



H-GAC'S Regional Goods Movement Plan



Regional Goods Movement Plan

VISION

A multimodal freight transportation system that is efficient, reliable, and safe, that supports the economy, the environment, and equity.

GOALS

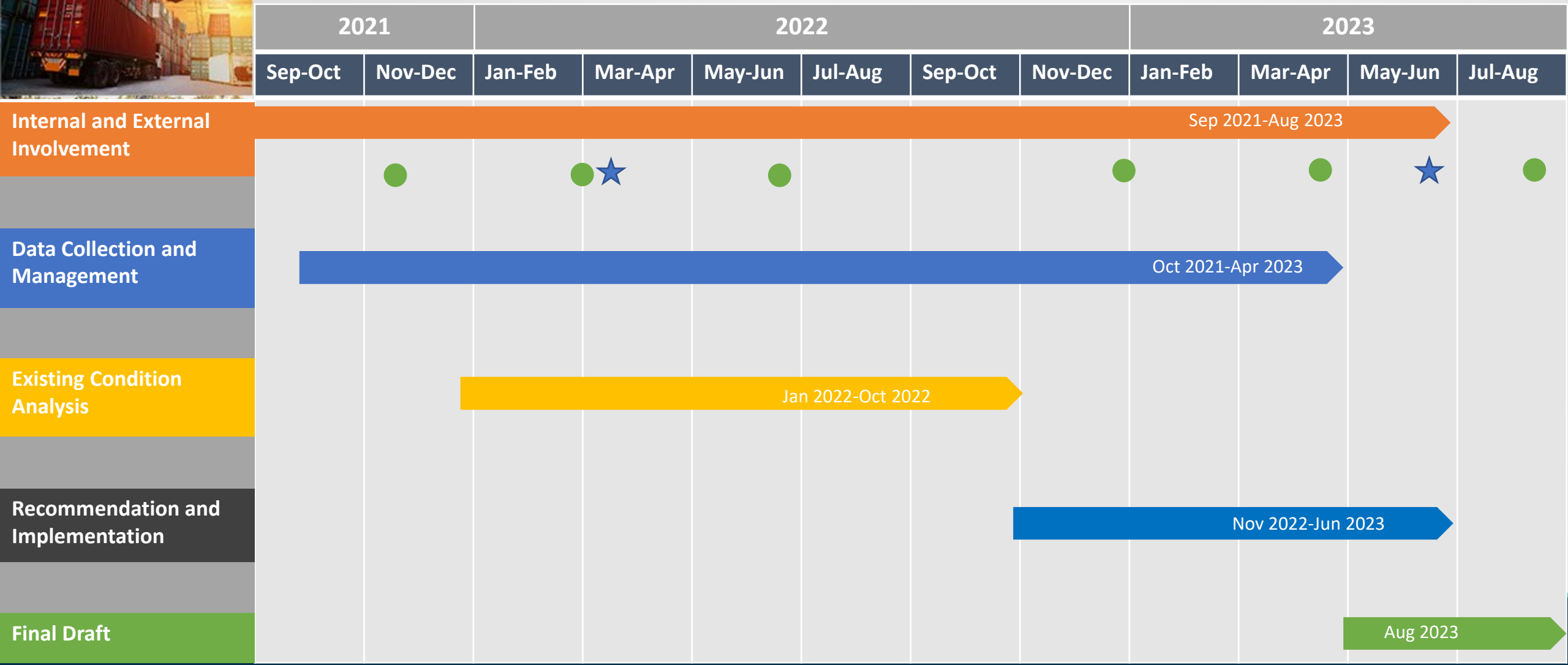
-  Safety
-  State of good repair
-  Move people & goods efficiently
-  Economic competitiveness
-  Protect Natural Resources



RGMP Timeline



● Steering Committee/Stakeholder Meeting ★ Public Meeting



Building towards Innovation



Short-Term Successes (2013)

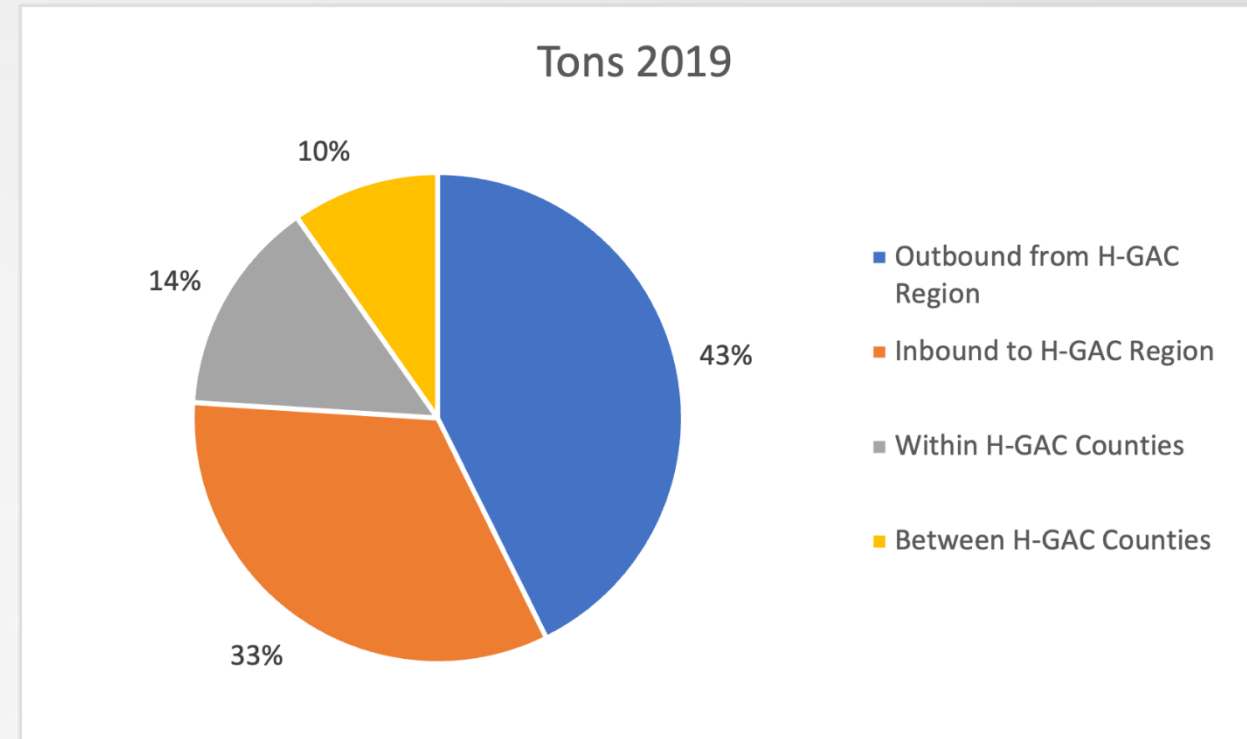
- ✓ Established the **Greater Houston Freight Committee**
- ✓ Formalized a **Technical Lead/Freight Planner**
- ✓ Define and designate the **Freight-significant Corridor**

2013 Regional Goods Movement

Freight Forecasts

Freight Flow Direction

- 54% of Texas shipments in 2019 were moved within the state's borders.
- 24% of Texas shipments in 2019 were moved in/within the H-GAC region
- 645 million tons originated, terminated or moved within Harris County's borders



Source: H-GAC's Activity-Based Model

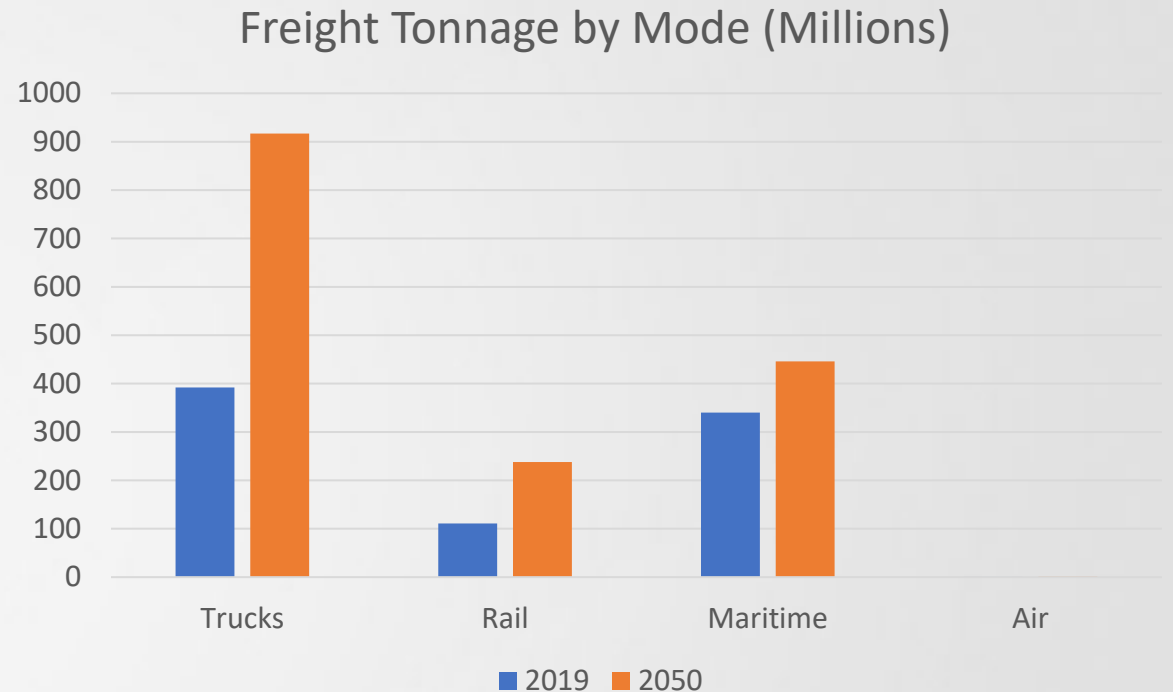
Freight Forecasts

Current

- 882 million tons of freight were carried on H-GAC's transportation network in 2019
 - 401 million tons carried on the roadway network by truck

2050 Forecast

- 1.7 billion tons of freight to be carried on the H-GAC transportation network
 - Truck tonnage forecast to increase from 46% to 56%



Source: H-GAC's Activity-Based Model

Freight Network Challenges

2023 Study 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

Oct 2021-Apr 2023

Output: GIS Storyboard

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

2023 Study Deliverables



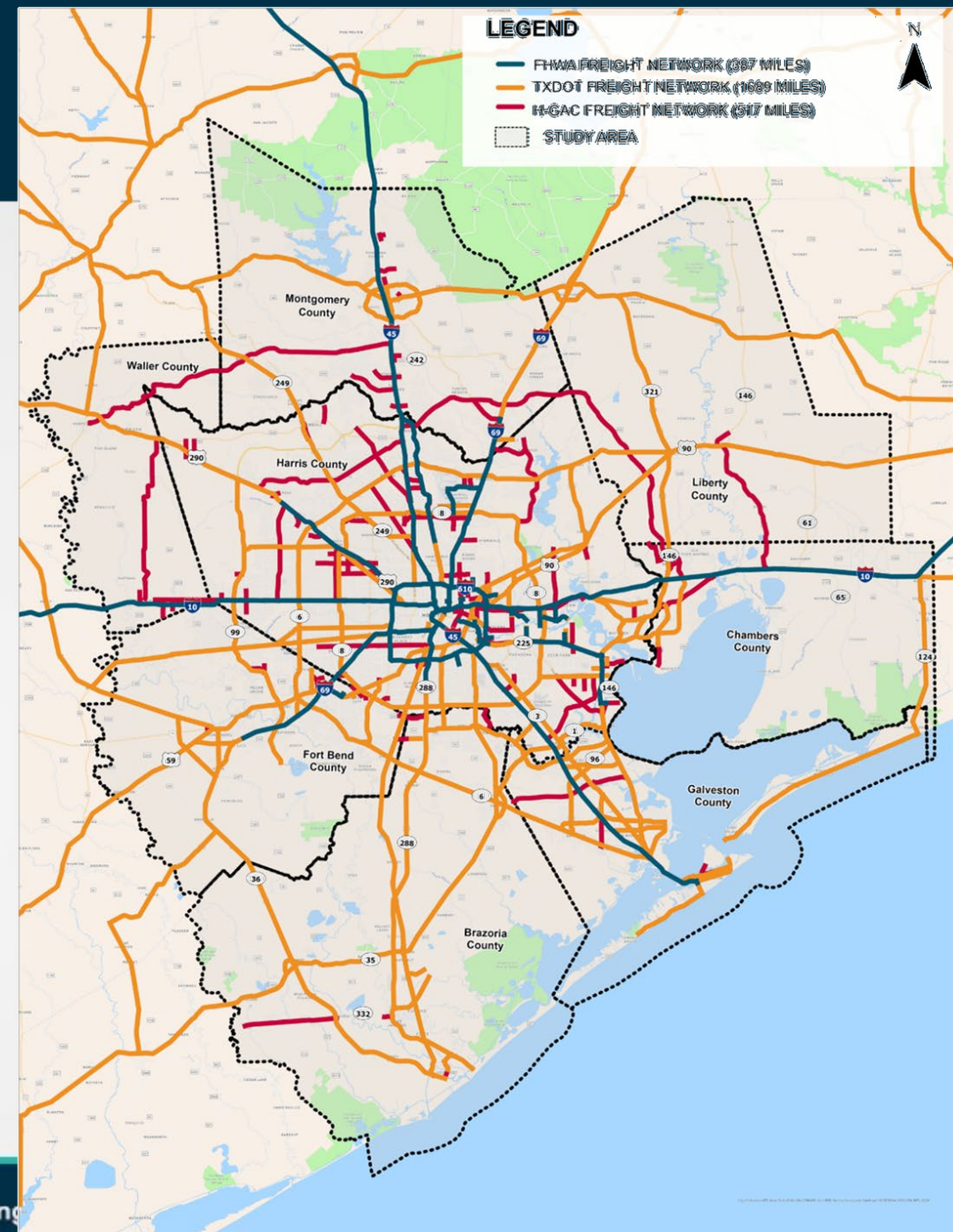
1. H-GAC Freight Network
2. RTP project needs analysis and Future RTP Considerations
3. Policies and Programs
4. Study Dashboards
5. CUFC Update*

*Critical Urban Freight Corridor and Critical Rural Freight Corridor

H-GAC Freight Network

Developed using:

- ✓ Steering and Stakeholder input
- ✓ Freight cluster data
 - OD tool identified TAZs
- ✓ Truck delay and volume data

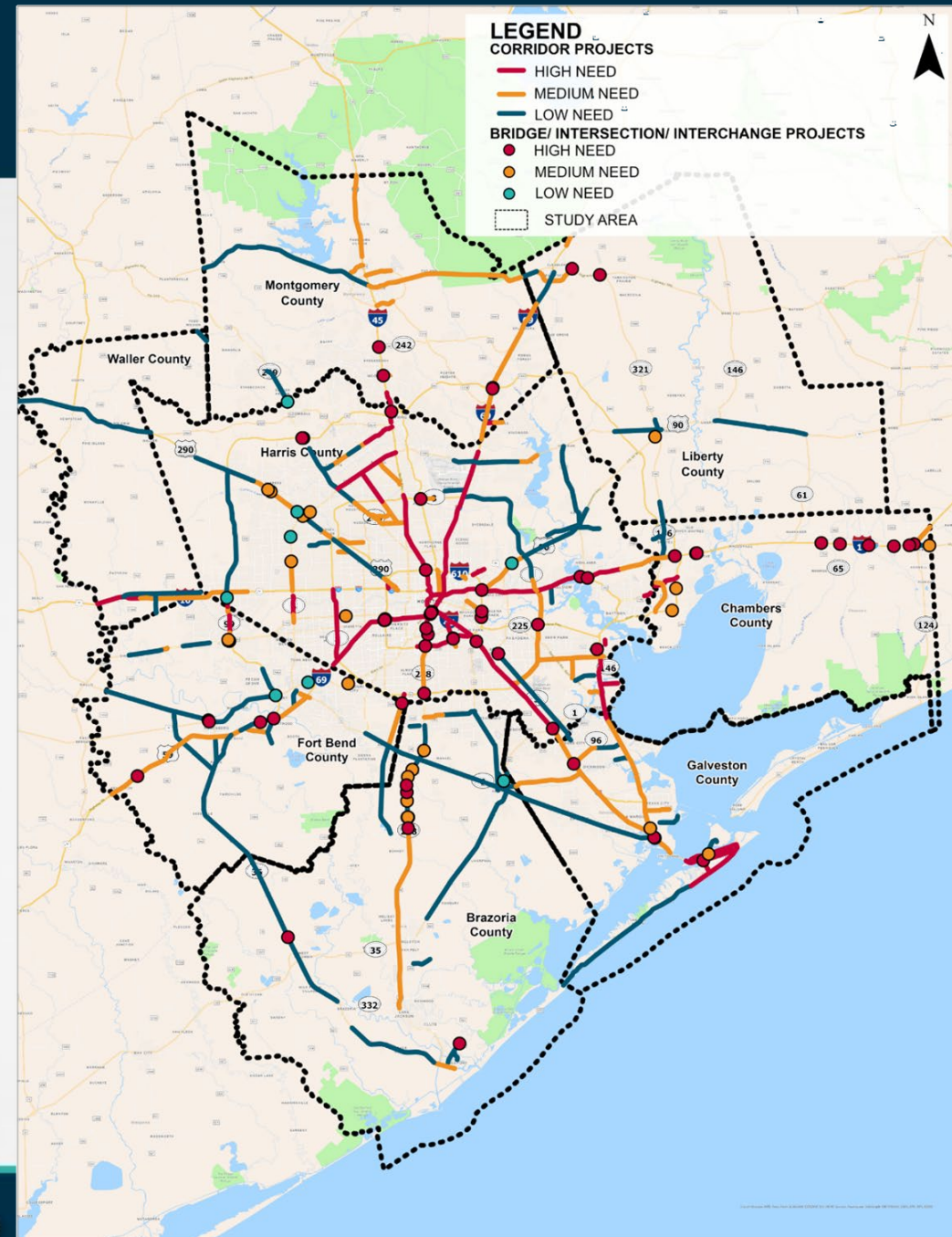


Project Needs Analysis

- 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

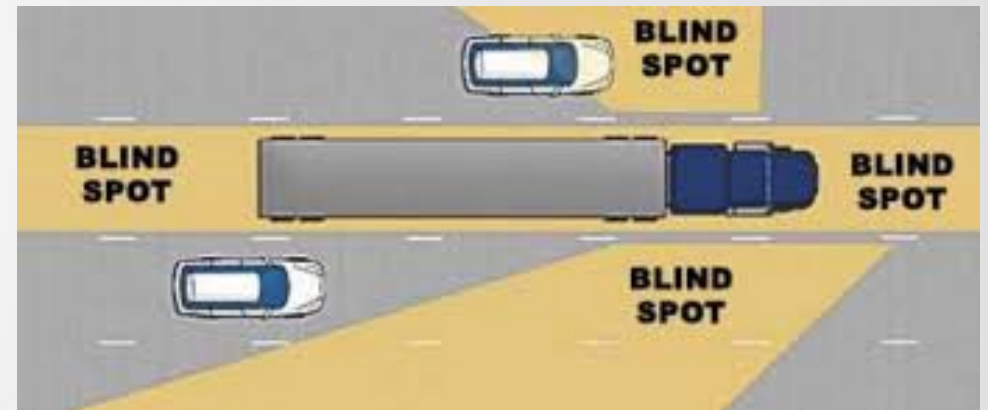
- Known "hot spots" without Projects in 2045 RTP analyzed separately for inclusion in future RTP



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



Policies & Programs - Congestion

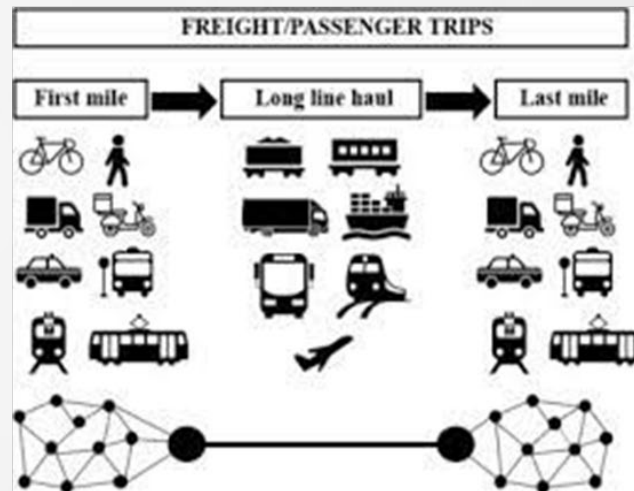


1. Encourage more off-peak truck activity

- Economic Centers
- Commercial Freight Drop/pickup/distribution

2. Railroad crossings

- approximately 1,600 railroad crossings in the Region.



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



Policies & Programs - Residential & Community Impacts



1. Develop a truck route map (including designated high and heavy corridors)
2. Mitigate residential impact
 - Such as pass through truck traffic, access to commercial areas

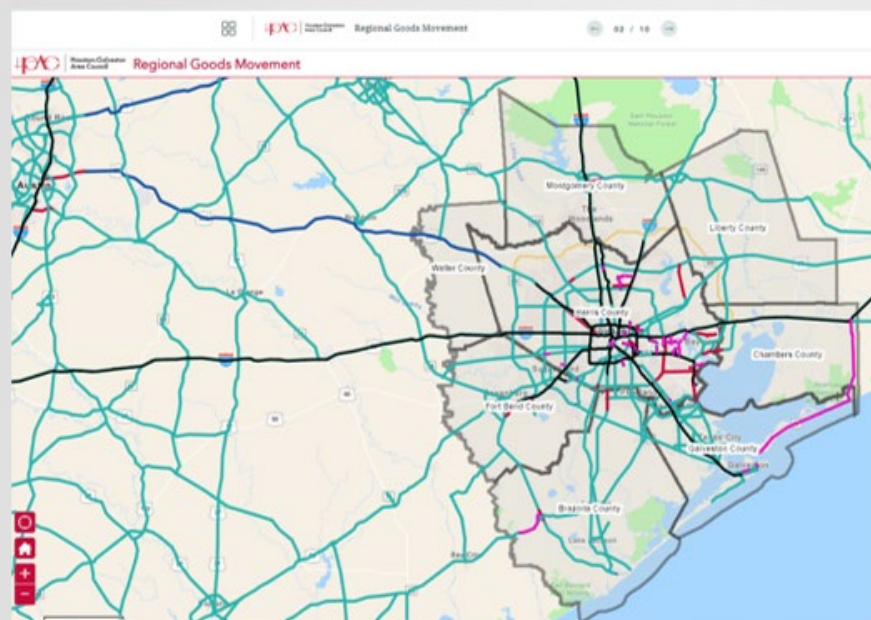
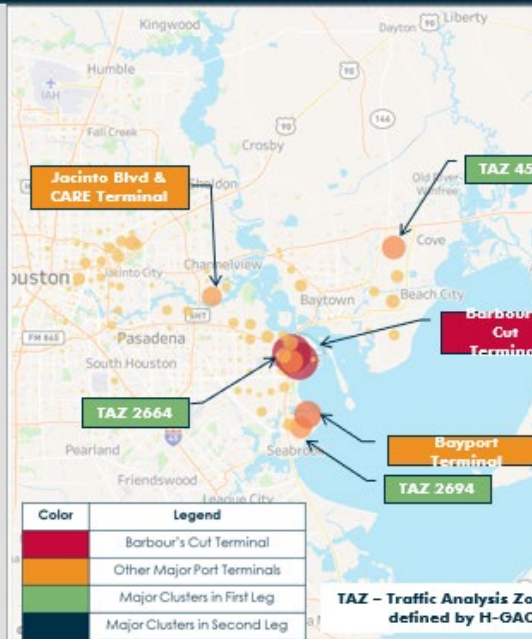


Three Interactive Tools

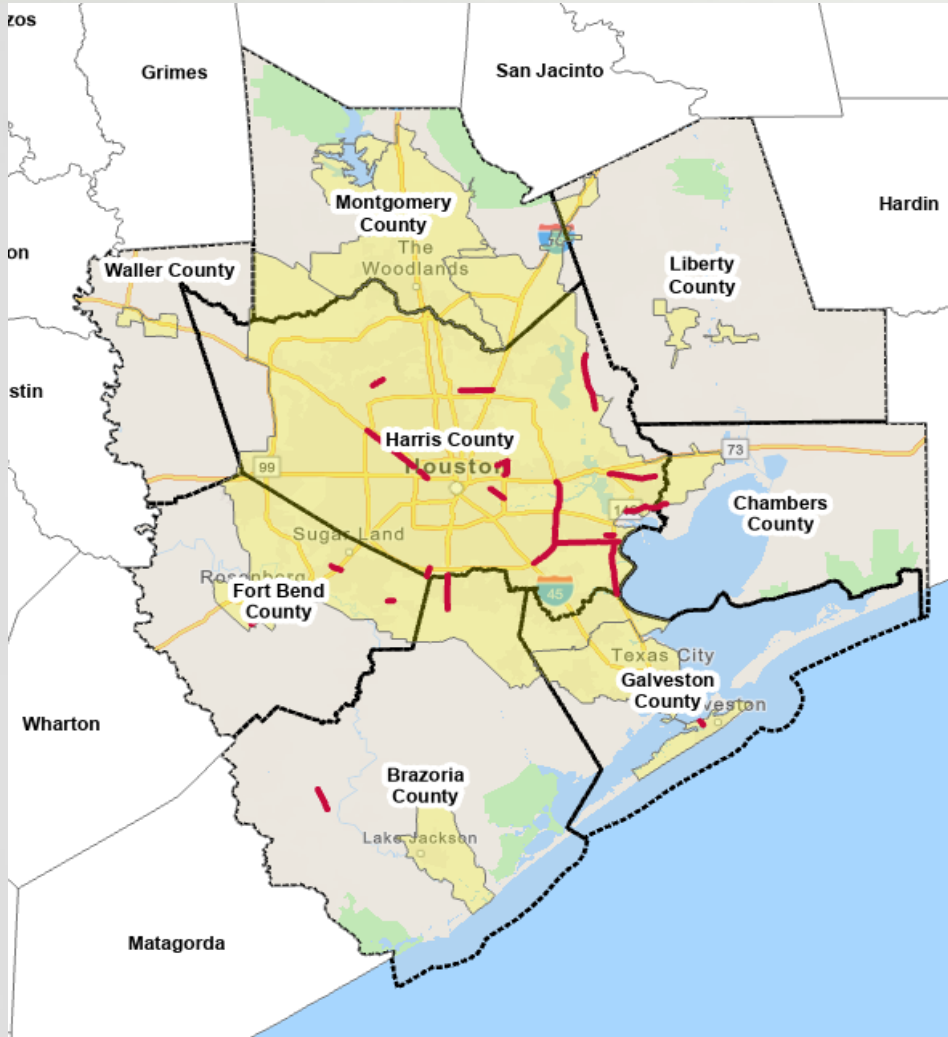
Commodity Flow Dashboard

Origins – Destinations Dashboard

Study Data Dashboard



Critical Urban Freight Corridors, 2017 & 2022



- Total 36 corridors adding up to 90.72 miles were identified
- Almost 30 projects adding up to 70 miles are already constructed, or under construction or to be constructed within four years
- The remaining corridors are being considered as part of the new list and will be scored

Next Steps



- Draft final report uploaded to H-GAC website
 - Link - <https://www.h-gac.com/freight-planning>
- Developing freight clearinghouse
- Phase 2- implementation of plan outcomes
- TAC and TPC schedule
 - October 2023 – presented for information and discussion
 - November 2023 – Presented for adoption into Regional Transportation Plan

Thank You



Sydni Ligons
Senior Planner
Houston Galveston Area Council

Direct | 713-993-4587

Sydni.ligons@h-gac.com



Project Selection Process



**Greater Houston Freight Committee
October 16, 2023**

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.

Benefit Cost Analysis for RGM

- Regional Goods Movement Investment Category
 - Benefit Cost Analysis

	# of Projects
Projects scoring ≥ 50	40
Projects withdrawing from consideration	2
BCA Responses Received	38

Benefit Cost Analysis

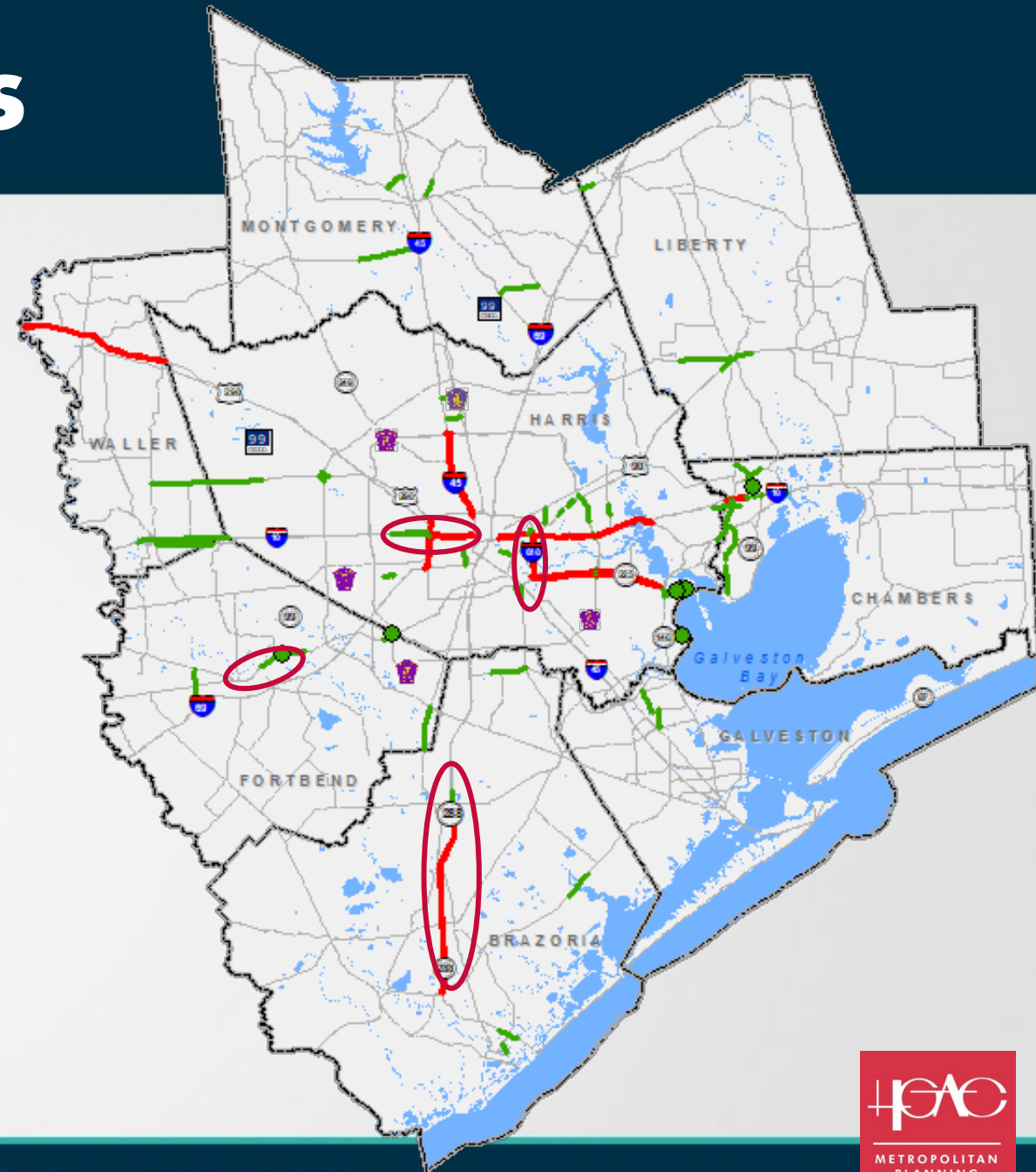
BCA Not Scored

IH 10W

IH 610 E

SH 288

US 90A



Benefit-Cost Scoring

- 34 of 40 Projects were scored for BCA
- Total Benefits/Total Cost
- B/C ratios range from 0.0 to 101.9
- Covert benefit/cost ratios > 1.0 in to points 0 -100
 - 24 projects
 - 4 Options
- Top 2-3 projects considered outliers

Benefit-Cost Scoring

- Approach 1:
- Considered top 2 B/C ratios as outliers
 - 101.9 & 14.2
- Allocate 100 points to next to B/C ratio (8.5)
- Allocate 1 point to the lowest B/C ratios ≥ 1.0
- Allocate all other B/C ratios proportional points between 1-100

Benefit-Cost Scoring

- Approach 2:
- Considered top 2 B/C ratios as outliers
 - 101.9 & 14.2
- Allocate 100 points to next to B/C ratio (8.5)
- Allocate 25 points to the lowest B/C ratios ≥ 1.0
- Allocate all other B/C ratios proportional points between 25 -100

Benefit-Cost Scoring

- Approach 3:
- Allocate 100 points to all projects with ≥ 5.0
 - 4 projects
- Stratify other \geq B/C ratios in to 3 parts
 - 20 projects
- Allocate top 1/3rd projects 75 points, middle 1/3rd projects 50 points and bottom 1/3rd project 25 points
 - 7-75, 7- 50, and 6-25 points.

Benefit-Cost Scoring

- Approach 4:
- Allocate 100 points to all projects with ≥ 5.0
 - 4 projects
- Allocate 75 points for projects with B/C ratios – 4.0-5.0
 - 2 projects
- Allocate 50 points for projects with B/C ratios – 3.0-4.0
 - 3 projects
- Allocate 25 points for projects with B/C ratios – 1.0-2.0
 - 15 projects

Project ID	County	Agency Name/Sponsor	Project Title	Facility/Street/Highway	Limits	Description	Corrected Criteria Total	B/C Score 4	Total Score 4	Total Score Rank 4	Requested for	Total Cost in Budget (2021 \$)	YOE Based on the Benefits (Will changed after readiness review)
941	Harris	Port of Houston Authority	Bayport Container Terminal Overpass.	PORT RD	FM 146 TO CRUISE ST	CONSTRUCTION OF RAILROAD OVERPASS ON PORT ROAD LEADING TO THE BAYPORT CONTAINER TERMINAL.	61	100	161	1	Development and construction	\$23,300,000	2024
751	Fort Bend	City of Sugar Land	ITS Railroad Monitoring, Notification, & Communication (CTR2203)	Cravens Road	Pitts Road	Install railroad notification DMS prior to RR crossings to reroute traffic; Add Lidar or other technology to the Rail Monitor System to detect trains on dual tracks.	60	100	160	2	Development and construction	\$1,250,000	2024
1115	Harris	TxDOT Houston District	SH 3 Intersection Improvements - SH 3 at South Richey St, Edgebrook Dr, El Dorado Blvd, and Bay Area Blvd	SH 3	At South Richey, Edgebrook Dr, El Dorado Blvd, and Bay Area Blvd	Change signals to mast arms, replace RR arms, and gates, and lengthen railroad planking. The purpose of the project is to extend sidewalks across the RR tracks parallel to SH 3.	59	100	159	3	Construction	\$4,780,434	2030
962	Chambers	TxDOT Beaumont District	IH-10 Ramp Relocations	IH-10	From SH 146 to FM 565	Relocate entrance / exit ramps	52	100	152	4	Development and construction	\$7,010,000	2026
833	Harris	Harris County Engineering	Rankin Road Access Management Project	Rankin Road	IH 45 NBFR to Ranch View Trail	Add center two-way left turn lane, signal modifications (leading pedestrian intervals, crosswalks, ADA ramps), and sidewalk improvements to mitigate serious injuries and fatalities on 1.5 mile Vision Zero High Injury Network corridor.	72	75	147	5	Development and construction	\$12,028,601	2026
969	Chambers	TxDOT Beaumont District	SH 146 TURN LANES	SH 146	AT IH10	DUAL TURN LANES FOR NB	55	75	130	6	Development and construction	\$3,755,000	2024
1252	Harris	Harris County Engineering	East Richey Rd Improvement Project	E Richey Road	I45 NBFR to Grovedale Rd	Safety improvements, access management, driveways, sidewalks and improved street geometry.	75	50	125	7	Development and construction	\$6,100,000	2026
1058 & 1059	Fort Bend	TxDOT Houston District	IH 10 W Frontage Roads	IH 10 W	From FM 359 to Fort Bend County Line	CONSTRUCT 2 TWO LANE FRONTAGE ROADS ON NEW LOCATION (EASTBOUND AND WESTBOUND). This project fills in the gap of the frontage road system in Fort Bend County on IH 10.	68	50	118	8	Construction	\$44,342,335	2028
1103	Harris	TxDOT Houston District	SH 225 at SL 8 Three Remaining DC ramps	SH 225	AT SL 8	CONSTRUCT 3 DIRECT CONNECTOR RAMPS (EB-NB, EB-SB, WB-SB)	78	25	103	9	Construction	\$55,385,000	2026
1128	Harris	TxDOT Houston District	SH 6 Intersection Improvements at FM 529	SH 6	At FM 529	INTERSECTION IMPROVEMENTS	50	50	100	10	Construction	\$9,598,971	2028
1102	Harris	TxDOT Houston District	SH 146 Widening and other improvements	SH 146	From Ferry Road to Chambers C/L (Cedar Bayou)	Reconstruct and widen from 4 to 6 lanes, median, bicycle/pedestrian facilities and intersection improvements.	70	25	95	11	Construction	\$14,160,900	2038
1211	Harris	East End District	Navigation Boulevard Reconfiguration	Navigation Boulevard	Lockwood Drive to Mack Street	Reconfigure multimodal mobility corridor by converting unused lane capacity into a new dedicated commuter bike route, pedestrian amenities and additional greenspace. Project scope includes necessary work on public utilities. Project is a major component of the Buffalo Bayou East Master Plan.	70	25	95	12	Construction	\$9,512,361	2024

Project ID	County	Agency Name/Sponsor	Project Title	Facility/Street/Highway	Limits	Description	Corrected Criteria Total	B/C Score 4	Total Score 4	Total Score Rank 4	Requested for	Total Cost in Budget (2021 \$)	YOE Based on the Benefits (Will changed after readiness review)
851	Harris	Harris County Engineering	Sheldon Road (North) Improvement Project	Sheldon Road	US90 to Sheldon Ridge	Reconstruct and widen, existing 2 lane concrete overlaid with asphalt to 4 lanes of reinforced 12" concrete roadway. Includes bridge section, 2 major throughfare intersections and multiple industrial/ commercial business entrances. drainage, sidewalks and landscaping and safety. Considering existing railroad at-grade crossing to be a separate line item.	66	25	91	13	Construction	\$22,800,000	2026
1222	Harris	Gilfgate Redevelopment Authority	Telephone Rd Reconstruction	Telephone Rd	IH 610 Frontage - Reveille St	Replace all public infrastructure and reconfigure roadway to enhance multimodal access and safety (roadway, utilities, access management, pedestrian realm, bike lane)	62	25	87	14	Construction	\$45,254,814	2024
662	Galveston	City of Dickinson	Dickinson Ave./FM 1266 Safety Improvements	Dickinson Avenue / FM 1266	FM 646 to FM 517	The improvement will be a full reconstruction of the roadway including the addition of street lighting, sidewalk facilities, and upgrades to signalized intersection at Deats Road. To accommodate the addition of sidewalks, the existing open ditches will be replaced with culverts.	61	25	86	15	Development and construction	\$43,862,171	2024
1168	Fort Bend	TxDOT Houston District	SS 10 Widening	SS 10	From SH 36 West of Rosenberg to IH 69 S	WIDEN TO 4-LANE DIVIDED ROADWAY	59	25	84	16	Construction	\$31,305,750	2029
1012	Fort Bend	TxDOT Houston District	FM 359 Widening	FM 359	From South IH 10 W to US 90	Widen from 2 lanes to 4 lane urban divided roadway	59	25	84	17	Construction	\$4,808,616	2029
1010	Montgomery	TxDOT Houston District	FM 3083 Widening	FM 3083	From SH 105 W to IH 45	Widen from 2-lane to a 4-lane divided roadway.	56	25	81	18	Construction	\$24,135,801	2028
1235	Harris	Montrose TIRZ 27 Redevelopment Authority	Montrose Boulevard Reconstruction	Montrose Boulevard	West Clay to US-59/IH-69	Replace all public infrastructure (roadway, utilities, access management, pedestrian realm, transit, bike lane)	54	25	79	19	Construction	\$50,982,971	2024
1020	Brazoria	TxDOT Houston District	FM 518 Widening	FM 518	From FM 865 to SH 35	Widen from 4-lanes to 6-lanes. A raised median will be included and may vary between 14 and 18 feet. Convert the existing open ditch drainage system to a curb and gutter drainage system. In addition, outside pedestrian sidewalks and bikeways are proposed.	54	25	79	20	Construction	\$49,919,500	2028
1101	Harris	TxDOT Houston District	SH 146 DC Ramps to Barbours Cut Port Terminal	SH 146	AT BARBOURS CUT BLVD	CONSTRUCT 3 DCs (SB-EB, WB-NB [SH 146], WB-NB [SH 225])	79	0	79	21	Construction	\$53,295,000	2038
1005	Waller	TxDOT Houston District	FM 2855 Extension to IH 10 W	FM 2855	From US 90 FM 529 to IH 10 W	Reconstruct and Widen from 2 to 4 lanes and extend FM 2855 (currently known as Brookline Rd) to IH 10 W	53	25	78	22	Construction	\$69,706,800	2028
968	Liberty	TxDOT Beaumont District	FM 1960 Widening	FM 1960	From SH 321 to SH 99	Widen from 2 to 4 lanes	52	25	77	23	Development and construction	\$28,180,000	2028
1026	Fort Bend	TxDOT Houston District	FM 521 Widening and Railroad grade separation	FM 521	From CR 56 to SH 6	Widen from 4-lanes to 6-lanes divided. The FM 521 project extends from State Highway 6 to County Road 56 in Fort Bend County. The project includes a railroad grade separation. The area is rapidly developing with new subdivisions and a new high school adjacent to the road.	52	25	77	24	Construction	\$53,784,100	2028

RGM Projects Draft Ranking

Project ID	County	Agency Name/Sponsor	Project Title	Facility/Street/Highway	Limits	Description	Corrected Criteria Total	B/C Score 4	Total Score 4	Total Score Rank 4	Requested for	Total Cost in Budget (2021 \$)	YOE Based on the Benefits (Will changed after readiness review)
1002	Harris	TxDOT Houston District	FM 2234 Intersection Improvements	FM 2234	From North of US 90A to South of US 90A	Construct intersection improvements.	50	25	75	25	Construction	\$17,613,082	2030
1117	Brazoria	TxDOT Houston District	SH 332 Grade Separation at FM 523	SH 332	From N of FM 523 to S of FM 523	Construct grade separation at FM 523.	74	0	74	26	Construction	\$10,686,219	2038
1180	Harris	TxDOT Houston District	US 90 Grade Separation at Purple Sage	US 90	From West of Purple Sage to East of Purple Sage	Construct grade separation (6 Main Lanes) in gap of US 90 mainlanes at Purple Sage intersection.	68	0	68	27	Construction	\$33,815,600	2028
1204	Harris	City of Houston	Gellhorn Dr.	Gellhorn Dr.	Between I-10 on the south and I-610 on the north	Project includes improvement of freight connectivity between IH-610 & IH-10 as well as intersection operations. Improvements will also create safer pedestrian & bicycle facilities and mitigate storm sewer deficiencies.	63	0	63	28	Development and construction	\$22,317,252	2028
1201	Harris	City of Houston	Oates Rd	Oates Rd.	From Wallisville to Beaumont Highway	Improvements include full concrete reconstruction of the corridor to include two 11-ft lanes (with 1-ft offsets) with a 12-ft center turn lane in the middle, as well as pedestrian improvements which include two 10-ft shared use paths on both sides of the road.	59	0	59	29	Development and construction	\$29,626,607	2025
1176	Harris	TxDOT Houston District	US 90 Greens Bayou Bridge	US 90	From W of Greens Bayou to E of Greens Bayou	Construct bridge (6 Main Lanes) over Greens Bayou in gap of US 90 mainlanes.	58	0	58	30	Construction	\$26,038,884	2028
973	Liberty	TxDOT Beaumont District	Dayton Relief Route	US 90	TBD	Construct relief route around Dayton	55	0	55	31	Development and construction	\$99,500,000	2031
996	Brazoria	City of Houston	FM 1495 Widening	FM 1495	From FM 523 to North of Brazos River Bridge	Widen from 2-lane to 4 -lane roadway	51	0	51	32	Construction	\$11,421,429	2038
963 & 964	Chambers	TxDOT Beaumont District	FM 1405 Widening	FM 1405	From SH 99 south to FM 2354 & From FM 565 south to SH 99	Widen from 2 to 4 lanes with center turn lane	49	0	49	33	Development and construction	\$56,345,000	2027
658	Montgomery	City of Conroe	Airport Road Widening	Airport Road	FM 1314 / Porter Rd to FM 3083	Widen existing two-lane road (no sidewalks) to four lane with sidewalks. Scope includes stormwater, water, and wastewater.	49	0	49	34	Development and construction	\$21,814,037	2024

Next Steps

- Draft Scoring: [Transportation Project Selection Process | Houston-Galveston Area Council \(H-GAC\)](#)
- Meet with all sponsors – 10/5 to 10/11
- Sponsors will have opportunity to challenge BCA scores
- Final scores and ranking will be determined after sponsors validate current scores
- Readiness review
 - Determine programming years for project if selected for funding
- TAC&TPC Preview draft scores and ranking – October
- Anticipated recommendation to TAC&TPC – November
- Projects not recommended are evaluated for other Investment categories

Next Five Investment Categories

- High Growth Area Needs
- Resiliency and State of Good Repair
- Operational Improvements and Congestion Management
- Transit
- Major Projects
- Reviewing the comments on evaluation criteria
- Make necessary modifications and publish criteria
- Online questionnaires will be available in November

Contacts

Project Scoring/Benefit Cost Analysis

Vishu Lingala

Principal Transportation Planner

Vishu.Lingala@H-GAC.com

713-993-4561

Project Readiness

Callie Barnes

Principal Transportation Planner

Callie.Barnes@H-GAC.com

832-681-2615

Adam Beckom, AICP

Manager

Adam.Beckom@H-GAC.com

713-993-4567

