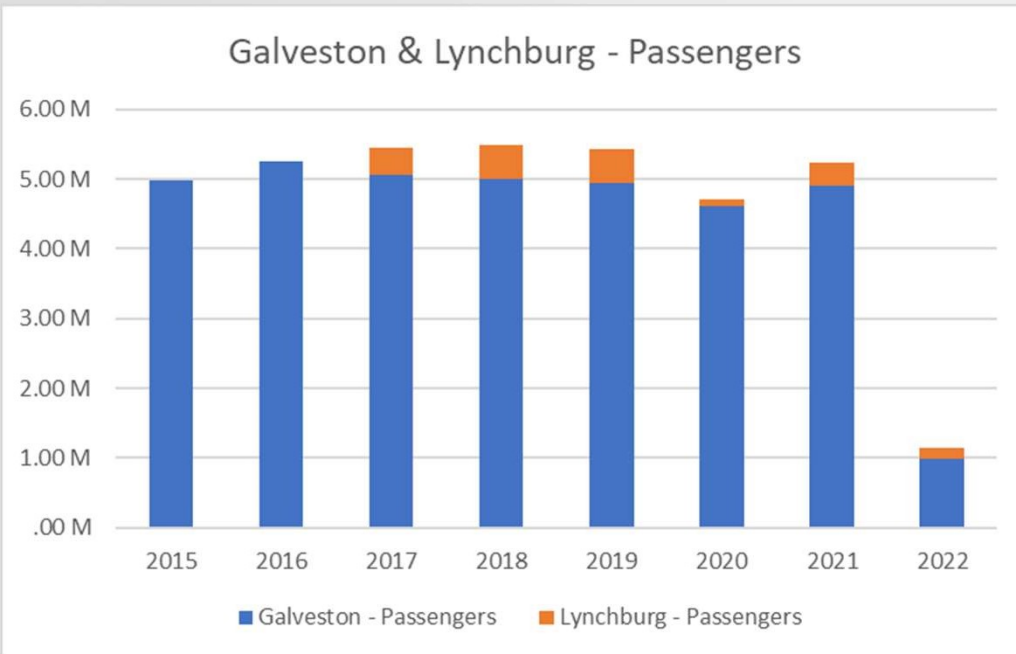


Aviation – Houston Airport System

- Other Aviation Services and Regulatory Considerations:
 - UAM – Urban Air Mobility
 - eVTOL - Electric Vertical Takeoff and Landing Vehicle
- Airport Travel Surveys
- Roadway Access to Airport Facilities for Passengers and Cargo

Other RTP Elements – Galveston and Lynchburg Ferries

Passengers and Vehicles Carried

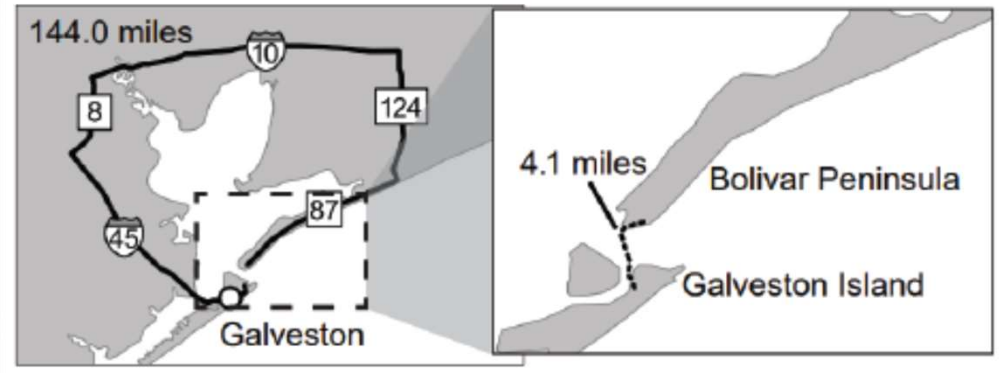


Other RTP Elements – Galveston Ferry Operations

- Ferry Operations



Port Bolivar to Galveston Highway vs. Ferry Route



Source: Legislative Budget Board Staff (2019).

Ferry	Fleet Size	Fleet Capacity
Galveston	6 boats	500 passengers 70 vehicles

Source: Legislative Budget Board Staff (2019), Overview of State Ferry System Operations.

Photo: Galveston Ferry Terminal

Ferry Operations – Galveston Ferry

■ Improvements

MPOID	CSJ Number	CIPIID	County Name	Sponsor	Project Description	Type	TOTAL COST
7573			Galveston	PORT OF GALVESTON	IMPROVEMENTS TO RAIL, RAIL ROAD PIER, MOORING DOLPHINS (AND ASSOCIATED IMPROVEMENTS), HIGHWAY ACCESS, AND DEVELOPMENT OF SITE UPLAND	PORT / AIRPORT	\$8,948,836
10625	0367-05-050		Galveston	TXDOT HOUSTON DISTRICT	Construct New Ferry Boat	PORT / AIRPORT	\$34,271,238
15187	0367-06-064		Galveston	TXDOT HOUSTON DISTRICT	Construct Building Renovations, Building Addition, Generators with Elevated Structures and Various Site Improvements	PORT / AIRPORT	\$3,250,000

Ferry Operations – Lynchburg Ferry

Ferry Operations



Ferry	Fleet Size	Fleet Capacity
Lynchburg	2 Boats (Planning to add 1 Boat)	-

Ferry Operations – Lynchburg Ferry

■ Improvements

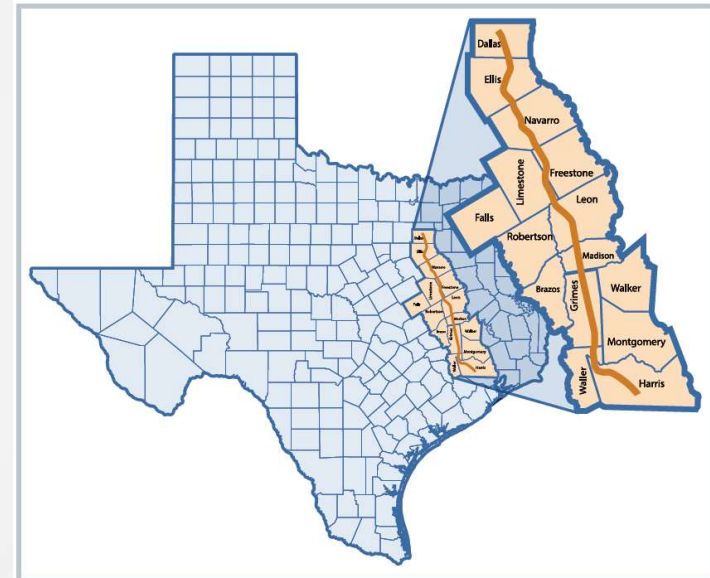
MPOID	CSJ Number	CIPIID	County Name	Sponsor	Project Description	Type	TOTAL COST
7569	0912-72-595		Harris	HARRIS COUNTY	REBUILD BERTHING AREA BULKHEAD AND ADD ADDITIONAL SHEET PILE SHORE PROTECTION ALONG THE NORTH LANDING APPROACH	PORT / AIRPORT	\$2,989,839
17149	0912-72-536		Harris	HARRIS COUNTY	REHABILITATION OF EXISTING FERRY AND BERTHING FACILITIES. INTEGRATE NEW MATERIALS/SYSTEMS TO EXTEND SERVICE LIFE OF COMPONENTS.	PORT / AIRPORT	\$4,457,627

Passenger Rail – High Speed Rail

MPOID	CSJ Number	CIPID	County Name	Sponsor	Project Description	Type	TOTAL COST
17154			Harris	TEXAS	CONSTRUCT HIGH-SPEED PASSENGER TRAIN SYSTEM WITH CENTRAL HIGH-PARALLEL, GRADE-SEPARATED, UNIDIRECTIONAL TRACKS WITH SPEED TRAIN OVER 50% ON VIADUCT AND THE REMAINING ON EMBANKMENT	TRANSIT	\$3,300,000,000

- Potential ridership estimated at:
 - 6 million annual by 2029
 - More than 13 million annual passengers by 2050

Figure 3-15: Proposed Route of the Texas Central Railway



Source: Texas Central Railway (n.d.), "The Project." 101