

## **TASK I PROGRAM MANAGEMENT**

The purpose of the activities listed under Task 1.0 are to provide administrative support to the transportation planning process for the eight-county Houston-Galveston Transportation Management Area (TMA) and to facilitate interagency cooperation and coordination.

### **SUBTASK 1.1 Program Support / Unified Planning Work Program (MPO)**

This subtask includes all administrative support for the MPO planning program in general, including the financial management of the MPO's operations, contract management, departmental reporting, the provision of technical assistance to member agencies, and participation in state and national organizations involved in transportation planning and development.

This subtask also includes the development and maintenance of the Unified Planning Work Program (UPWP), which describes the transportation plans and programs and the transportation-related air quality planning activities conducted during the fiscal year(s) regardless of funding sources or agencies conducting these activities.

### **RELATED TRAINING**

#### **Subtask 1.1**

- Administrative Assistant's Conference, (1 staff), March 2018
- Business Grammar and Proofreading, (1 staff), September 2018
- IT Security Awareness, (8 staff), November 2018
- Goldmine Training, (1 staff), March 2018
- Agiloft Training, (1 staff), February 2018
- Conference Room and Technical Training, (1 staff), February 2018 and April 2018
- Off-site storage procedure training, (1 staff), February 2018
- Advance Excel Training (1 staff)
- SharePoint Training (2 staff)
- Omnilert Training (1 staff)

#### **Subtask 1.2**

- One staff attended the annual 2018 PRSA Public Affairs and Government Summit June 14-16 to learn more about how to improve communication in the government sector particularly in transportation.
- One staff attended the Adobe Photoshop Creative Cloud training July 16-18 to learn more about graphic design to support the transportation department's public outreach efforts.

- One staff attended the 2018 International Association of Administration Professionals during July 28-31 to learn best practices on how to provide administrative program support from a public outreach perspective.
- One staff attended the Adobe Premiere Pro Beginning and Advanced Course on August 6-9 and August 16 to learn more about how to produce videos in-house for enhanced visualization techniques in public involvement.
- One staff attended the 2018 Association of Metropolitan Planning Organizations annual conference September 24-28 and participated in sessions about public involvement and public outreach best practices.
- One staff attended the 2018 Public Relations Society of America annual conference October 7-9 and participated in sessions about communications planning, identifying and engaging your target audiences; and working with the next generation.
- One staff attended the Public Involvement in Transportation Decision Making training hosted by the Federal Highway Administration on October 8-11 to learn about public involvement strategies and tactics.
- One staff attended the Two-Day Social Media Marketing Workshop on October 29-30 to improve public outreach's social media content, strategy, and audience engagement activity.
- One staff attended the Association for Commuter Transportation travel demand management forum November 13-14 to learn more innovative technologies and tools to support the public outreach program.

### **Subtask 2.1**

- Staff participated and presented at the 2018 MPO Socioeconomic Modeling Conference in San Diego
- Staff participated in 2018 Esri User Conference in San Diego
- Staff participated and presented at the 2018 Houston Area GIS Expo
- Staff participated and presented at the 2018 Texas Demographic Conference in Austin
- Staff attended TxDOT Local Government Project Procedures training

### **Subtask 2.2**

- GIS-T, Little Rock Arkansas, April 2017
- REMI Model, San Diego California, October 2017
- The 7<sup>th</sup> Internal Conference on Innovations in Travel Modeling, Atlanta Georgia, June 2017
- TRB Annual meeting, Washington DC, January 2018
- FHWA Webinar On-road Mobile Source Emissions performance measures Implementation, February 2018
- The Center for Advancing Research in Transportation Emissions, Energy, and Health (CARTEEH) webinar on Health Effects of Air Pollution, H-GAC Office, 9/27/2018
- ESRI Users Conference, San Diego California, July 2018

- ARCPRO Training, Houston TX, Nov 2017
- GTFS Webinar (Bureau of Transportation Statistics - National Transit Map), Houston, TX. July 12, 2018
- National Performance Management Research Data Set (NPMRDS) Quarterly Webinar: February 8<sup>th</sup>, 2018; May 7<sup>th</sup>, 2018; August 2<sup>nd</sup>, 2018

### **Subtask 3.3**

- Staff Attended the TxDOT Transportation Short course in College Station Texas on October 10 and 11, 2017.
- Staff attended a one day Every Day Counts (EDC-4) Workshop on October 26, 2017 in San Antonio Texas. This was held by TxDOT and FHWA.
- Staff attended ITS Texas in Houston, Texas on November 9 and 10, 2016.

### **Subtask 4.2**

- November 1, 2017 - Electrification of Urban Freight Training Webinar
- November 28, 2017 – TCEQ Workshops on Alternative Fueling Facilities Program (AFFP) and TExas Natural Gas Vehicle Grant Program
- November 28, 2017 – VW Settlement Training Webinar
- December 5, 2017 - Perspectives on Transportation, Emissions, Exposures and Health Webinar
- December 12, 2017 - New Process for Submitting EPA Grant Proposals Training Webinar
- December 12, 2017 – iREV Resources and Pilots Webinar
- December 13, 2017 – “What Does Budget Uncertainty Mean for Clean Cities and Other Alternative Fuels Programs?” Webinar
- January 7–11, 2018 – Staff attended Transportation Research Board Annual Meeting
- February 2, 2018 – Electrify America Training Webinar
- February 15, 2018 – On-road Mobile Source Emissions Performance Measure Implementation
- February 20, 2018 – Staff attended Momentum Fuel Technologies Training
- March 22, 2018 -Introduction to New AltfuelToolkit.org Website Webinar
- March 23, 2018 – Pulling Together a Successful Project Webinar
- April 20, 2018 - CARB School Bus Fleet Training Webinar
- April 21, 2018 - Electric Vehicle Infrastructure Projection (EVI-Pro) Lite Tool webinar
- June 20, 2018 - Talking Freight: Advancing Clean Air Projects at Ports and Goods Movement Facilities Through the CMAQ Program Confirmation
- August 7, 2018 - Drive Electric Week: Engaging with Media Training Webinar
- August 28, 2018 – Regulatory Science Symposium – Air Pollution and Health: State of the Regulatory Science

- September 12–13 – Air Quality staff participated in TxDOT Contract Management Workshop
- September 24–26, 2018 – Staff attended the Texas Energy Summit

#### **Subtask 4.3**

- Staff attended Local Government Project Procedures training in October 2018.

#### **Subtask 4.4**

- Attended TxDOT Local Government Project Procedures training
- Attended FHWA training

#### **Subtask 5.1**

- Staff presented at the Association of Metropolitan Planning Organizations (AMPO) Conference in San Antonio, TX, in September 2018.

### **PRODUCTS: Work performed and status**

#### **1.1a Program Support & Administration**

- Managed contracts and agreements between the MPO and participating agencies or subcontractors. The Transportation Accounting and Finance department and H-GAC Transportation staff has worked closely to ensure the efficient processing of contracts associated with their projects.

**Task progress:** In FY 2018 Agiloft was implemented to expedite and streamline contract processes; making contracts easier to track and execute.

- Maintained financial records for departmental contracts and ensured the payment of invoices.

**Task progress:** Staff continued to maintain financial records throughout the contract period and the appropriate retention periods following the completion of work. Staff processed all billings for payment within the appropriate time frame.

- Awarded eleven new contracts and four amended contracts in FY 2018.

- Maintained the federal certification of the Houston-Galveston Transportation Management Area's transportation planning process, related requirements associated with the budgeting and expenditures of federal, state, and local funding, including the Annual Performance & Expenditure Report (APER).

**Task progress:** Staff has worked and is working to complete the FY 2018 APER, assisted staff with e-Grant submissions, and worked closely with H-GAC finance to ensure budgeting and expenditure requirements were and continue to be met.

- Provided technical assistance to the Transportation Policy Council (TPC), the Technical Advisory Committee (TAC), and other committees and subcommittees. Technical assistance included preparing meeting materials, meeting notices, maintaining meeting records, an annual training workshop for the respective members, and other assistance as directed. Provided food and non-alcoholic beverages, pending TxDOT approval, at selected meetings and events when deemed appropriate.

**Task progress:** During FY 2018, agendas, meeting notices, materials (distributed electronically), and staff assistance was provided for all meetings. Records of all meetings were posted on the H-GAC website for each calendar year. During FY 2018 the following committee or subcommittee meetings were supported including but not limited to, 1) Pedestrian and Bicyclist, 2) Regional Transit Coordination, 3) Transportation Policy Board, 4) Operations Task Force, 5) Technical Advisory Committee, 6) Regional Transportation Plan, 7) Transportation Improvement Plan, 8) Transportation Air Quality, 9) Houston-Galveston Clean Cities Coalition, 10) Regional Air Quality Plan Advisory Committee, 11) AERCO Board, 12) Freight Committee, 13) Regional Safety Council, 14) High Capacity Transit Task Force, and 15) Drayage Loan Committee.

- Greater Houston Freight Committee, 2 meetings
- Houston-Galveston Clean Cities Coalition, 2 meetings
- Transportation Safety Council (Formerly Regional Safety Council), 4 meetings
- Regional Air Quality Planning Advisory Committee, 7 meetings
- Transportation Air Quality, 4 meetings
- Technical Advisory Committee, 8 meetings
- Joint TIP/RTP Subcommittee, 5 meetings
- Operations Task Force Committee, 3 meetings
- Pedestrian Bicycle Workshop, 1 meeting (2-day workshop)
- Call for Projects Workshop, 1 meeting
- Megaregions Conference, 1 meeting (2-day workshop)
- DWI Task Force Meeting, 2 meetings
- High Capacity Transit Task Force and Workgroup Meeting, 2 meetings
- Transportation Policy Committee, 9 meetings
- Regional Transit Coordination Subcommittee, 4 meetings
- Pedestrian-Bicyclist Subcommittee, 6 meetings

- Provided technical assistance to local governments, public agencies, other qualified grant sponsors, and staff regarding federal grant applications, TRACS, transportation planning activities, and transportation management issues.

**Task progress:** 1) continued staff assistance to the City of Houston and Metro with sub-regional studies, 2) continued staff assistance with Harris County and TxDOT on the development of an incident management program, and 3) H-GAC continued assistance with the development of mobility and thoroughfare plans within the region.

- Maintained historical data, publications, and map warehousing/archive libraries, along with an online-query system for public research and access to historical information.

**Task progress:** HGAC archivist updates, organizes, and manages historical archives via the HGAC website (SharePoint) systematically for the use of all H-GAC transportation staff. In FY 2018, SharePoint was implemented and the H-GAC archivist transferred historical files into the new SharePoint format. This simplifies the search processes and is more transparent for staff.

- The acquisition of supplies, services, software, and equipment to support MPO operations.

**Task progress:** In FY 2018, administrative staff worked diligently with all transportation HGAC staff to research and find solutions to software issues and updates, the replacement of outdated equipment, installation of new streamlining equipment for meetings, and administrative support to all H-GAC meetings that use technical equipment. (Equipment and software purchases over \$5,000 per unit require prior State and Federal approval.)

- Continued to conduct non-lobbying participation in the Association of Metropolitan Planning Organizations (AMPO), Texas Metropolitan Planning Organizations (TEMPO), National Association of Regional Councils (NARC), Texas Association of Regional Councils (TARC), Transportation Research Board (TRB), American Association of State Highway and Transportation Officials (AASHTO), ITS Texas, and other organizations that enhance the planning process. This may include agency memberships in these organizations (individual memberships are not a reimbursable expense).

**Task progress:** Staff participated in the events, meetings, and conferences of the above organizations (please refer to the list under subtask related trainings).

- Acquired legal defense/advice with prior State and Federal approval in accordance with 2 CFR Part 225, Cost Principles for State, Local, and Indian Tribal Governments (OMB Circular A-87) for conformity determinations and other issues as determined to be

necessary and reasonable to carry out the metropolitan planning process per 23 CFR 420.113.

**Task progress:** Legal advice was received as needed to conduct MPO activities to meet requirements of the 23 CFR 420.113.

- Engaged in transportation planning related travel, with prior State and Federal Approval for all travel taking place out-of-state. H-GAC continued to use policies and procedures to ensure proper use of State and Federal funds for all travel taking place out-of-state.

**Task progress:** In FY 2018 new tools were created for staff use to ease the travel approval process and streamline travel request.

### **1.1b Unified Planning Work Program Development**

- Maintained the 2018-2019 Unified Planning Work Program (UPWP), reflecting current plans, programs, and regional priorities, by amendments approved by the TPC, TxDOT, FHWA, and FTA. H-GAC staff has continued working on the budget and language of the UPWP to keep it as current and as accurate as possible.

**Task progress:** Amendment processes and tools were executed to ensure the accuracy and reliability of the information being amended into the UPWP. During FY 2018, staff made seven amendments to the 2018-2019 UPWP. UPWP and amendments are made available through the HGAC website. Development of the 2020-2021 Unified Planning Work Program Schedule was determined by staff in coordination with other transportation partners during FY 2018. H-GAC staff has been working during the past year to complete the procedures (for procedure manual) for the development of the new UPWP (to be completed for 2020-2021).

## **SUBTASK 1.2 Public Involvement and Outreach Program**

At H-GAC, we believe that planning must be done with the public, as well as for the public. We understand that decisions made today will affect those who live and work in our region tomorrow, and we're committed to listening to the diverse needs and concerns of our residents and stakeholders. H-GAC developed a Public Participation Plan (PPP) to outline an open planning process that supports early and continued public involvement in the transportation planning process. The PPP is H-GAC's guide for the transportation public engagement process providing full public access to information regarding key transportation decisions. Public involvement is part of a collaborative and regional effort to promote a continued, comprehensive, and coordinated



process for the public that provides opportunities for participation in the development and review of regional transportation plans, projects, and programs.

### **1.2a Public Involvement**

The public outreach program developed public outreach strategies and tactics for transportation planning activities, projects, programs, and plans as outlined in the Public Participation Plan and the Unified Planning Work Program.

#### **PRODUCTS: Work performed and status**

- Conducted public outreach activities and provided administrative and outreach support for public meetings that corresponded with current and future transportation projects, plans, and studies by publishing legal notices, press releases and advertisements, conducting public meeting arrangements, slideshow presentations and production, and development of meeting educational materials for distribution at the meetings.

**Task progress:** The public outreach program coordinated five Brown Bag Lunch Series events between October 1, 2017 through September 30, 2018. H-GAC developed the Brown Bag Lunch Series to provide staff and member jurisdictions a forum on education in transportation trends and topics, emerging technologies, and key transportation planning issues facing the industry. Participants were encouraged to bring their lunch during the presentations. The MPO held two public meetings for the Waller County Transportation Plan on Oct. 10, 2017 and Oct. 12, 2017. Additional public meetings for the Waller County Transportation Plan took place on Apr. 24 and 26, 2018 and Aug. 14 and 16, 2018. The MPO held a public meeting on the conformity determination and amendments to the 2040 Regional Transportation Plan and amendments to the 2017-2020 Transportation Improvement Program on Dec. 12, 2017. The MPO held a public meeting on the State Highway 146 Subregional Corridor Study on Jan. 11, 2018. For the 2045 Regional Transportation Plan, the MPO coordinated 13 public meetings. Six meetings were held in Harris County on Mar. 22, Mar. 29, Apr. 5, Apr. 19, Apr. 26, and May 1. One meeting was held in each of the remaining counties within the eight-county region; on Mar. 15 in Brazoria County; Mar. 21 in Waller County; Mar. 28 in Fort Bend County; Apr. 4 in Montgomery County; Apr. 11 in Liberty County; Apr. 12 in Chambers County; and, Apr. 24 in Galveston County. The MPO conducted a public meeting for the 2019-2022 Transportation Improvement Program and amendments to the 2040 Regional Transportation Plan on Apr. 17. On Jul. 25, the MPO held a public meeting about the components of the Regional Safety Plan. The public outreach program developed and implemented the public involvement plan for the 2045 Regional Transportation Plan (2045 RTP) including a 2045 RTP website



- Provided public information on regional transportation issues through a multitude of outreach activities including public meetings, television, radio, digital and social media, and print.

**Task progress:** Publicized public meetings and public comment periods for MPO programs, projects, plans, and studies, the public outreach program utilized various communication tactics that included legal notices, social media postings, website postings, community calendar and event postings, social media advertising, digital advertising, news releases, flyers, e-mail marketing, presentations, letters, information kits, and direct mail.

- Solicited public comments on transportation programs, projects, and policies, and responded to public comment in a timely fashion.

**Task progress:** The public outreach program coordinated a total of 23 public meetings and received a total of 375 public comments during the 2017-2018 UPWP year. The MPO received public comments, in writing, at public meetings through online submittal or via email. The MPO provided the public the opportunity to submit public comments via mail, email, online submittal, in-writing at public meetings, fax, or voicemail

- Created graphics and other visualization components to deliver information to interested parties through digital media communications including websites, webinars, social media, video and audio technologies, and photography.

**Task progress:** The public outreach program developed a new brochure, a folder, fact sheet, tablecloth, tall exhibit display, rack card, and fact sheet for the MPO. The public outreach program produced video public service announcements for bicycle safety, pedestrian safety, and hurricane preparedness. A media outreach campaign continued from September 2017 and continued to February 2018 through various media platforms that included television public service announcements, digital advertising, theatre advertising, and YouTube placement. A collective total of 162,352 spots were secured that totaled 5,809,653 impressions. The videos may be found on the MPO website, YouTube page, and Facebook. The public outreach program regularly posted transportation information on social media platforms including Facebook, Twitter, and LinkedIn. They have managed the transportation pages of H-GAC's website under the mobility section, and distributed a digital monthly newsletter; *The Region View*. Archives of the monthly newsletter may be found on the MPO website.

- Developed and maintained listservs and community contact lists to ensure adequate distribution and notices of public meetings and materials to interested parties.

**Task progress:** The public outreach program maintained a community contact and stakeholder list for distribution of public meeting information and materials.

- Provided live-streaming of Transportation Policy Committee meetings and other meeting events as determined.

**Task progress:** The public outreach program provided live-streaming of the Transportation Policy Council meetings in compliance with SB 1237 (84<sup>th</sup> Legislature) each month. Recipients on the contact list received an email notification reminder on how and when to access the link to watch the live-streaming sessions. Archives of the live-streaming sessions may be found on the MPO website.

- Developed partnerships with community organizations to provide public information on regional transportation issues, projects, and studies.

**Task progress:** The public outreach program developed the annual Mobility Report (2017) that summarizes key economic and transportation performance indicators that reflect the region's progress toward achieving a safe, reliable, and multimodal transportation system. A digital edition of the report may be found on the MPO website. Public outreach staff participated in dozens of community outreach events such as the annual United Way of Greater Houston Interagency Showcase, the monthly PIO Network meeting, Women in Transportation monthly meetings, and the Young Professionals in Transportation meetings. The public outreach program has partnered with various organizations and groups to provide public information on regional transportation issues, projects, and studies including chambers of commerce, municipalities, non-profit organizations, and super neighborhoods.

### **1.2b Policy and Government Affairs**

- Provided MPO comments to federal and state agencies regarding proposed rules as part of the rule making process.

**Task progress:** Continued to provide MPO comments to the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), and the Environmental Protection Administration (EPA) to proposed rules from these agencies as part of the federal rule-making process.

- Organized seminars, peer exchanges, and peer reviews as necessary to facilitate communication between MPOs, federal, state, and local agencies.

**Task progress:** Continued to organize and/or participate in seminars, peer exchanges, and peer reviews as necessary to facilitate communication between MPOs, federal, state, and

local agencies, providing food and non-alcoholic beverages, pending TxDOT approval, when deemed appropriate.

- Provided outreach support including briefings and printed materials for policy makers on federal and state issues relevant to the regional transportation planning process.

**Task progress:** Continued development of briefings and printed materials for policy-makers on federal and state issues relevant to the regional transportation planning process. Participated in best practices and public involvement training workshops when resources are available.

#### TASK I FUNDING SUMMARY

FUNDING SOURCE	AMOUNT BUDGETED	AMOUNT EXPENDED	BALANCE	% EXPENDED
Transportation Planning Funds (PL 112 & FTA 5303)	3,199,110.00	2,347,019.00	852,091.00	73%
<b>TOTAL</b>	3,199,110.00	2,347,019.00	852,091.00	73%

## **TASK II**

### **DATA DEVELOPMENT AND MAINTENANCE**

The subtasks contained in Task II are to collect, update, model, and maintain the basic data and tools required for executing the planning activities described in this UPWP.

#### **SUBTASK 2.1 Socioeconomic Data and Models (H-GAC C&E Planning)**

Subtask 2.1 addresses the ongoing development of socioeconomic data and socioeconomic forecasting models, along with informational services and analytical support of Transportation planning activities and studies.

#### **PRODUCTS: Work performed and status**

##### **2.1a Socioeconomic Data**

- Staff continued monitoring releases of aggregate socioeconomic data from federal and state agencies, and other public and private sources. Staff will continue maintaining and updating databases with such information.
- **Task Progress:** Databases with aggregate socioeconomic data were kept updated with the latest available information.
- Staff continued researching, obtaining, and processing information on the location, timing, and details of planned development projects in the region. Staff continued maintaining and updating databases with such information.

**Task Progress:** Information on planned development projects and plats were continuously collected and integrated with the forecast model data and the Regional Land Use Information System.

- Staff continued researching, obtaining, processing, and synthesizing disaggregate information on parcels, buildings, businesses, and households in the region. Staff continued maintaining and updating databases with such information.

**Task Progress:** Staff processed 2017 County Appraisal data and updated the Model Buildings and Parcels database. Staff processed 2017 InfoGroup data and updated the Business/Employment database. Staff continued validating the Model Parcels and Buildings data using the aerial imagery and other data sources.

### **2.1b Socioeconomic Models**

- Staff continued improving and enhancing the existing operational version of the demographic and economic macro forecasting model.

**Task Progress:** The model was updated with the latest available information from US Census American Community Survey, US Census LEHD, Bureau of Labor Statistics, Bureau of Economic Analysis, and other public agencies. Staff developed new population, employment and household control totals for the 2018 Annual Regional Growth Forecast. Staff analyzed the demographic and socioeconomic changes of the region as compared to other major metropolitan areas to better understand the regional growth patterns.

- Staff, in cooperation with the Travel Demand Modeling group, developed scenario-based regional integrated “land use-transportation” small-area population and employment forecasts for transportation planning purposes.

**Task Progress:** A fully integrated (land use-transportation) forecast version was released in December 2017.

### **2.1c Information Services and Analytical Support**

- Staff continued improving and enhancing the existing web-based mapping and database query applications allowing easy access to socioeconomic data by transportation partners and general public.

**Task Progress:** 1) Staff updated the Regional Land Use Information System with the 2017 Regional Growth Forecast released in December 2017. 2) Staff updated the Demographic Data Explorer and the Commuting Patterns Tools with the latest data from US Census American Community Survey and The Longitudinal Employer-Household Dynamics data. 3) Staff released a new interactive report that analyzes the demographic and socioeconomic changes of the region as compared to the major Metropolitan areas in the US. 4) Staff developed two new applications called Regional Employment Snapshot and Regional Demographic Snapshot to provide quick and easy access to regional socioeconomic data.

- Staff provided informational services and analytical support to H-GAC Transportation staff, transportation agencies, local governments and their consultants in support of regional transportation planning activities and studies.

**Task Progress:** Staff has provided informational and analytical assistance to the agency staff and to local governments and their transportation consultants. Staff also conducted a

series of three seminars (and webinars) to provide training to community and transportation planners in utilizing H-GAC's interactive web mapping tools in their daily workflow.

## **SUBTASK 2.2 Physical Features, Data, & Modeling Support (MPO)**

Subtask 2.2 describes the ongoing development, maintenance, and training activities associated with travel demand data development, mapping, and modeling. This subtask describes efforts directed toward the continued development, enhancement, and maintenance of the MPO's travel demand models, including the physical collection, entry, preliminary tabulation, GIS-based mapping, maintenance, and analysis of transportation-related data.

### **PRODUCTS: Work performance and status**

#### **2.2a Transportation Data & Modeling Support**

- Used Geographic Information Systems (GIS) to develop menus, macros, programs, and user manuals needed to display and evaluate transportation tasks.

**Task progress:** The GIS Group of the Transportation Modeling used ARCMAP GIS extensively to develop roadway information and related proposed projects within the H-GAC region for various regional, sub-regional, corridor projects, studies and analysis in support of the Regional Transportation Plan (RTP), Transportation Improvement Programs (TIP) and in support of the regional conformity findings. Program menus and scripts were often written by staff to execute some repetitive functions and tasks towards achieving these goals.

- Maintained, refined, and enhanced the data required to operate the travel demand models, including the road network, segment nodes, and traffic analysis zones.

**Task progress:** Staff worked with both the RTP and TIP groups within H-GAC, and other H-GAC member agencies such as TxDOT, METRO, other regional providers, and stakeholders to develop a much better representative of roadway and transit projects within the H-GAC MPO region for planning, studies, and analysis. H-GAC, in conjunction with METRO, sponsored a regional Origin-Destination Transit Survey with the support of other regional providers.

- Provided programming support for modeling and GIS applications.

**Task progress:** Staff continued to enhance the advanced capabilities and functionalities of the Modeling Activity Based Model (ABM) and the 4-Step Modeling process through the Cube Voyager modeling software, and the advance programing, macros and menus scripts of

ARCMAP.

- Created maps and other GIS-related publications as needed.

**Task progress:** Staff continued to use the geographic Information System software, the ARCMAP, to code support the various transportation projects and the related social economic data such as population and employment data for both within H-GAC and outside uses in support of the Regional Transportation Plan (RTP), the Transportation Improvement Programs (TIP), Conformity Findings, and other corridors and sub-regional planning studies, and analysis.

- Maintained the GIS-based Project Viewer in TELUS for TIP and RTP projects.

**Task progress:** Staff continued to use the database and graphic functionalities of GIS-based Project Viewer in TELUS for the TIP and RTP project development, displays and queries. Bicycle layers have also been added as separate layer for queries.

- Applied GIS and cartographic modeling techniques to enhance spatial analysis of demographic and travel data.

**Task progress:** Staff used the ARCMAP and the Cube Voyager GIS functionalities for displays, mapping and other cartographic tools and techniques to support travel demand modeling and planning activities within the agency, and to provide technical support and assistance to other member agencies especially during corridor/sub-area studies, travel demand modeling and forecasting, plan reviews and development.

- A consultant was utilized to determine the method, cost and design for collecting household origin and destination data. These data were used for updating the regional travel demand model.

**Task progress:** Consultant RSG delivered a recommendation plan which identified surveys and passive observed data to be collected in next few years for travel demand model calibration. The plan discussed the advantages and disadvantages of the common survey and data. The plan estimated the cost, the sample size, and frequency of household and other serves to be collected.

- A consultant was utilized to conduct transit onboard origin-destination survey for transit services operated by regional transit providers.

**Task progress:** H-GAC and METRO jointly conducted an Origin-Destination Transit



Survey using the prime contractor (ETC), and with the professional guidance of TTI. This survey started in early January of 2017 and was concluded in the 1<sup>st</sup> quarter of 2018. Over 95% of the tasks have been executed. This work was delayed by the tropical Storm Harvey.

### **2.2b Travel Demand Forecasting**

- A consultant was utilized to assist with technical support for the implementation and improvement of the Cube model set.

**Task progress:** Continued technical support and assistance in the implementation of the Transportation Planning and Travel Modeling Techniques. Staff continued to use the professional assistance and technical support of TTI to support various advanced Travel Demand activities both at the regional and sub-regional levels. These included: Advanced Travel Demand and Forecasting support, high level of support, over-sight during the just concluded Origin-Destination Survey, other data collection projects, and support towards our conformity process (e.g. MT Mix data, hourly factor to distribute our 4-time period VMT into 24-hrs data, seasonal factors corrections, HPMS factor correction, evaluating traffic counts locations and technique to validate travel demand model, and TxLED Reduction factors), quantifying delay, emission, and safety benefits of various traffic improvement projects for TIP calls for projects.

- A consultant was utilized to assist with the collection of speed, classification and count data on select on-system and off-system roadways within the MPO region.

**Task progress:** Conducted traffic speed and count collection on the freeway system to validate travel demand model. Staff worked with CJ Hensch & Associates to complete the freeway traffic and count collection in June 2017. Data collected are, among other things, used to validate the regional travel demand model. Staff worked with TTI consultants and completed a selection of more than 2000 traffic count sites from new growth areas and from high traffic volume locations. Our selected contractor, CJ Hensch & Associates, is conducting traffic data collections right now. Staff worked with ms2soft web host to upload 2016-2017 traffic count data files for live public view. Staff has worked and is working with ms2soft web host to upload 2018-2019 traffic count data files for live public view.

- Supported the development of the TIP, RTP, Sub-regional Planning, and other studies as needed, including but not limited to toll revenue studies, member agency mobility plans, and environmental justice assessments.

**Task progress:** 1) Staff refined the highway network input data into the travel demand model to include the re-alignment of the I-45 (Downtown/Pierce elevated corridor) and

other proposed TIP and RTP projects, and re-routing of all transit routes to the newly proposed I-45 alignment. 2) Staff supported Waller County Mobility Study and Regional Transit Framework Study. 3) Staff worked with the H-GAC forecasting Group in updating the social economic data inputs into the travel demand model used for the air quality analysis in the H-GAC's MPO region. 4) Staff developed procedures to summarize the impact of proposed toll facility on environmental justice population and comparing their accessibility to various types of locations with and without the proposed toll facilities. 5) Staff continued to provide modeling and forecasting technical support for the production of the transportation air quality conformity calculations to the current SIP, RTP, and TIP as per the federal requirements. Obtained Regional Economic Model (REM) software for RTP project evaluation, user benefit cost analysis, and economic impact analysis. Gathered travel demand and project costs data for High Capacity Transit scenario runs. Studied and inquired project cost data for North Houston Highway Improvement projects. 6) Staff provided training for Alliance Transportation Group on running the travel demand model to evaluate individual candidate projects for TIP calls for project. Alliance Transportation Group was the consultant assisting TXDOT.

- A consultant was utilized to assist with the review and assessment of existing evacuation analysis tools for application in the MPO region.

**Task progress:** Reviewed and assessed traffic data used in base year networks, including AVI, Wavetronic, Bluetooth, private data and ATR data to help rectify the modeling network. Staff continues to periodically review and update various traffic data including: AVI, Wavetronic, Bluetooth, private data and ATR data, used to rectify the modeling network which serves as a very important input into the travel demand modeling and forecasting model.

- Reviewed and assessed demographic data and other model inputs.

**Task progress:** Staff continued to work with the H-GAC forecasting Group in updating the social economic data inputs into the travel demand model used for the air quality analysis both for the H-GAC regional planning and corridor and sub-regional studies.

- Continued VISSIM and Dynasty models developments for use in corridor and mesoscopic analyses.

**Task progress:** Staff continued to develop skills in the use of VISSIM and Dynasty models for the Microscopic and Mesoscopic analysis of some of the corridors in the region (e.g.: I-610 ramp and SH 146).

- Continued work on air quality conformity determination to ensure the region does not exceed its motor vehicle emissions budgets.

**Task progress:** Staff completed conformity determination in conjunction to I-45 North Houston Highway Improvement Project, and the conformity determination was accepted in April 2018. Staff continues to develop the RTP and TIP, and the conformity to support the amendments to the RTP and TIP.

- A consultant was and is being utilized to assist with the continued development of a Cube Cargo based tour truck model.

**Task progress:** Developed Truck-Tour-Base Model; had staff working with the Cambridge Systematic Consultants to develop the regional truck tour-based model. The project is now more than 80% completed. The consultant is currently at the model validation stage, as the collection of the traffic count data needed for the validation is still in progress.

- A consultant was utilized to assist with the assessment of data needs and development of quantitative tools to create a model-based approach to analyzing non-motorized demand.

**Task progress:** Conducted modeling and related economic analysis for value capture study of US 290 corridor to account for the impact of both rail and highway improvements on the corridor land development and values. Staff worked with Texas A&M Transportation Institute (TTI) to conduct a value capture study of US 290 corridor to analyze the impact of both rail and highway improvements.

- A consultant was utilized to assist with the calibration and validation of the regional transit model set using data from the 2017 transit onboard survey.

**Task progress:** Continued the development of a set of utilities that utilized the MOVES model to conduct conformity analysis, emission inventories, and air quality status.

- A consultant was utilized to assist with participants in a pooled funding project with AASHTO, FHWA, and other partners for the development of a quick-running strategic model capable of assessing emerging challenges such as shared mobility, automated vehicles, and roadway pricing policies.

**Task progress:** Staff modified and updated the utilities to equal the utilities used to develop the SIP. Conducted modeling of proposed design alternatives to Kirkwood Drive in Meadows Place. Staff provided modeling support and assistance in the development of

the roadway network and the 4-step modeling for the traffic study of the Kirkwood Drive in Meadow Place. Provided technical support and assistance in the maintenance and upgrade of Activity Based Model and other aspects of advanced travel demand and analysis. Staff worked with Cambridge Systematic to update the Activity Based Model with multi-threading technology, reducing the running time by half.

- Developed a regional base map for use with the Statewide Traffic Analysis and Reporting System (STARS II) to input data into the federal Highway Performance Monitoring System.

**Task progress:** Staff provided technical support on FHWA's CMP Performance Measure set 2 (pavement condition) and set 3 (reliability and excessive delay). Staff produced slides explaining the concepts and mathematical formula of these performance measures and coordinated with TXDOT and TTI on calculating the base year measure and future year targets.

## TASK 2 FUNDING SUMMARY

FUNDING SOURCE	AMOUNT BUDGETED	AMOUNT EXPENDED	BALANCE	% EXPENDED
Transportation Planning Funds (PL 112 & FTA 5303)	4,338,452.00	2,789,174.00	1,549,278.00	64%
<b>TOTAL</b>	4,338,452.00	2,789,174.00	1,549,278.00	64%

## TASK III

### SHORT-RANGE PLANNING

The work elements contained in Task III include the development of the Transportation Improvement Program (TIP), as well as sub-regional or county-level mobility studies, transit feasibility studies, and operations planning. Short-range planning efforts will also be focused on the continued coordination and development of transit and Transportation Demand Management (TDM) projects. Task III also includes ongoing maintenance of the Regional Intelligent Transportation System (ITS), as well as efforts to improve traffic safety in the region.

#### SUBTASK 3.1 Transportation Project Programming

As the MPO, H-GAC is responsible for the coordination and programming of federal and state transportation funds allocated to the region with the state, providers of public transportation and local governments. In addition, H-GAC plans and programs include all regionally significant transportation investments; regardless of funding source.

##### **3.1a Transportation Improvement Program**

The Transportation Improvement Program (TIP) is a cooperatively-developed, four-year program outlining transit, highway, and traffic improvements, as well as other transportation and air quality-related activities within the MPO planning area. The purpose of the TIP is to inform the public regarding the commitment of funds to implement transportation improvement projects, including those selected by the TPC. The TIP must be consistent with the Regional Transportation Plan (see Subtask 4.1), conform to adopted vehicle emissions reduction targets, and be financially constrained within reasonable estimates of federal, state, and local revenues for the four-year time frame.

#### **PRODUCTS: Work Performed and Status**

- Developed and maintained the Transportation Improvement Program, including development of the initial document and required amendments.
- Analyzed proposed amendments to the current TIP for conformity implications, financial impact and administrative changes.

**Task Progress:** The 2019-2022 Transportation Improvement Program (TIP) was developed by staff in cooperation with the Texas Department of Transportation and member agencies. It included new performance measures addressing safety, infrastructure, system performance, and transit asset management as defined by the Fixing America's Surface Transportation (FAST) Act. It programmed 309 projects which were sponsored by 47 members agencies with \$7.2B of federal, state and local funds. It was approved by the

Transportation Policy Council on May 25, 2018 and by the Federal Highway Administration on October 1, 2018.

In conjunction with the Texas Department of Transportation and project sponsors and staff processed amendments to 301 projects in the TIP, Ten Year Transportation Plan, and 2040 Regional Transportation Plan. Considerations were made based on the effects and compliance with the air quality conformity determination, funding budgets and Statewide TIP revision requirements.

### **3.1b Ten Year Transportation Plan**

H-GAC's MPO Transportation Policy Council also makes funding commitments beyond the four years of the TIP. These commitments, along with those made by the state, are included in a Ten-Year Plan. This document reflects MPO action on the TIP and RTP and is coordinated with TxDOT's 10-Year Unified Transportation Program (UTP).

#### **PRODUCTS: Work Performed and Status**

- Consistent with the TIP and RTP, maintained a 10-year plan for the use of funding allocated to the region.
- Produced electronic and printed materials to illustrate the projects and programs funded in the Ten-Year Plan

**Task progress:** The Ten-Year Transportation Plan, originally developed as a programming device for the 2015 Call for Projects, was updated in January 2018 in conjunction with 2040 Regional Transportation Plan (RTP) fiscal constraint update, and again in May 2018, as a result of the development of the 2019-2022 TIP. The Ten-Year Transportation Plan, and its amendments, are published on the H-GAC Transportation Department webpage.

### **3.1c Project Evaluation and Prioritization**

The MPO works with the state and project sponsors to consider project funding requests using evaluation criteria developed through the coordinated planning process. This includes consideration of project benefits using quantitative analysis and qualitative factors, anticipated project costs, and the suitability and readiness of projects to be successfully delivered under federal and state requirements.

#### **PRODUCTS: Work Performed and Status**

- Reassessed and modified Call for Projects processes, including submission requirements, readiness determination, timing, and project evaluation criteria.

- A consultant was utilized to assist in the development and utilization of benefit/cost analysis (BCA) and economic impact analysis (EIA) techniques to support the evaluation of project funding proposals (Transportation Planning Funds (TPF)).
- A consultant was utilized as necessary to assist with project solicitations for the TIP and Ten-Year Plan (TPF).
- Coordinated with TxDOT regarding statewide project evaluation and selection processes.
- Provided presentations and conduct workshops to inform potential project sponsors regarding project funding opportunities and evaluation requirements.

**Task progress:** The 2018 Call for Projects process, evaluation criteria, the project readiness determination criteria, and the proposed project submission requirements were developed by staff and approved by the TIP/RTP Subcommittee, TAC and the TPC. The Call for Projects online submission period was open to sponsors from September 4<sup>th</sup> through October 31, 2018. During this period, H-GAC received a total of 194 project funding requests in various investment categories for a total of \$2.9 B.

H-GAC staff created, tested and refined the online submission webpage for the 2018 Call for Projects.

H-GAC staff worked with the US DOT's VOLPE Center to review the Benefit Cost Analysis methodology and the benefits templates prepared by the H-GAC staff.

Staff continues to work with TxDOT to build on the H-GAC project evaluation criteria to align with the state selection processes.

Staff made multiple presentations on the 2018 Call for Projects process, evaluation, selection and prioritization to the H-GAC subcommittees, TAC, and TPC. Staff conducted three workshops/training with TAC members and the potential sponsors to walk them through the 2018 Call for Projects submission process, evaluation, scoring and selection process.

### **3.1d Project Tracking, Monitoring, and Support**

As the MPO, H-GAC maintains a database of project information to support production of TIP, Ten-Year Plan and RTP documentation and to track the progress of projects toward implementation. The project database is linked to internal and external data sources and provides content to the H-GAC and partner agency websites. H-GAC requires sponsors to provide regular



updates on the status of their projects and maintains systems to collect and analyze this information. H-GAC also conducts project development educational workshops to share information and best-practices with partner agencies with the aim of improving on-time on-budget project delivery.

## **PRODUCTS: Work Performed and Status**

- A consultant was utilized to continue the development and improvement of the online project information database to allow for enhanced project tracking and access by member agencies ((Transportation Planning Funds (TPF)).
- Tracked and reported on the development status of projects using information from available databases and sponsor data requests.
- Provided planning assistance to local governments in the development of candidate and selected TIP projects with the objective of accelerating project delivery and reducing unanticipated changes in project scope and cost.

**Task progress:** The consultant, EcoInteractive, continued the development of the Metropolitan On-demand Transportation Investment Open Network (MOTION) software as a web-based project tracking database system. EcoInteractive customized MOTION to meet the needs of H-GAC's operations to track, monitor and edit project data while meeting partner agency and sponsor's needs to view and provide project status updates. H-GAC staff provided oversight and feedback during weekly conference calls with EcoInteractive. The consultant customized MOTION software modules: the TIP project, public website, project delivery, document management, obligation module and a GIS module with shapefile exports. The testing phase of the software began in September 2018 and will continue into FY 19.

Throughout FY 2018, staff tracked and reported on the development of projects. Staff sent project status requests to project sponsors and local governments. In response, staff compiled the project data into a master quarterly report. The report was utilized to identify potential problems with project delivery. Based on the status reports, meetings with partner agencies and TxDOT were held to find solutions and rectify project issues. Utilizing TxDOT's monthly letting schedules and reports, staff monitored project status and entered updated information into H-GAC's project database. During the monitoring of project status, staff identified and accelerated twenty-three projects during the fiscal year.

### **SUBTASK 3.2 Planning Support for Transit Service Implementation**

The MPO provides a forum for coordination between the providers of public transportation within the region and the development of new and expanded transit services. These short-term focused efforts assist transit providers and local governments partners in their implementation of priorities established in the Regional Transportation Plan and other regional transit planning products. This subtask includes the identification of eligible planning activities performed by transit providers using Urbanized Area (5307) federal transit formula funds.

#### **PRODUCTS: Work performance and status**

- Provided planning support for the Commuter and Transit Pilot Program, including evaluation and monitoring of program design, performance, and coordination with potential service providers.
- A consultant was utilized to evaluate the effectiveness of new innovative mobility options for local governments and transit agencies that promote and enhance regional connectivity.
- Supported designated recipients of FTA formula funds in their annual development of programs and projects.
- Planning projects performed by transit providers using FTA 5307 funds. Eligible project activities included, but were not limited to, system planning, project planning and preliminary engineering, maintenance plans, asset management plans, safety plans, and management operation studies.

**Task progress:** Participated in project selection activities for Projects in the MPO's Urbanized Area (UZA) (conducted by METRO) as well as calls for FTA projects in the small urban and rural areas (conducted by TxDOT). H-GAC staff participated in the 2018 Houston UZA Section 5307/5337/5339 Call for Projects evaluation process. H-GAC is a member of the evaluation committee along with METRO, Harris County Transit and Fort Bend County Transit. Staff worked with a consultant through the High Capacity Transit Task Force to plan for innovative mobility option.

### **SUBTASK 3.3 Regional Operations/Intelligent Transportation Systems Planning**

The aim of Regional Operations Planning is to improve efficiency and safety of the transportation system in the area through the deployment of advanced technologies and systems management techniques. Operations strategies and ITS technologies offer benefits ranging from improved safety on the existing transportation infrastructure to enhanced travel information to users of the transportation facilities.

### **3.3a ITS**

#### **PRODUCTS: Work performance and status**

- Maintained and revised information on the regional ITS Architecture when needed.
- A consultant was utilized to update the regional ITS Architecture and other ITS-related documents based on Regional transportation Systems Management and Operations (TSMO) Self-Assessment.
- Distributed planning information regarding ITS Architecture to public sector entities in the TMA involved in the implementation of ITS.

**Task Progress:** Completed Contract with the Texas A&M Transportation Institute to perform the following tasks 1) develop a Regional Capability Maturity Roadmap Tool, updated the Regional Architecture and develop a User Base Regional Architecture System, Risk Based Systems Engineering Evaluation Process, and Development of Standard Templates; Risk Based Systems Engineering Process and Systems Engineering Templates, and create a Regional TSM&O Documentation Database

### **3.3b Incident Management**

- Coordinated and partnered with Houston Transtar to provide support for regional incident management activities.
- A consultant was utilized to support training for regional incident management responders based on the FHWA's Strategic Highway Research Program 2 (SHRP2).
- Continued coordination with local governments and agencies to plan for the implementation of expanded incident management activities throughout the region.

**Task progress:** L.E.A.D and Associates were contacted to perform SHRP2 Traffic Incident Management Training for the Region. Classes were held in October 2017, January, February, April, May, June, July, August and September 2018.

## **SUBTASK 3.4 Safety Planning**

This subtask promotes the continued pursuit and analysis of safety issues as they relate to our long range planning efforts. These efforts range from the collection of crash data to the sponsoring of planning studies and initiatives to address high crash locations. A multi-disciplinary Regional Safety Council has been developed to bring interested and involved parties to the table to address regional safety in a holistic manner.

**PRODUCTS: Work performance and status**

**3.4a Safety Data Analysis, Reporting, and Planning**

- Produced an annual State of Safety in the Region report, summarizing the regional crash experience and various efforts to address traffic-related crashes in the region.

**Task progress:** Staff produced annual State of Safety Report and presented to the Regional Safety Council and TPC.

- Developed a Regional Transportation Safety Plan to identify areas of concern in transportation safety, appropriate counter measures for addressing safety issues, and funding sources for remediating these issues (to be incorporated into the RTP).

**Task progress:** Staff developed a Regional Transportation Safety Plan which identifies transportation safety focus area; plan was adopted by the Regional Safety Council and TPC.

- Researched and analyzed crash data from TxDOT's Crash Record Information System (CRIS) and assisted agencies in assessing problem locations with CRIS data.

**Task progress:** Staff assisted local agencies and their consultants with seven different crash data assessments.

- A consultant was utilized to conduct safety analysis at pilot intersection locations that have high crash density (TPF).

**Task progress:** No progress made on this task in 2018, expected progress in 2019.

**3.4 Safety Outreach**

- Conducted non-lobbying participation in local, state, and national initiatives involved in promoting increased traffic safety. Coordinated trainings and workshops on safety-related issues for agencies and regional implementers, if available or needed.

**Task progress:** Staff attended 2018 TxDOT Traffic Safety Conference in August 2018 and the National Safety Council Expo & Congress in October 2018.

- A consultant was utilized to assist in conducting public outreach for traffic safety in the region, including the development and delivery of education and information to the public about traffic safety matters, including but not limited to bicycling, distracted driving, driving while intoxicated, safety around commercial vehicles, and motorcycle safety.

Activities included the development of informational handouts, the development of public safety announcements on the radio and the dissemination of information on bicycle safety techniques to local governments, schools, and other interested organizations (Surface Transportation Program (STP)).

**Task progress:** Staff developed a scope of work and solicited a Request for Proposals for the Regional Safety Campaign in October 2018.

- Conducted consultant contract management and oversight activities for traffic safety public outreach project.

**Task progress:** No progress made on this task in 2018, expected progress in 2019.

### **SUBTASK 3.5 Evacuation Planning**

The massive evacuation from the Houston metropolitan area in response to Hurricane Rita brought into sharp focus the difficulties in evacuating the metropolitan region efficiently and safely. Past planning activities have focused on traffic operations, communications, and logistics. Operational improvements have focused on accident detection and management, changes in transit, vehicle routing and scheduling, the elimination of bottlenecks at specific intersections, and contra-flow lane operations.

- Continued development and maintenance of the Web Based Evacuation Map, which allows for the tracking by local governments of law enforcement and transportation resource deployments during a hurricane evacuation.

**Task progress:** Staff continued to coordinate with TxDOT to update Web Based Evacuation Map.

- Updated and maintained the Zip Zone and Evacuation Route maps and provide to interested parties as requested.

**Task progress:** Zip Zone and Evacuation Route maps were updated March 2018 to reflect approved route changes and modifications.

- Provided on-going support and training to local governments and State regarding evacuation planning.

**Task progress:** Staff participated in hurricane evacuation outreach events and coordination meetings with local governments throughout the FY 2018.

**TASK III FUNDING SUMMARY**

<b>FUNDING SOURCE</b>	<b>AMOUNT BUDGETED</b>	<b>AMOUNT EXPENDED</b>	<b>BALANCE</b>	<b>% EXPENDED</b>
Transportation Planning Funds (PL 112 & FTA 5303)	\$1,805,577.79	\$873,096.75	\$932, 481.04	48%
TxDOT State Funds	\$9,900.00	0	\$9,900.00	0
FTA (Sec. 5309)	\$2,184,825.00	\$936,291.00	\$1,248,534.00	43%
STP-MM	\$325,000.00	0	\$325,000.00	0
<b>TOTAL</b>	<b>\$4,325,302.79</b>	<b>\$1,809,687.75</b>	<b>\$2,515,615.04</b>	<b>42%</b>

## **TASK IV LONG-RANGE PLANNING**

The work elements contained in Task IV include the development and maintenance of the Regional Transportation Plan (RTP) as well as ongoing initiatives regarding transportation-related air quality planning, regional bicycle and pedestrian planning, activities involving the MPO's Livable Centers program, and Transportation Performance Management (TPM) activities.

### **SUBTASK 4.1 Investment Priorities and Project Planning**

This subtask will focus on developing and setting investment priorities for the transportation infrastructure within the eight (8) counties Transportation Management Area. Key areas of focus in this subtask include setting quantifiable performance measures and targets for transportation safety, asset management, congestion mitigation, and air quality. Development of investment priorities will align with the long-term vision, goal, strategies, and performance targets established in the Regional Transportation Plan. The transportation system performance will be evaluated periodically toward the achievement of performance targets.

#### **4.1a Regional Transportation Plan (RTP) Development**

As the designated MPO for the region, H-GAC is responsible for developing and maintaining a long-range transportation plan that establishes goals and objectives, articulates priority areas of investment, and coordinates local and state efforts to improve the performance of the regional transportation system. Key focus areas for the RTP include: development of vision and goal statements; use of performance measures for evaluating current and future system performance and investment effectiveness; an assessment of regional transit needs and opportunities; environmental considerations and implications for project development; and consideration of infrastructure needs to facilitate the movement of goods, as well as, people.

#### **PRODUCTS: Work performed and status**

- Developed an update to the Regional Transportation Plan, including revised demographic and economic forecast scenarios, estimates of reasonably available revenue, investment priorities for projects and programs, and determination of conformity with regional air quality goals.
- Monitored changes to planning and project assumptions and amend the RTP as necessary.



- A consultant was utilized for the evaluation of potential high capacity transit services and service concepts, including discussion of performance outcomes and concepts for use in development of 2045 Regional Transportation Plan (Transportation Planning Funds (TPF)).

**Task progress:** 1) Staff continued to work on the update to the Regional Transportation Plan (2045 RTP). 2) Staff developed the demographic forecasts and presented these forecasts to the TAC and TPC in January 2018. 3) Staff presented the demographic forecasts at the initial round of thirteen (13) public meetings between March and May of 2018 conducted throughout the region. Working with the modal subcommittees, TAC and TPC staff developed 2045 RTP Vision, Goals and Strategies. 4) Staff also developed investment priorities aligned with the 2045 RTP goals and strategies and solicited project proposals aligned with the investment priorities through the 2018 Call for Projects. 5) Staff is working on procuring a consultant to develop an update to the financial forecasting model for the 2045 RTP.

In 2018, two major amendments were made to the 2040 RTP. In January 2018, staff added approximately 50 new projects to the 2040 RTP. In May 2018, staff incorporated two new planning factors; “Improving Resiliency and Reliability of Transportation System and Reduce or Mitigate Storm Water Impacts of Surface Transportation” and “Enhance Travel and Tourism”, as well as, Safety and Transit Asset Management targets to make the 2040 RTP compliant with the FAST ACT requirements.

#### **4.1b Financial Planning**

The MPO undertakes several efforts to understand federal state and local investment in transportation and to support the development of financially constrained plans and programs. This includes the development of financial models and the study of specific revenue measures and financing strategies to inform regional and local decision-making.

#### **Work performed and Status:**

- Consultant was utilized to maintain and update financial models to reflect data from current financial reports and reasonable future revenue sources.
- Provided planning support to local governments and transportation agencies to evaluate the use of innovative financing strategies.
- Considered and recommended opportunities to use transportation development credits to advance regional investment priorities.

**Task progress:** Staff began developing the scope of work to procure a consultant to update the financial model. Staff continues to provide planning support to local governments, transportation agencies to evaluate the use of innovative financing strategies. Staff programmed 2,815,918 Transportation Development Credits for various projects in FY 2018.

#### **4.1c Project Development and Mitigation Planning**

The MPO supports the sponsor evaluation of project alternatives during the planning and environmental review stages of project development to ensure consistency with the RTP and consider regional approaches to the mitigation of impacts.

#### **PRODUCTS: Work performed and status**

- Provided planning assistance to TxDOT and local governments in the development of pre-environmental and environmental analyses related to proposed projects and support the enhancement of transportation planning and environmental linkages. Work shall not include any project engineering and design.
- A consultant was utilized to maintain and update the Eco-Logical Environmental Screening tool (Transportation Planning Funds (TPF)).
- Coordinated with the state, resource agencies and local governments to prepare Regional Mitigation Plans and Implementation Strategies.
- Served as a resource for planning partners, counties, subrecipients, etc. in meeting Title VI, Environmental Justice (EJ), and public participation mandates.
- Developed a report on environmental justice planning activities and analysis.

**Task progress:** H-GAC entered into an Intergovernmental Agreement with Texas A&M AgriLife Extension Service to update the base map of the Eco-Logical Environmental Screening Tool. The agreement with Texas A&M AgriLife Extension is currently at the contract negotiation stage. Staff has coordinated with state, natural resource agencies, local governments, and conservation groups on the redevelopment of the Eco-Logical tool and the expansion of its functionality. The added functionality will facilitate: 1) pre-environmental screenings, 2) transportation planning, and planning environmental linkages (PEL) studies, and 3) development of regional mitigation plans and natural resource conservation strategies.

- Staff continued to support compliance with Title VI and Environmental Justice mandates within and outside H-GAC. Staff has completed the report on Environmental Justice planning activities and analyses for the MPO region and has also submitted the agency's triennial Title VI Program compliance report to the FTA. The Title VI and Environmental Justice reports are available on the agency website <http://www.h-gac.com/taq/title-vi/default.aspx>.

## **SUBTASK 4.2 Air Quality Planning**

Air Quality Planning supports all regional efforts to comply with federal air quality standards, while seeking to preserve the region's transportation needs and economic vitality. The MPO works closely with federal, state, and local officials, planning and regulatory agencies, and area stakeholders to develop on-road mobile emission budgets and emission reduction strategies to demonstrate attainment, model transportation conformity, and monitor and track TCMs and VMEPs. Also, H-GAC develops the on-road emission inventories for the Reasonable Further Progress State Implementation Plan for the Texas Commission on Environmental Quality (TCEQ). H-GAC provides support and guidance for regional congestion mitigation and air quality improvement programs for compliance with State Implementation Plan (SIP) and federal clean air requirements.

The Area Emission Reduction Credit Organization (AERCO) is a 501(c)(3) that provides a legal framework to promote air quality improvements and economic growth in the non-attainment area. AERCO initiatives also provide a mechanism for pooling emission credits to meet federal offset requirements and making credits available for economic development. The emission credit trading mechanism under AERCO has not been active for several years, instead AERCO has been providing support to the school bus program by being able to accept federal and state Supplemental Environmental (SEP) Funds and private donations.

### **PRODUCTS: Work performance and status**

- Developed, coordinated, and participated in response to state and federal air quality plans and new regulations affecting the region. Examined legal and sanction ramifications regarding different standards for the region.

**Task progress:** ~~during~~ During FY 2018, the Regional Air Quality Planning Advisory Committee (RAQPAC) reviewed air quality-related regulatory actions. To facilitate this review, staff researched regulatory actions and created briefing materials. The specific policy actions were 1) worked with local stakeholders to provide information and comments regarding the Texas beneficiary agreement for the Volkswagen Settlement. This included submitting comments prior to the publishing of a draft beneficiary agreement (January 2018) and following the unveiling of the draft plan (July 2018 and

August 2018), and 2) held early discussions regarding the upcoming 86<sup>th</sup> Texas Legislature (February 2018, August 2018, and September 2018).

- Provided coordination, participation, and expertise to local and statewide air quality planning committees.

**Task progress:** Staff participated in the local Greater Houston Partnership Environment Advisory Committee as well as the statewide Texas Clean Air Working Group, the Texas Technical Working Group for Mobile Source Emissions, Team Houston, and the statewide Advance Task Force. Staff also coordinated the activities of the Regional Air Quality Planning Committee (RAQPAC) and Transportation Air Quality Subcommittee. Staff participated with other MPOs on Statewide policy conference calls, such as the Idling Working Group Conference Calls.

- Provided staff support to H-GAC advisory committees and subcommittees such as the Regional Air Quality Planning Advisory Committee (RAQPAC). Research air quality issues and make recommendations regarding air quality issues to committee members and advise on project selection for the State Implementation Plan (SIP) to the H-GAC Board of Directors and the Transportation Policy Council.

**Task progress:** Staff continued to support the work of RAQPAC. Staff coordinated monthly Executive Committee meetings and facilitated nine (9) monthly meetings of the overall RAQPAC Committee on the last Thursday of each month. Meeting materials are available online on the Committee's web page:

<http://www.hgac.com/agendas/raqpac/default.aspx>. In 2018, staff worked with RAQPAC to develop and submit an updated PM2.5 Path Forward Report to support the region's participation in the EPA PM Advance program. Additionally, staff worked to inform RAQPAC members about issues pertinent to local air quality, such as: air quality standard progress and status, implementation of the 2015 revised ozone standard, and the status of the TCEQ TERP program among others. Staff supported meetings of the TAQ subcommittee are held at least on a quarterly basis. In FY 2018, the TAQ subcommittee met six (6) times. Committee meetings included briefings on the status of the 2015 ozone standard, local transportation initiatives and the relationship to air quality, issues related to the Volkswagen Settlement, discussions relating to the outcome of Item 4.2. a10, and updates regarding H-GAC commute alternative programs.

- Revised, printed, and distributed the Annual Air Quality Initiatives Report.

**Task progress:** Staff completed and published the 2017 Air Quality Initiatives Report. The final version was completed and distributed in April 2018.

- Analyzed available on road inventory with respect to size, age, and potential technology upgrades for additional emissions benefits in H-GAC air quality programs including existing and potential TCMs, SIP weight of evidence measures, and VMEPs. Seek additional commitments from implementing agencies (TPF).

**Task progress:** Completion of this task is anticipated during FY 2019.

- Completed annual update of PM 2.5 Advance Path Forward Plan. Developed potential control strategies for PM 2.5 emissions in response to the needs identified in the revised Plan utilizing potential strategies throughout the region.

**Task progress:** H-GAC staff, in conjunction with the Regional Air Quality Planning Advisory Committee (RAQPAC) developed a “Path Forward” update as part of the region’s participation in the EPA PM Advance Program. This update was approved by RAQPAC in September 2018 but was not submitted to EPA until October of 2018. This document listed and quantified voluntary PM reduction measures that are already being implemented by H-GAC and regional stakeholders. Additionally, the report outlined anticipated future projects that are expected to occur within the region.

- Provided staff training, public relations and/or sponsorship support for air quality technical workshops. Staff training will include technical training on new EPA emissions models and federal air quality standards. Public outreach activities will be conducted to educate stakeholders and the public on regional air quality issues.

**Task progress:** Multiple staff participated in the following training, webinars, presentations and air quality technical workshops 1) Presentations to Transportation Air Quality Subcommittee regarding the Volkswagen Settlement, TDC’s and toll credits, revisions to the NAAQS standards, implications of judiciary rulings on federal ozone standards, air quality recommendations for the 2019-2022 TIP, and CMAQ performance measures among other air quality improvement efforts, and 2) Presentations to the Regional Air Quality Planning Advisory Committee regarding the 2015 ozone standard, Volkswagen settlement, the PM Advance report, information about the TCEQ TERP Program, and preparation for the 2019 Texas Legislature session, as well as other air quality improvement efforts.

- Researched emission reduction concepts and analyze potential regional impact scenarios, present research to regional stakeholders to develop consensus and encourage regional commitments, and work to identify and apply for funding directly or support stakeholder efforts in their own application process.

**Task progress:** Staff conducted initial research, and completion of this task is anticipated during FY 2019.

- Surveyed intercity tour, transit, and school buses for fleet and vehicle size, fuel usage, and age distributions to determine inventory share of emissions.

**Task progress:** Through the auspices of the Houston-Galveston Clean Cities Coalition, staff worked to create a regional fleet survey to collect information about fleet and vehicle usage throughout the region. This survey collected information on transit buses and included a special section which focused on collecting detailed information about the regional school bus fleet. This inventory is an ongoing project, as we have yet to establish connections with touring buses and further fleet information.

- A consultant will be utilized to analyze and inventory regional medium- and heavy-duty vehicle idling emissions (including school buses). In addition to the inventory, this analysis will present a spatial analysis of emission generation, including source locations, vehicles information, speeds, levels of traffic (TPF).

**Task progress:** H-GAC contracted with the Texas A&M Transportation Institute (TTI) to develop an analysis and inventory of regional heavy-duty vehicles in the Houston region. This study of drayage and short haul trucks began in FY 2017 and major work was completed in August 2018.

- A consultant was utilized for a study analyzing travel patterns, idling, and emissions of drayage trucks operating in and around the Port of Houston area.

**Task progress:** Trucks participating in the study tended to move at low speeds overall with significant idling activities. Overall speeds for the project trucks were low (average 18.05 mph), largely due to the vehicles idling for around 54% of the time and being under 10 mph for 63% of the time. Project vehicles averaged 185 idling minutes per day. Most of the participant activities (approximately 91%) occurred between 6 AM and 7 PM, with over 95% of operations occurring on weekdays. Comparison of idling in different areas revealed that trucks on average idle for 71.9% time during port activities compared to 50.2% overall, which includes the port activities with most of the idling occurring during the midday period. For the trucks that reported SCR exhaust temperature, the data showed that the trucks operate approximately 58% of the time at temperatures below the optimal temperature range for emission control technologies. This means that a large percentage of operations for study vehicles occurred with higher-than-expected emissions NOx emissions.

- Updated regional alternative fuel inventory and infrastructure plan, providing coordination with TxDOT, FHWA and Department of Energy where needed. Researched and developed a cost effectiveness comparison of different alternative fuels to diesel and gasoline based on emissions, speed, and operational cost efficiencies. Identified barriers to the expansion of clean alternative fuel technologies. Developed planning materials for presentation to stakeholders.

**Task progress:** The process of updating this inventory and plan has begun. Completion is anticipated during FY 2019. Additionally, staff have been participating with TxDOT, other MPOs and Clean Cities Coalitions to update inventory and criteria for inclusion in the infrastructure plan.

### **SUBTASK 4.3 Multimodal System Planning**

This subtask will focus on the continued transportation planning considering various transportation modes and connections among modes. This area focuses on thoroughfare planning, freight, transit, bicycle, and pedestrian planning. Activities in this subtask include existing condition assessments, review, and coordination among local transportation plans, technical assistance, capacity building tools, and activities, coordination with subcommittees, development of recommendations, implementation plans, and performance measures to advance multimodal planning.

#### **4.3a Thoroughfare Planning**

The objective of this subtask is to undertake planning and coordination of local thoroughfare plans by representing the single source of information that identifies the thoroughfare planning efforts in the region. The Regional Thoroughfare Plan, to be developed, incorporates the primary features of local government thoroughfare planning efforts into a single, comprehensive transportation plan to promote region wide consistency and continuity regarding arterial street alignments and function between jurisdictions to help guide local government thoroughfare planning decisions on facilities that have inter-jurisdictional and regional significance.

#### **PRODUCTS: Work performance and status**

- Coordinateed with the State and local governments to update thoroughfare plans. This includes a review of existing thoroughfare plans and associated policies
- Developed a Regional Thoroughfare Plan that includes existing and future transportation corridors that have been identified in State, county, and city thoroughfare plans.
- A consultant was utilized to update the Brazoria County Thoroughfare Plan and associated policies.



- Conducted consultant contract management and oversight activities for active thoroughfare studies.

**Task Progress:** Staff coordinated with State and local governments on thoroughfare plans and information was collected. A Regional Thoroughfare map was prepared.

A consultant was procured to update the Brazoria County Thoroughfare Plan and associated documents. The final consultant scope of work and budget is under development.

#### **4.3b Freight**

A major objective of the freight program will be to build a freight database plan for a well-connected freight network, sustain outreach to the local freight community, and to build awareness and expertise among planners and the public on freight related issues.

#### **PRODUCTS: Work performance and status**

- Supported State-level freight planning efforts.

**Task progress:** Staff attended multiple Freight Planning workshops facilitated by FHWA. H-GAC staff developed and submitted the Houston Region Critical Urban Freight Corridors to the Texas Department of Transportation. Staff is also serving on the advisory committee for the Statewide Freight Rail Plan.

- Conducted research and provided updates to committees on freight legislation, policies, and ordinance, and best practices.

**Task progress:** This is an on-going process. Staff reserves an agenda item on the Greater Houston Freight Committee meetings for the transmission of updated Freight legislation and policies. Staff also provided best practices to neighboring MPO's on the development of mobility plans.

- Monitored and Updated the Critical Urban Freight Corridors and worked with partners to identify deficiencies on the network and potential projects.

**Task progress:** H-GAC staff worked with the Greater Houston Freight Committee to develop a list of roads to be added to the Critical Urban Freight Corridors. The agreed upon list was submitted to TxDOT and added to the state's list of Critical Urban Freight Corridors.

- Created a freight database and develop a freight data portal to facilitate the exchange of information.



**Task progress:** Staff collected various freight related datasets that have been secured by H-GAC. Additionally, H-GAC staff created Regional Truck Count Maps from ATRI data that was secured for use in the Ports Area Mobility Study. These maps are stored on the GIS server.

- Developed and conducted a freight educational outreach effort, as recommended by the Regional Goods Movement Study, to engage shippers, intermodal interests, freight stakeholders and the public.

**Task progress:** Through the Greater Houston Freight Committee, staff ensured that regional partners in the shipping, intermodal, and freight industries remain engaged. H-GAC staff engaged various freight stakeholders through presentations at 13 Regional Transportation Plan Meetings during FY2018.

- A consultant was utilized to conduct the Ports Area Mobility Study to assess potential system improvement alternatives for freight movement as identified from recommendations from the Regional Goods Movement Study (Surface Transportation Program (STP)).

**Task progress:** H-GAC staff secured HDR to conduct the Ports Area Mobility Study. The study is currently on-going and is expected to be completed in 2019.

- Conducted consultant contract management and oversight activities for the Ports Area Mobility Study.

**Track progress:** H-GAC staff managed the contract for the Ports Area Mobility Study during FY2018.

- A consultant was utilized to update the 2012 Regional Goods Movement Study-a long-range plan for the goods movement system in the Houston-Galveston region (STP).

**Task progress:** H-GAC staff coordinated on the procurement for the update to the 2012 Regional Goods Movement Study.

- Conducted consultant contract management and oversight activities for update to 2012 Regional Goods Movement Study.

**Task progress:** H-GAC staff coordinated on the Procurement for the update to the 2012 Regional Goods Movement Study.

- Assisted in the update of the 2007 Houston Region Freight Rail Study to address deficiencies in the Houston region's freight network (roads, ports, and railroads) and to develop ways to accommodate and capitalize on future freight movements.

**Task progress:** Staff submitted a draft scope of work for the Houston Region Freight Rail Study to TxDOT. H-GAC staff is serving on the TxDOT steering committee for the update to the Houston Region Freight Rail Study.

#### **4.3c. Sub regional Planning Initiatives**

The objective of this subtask is to conduct sub regional planning projects in various counties, cities, or subareas of the region. These projects may include analysis of existing transportation and land uses, stakeholder and public outreach, transportation modeling, scenario development, and development of recommendations for subareas to guide future transportation infrastructure investment.

#### **PRODUCTS: Work performance and status**

- A consultant was utilized to conduct the SH 146 Subregion Study, including the analysis of current and future transportation infrastructure and land use in Eastern Harris County and Western portions of Chambers County to include the Cities of Baytown and Mont Belvieu.

**Task progress:** SH 146 Sub regional Plan was completed in March 2018 and all required deliverables were received

- A consultant was utilized to conduct subregion analysis of current and future transportation infrastructure and land use in Waller County.

**Task progress:** Significant progress was made on the Waller County Transportation Plan. Data analysis was completed, and public meetings were held in April 2018 and August 2018. Draft recommendations were developed and presented at the public meeting in August.

- A consultant was utilized to conduct sub regional mobility study for Southeast Houston of current and future transportation infrastructure and land use.

**Task progress:** A consultant was procured to perform the Southeast Houston Mobility Plan. Significant progress on the study was made throughout the year. The data analysis was complete, and a public meeting was held in September 2018. Preliminary recommendation is being formulated.

- Conducted consultant contract management and oversight activities for active sub regional studies.

**Task progress:** Staff supported the contract management activities for the subregional studies as needed.

- Conducted mobility and access management studies to assist local governments to mitigate congestion and improve safety.

**Task progress:** Staff supported the contract management activities for the mobility studies as needed.

#### **4.3d Transit Planning**

The purpose of the regionally coordinated transportation planning effort is to provide more efficient and effective public transportation services, especially for priority populations including seniors (65 and older), persons with disabilities, persons with low incomes, veterans, youth, and others. This effort includes developing, adopting, implementing, and updating a coordinated public transit/human services plan as well as assessing progress of activities called for in the plan. The coordinated plan provides strategies for meeting the public's transportation needs, and prioritizes transportation services for funding and implementation.

#### **PRODUCTS: Work performance and status**

- Provide monitoring and planning support for the implementation of priority projects identified in the Regionally Coordinated Transportation Plan (RCTP). Activity may include counties adjacent to MPO region, but not beyond 13-county H-GAC region.
- Coordinate with local transit service providers to initiate plans for the development of new or expanded transit services in counties adjacent to Harris County including but not limited to; Brazoria, Fort Bend, Galveston, Liberty, Montgomery and Waller Counties (where feasible).

**Task progress:** 1) The Statewide RCTP Metrics Report was Submitted to the TxDOT Public Transportation Division in April 2018. Milestone Progress Reports have been submitted quarterly that indicated progress towards completion of the Scope of Work as required in the Gulf Coast RCTP Project Grant Agreement (PGA). The PGA funding was increased from \$25,000 to \$50,000 and the period of performance was extended to August 31, 2019. 2) Participated in collaborative meetings with local stakeholders including but not limited to the following: METRO-Regional Seamless Fare System, Enhanced Transportation for Seniors and Persons with Disabilities 5310 Grant Funding Workshop, United Way THRIVE Workgroup Meetings, Workforce Development -Job Candidate and Employee Transportation (JET) Pilot Project, United Way Galveston County-transportation challenges, Regional Stakeholders- Public Private Partnership meeting regarding unmet

transportation related needs. 3) Facilitated quarterly Regional Transit Coordination Subcommittee (RTCS) meetings and a Special RTCS Meeting in August, to coordinate the development of the Transit Asset Management (TAM) plan, related performance measures and targets that were subsequently approved by the Transportation Policy Council. 4) Coordinated development of candidate projects to submit for the 2018 TIP Call for Projects funding, which would expand transportation options or sustain transit services in underserved areas.

## **SUBTASK 4.4 Livable Centers**

This subtask provides outreach and technical assistance to local governments and private developers to achieve more efficient coordination between development patterns and the transportation system; to develop policies, plans and projects that will help achieve this objective within H-GAC Transportation Management Area (TMA).

### **PRODUCTS: Work performance and status**

- Assisted project sponsors in completing project readiness component for TIP eligibility or for other funding sources, including planning-related assistance regarding the environmental processes, planning level costs, and partnership development.

**Task progress:** Staff provided potential project sponsors with email updates regarding the TIP process.

- Refined criteria and conducted livable center project evaluation for next TIP funding round and other potential funding programs.

**Task progress:** Limited activity to date as the TIP selection criteria is under development during the fiscal year. Completed the Livable Centers form for the Regional Planning summit

- Provided technical assistance with land use/transportation-related RTP elements, preparation of 2045 RTP, Sub regional Planning program and public outreach efforts.

**Task progress:** Staff presented on Livable Centers to the Ped/Bike Subcommittee. Assisted Commute Solutions at public outreach event at Metro on August 13, 2018. Assisted with Bike Month kick off. Reviewed and consulted on Las Vegas livable center program, scored pilot program proposals. Provided Building Better Block non-profit organization with feedback on new tools that promote livable centers concepts.

- Conducted training workshops for local government staff and officials on implementing land use-transportation coordination principles such as context sensitive solutions, financing livable centers, urban design, and sustainability. Training may include cost-

benefit assessments, non-traditional funding sources, transit accessibility, land valuation, trip reduction data and implementation of projects.

**Task progress:** Staff presented to City of Houston City-wide Super Neighborhood Forum, City of Houston East End Super Neighborhood and North Houston Association. Provided technical assistance and facilitation for 1093 Rails-to-Trails collaboration: found resources and collaborated to convert the abandoned 1093 rail ROW into a regional trail connector (potentially from Fulshear to Eagle Lake). Presented on Livable Center principles to Belfort Station meeting with Hobby Management District. *Future of Retail: Your Community Destination Workshop* was held on September 29, 2018 with 55 participants. Staff served on the City of Houston Southeast Houston Mobility Plan Steering Committee – provided technical assistance on Livable Centers principles. Presented to Long Point Pilot Project Mobility Workshop Presented Livable Center principles to University of Houston UH design review class

- Maintained updated database and map of significant centers, mixed use, transit-oriented development, or sustainable mobility projects and local government planning and implementation projects pertaining to land use-transportation program. Developed criteria defining what constitutes transit-oriented development in the Greater Houston region and track transit-oriented development (existing and proposed).

**Task progress:** Staff updated the map of Livable Centers study areas throughout FY 2018. No work has been scheduled for the development transit-oriented development criteria. However, a webpage has been developed for the trail-oriented development work. <http://www.h-gac.com/trail-oriented-development/default.aspx>. The developed of the criteria will be a FY19 work product.

- Developed economic valuation report examining completed Livable Centers studies. Working with local project sponsors, track completed and planned implementation of Livable Centers study recommendations, including funding sources and estimates of private development in study areas. Developed mechanism to receive on- going updates from project sponsors as projects are implemented.

**Task progress:** The Livable Centers Implementation Report, originally completed in May 2016 and updated in 2017, is being revised to include all the completed livable centers studies. Additionally, we are investigating additional metrics to measure the impact of livable centers. A “Report Card” for the completed studies is underdevelopment and is scheduling to be completed in Spring 2019.

- Coordinated with past Livable Centers project sponsors for further implementation of Livable Centers study recommendations. One-on-one assistance may include

examination of challenges faced by project sponsors and assistance with public engagement.

**Task progress:** During FY 2018-19, staff began the process of documenting the challenges faced by project sponsors by conducting interviews. To date, 14 interviews have been conducted. Staff has also developed a survey to assist in project implementation and data capture. The survey is currently underway.

- Demonstrated best practices in land use-transportation coordination such as through ‘Instant Impact’ (small-scale, low-cost demonstration projects) by working with interested local partners.

**Task progress:** Staff has completed the *Trail-Oriented Development Implementation Case Study* workbook. A report highlighting the best practices for trail-oriented development in the Gulf Coast Region was completed. The report includes strategies, tools, case studies, and hypothetical renderings for local governments, developers and private property owners. Strategies discussed include low, moderate, and high-investment techniques. A webpage has been developed for the trail-oriented development work. <http://www.h-gac.com/trail-oriented-development/default.aspx>.

- Identified new sources of funding to help support Livable Centers planning in diverse communities throughout the TMA.

**Task progress:** Staff reviewed new funding opportunities relating to placemaking, way finding, and related livable center planning activities to provide information to potential interested entities regarding these funding programs. Sent AARP Community Challenge grant notice to Livable Center studies alumni. Sent Texas Target Communities grant to 20 eligible rural communities. Applied for NSF grant funding in partnership with University of Houston and HARC. Developed plan for Multimodal Connectivity grant with Transportation Department.

- Developed guide for local governments that provides technical assistance on tools that influence land use. The guide will explore the economic value that such tools provide.

**Task progress:** H-GAC held a workshop on November 9 with approximately 70 attendees with the purpose to hold a discussion with local cities and counties, especially unincorporated areas, experiencing growth and development. This workshop focused on common issues, challenges, and potential land use management solutions. H-GAC will be developing a guide in FY19.

- A consultant was utilized to conduct Livable Centers Studies in conjunction with local project sponsors to facilitate the creation of more compact, walkable, mixed-use places in the region. Studies will provide a framework for promoting efficient use of existing infrastructure, creating multi-modal travel choices, improving accessibility and circulation, and leveraging private resources for strategic investment. Studies will identify TIP eligible transportation projects and include an air-quality benefit calculation (STP/Local).

**Task progress:** Conducted 2 livable center studies for the City of Houston (Spring Branch Management District and Westchase Management District). Three studies underway (City of Fulshear, City of Mont Belvieu and the International Management District).

- Conducted Livable Centers Call for Planning Study Partners. New study applications will be received and evaluated for future funding consideration. On-line application system will be developed, and presentations will be made to interested local partners to make them aware of the call process and timeline.

**Task progress:** A call for Study Partners was issued in October 2017. Seventeen project sponsors submitted notice to apply. Nine projects were submitted and scored. All nine projects were recommended for funding. The call was conducted via a newly developed on-line application system.

## **SUBTASK 4.5 Transportation Performance Management**

Transportation Performance Management (TPM) is a strategic approach that uses system information to inform investment and policy decision to achieve adopted performance goals. TPM allows H-GAC to gauge system conditions and use, evaluate transportation programs and projects and help decision makers allocate limited resource more effectively.

### **4.5a Performance Measures and Targets**

#### **PRODUCTS: Work performance and status**

Throughout FY18, H-GAC collaborated with TxDOT and TEMPO on the establishment of federal performance targets for continuity and consistency. TxDOT enlisted TTI to create a statewide methodology for the System Performance measures for reliability and congestion.

The first set of federal performance measures were approved by the Transportation Policy Council in January 2018 regarding the Safety (PM1) measures. With the adoption of the 2019-2022 Transportation Improvement Program in May 2018, staff included a description of the anticipated effect of the TIP toward achieving safety targets in the MTP and linking the investment priorities in the TIP to the safety targets.



An interagency Memorandum of Understanding was executed on May 25, 2018 for regional collaboration to implement the performance-based planning and programming between transit operators, TxDOT and H-GAC.

Through consultations with NCTCOG, H-GAC, the El Paso MPO and TxDOT, a uniform process was developed to formulate a statewide methodology for the CMAQ measures. Applying the methodology to projects within the Houston-Galveston region, H-GAC staff developed the annual emission reduction estimates of NOx and VOC for the CMAQ targets, which were incorporated into the CMAQ Performance Plan. The Transportation Air Quality Subcommittee approved the performance measure targets on September 5, 2018. The CMAQ Performance Plan and CMAQ targets were formally adopted by the Transportation Policy Council on September 28, 2018.

During the fiscal year, the Regional Transit Coordination Subcommittee (RTCS) coordinated performance measure target setting and facilitated discussions with TxDOT, along with regional transit providers to meet the Transit Asset Management (TAM) October 1<sup>st</sup> deadline. The RTCS created a working group with the task of creating regional transit targets for the four transit asset categories. The transit working group recommend and the RTCS approved the Tier I and II regional transit targets based on a weighted average of all assets for the region. The Transportation Policy Council approved the regional targets on September 28, 2018. H-GAC staff incorporated the TAM-related planning process, the regional targets and a discussion of the effects of the programmed transit investments toward achieving the performance targets into the 2019–2022 TIP and 2040 RTP.

TxDOT finalized their statewide performance targets for Pavement and Bridge (PM2), System Performance (PM3) targets in June 2018, which started the 180-day clock for the MPO's target setting statewide. Throughout FY18, H-GAC reviewed and analyzed the available data for the System Performance measures and strategized a methodology to be utilized in support of target setting for the baseline, 2020 and 2022 target years. H-GAC staff worked closely with TTI regarding the statewide methodology for the System Performance measures. In September 2018, Staff presented the PM2 & PM3 draft targets to the Technical Advisory Committee and Transportation Policy Council in preparation for October approvals

#### **4.5b Congestion Management Process**

The Congestion Management Process (CMP) involves the analysis of system, corridor, and segment-level performance data to understand the location, extent and duration congestion within the transportation system. Using this data H-GAC informs the selection of performance measure targets related to multimodal congestion and identifies strategies to mitigate and manage congestion. Roadway projects providing additional capacity for single-occupant vehicles are required to conduct an analysis demonstrating alignment with targeted levels of performance and mitigation strategies.



- Produced annual report on the state of congestion within the H-GAC planning areas.
- Revised CMP monitoring network to reflect roadway classification changes and new roadway development as needed.
- Continued to monitor and evaluate transportation system management (TSM) and transportation demand management (TDM) solution effectiveness as they relate to congestion mitigation, air quality benefits, and safety.
- Prepared a regional congestion management plan, including goals to reduce vehicle miles of travel during peak commuting periods and improvements to job accessibility.
- Prepared corridor-based congestion management analysis to evaluate the applicability of regional mitigation strategies and identify key congestion hotspots.
- A consultant was utilized to review congestion management analysis prepared by sponsors for other roadway capacity projects (TPF).

**Task Progress:** Staff worked on the state of congestion report and it will be completed in the next year. The CMP monitoring network was updated to reflect classification changes and new roadways. Staff coordinated with TTI on the estimation of the effectiveness on TDM Strategies. Staff continued to work on the Congestion Management Plan. As part of the analysis conducted for the High Capacity Transit Taskforce, staff conducted analysis related to travel demand and high congestion corridors. Staff reviewed CMP applications for the added capacity projects as needed.

#### TASK IV – FUNDING SUMMARY

FUNDING SOURCE	AMOUNT BUDGETED	AMOUNT EXPENDED	BALANCE	% EXPENDED
Transportation Planning Funds (PL 112 & FTA 5303)	\$3,364,673.83	\$2,210,147.26	\$1,154,526.57	66%
STP-MM	\$1,840,000.00	\$1,279,765.83	\$560,234.17	70%
<b>TOTAL</b>	<b>5,204,673.83</b>	<b>3,489,913.09</b>	<b>1,714,760.74</b>	<b>67%</b>

## **TASK V**

### **SPECIAL PLANNING STUDIES**

The special studies of Task V include special one-time planning activities, major corridor studies/analyses, and support of tourism and transportation resiliency planning and activities.

#### **SUBTASK 5.1 Special Studies**

This task includes special corridor studies, planning, and environmental linkages, and other analysis specific to transportation issues of regional significance, beyond the scope of previous tasks.

#### **PRODUCTS: Work performed and status**

Subtask 5.1 provides for MPO support of Major Corridor Studies (MCS) and analyses. Specifically, participation in Study Steering Committees, assistance in public information and outreach activities, and travel model forecasting are programmed.

- Supported TxDOT's study to assess access for commuter and high-speed rail on US 290 to an intermodal terminal within the Central Business District.
- A consultant was utilized to conduct a Planning Environmental Linkages (PEL) study of the SH 225 corridor to consider the land use and mobility needs and the ability of existing infrastructure to support current and future growth (STP).
- Conducted consultant contract management and oversight activities for SH 225 PEL study.
- Identified and coordinated with specific representatives in the tourism industry to further understand tourism industry trends and needs related to transportation infrastructure and planning.
- Identified and coordinated with specific representatives in the private transportation operators, tour bus operators and intercity bus operators, to further understand industry trends and needs related to transportation infrastructure and planning.
- Collected and analyzed information to improve resiliency and reliability of transportation system and reduce or mitigate stormwater impacts on surface transportation.

- Conducted a Resilience and Durability to Extreme Weather study assessing the vulnerability and potential risk of a transportation system to extreme weather impacts or other current and future environmental conditions utilizing FHWA's Vulnerability Assessment Framework.

**Task progress:** Coordination occurred to create a MOU between H-GAC and Texas Central Partners to conduct planning related to high-speed rail corridor. A draft scope of work was developed for the SH 225 Corridor Study. TxDOT will be conducting the PEL study, and this scope was modified to conduct a subregional study to support the PEL study for this corridor. Staff started researching resources related to tourism industry from the work conducted by H-GAC on the Comprehensive Economic Development Strategy. Staff coordinated with TxDOT on the impacts of Harvey on the transportation network. On the Resilience and Durability to Extreme Weather study, staff began the initiation phase of the project, defined the study's scope, compiling data, and assembling the contacts to establish a transportation resiliency task force.

#### **TASK V – FUNDING SUMMARY**

<b>FUNDING SOURCE</b>	<b>AMOUNT BUDGETED</b>	<b>AMOUNT EXPENDED</b>	<b>BALANCE</b>	<b>% EXPENDED</b>
Transportation Planning Funds (PL 112 & FTA 5303)	\$72,320.86	\$10,735.87	\$61,584.99	15%
<b>TOTAL</b>	<b>\$72,320.86</b>	<b>\$10,735.87</b>	<b>\$61,584.99</b>	<b>15%</b>